

Flint Hills Prescribed Fire Update

April 20, 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.

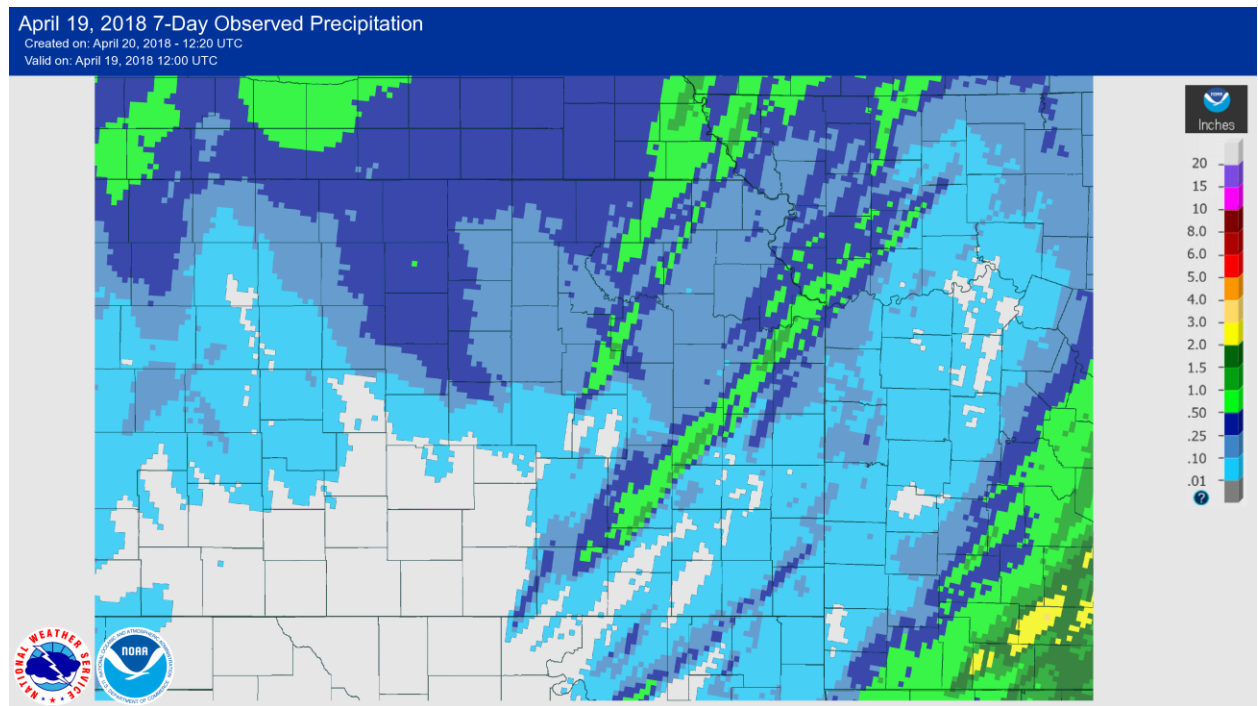




Meteorology

Windy and warm conditions last Friday (April 13) provided energy for a few thunderstorms that developed over the Flint Hills and moved northeast. These thunderstorms account for the heavier rainfall amounts over eastern Kansas from the past 7-days. Lingering light precipitation occurred in some areas on Saturday and Sunday (April 14-15). Temperatures began to rebound and light winds switched from northwest to east-southeast on Monday (April 16). The warmest day of the week saw highs in the 70s to 80s with wind gusts up to 30 mph on Tuesday (April 17). Temperatures moderated for Wednesday (April 18) with winds becoming northwest once again and gusting up to 45 mph. Winds decreased for Thursday (April 19) and temperatures were near 60 for most under sunny skies.

Precipitation

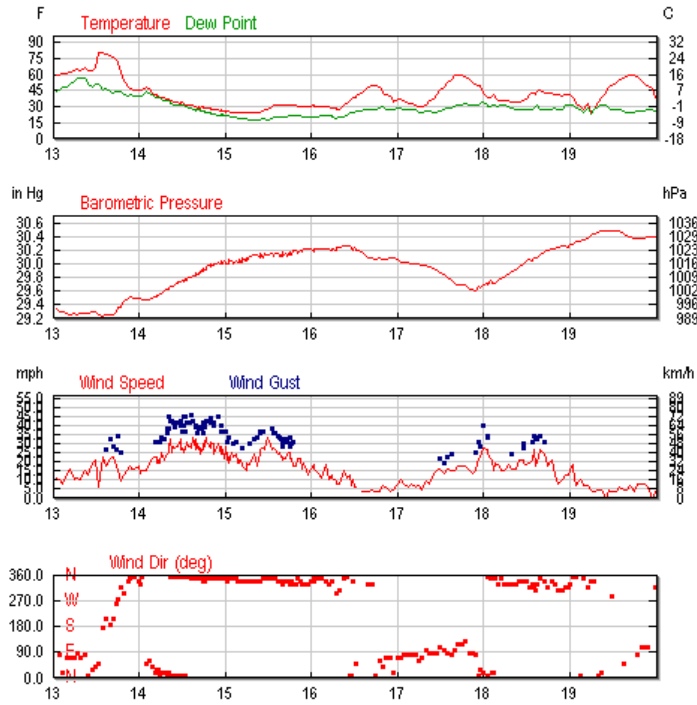


NOAA/NWS Observed Total Precipitation for April 13-19, 2018.

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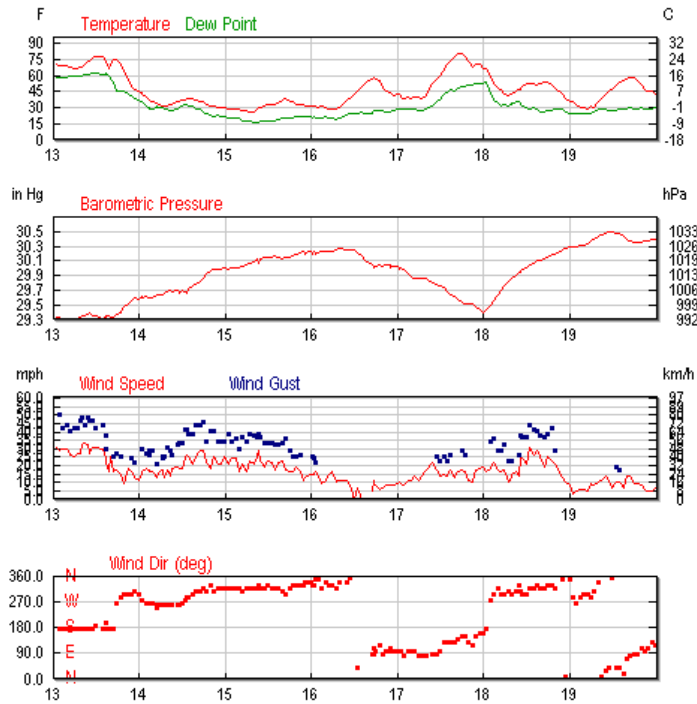


Lincoln, NE



April 13-19, 2018 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



April 13-19, 2018 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of April 13-19, 2018:

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

PM_{2.5}: Preliminary data indicates no exceedances of the NAAQS 24-hour daily average of 35 $\mu\text{g}/\text{m}^3$. Note the Kansas City, Kansas monitor continues to display erroneous values and is not considered accurate at this time.

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

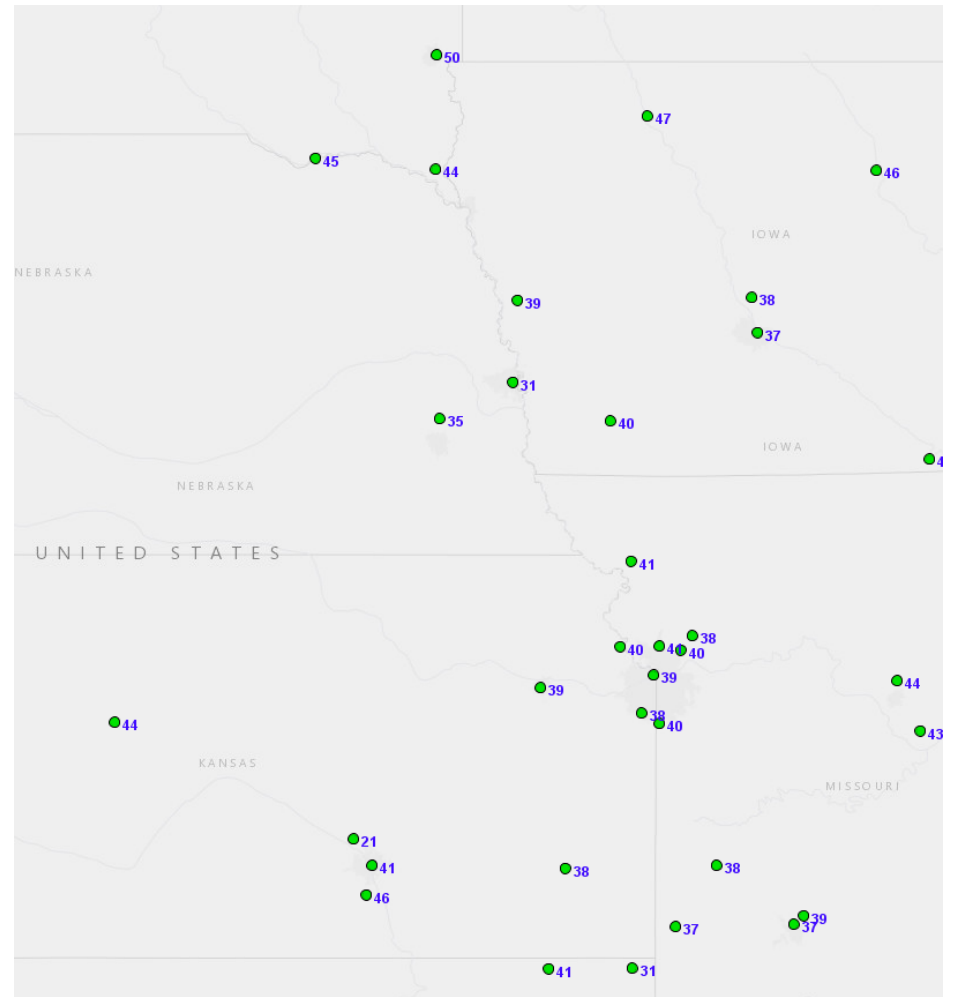
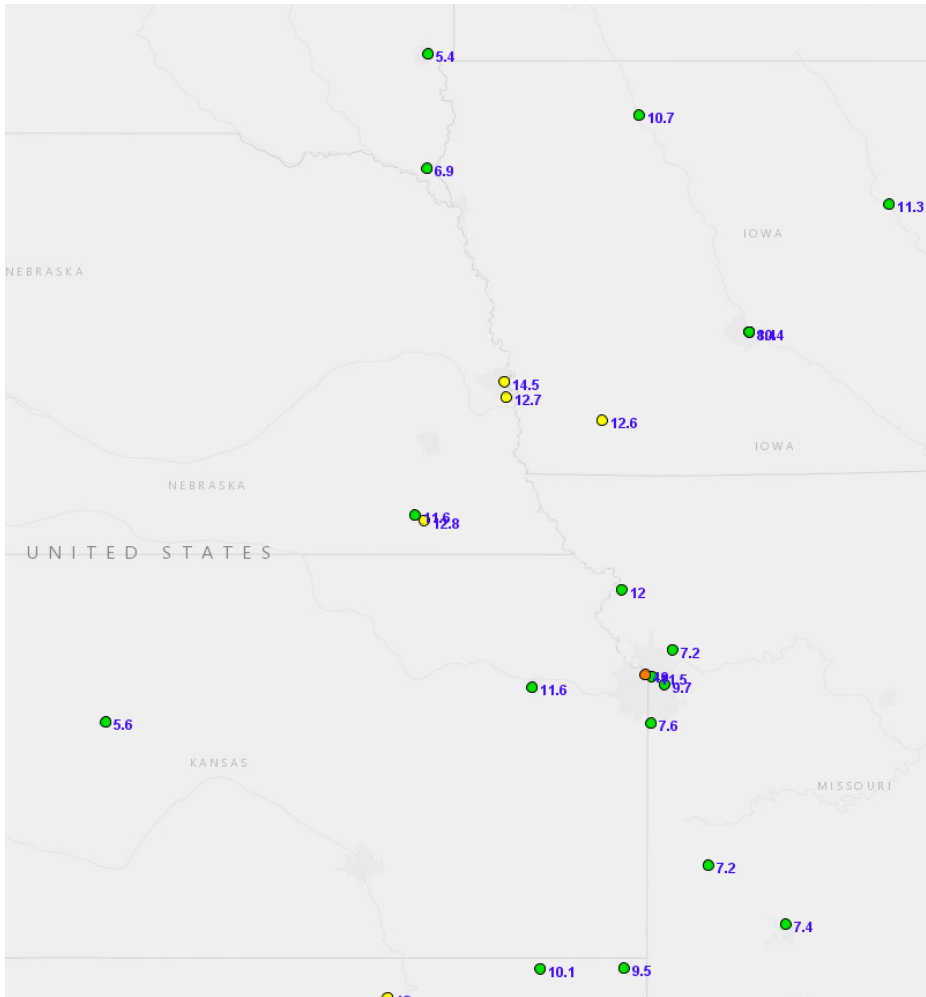
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Friday, April 13, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



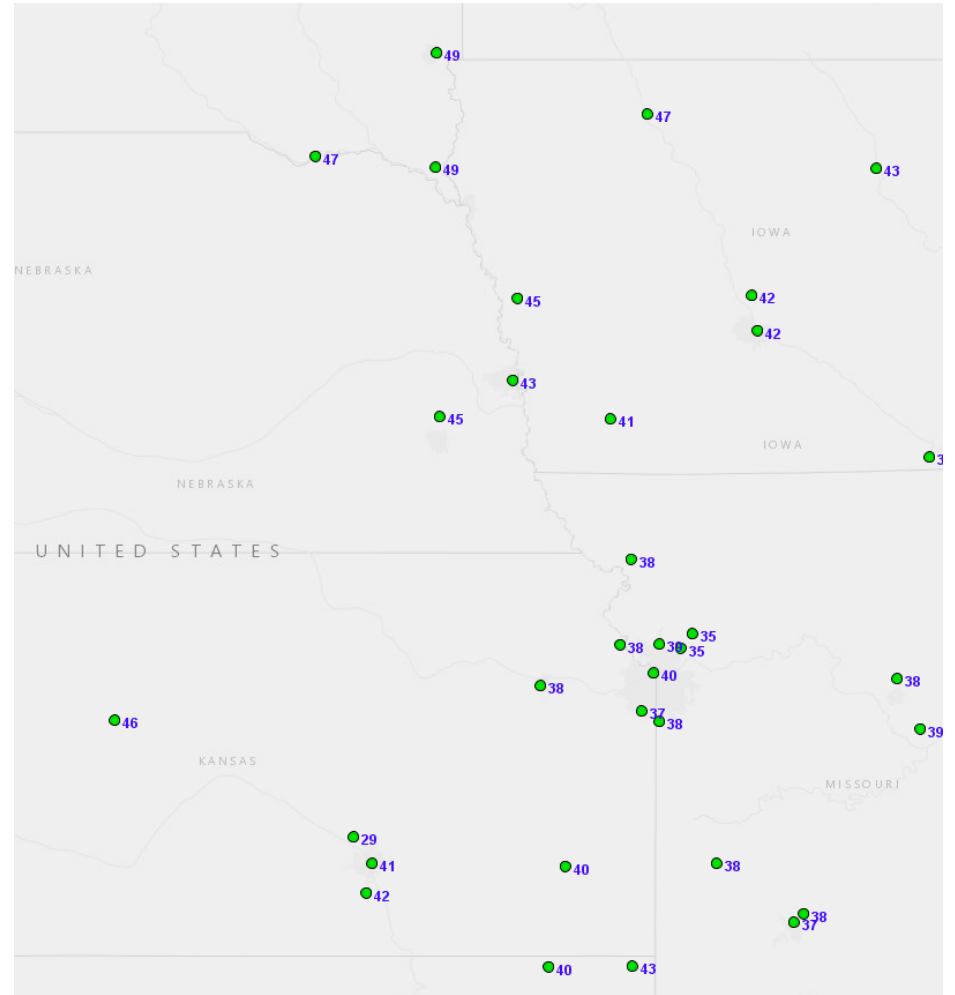
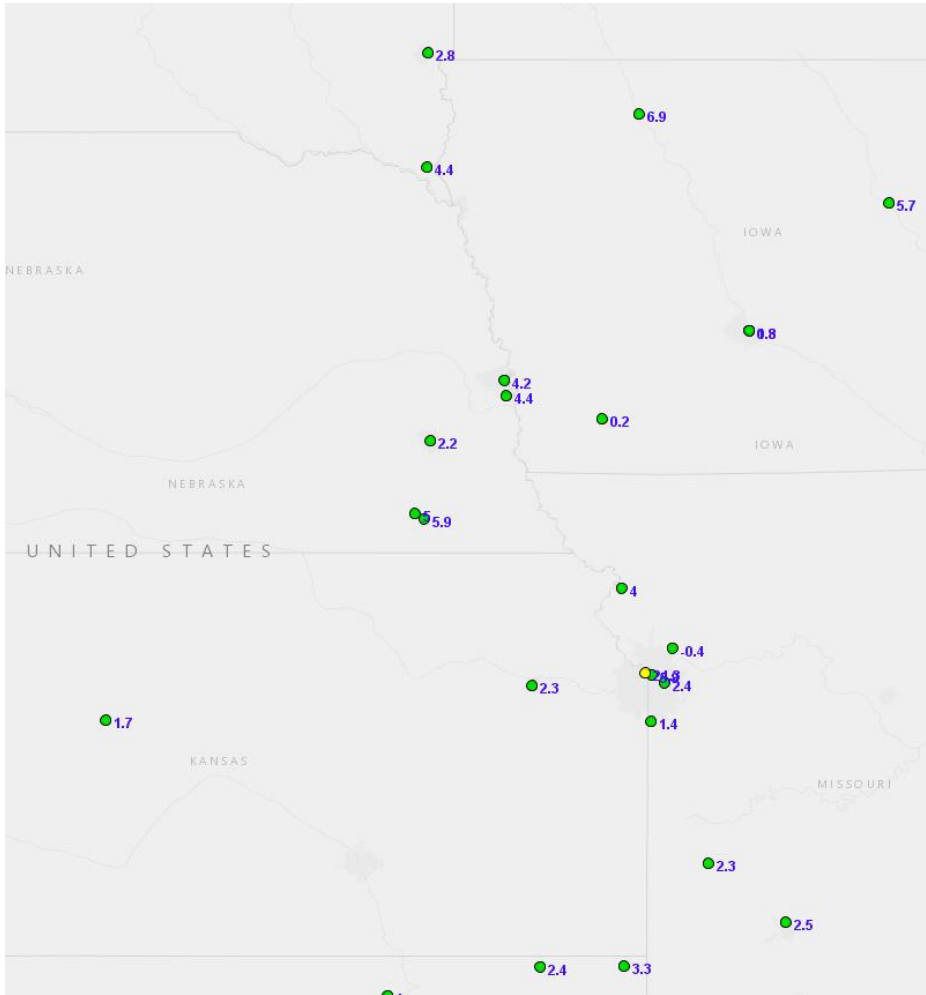
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Saturday, April 14, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



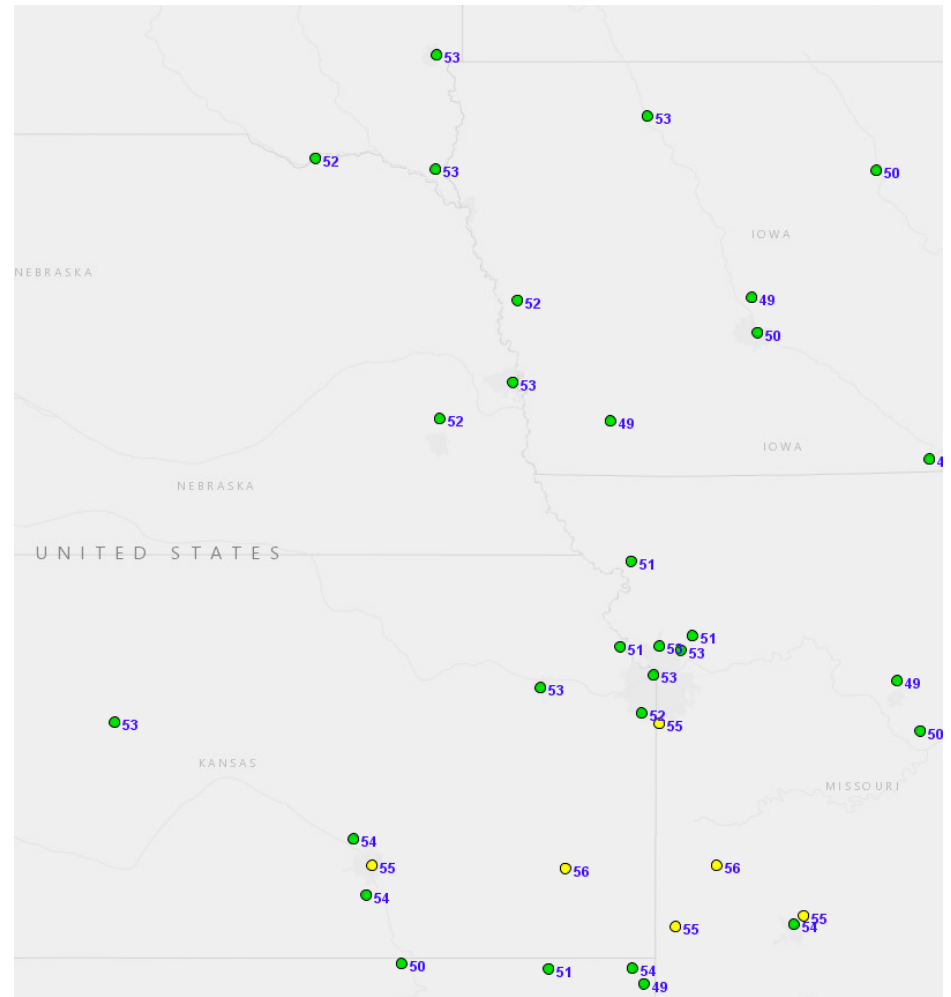
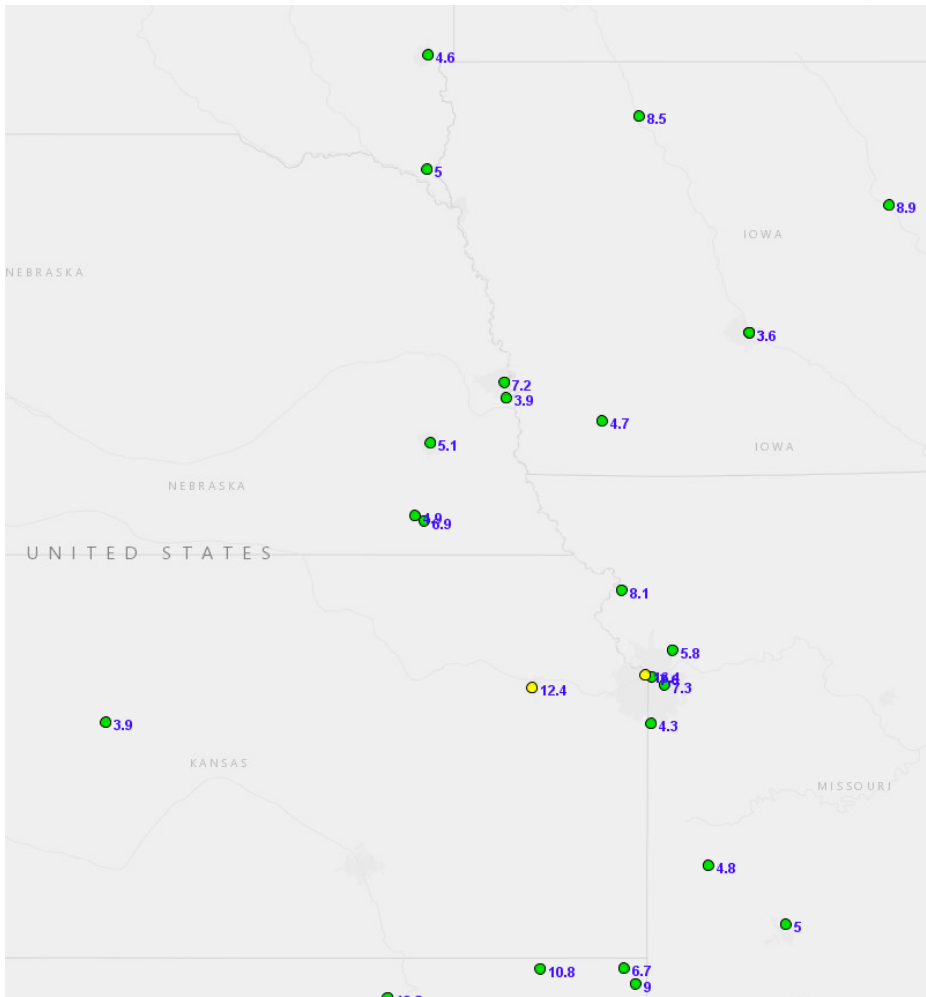
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Monday, April 16, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



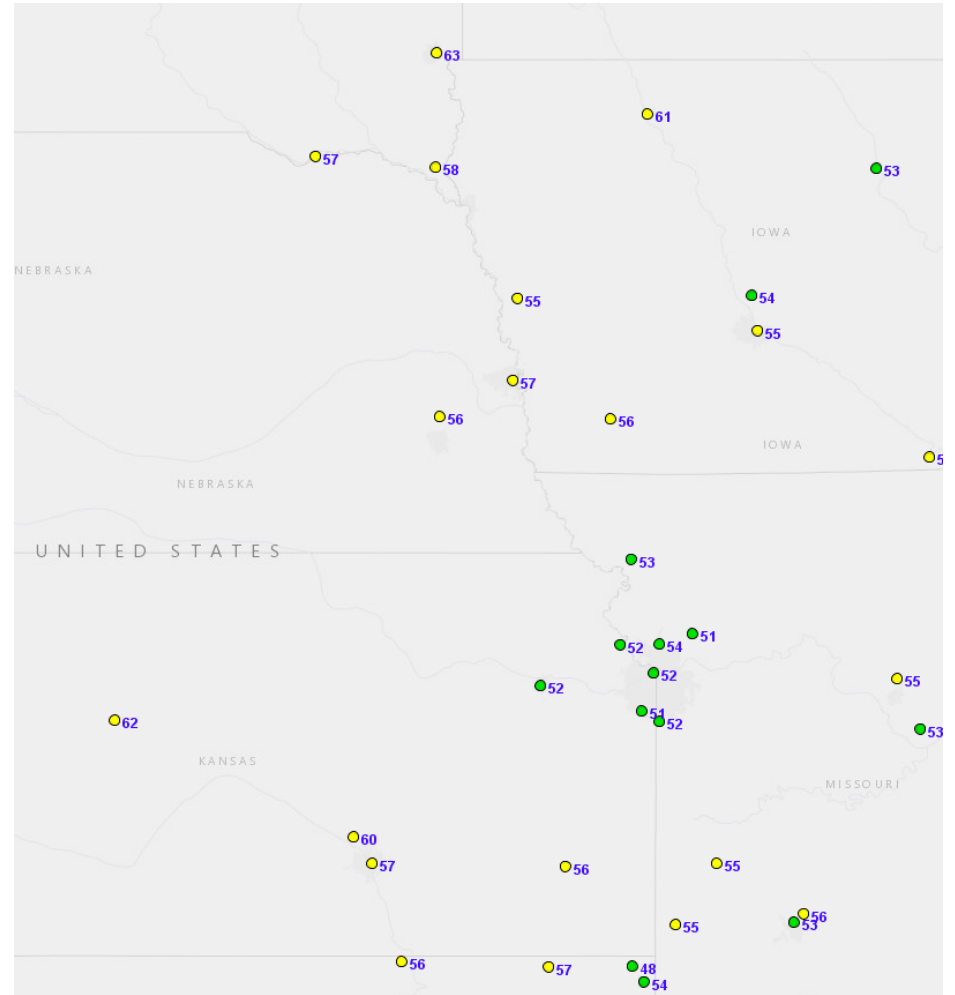
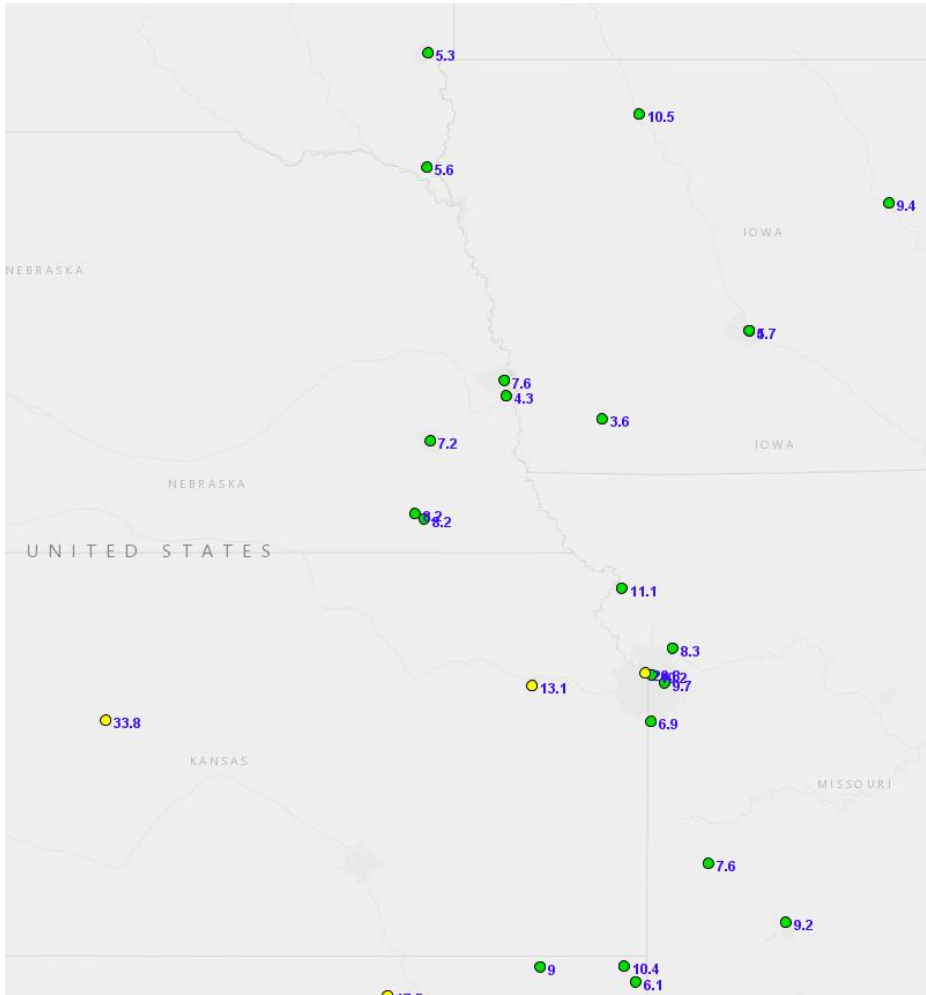
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Tuesday, April 17, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



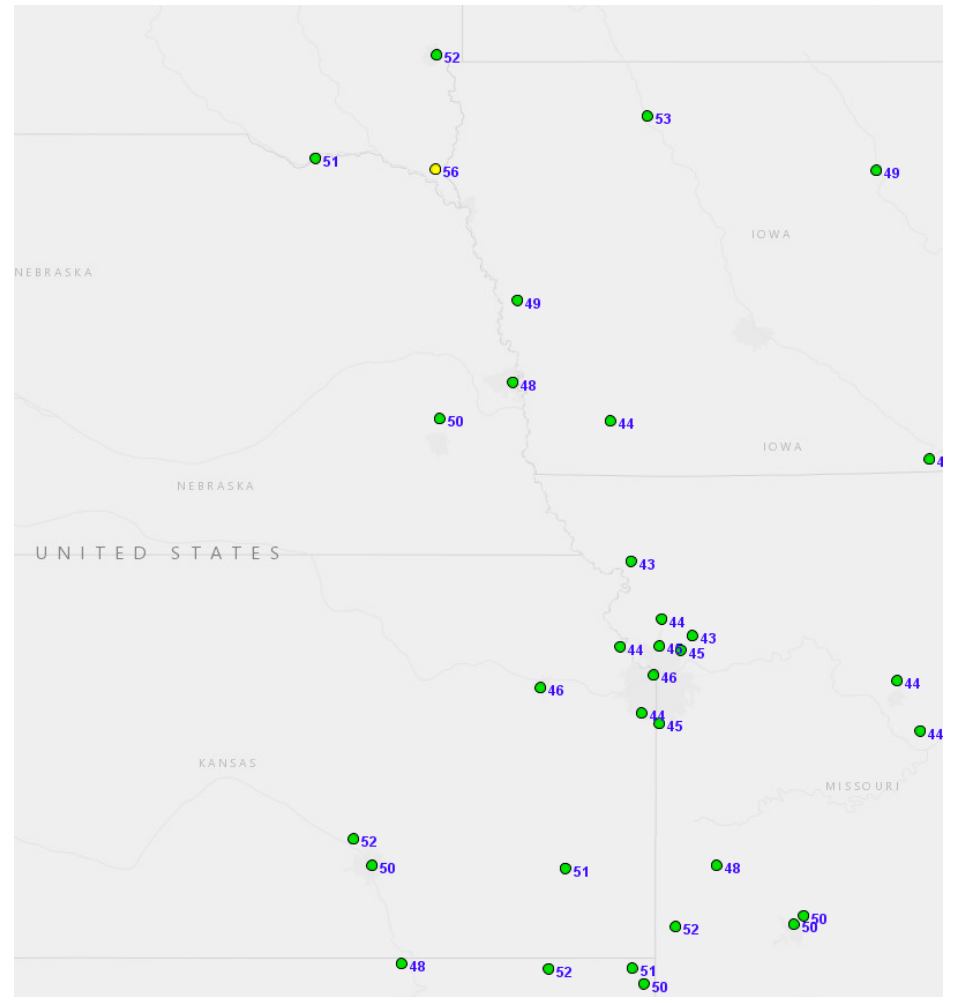
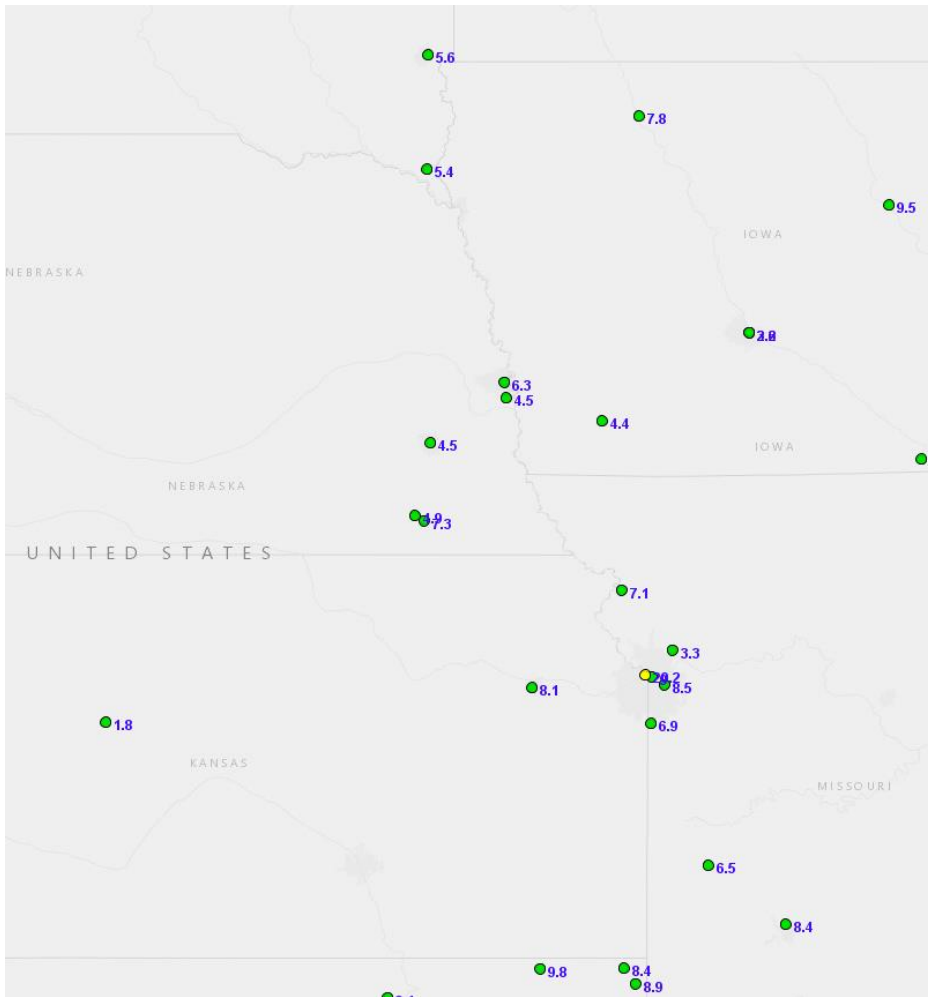
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Wednesday, April 18, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



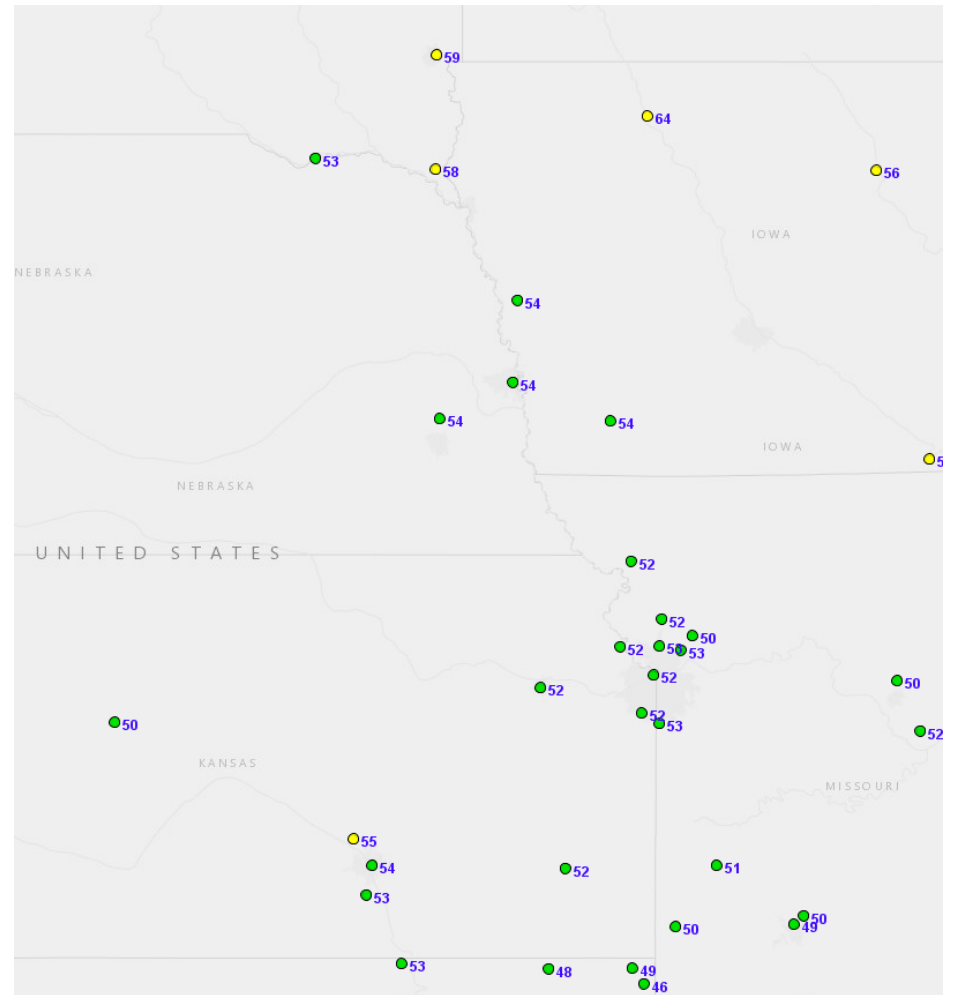
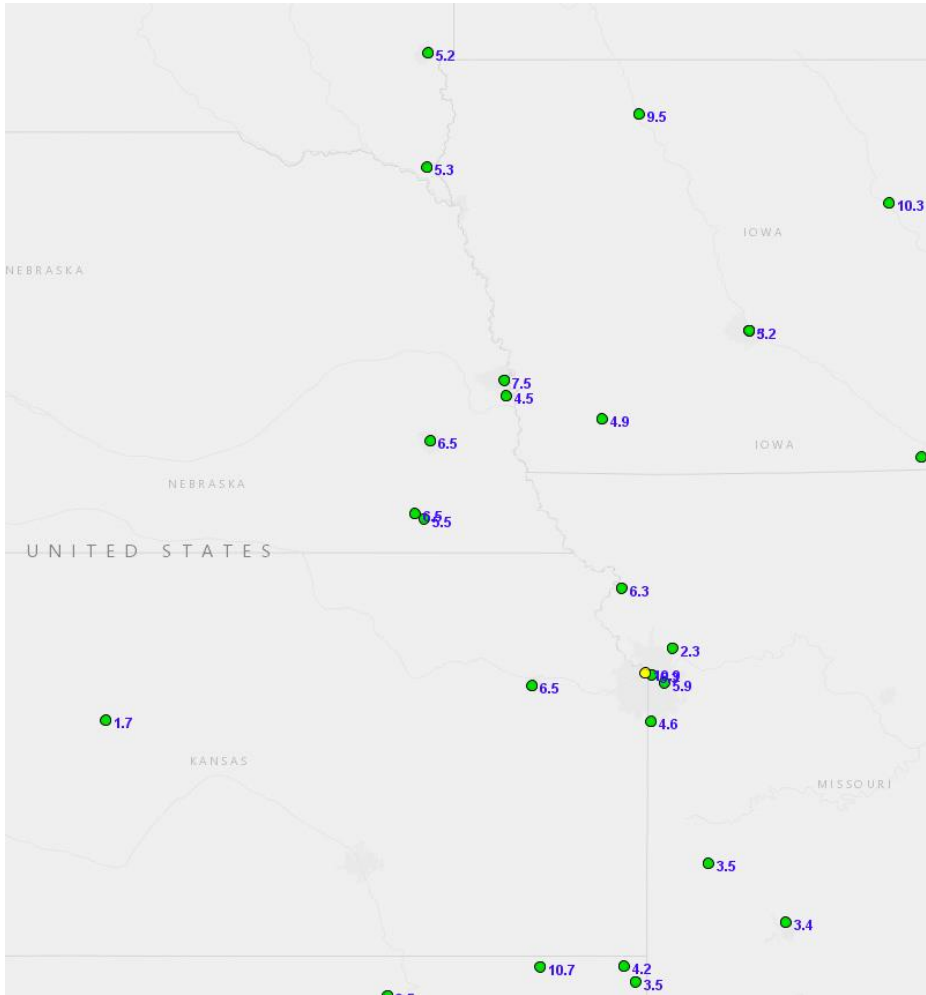
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Thursday, April 19, 2018

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

Windy and warm conditions on Friday (April 13) led to Red Flag conditions across much of the Flint Hills and thus no prescribed burning. Several wildfires were noted in the analysis however which brought smoke across much of the area. Cool and wet conditions meant limited burning last weekend (April 14-15). Warmer temperatures and light winds provided an opportunity for prescribed fire on Monday (April 16) across the entire Flint Hills region. Winds began the day out of the northwest, then slowly transitioned to east-southeast by the evening hours. This kept smoke relatively confined to the Flint Hills region, which then slowly drifted northwest by evening hours.

Winds increased on Tuesday (April 17) which limited prescribed fires across the region; multiple wildfires did occur to the west/southwest of the Flint Hills. Light smoke was analyzed from the day prior over the Flint Hills and northwestward. Another day of cool temperatures and breezy northwest winds brought limited fires to the region on Wednesday (April 18). Light northeast-east winds on Thursday (April 19) prompted numerous prescribed burns to be set across the region. Any smoke drifted to the west-southwest, but good dispersion was seen on most fires.

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

KSFIRE.ORG

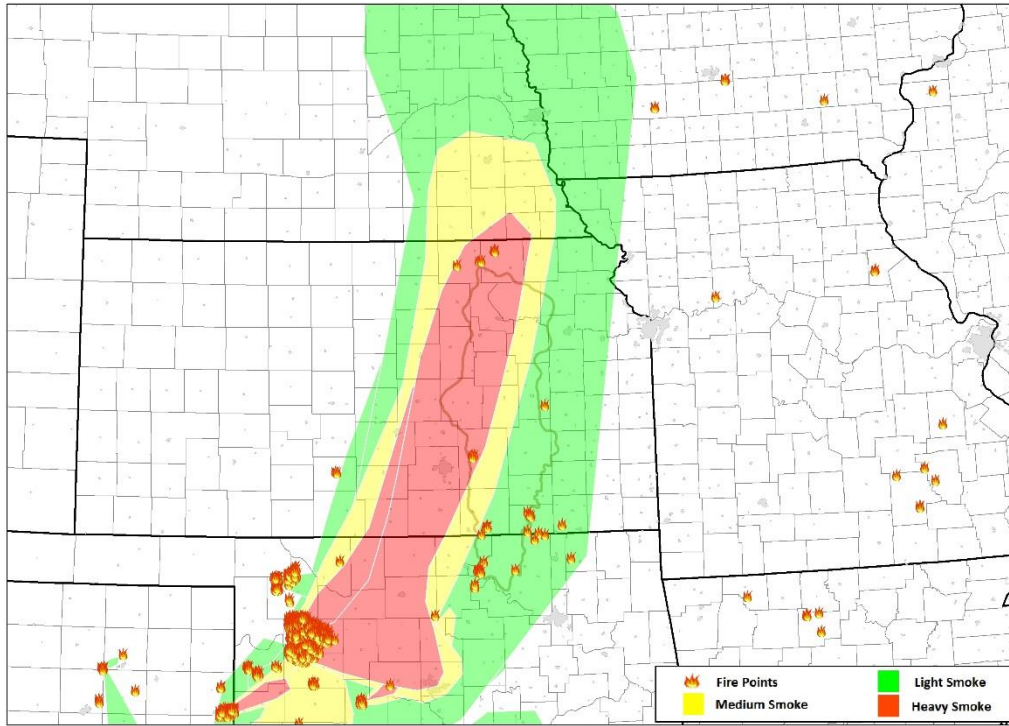


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

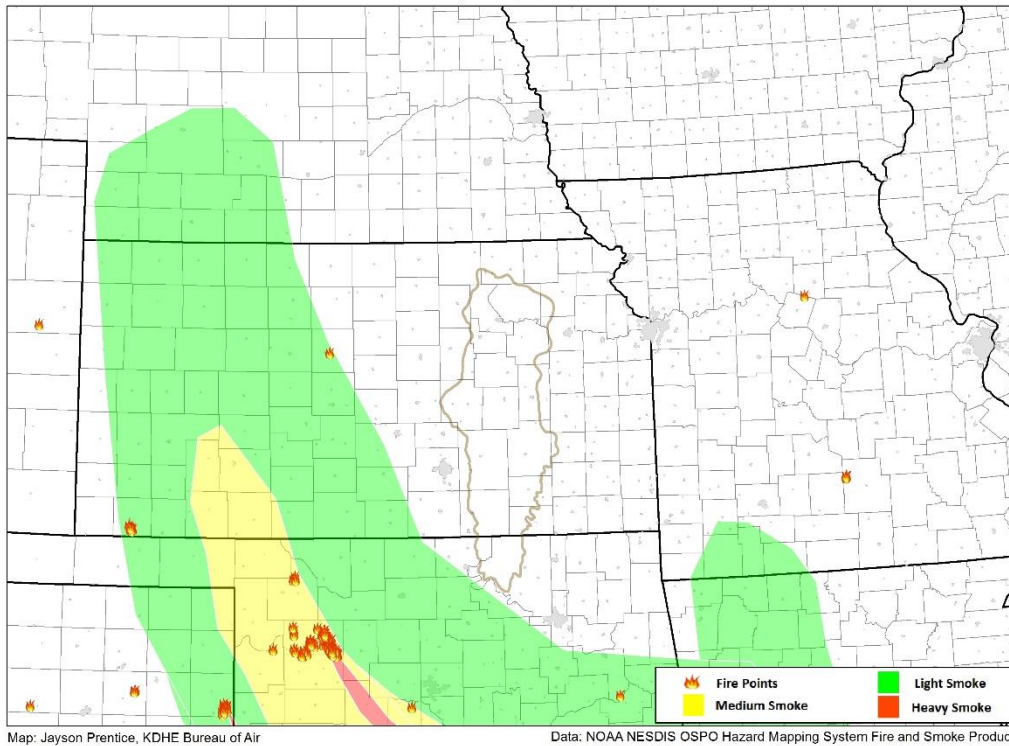
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HMS Fire & Smoke Analysis April 13, 2018



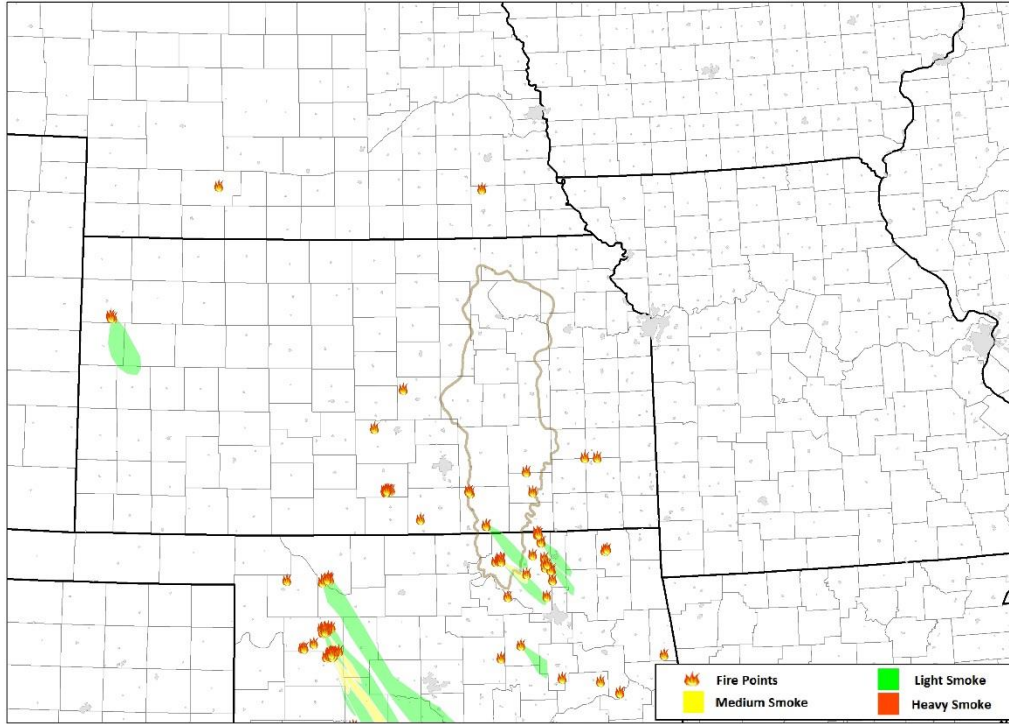
HMS Fire & Smoke Analysis April 14, 2018



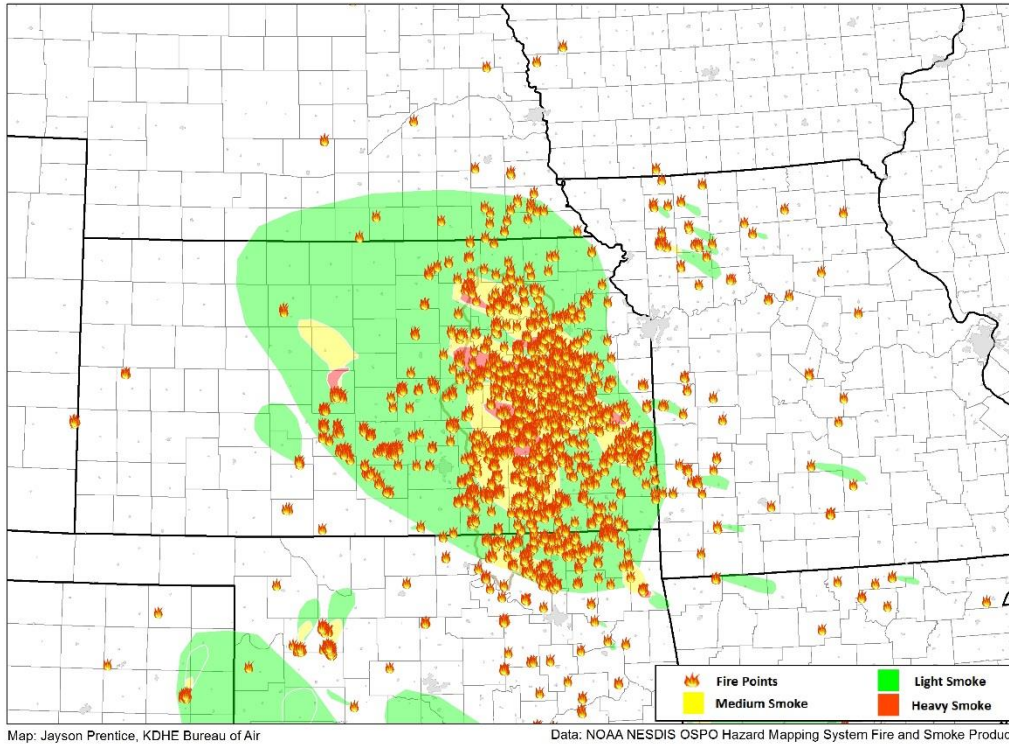
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HMS Fire & Smoke Analysis April 15, 2018



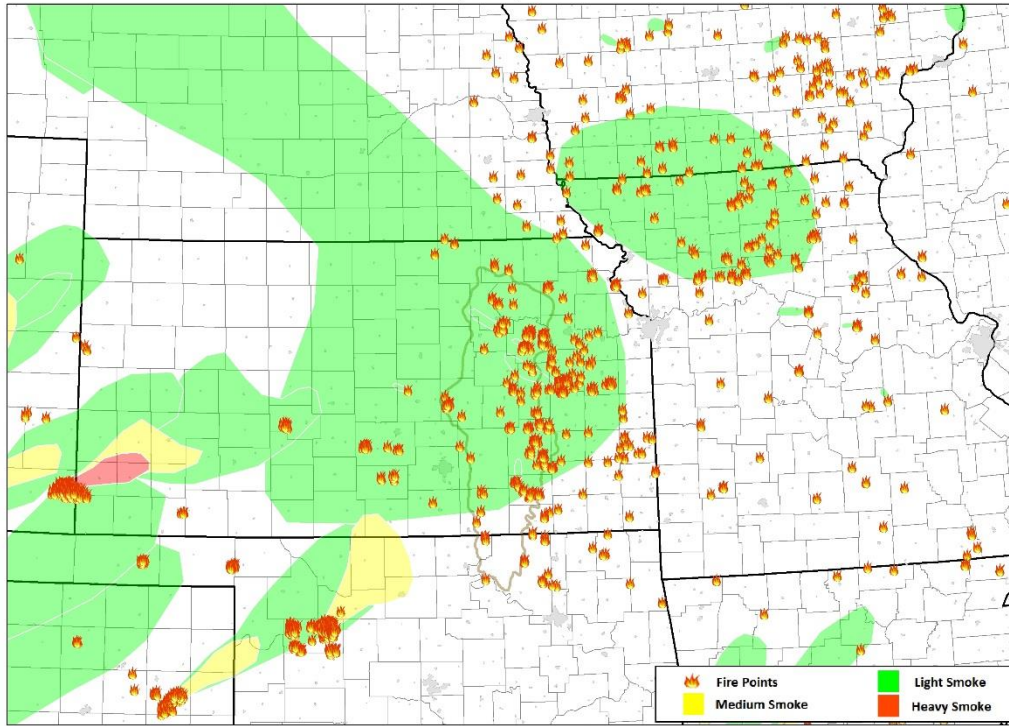
HMS Fire & Smoke Analysis April 16, 2018



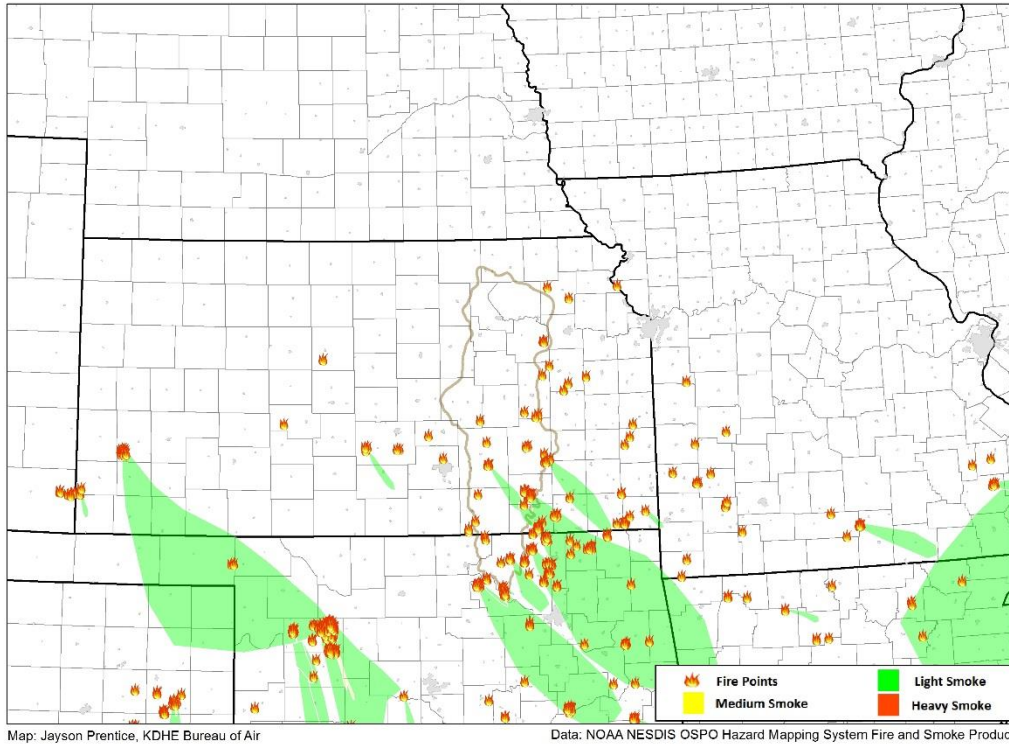
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HMS Fire & Smoke Analysis April 17, 2018



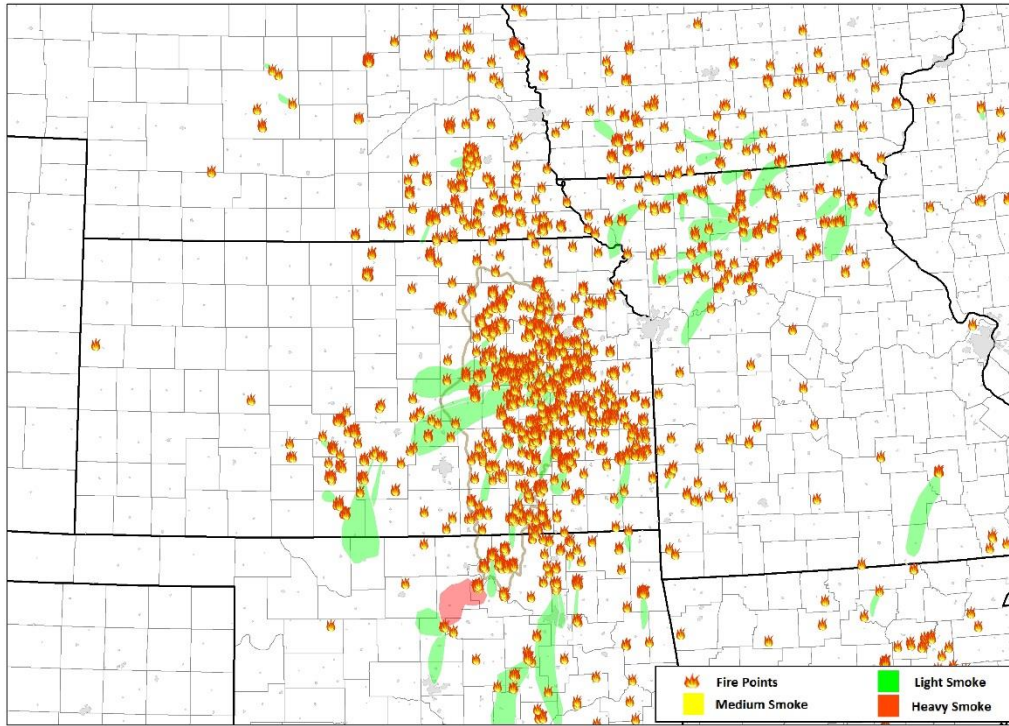
HMS Fire & Smoke Analysis April 18, 2018



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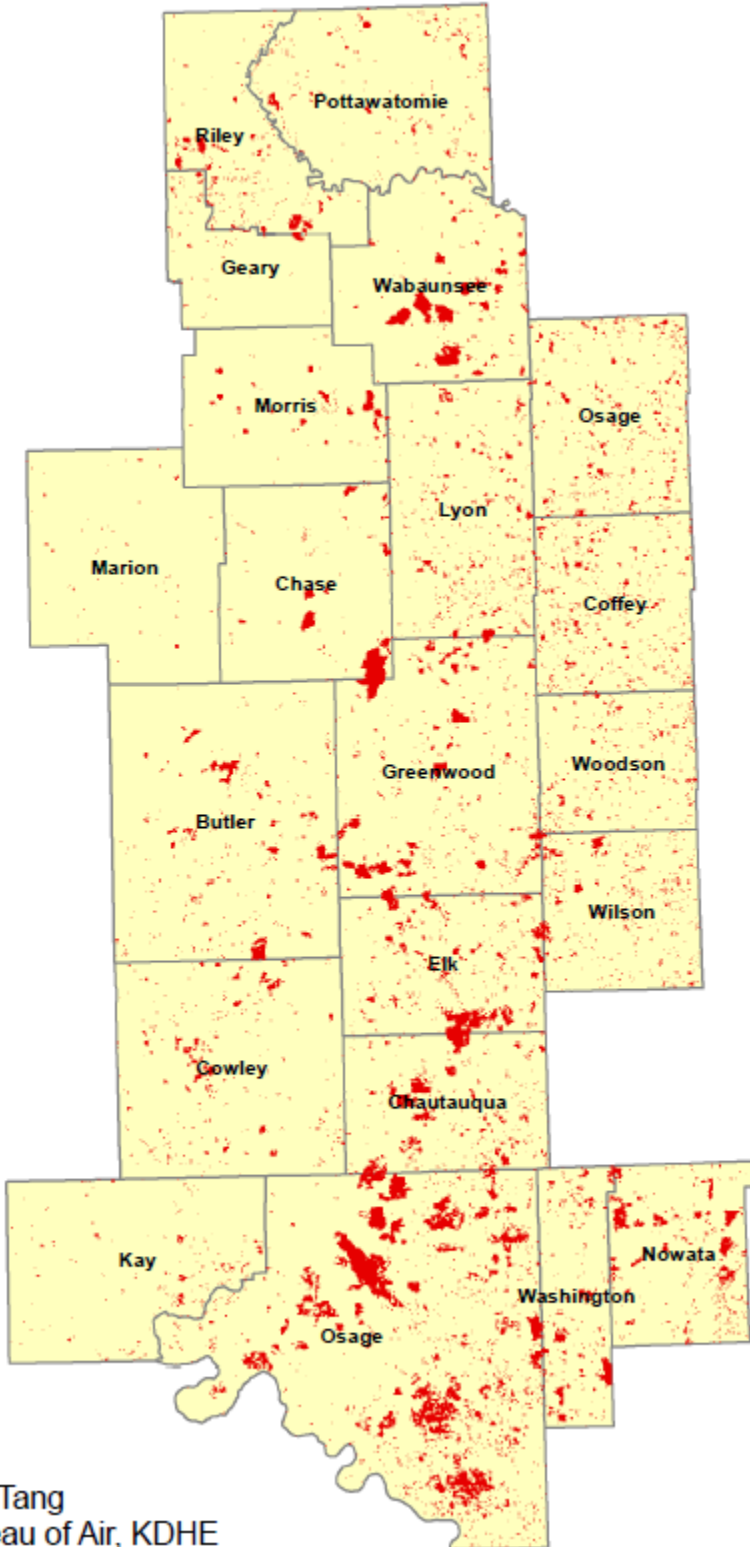


HMS Fire & Smoke Analysis April 19, 2018





Flint Hills Acreage Burned (February 17 – April 7, 2018)



<u>Counties</u>	<u>Acres Burned</u>
Butler	24,248
Chase	18,981
Chautauqua	31,723
Coffey	19,197
Cowley	17,159
Elk	35,059
Geary	3,428
Greenwood	43,059
Lyon	20,866
Marion	1,946
Morris	9,637
Osage (KS)	19,954
Pottawatomie	11,475
Riley	14,858
Wabaunsee	31,892
Wilson	16,603
Woodson	10,595
Nowata (OK)	27,398
Osage (OK)	163,463
Washington (OK)	19,244
Kay (OK)	6,888
Total	547,673
* Denotes county was partly or completely covered by clouds during latest analysis.	

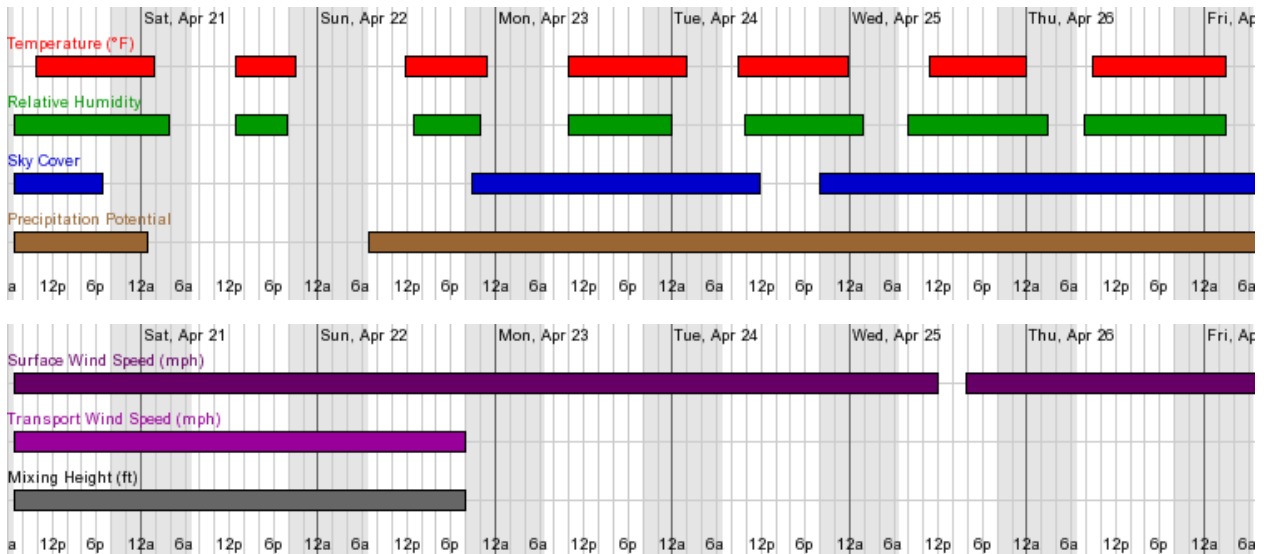
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

A bit of a breeze today (April 20) with wind gusts up to 20 mph, however conditions overall are favorable for prescribed burning and smoke dispersion. Cloud cover and rain chances move in for Saturday into Sunday (April 21-22) – perhaps some burning is possible late Sunday if rainfall amounts remain light. Conditions appear relatively favorable for prescribed burning next week with seasonable temperatures and reasonable wind speeds. Caveats for next week include mostly cloudy skies that may inhibit smoke dispersion on Tuesday (April 24) and breezy conditions on Wednesday (April 25). Warmer temperatures next week may be enough with even the limited rain this weekend to invigorate ‘green-up’ across the Flint Hills which has otherwise been stunted by bouts of cold weather and drought conditions.

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 20, 2018.