

Flint Hills Prescribed Fire Update

April 17, 2020

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



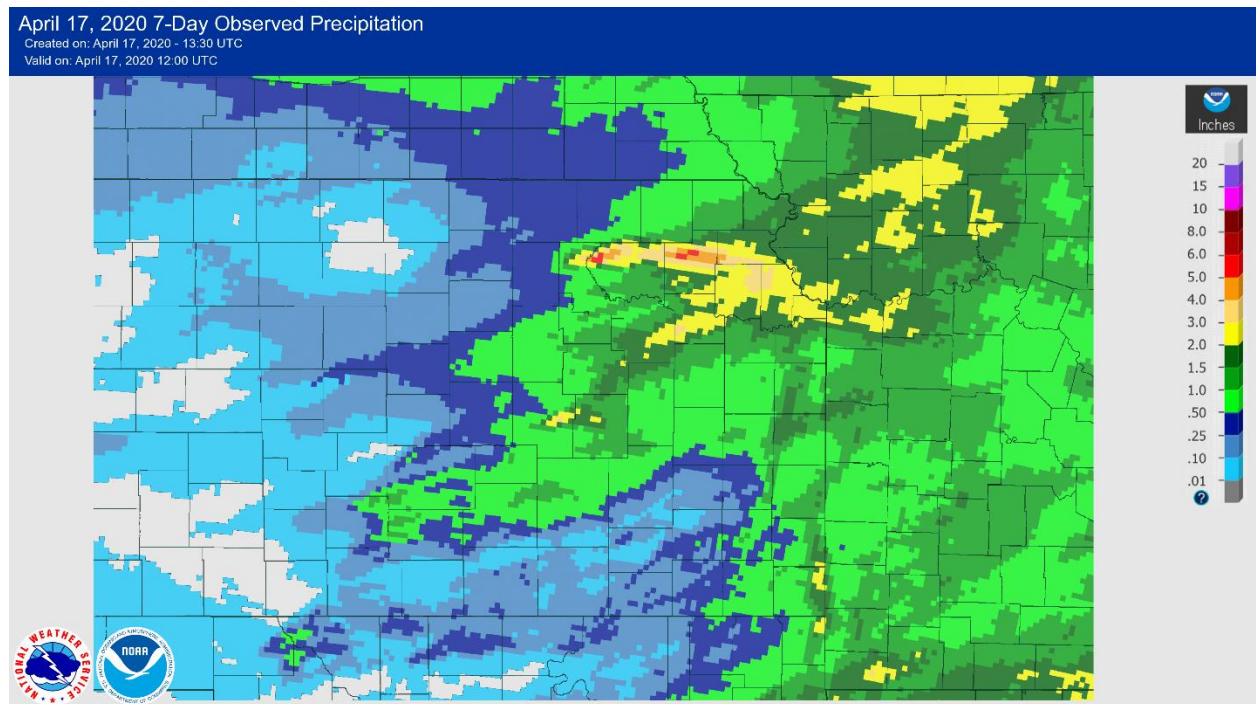


Meteorology

Last Friday (April 10) featured seasonable temperatures and a south breeze ahead of strong south winds and unseasonably warm temperatures on Saturday (April 11) with highs into the 80s and wind gusts surpassing 35 mph. A strong cold front passed through the area slowly on Sunday (April 12) which shifted winds to the north but sustained the gusty winds with gusts near 50 mph. This front also brought areas of rain showers and thunderstorms alongside a sharp turn in temperatures with highs on Monday (April 13) struggling to reach 40 degrees. Cool temperatures continued Tuesday (April 14) with westerly winds still gusting around 30 mph.

More seasonable temperatures returned for Wednesday (April 15) under a light southeast wind ahead of the next cold front which brought periods of showers and thunderstorms for Thursday (April 16). Total precipitation amounts over the last week varied widely from less than a tenth of an inch in some Flint Hills locations to upwards of five inches in localized areas that were impacted by thunderstorms.

Precipitation



NOAA/NWS Observed Total Precipitation for April 10-16, 2020.



Air Quality Data

Air quality data for the period of April 10-16, 2020:

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

PM_{2.5}: Preliminary data indicates two (2) exceedances of the NAAQS daily 24-hour average maximum of 35 $\mu\text{g}/\text{m}^3$.

Lincoln, NE air quality monitor recorded a PM_{2.5} 24-hour average of 45.3 $\mu\text{g}/\text{m}^3$ for Saturday, April 11, 2020.

Elk Point, SD air quality monitor recorded a PM_{2.5} 24-hour average of 51.9 $\mu\text{g}/\text{m}^3$ for Saturday, April 11, 2020.

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

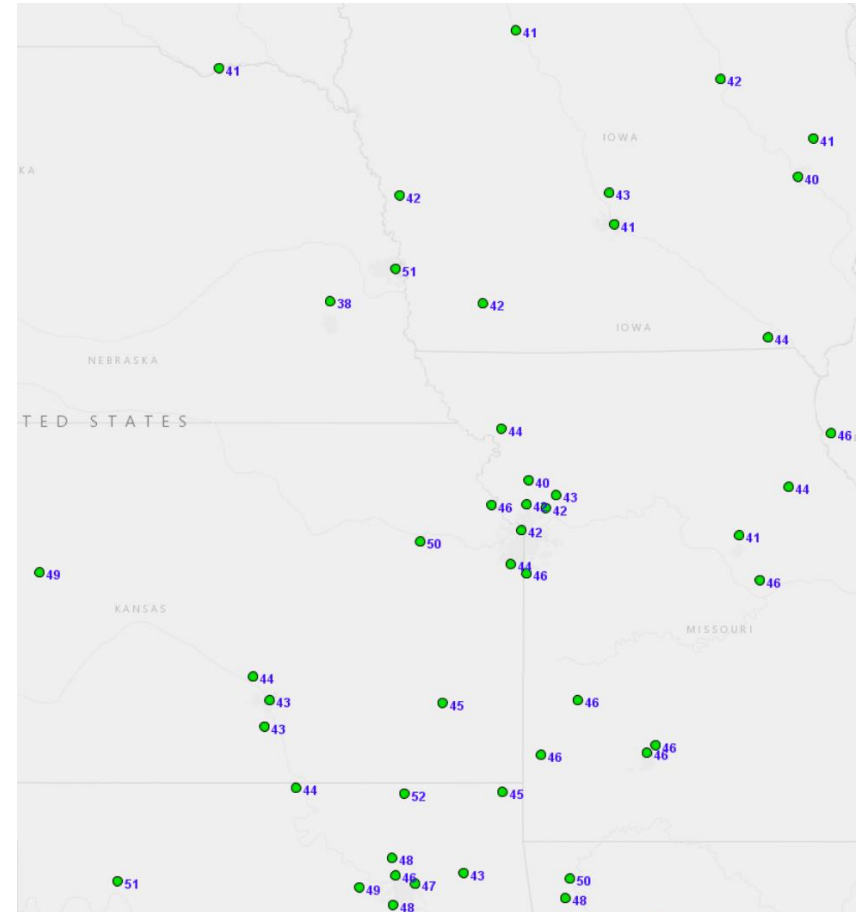
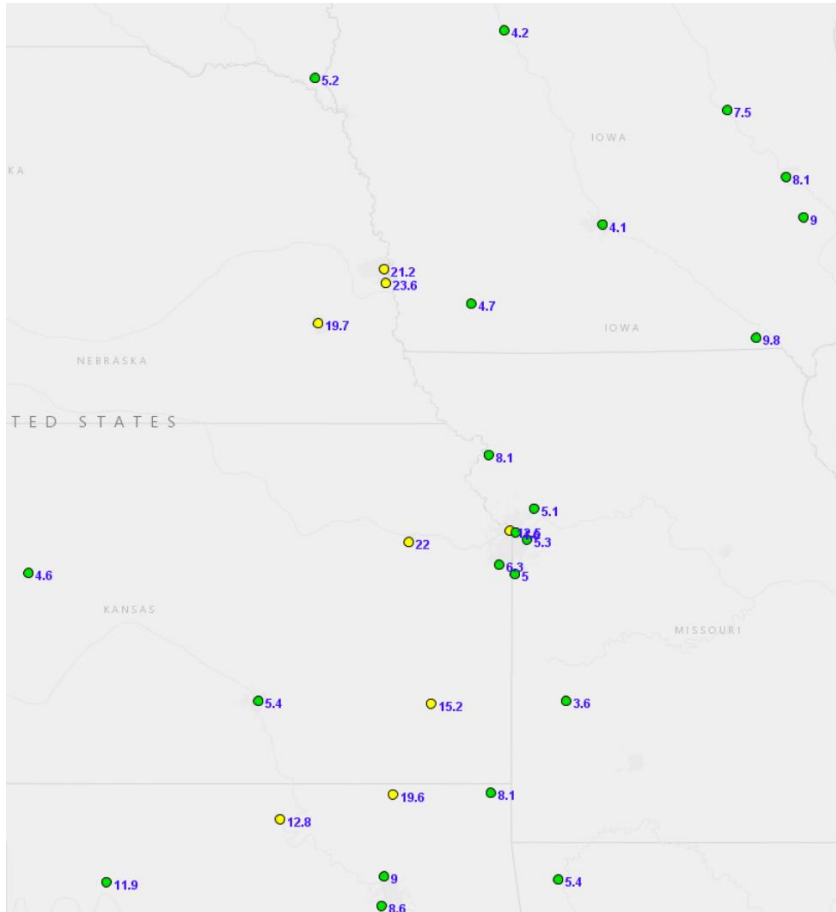
Flint Hills Prescribed Fire Update



Friday, April 10, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



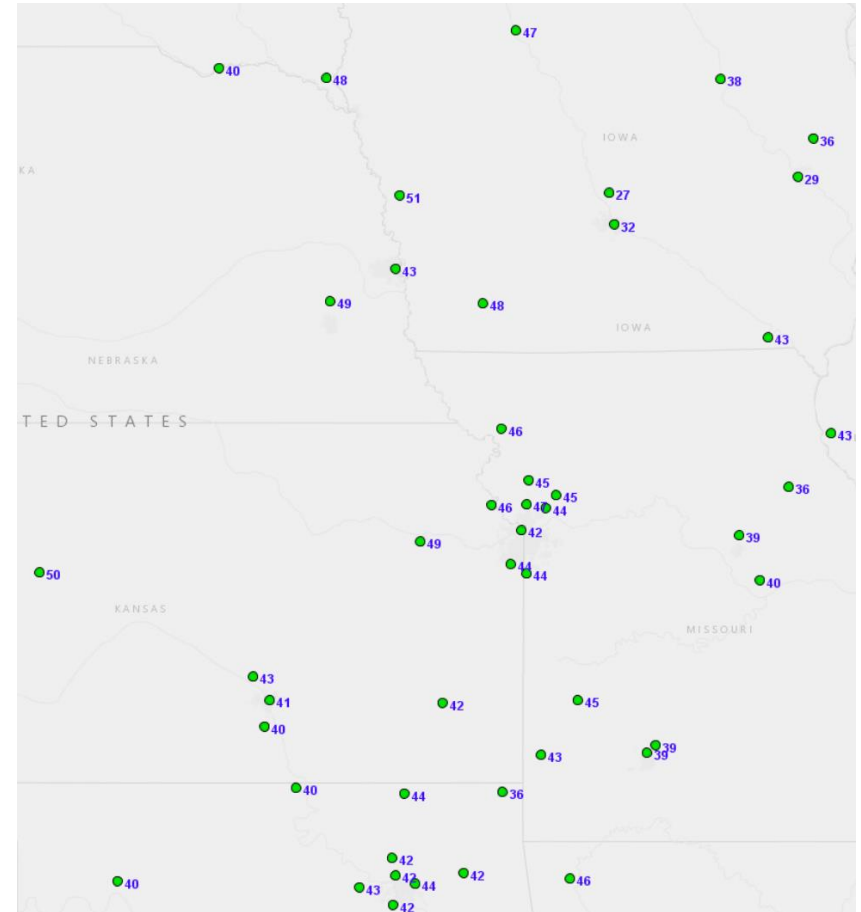
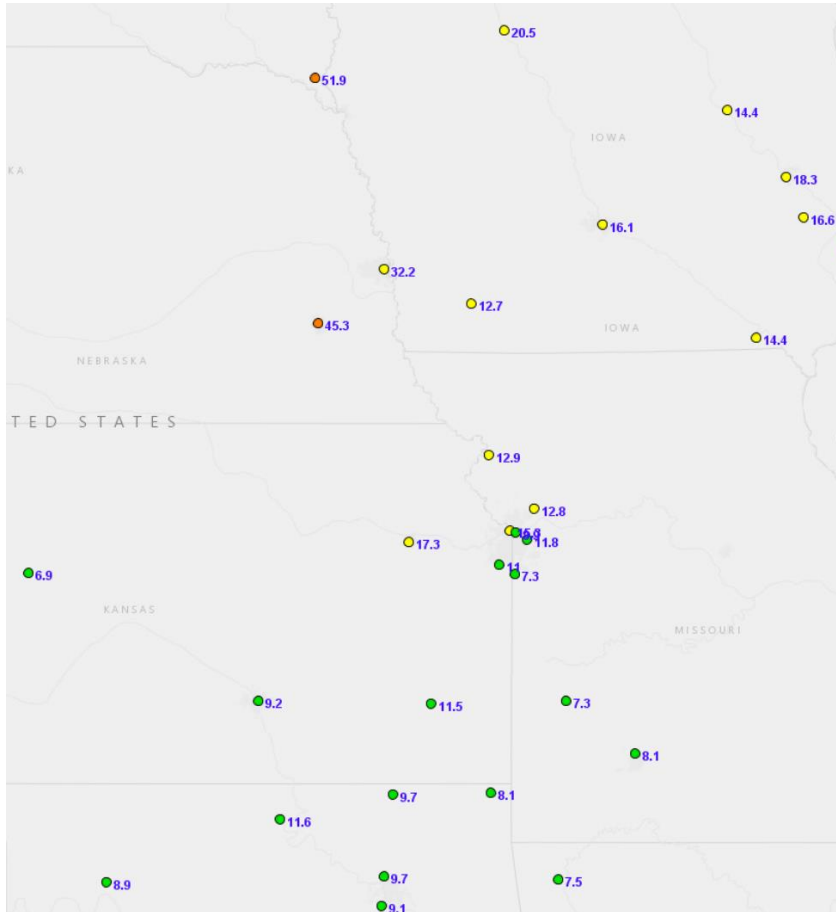
Flint Hills Prescribed Fire Update



Saturday, April 11, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



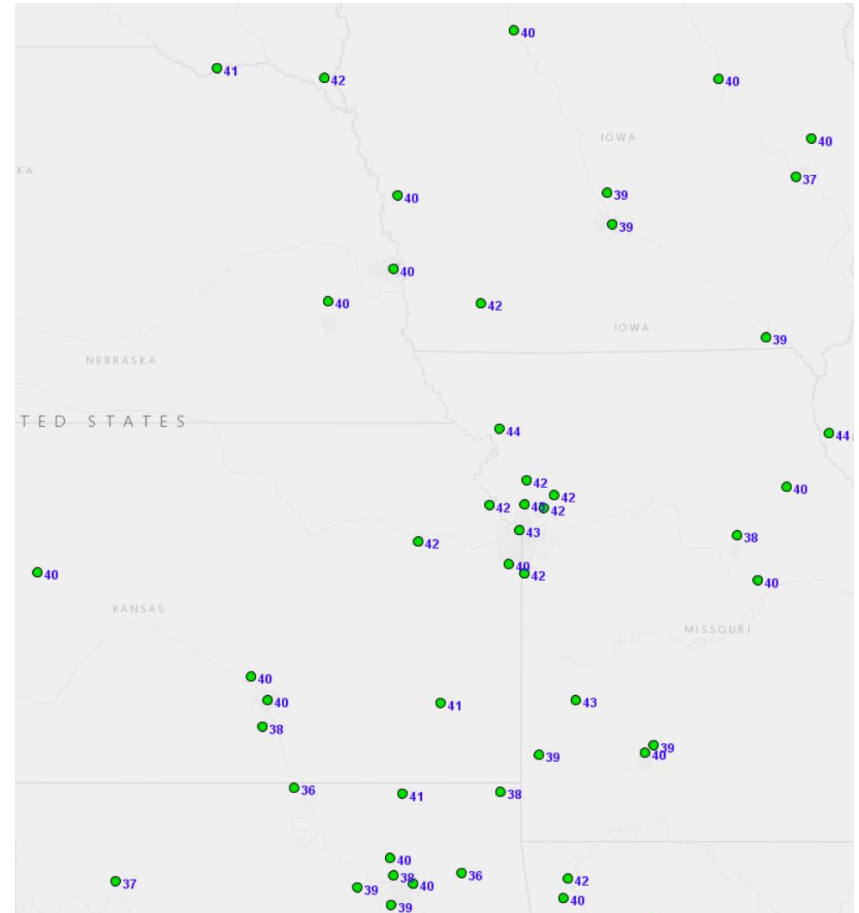
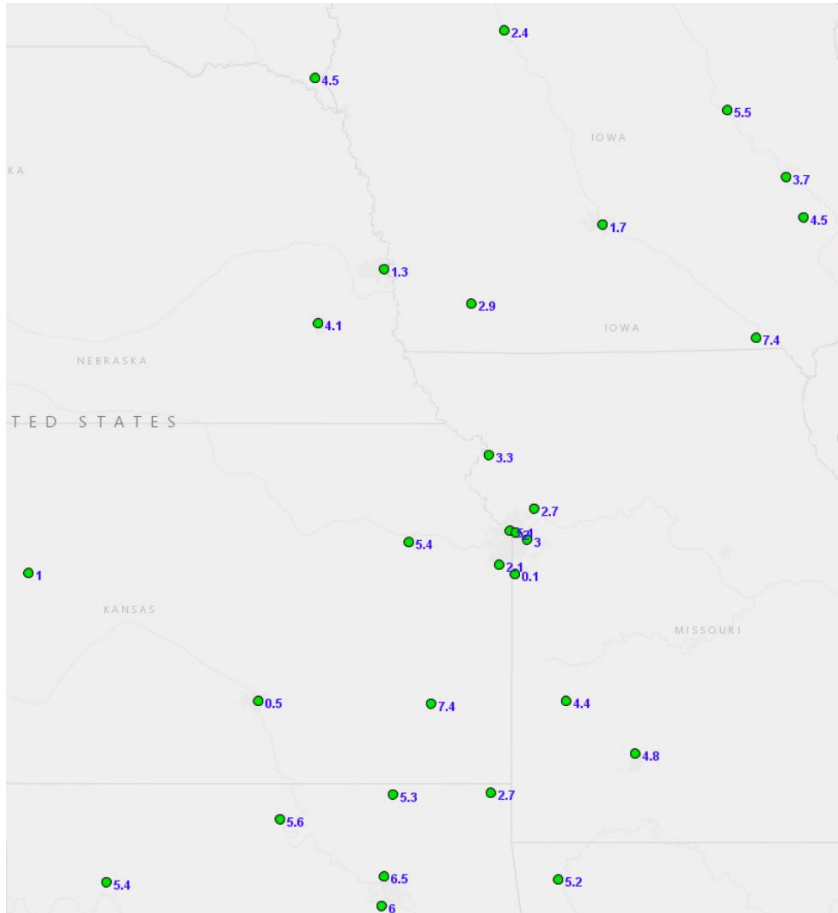
Flint Hills Prescribed Fire Update



Monday, April 13, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



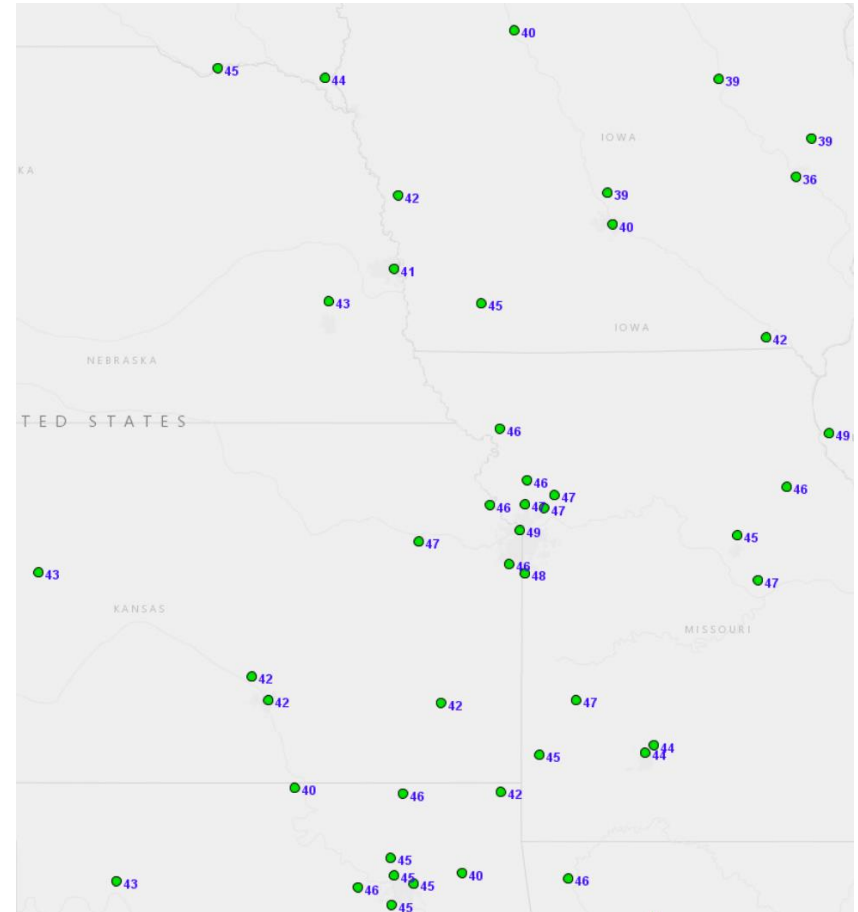
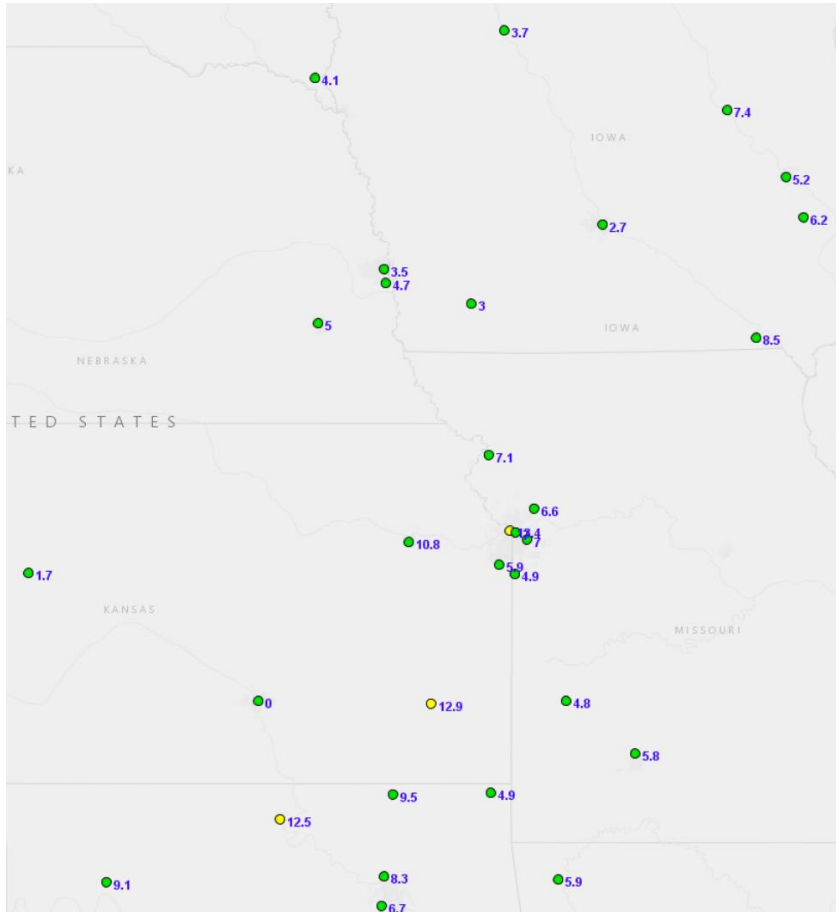
Flint Hills Prescribed Fire Update



Tuesday, April 14, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



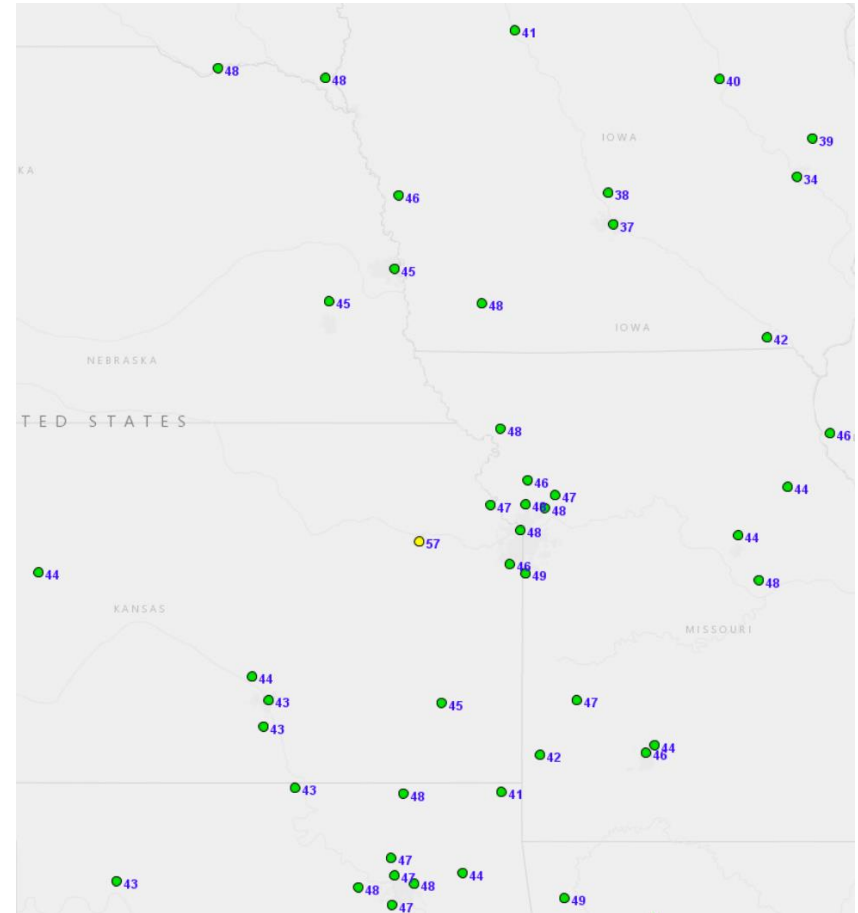
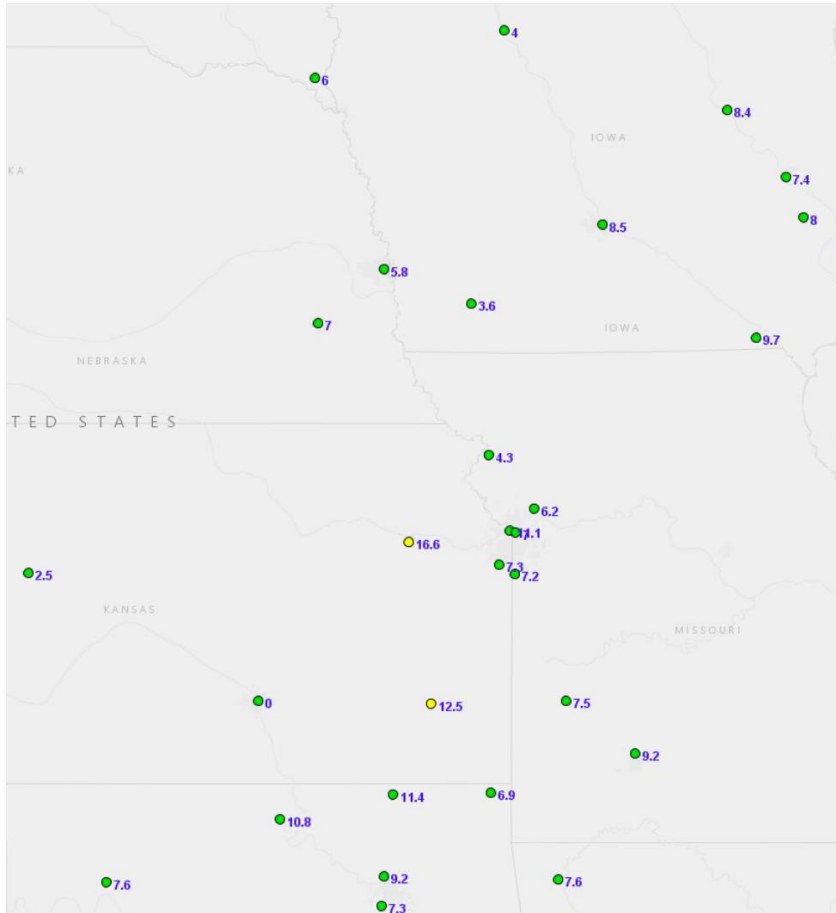
Flint Hills Prescribed Fire Update



Wednesday, April 15, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



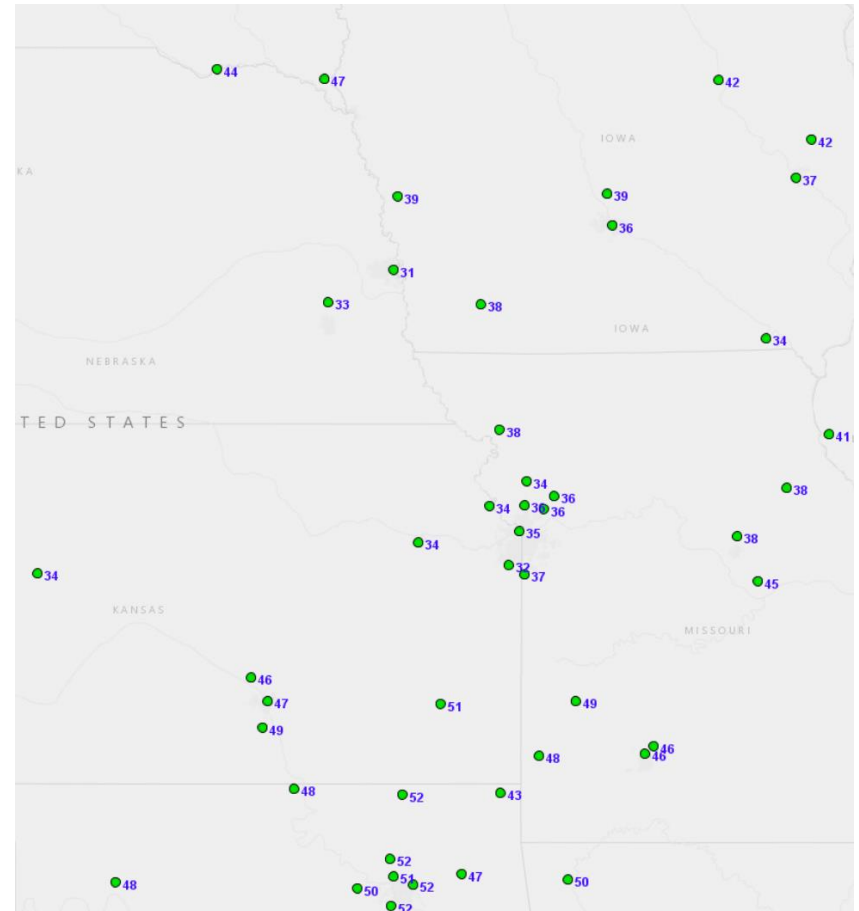
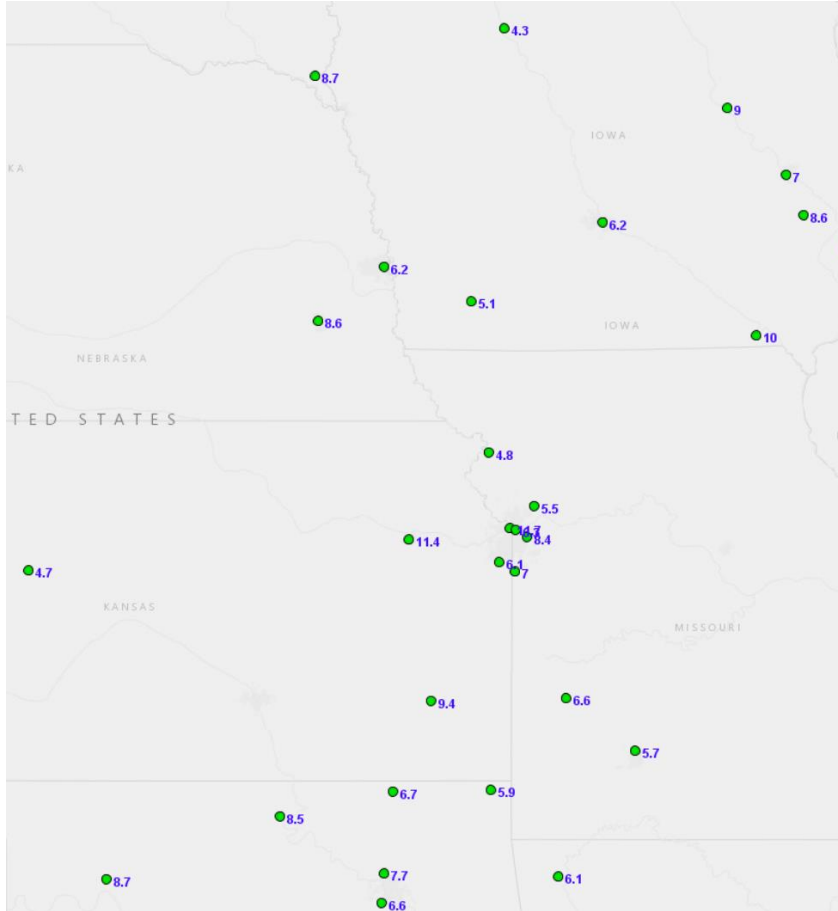
Flint Hills Prescribed Fire Update



Thursday, April 16, 2020

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

A steady south wind and seasonable temperatures on Friday (April 10) brought widespread prescribed burning across the Flint Hills and sporadic burning throughout the Central Plains region. Smoke could only be transported so far north before running into a cold front which aided in trapping the smoke; Air quality impacts were seen across the Northern Plains late Friday through Saturday (April 11). The cold front and associated storm system slowly moved southward on Saturday which prompted at least a handful of prescribed fires to continue with a widespread area of smoke being observed due to lower mixing heights and the impinging cold front.

Cold temperatures and brisk north winds on Sunday (April 12) kept any prescribed burning to a minimum. As temperatures slowly warmed and winds subsided the amounts of prescribed fires slowly increased on Monday (April 13) and Tuesday (April 14) with a good amount of prescribed fires on Wednesday (April 15) with seasonable temperatures and light winds – less than 15 mph. Scattered showers and thunderstorms limited any prescribed burning on Thursday (April 16) to the southern Flint Hills.

KSFIRE.ORG

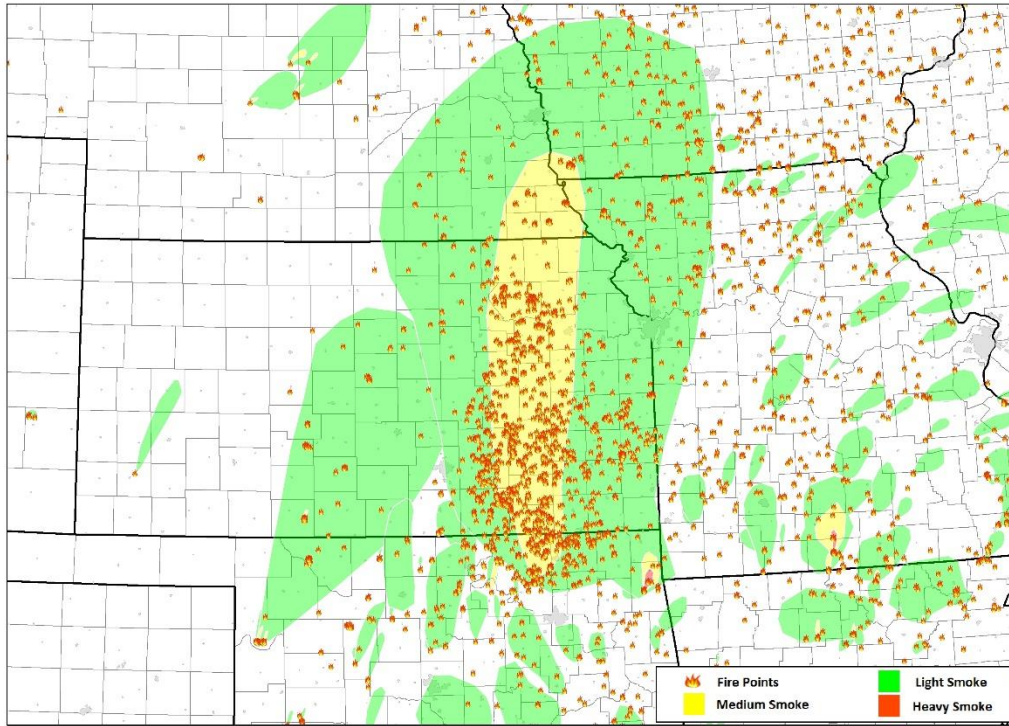


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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



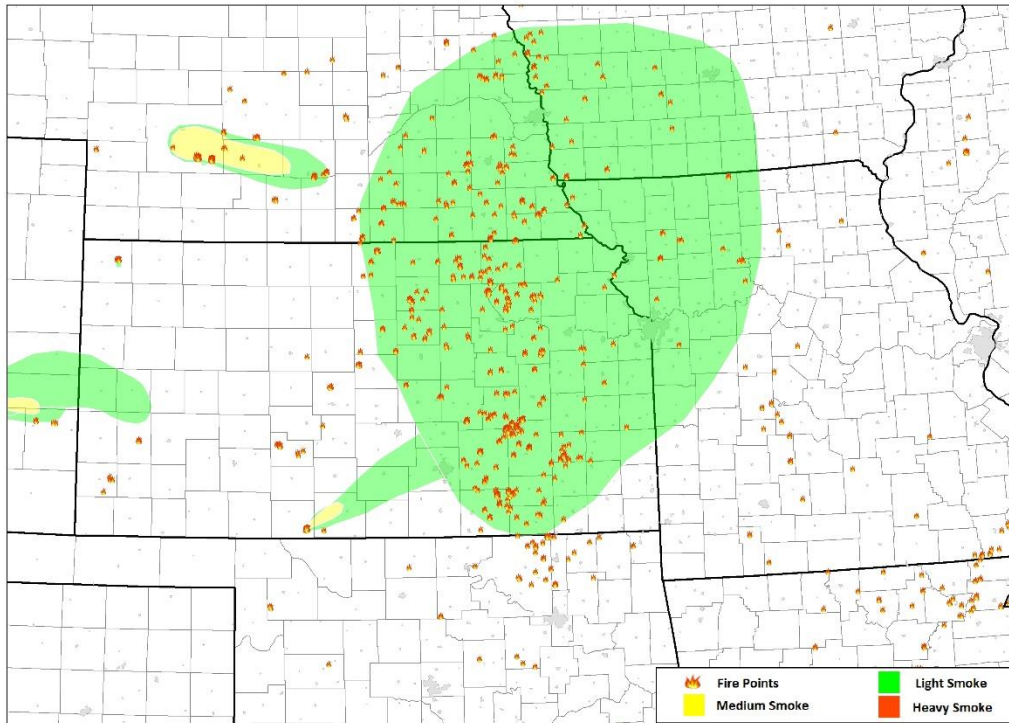
HMS Fire & Smoke Analysis April 10, 2020



Map: Jayson Prentice, KDHE Bureau of Air

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

HMS Fire & Smoke Analysis April 11, 2020



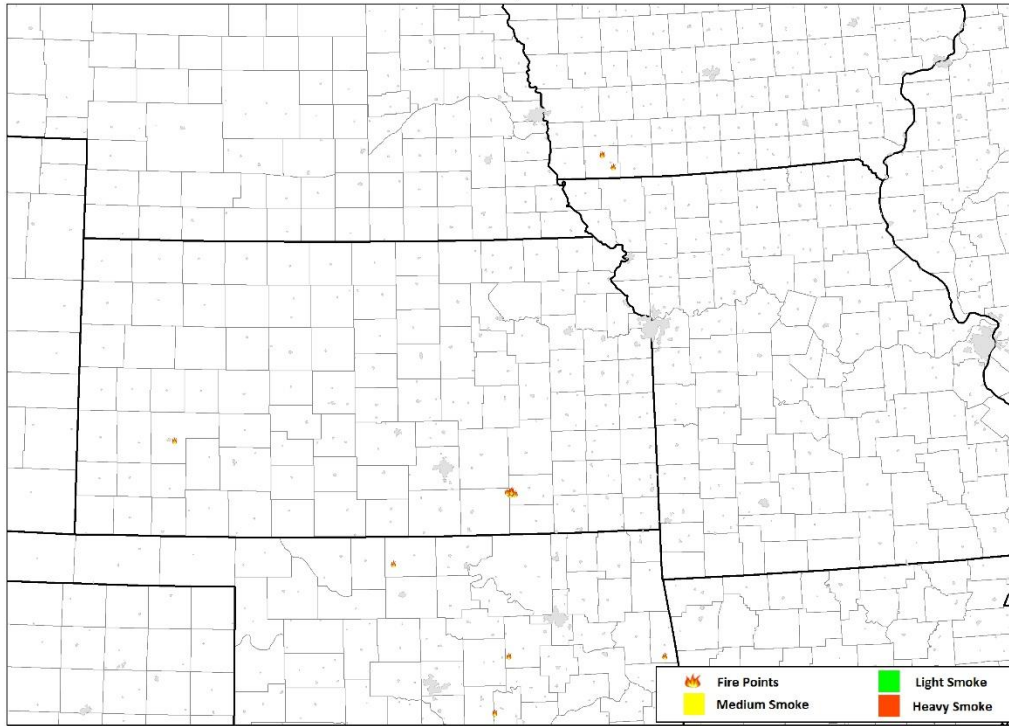
Map: Jayson Prentice, KDHE Bureau of Air

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

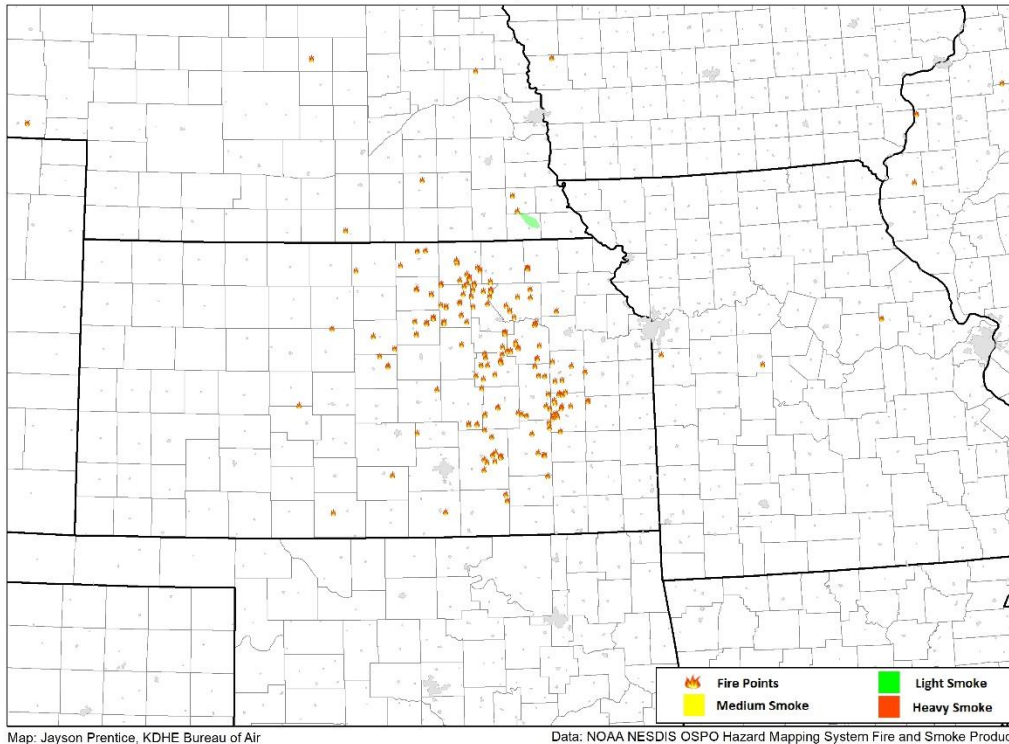
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 12, 2020



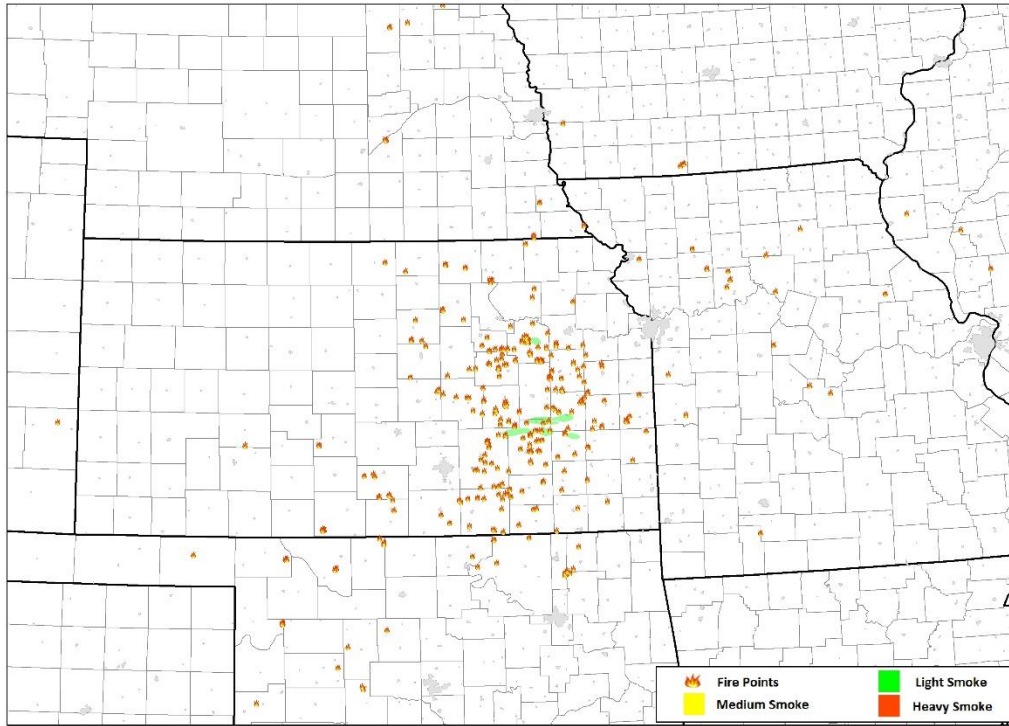
HMS Fire & Smoke Analysis April 13, 2020



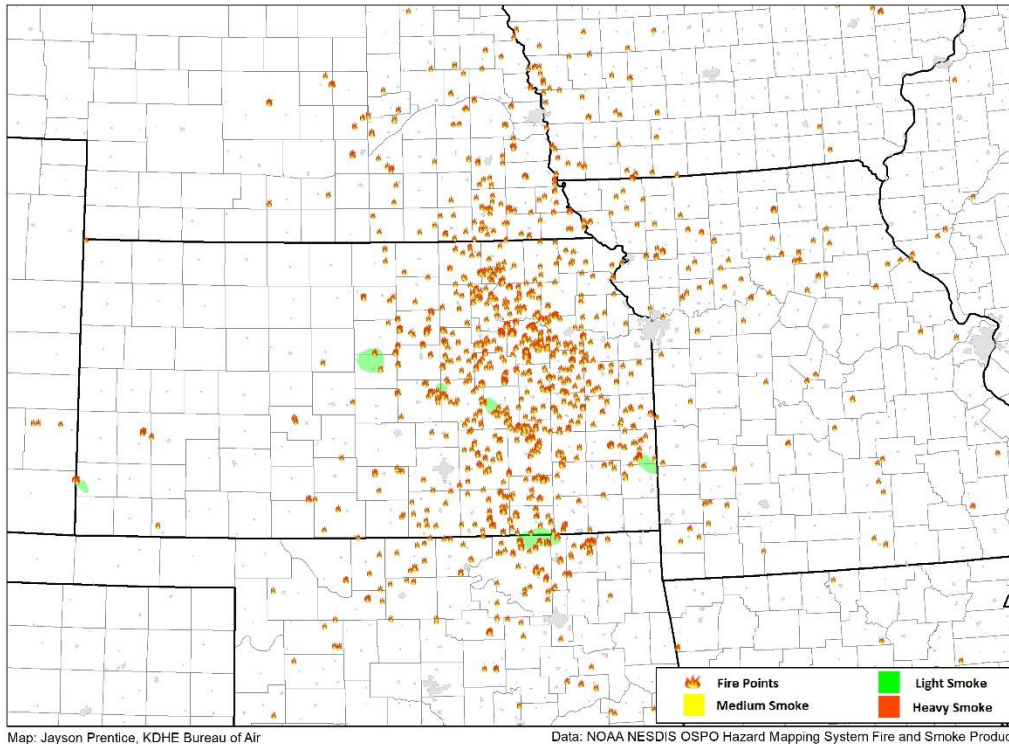
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 14, 2020



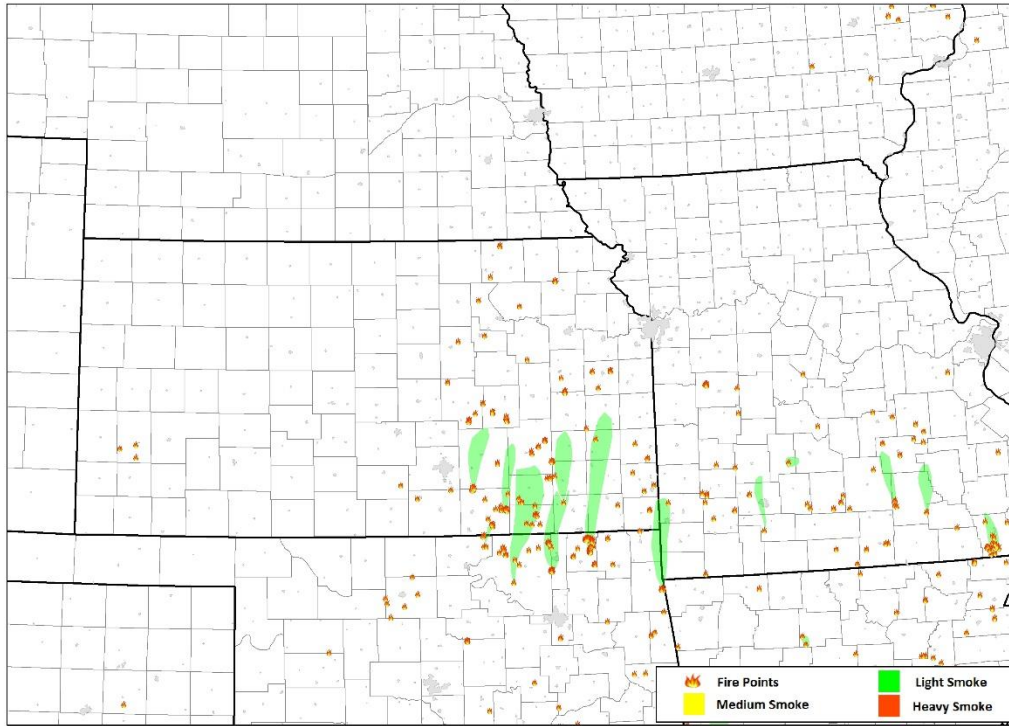
HMS Fire & Smoke Analysis April 15, 2020



Flint Hills Prescribed Fire Update



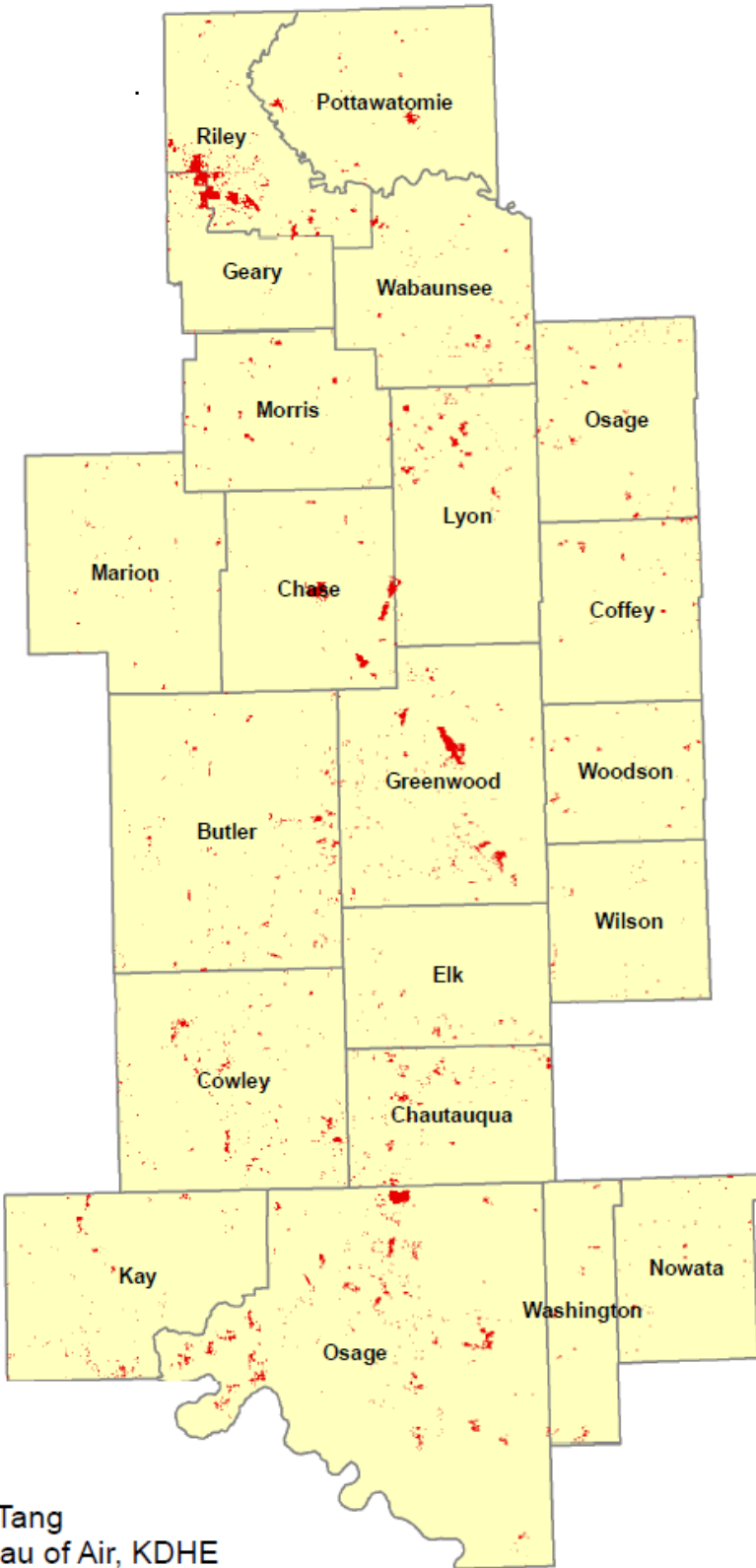
HMS Fire & Smoke Analysis April 16, 2020



Flint Hills Prescribed Fire Update



Flint Hills Acreage Burned (February 2 – March 20, 2020)



<u>Counties</u>	<u>Acres Burned</u>
Butler	8,541
Chase	8,942
Chautauqua	6,595
Coffey	2,487
Cowley	9,236
Elk	1,899
Geary	5,143
Greenwood	14,764
Lyon	6,795
Marion	2,178
Morris	3,398
Osage (KS)	3,367
Pottawatomie	3,506
Riley	16,849
Wabaunsee	4,309
Wilson	1,220
Woodson	1,853
Nowata (OK)	1,405
Osage (OK)	25,977
Washington (OK)	1,668
Kay (OK)	4,340
Total	134,472
* Denotes county was partly or completely covered by clouds during latest analysis.	

Yao Tang
Bureau of Air, KDHE



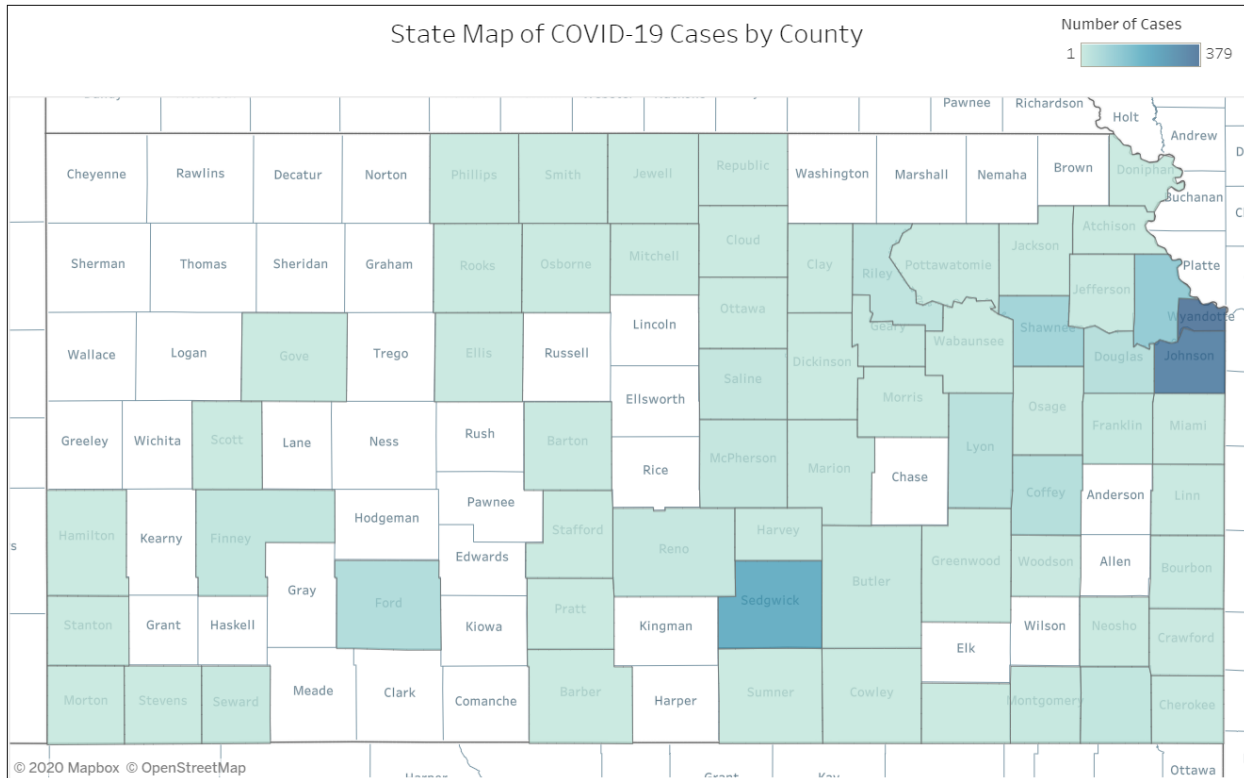
Kansas Coronavirus Disease 2019 (COVID-19)

On March 28, 2020 the Kansas Department of Health and Environment alongside Kansas Department of Agriculture released a statement encouraging all land owners and managers voluntarily reduce the number of acres that they intend to burn this spring. With resources of the county emergency response staff already being taxed with COVID-19 response, it is important to minimize responses that would come with prescribed fire activity. The full release is available [here](#).

As of April 16, 2020 at 10am the following information was available from the Kansas Department of Health and Environment regarding COVID-19 cases in Kansas. For most information and the most up to date data please see the [KDHE Coronavirus Updates](#).

Cases*	Hospitalizations	Statewide Deaths	Negative Tests
1,588	359	80	14,534

*A case is defined as a person who tested positive for the novel coronavirus (SARS-CoV-2), which causes Coronavirus Disease 2019 (COVID-19). Case counts are preliminary and subject to verification.



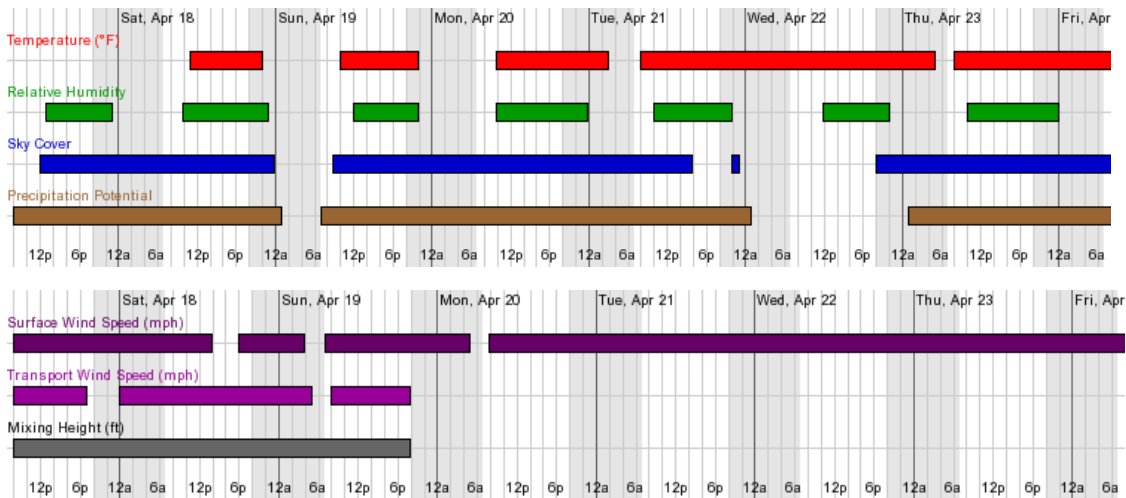


Upcoming Look at Fires and Smoke

Cold rain and even areas of sleet/snow ended overnight across the Flint Hills. Cold temperatures are forecast for today alongside a brisk northerly wind. Temperatures will be quick to rebound with normal to above normal temperatures forecast for Saturday and next week. While south winds are forecast to be a bit on the high side (~20 mph) expect opportunities to exist for prescribed burning ahead of a chance of showers Saturday night.

Next week will features numerous opportunities for prescribed burning given the warmer temperatures and reasonable wind speeds each day. Tuesday night into Wednesday provide the best opportunity for rain showers or thunderstorms, but a potentially active weather pattern may lead to chances of rain in at least some parts of the Flint Hills region for Wednesday through Friday next week too.

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 17, 2020.

For more information, contact:

Jayson Prentice

Chief, Technical Resources & Projects Unit
Monitoring & Planning Section, Bureau of Air
Kansas Department of Health & Environment
785-291-3782
Jayson.Prentice@ks.gov