

Flint Hills Prescribed Fire Update

April 13, 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.

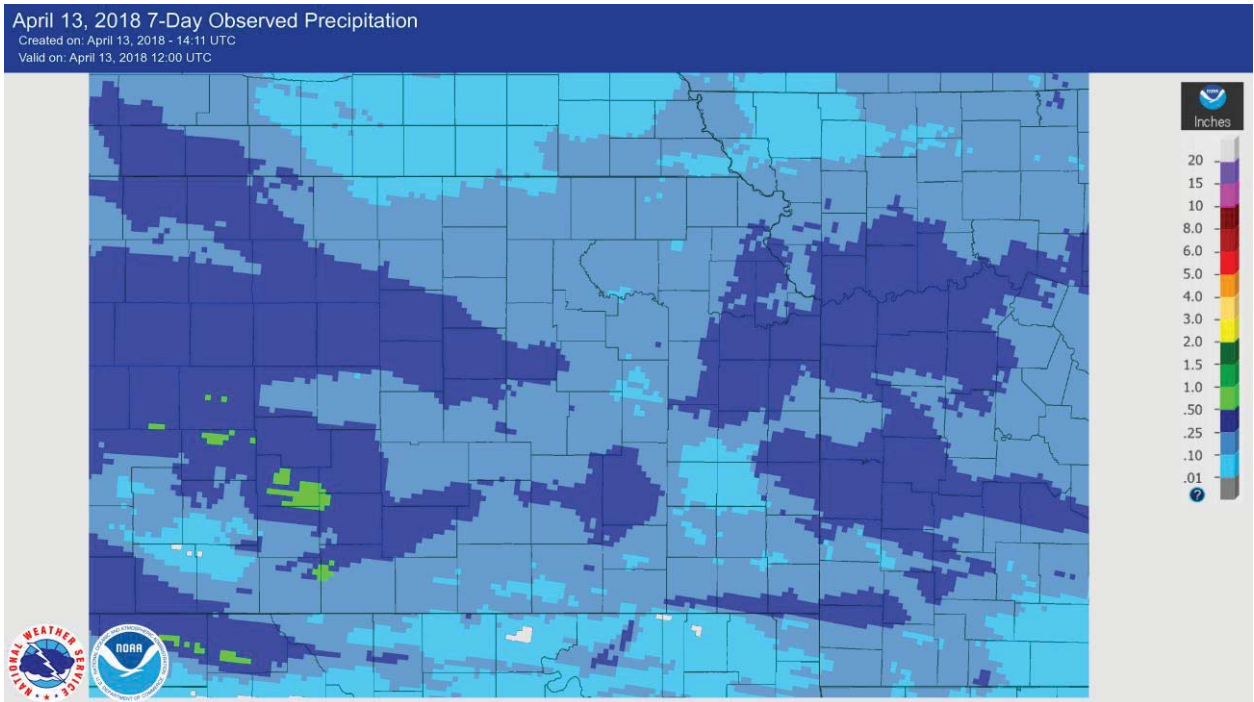




Meteorology

Cool temperatures were observed last Friday through Sunday (April 6-8) as high temperatures struggled to even surpass the 40s. Breezy conditions on Friday and Sunday made conditions feel even colder. Light precipitation fell on Sunday and lingered into Monday, although much of the Flint Hills saw less than a quarter-inch total. Temperatures began to warm back up on Monday (April 9) and continued to rise through Thursday with highs reaching into the 70s and 80s for most. However, Monday was the only day with wind gusts below 30 mph with gusts on Tuesday through Thursday in the 35-50 mph range each afternoon from the south.

Precipitation

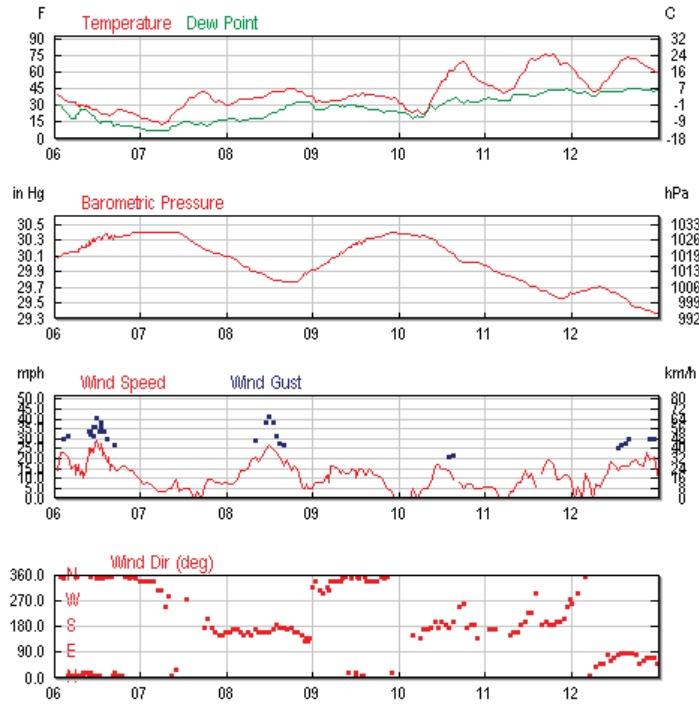


NOAA/NWS Observed Total Precipitation for April 6-12, 2018.

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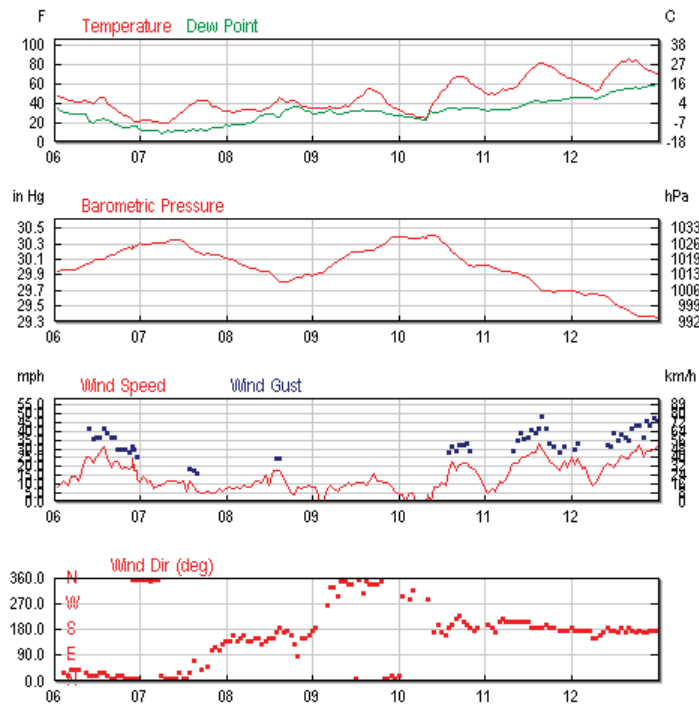


Lincoln, NE



April 6-12, 2018 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



April 6-12, 2018 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the period of April 6-12, 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 on April 9 and April 12 displays an exceedance, however the monitor has been flagged for erroneous data with numerous hours of suspect data.

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



Friday, April 6, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

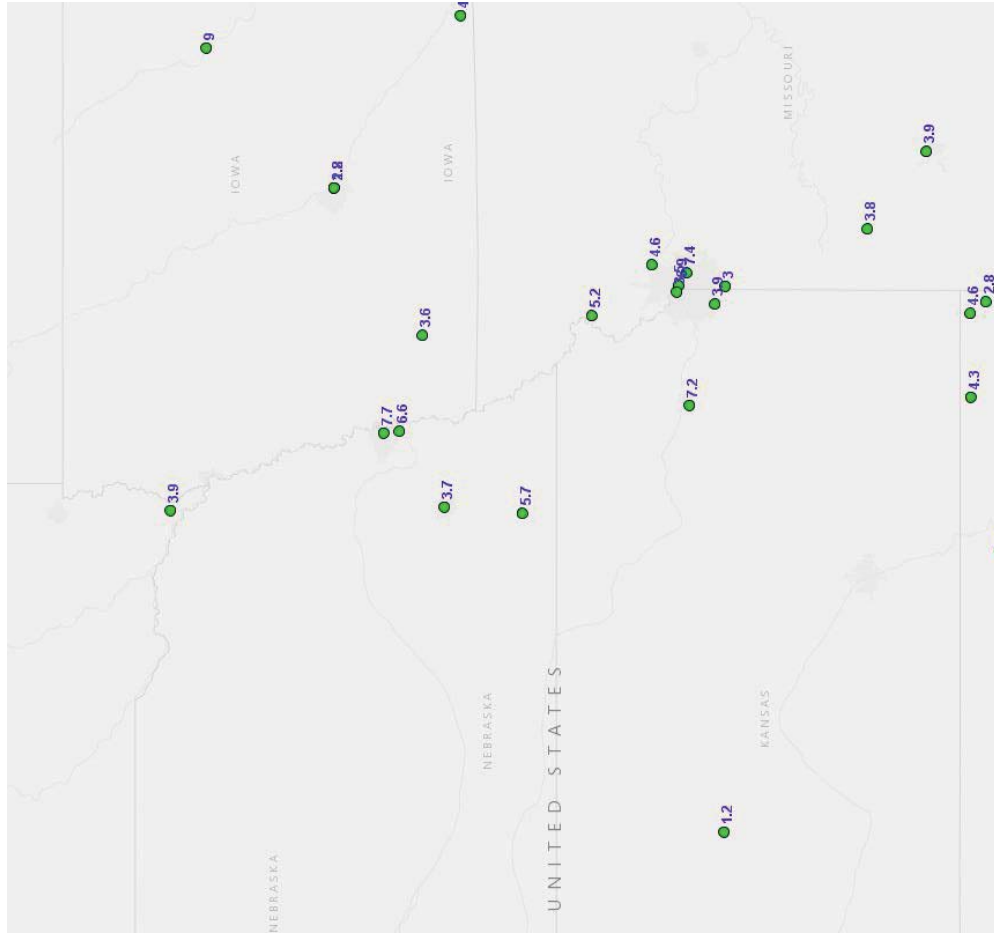


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Saturday, April 7, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



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Sunday, April 8, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



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Monday, April 9, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



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Tuesday, April 10, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



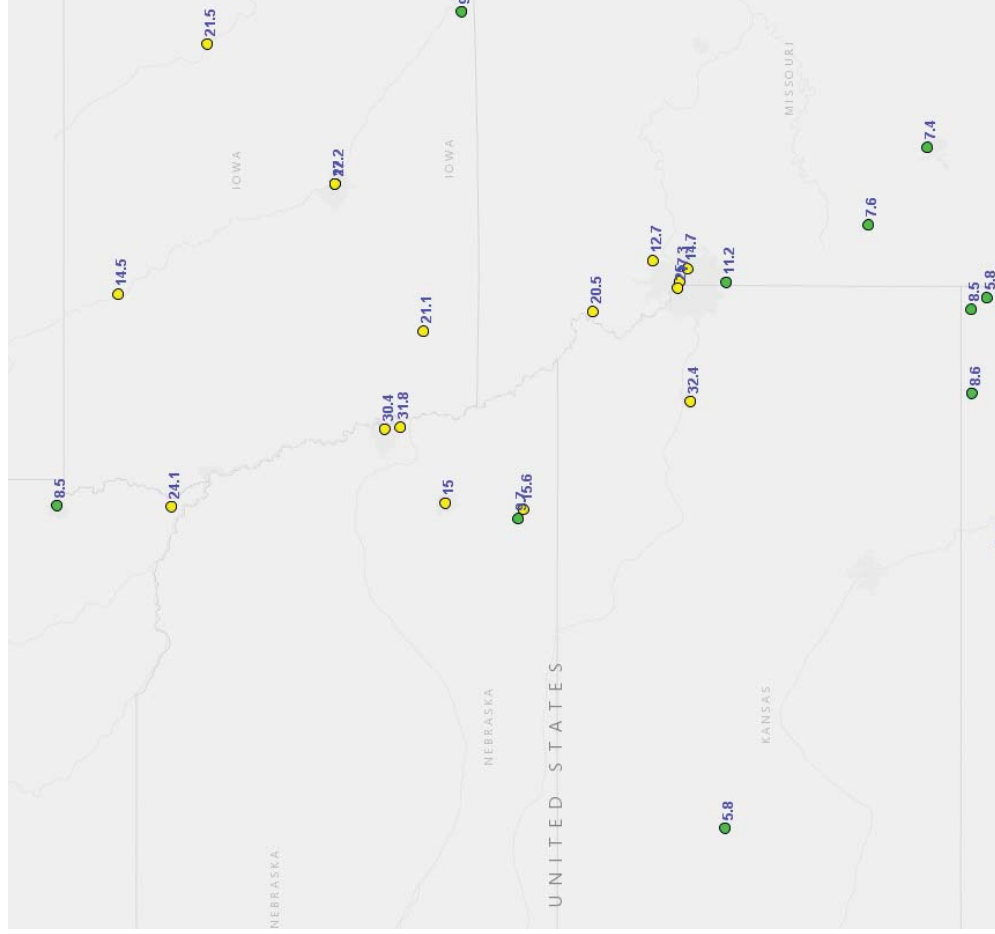
Friday, April 13, 2018 • 9

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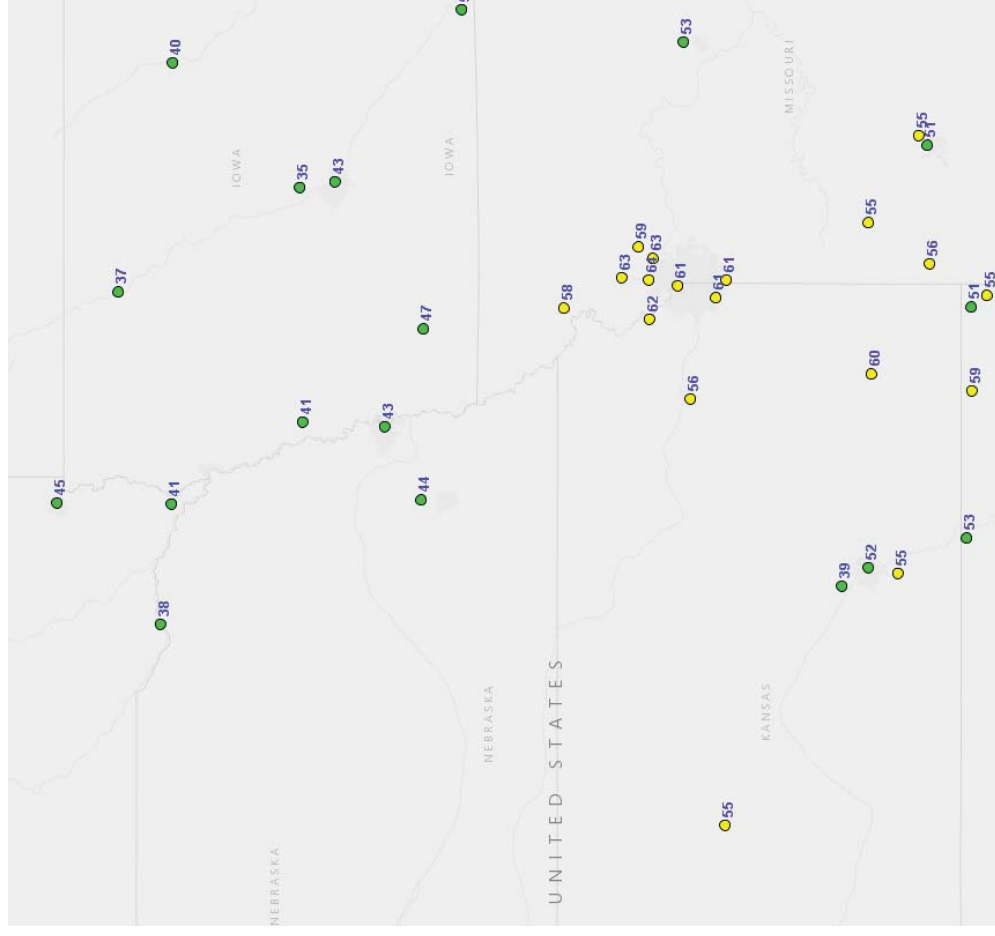


Wednesday, April 11, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)

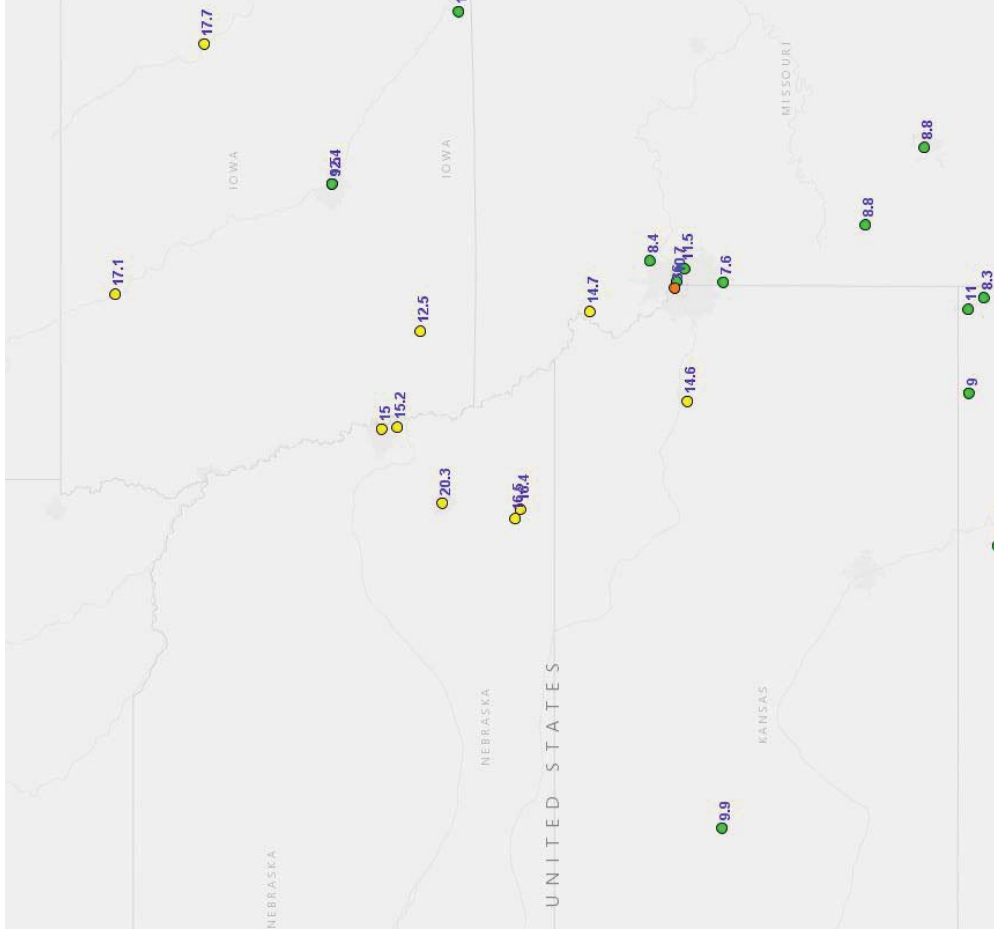


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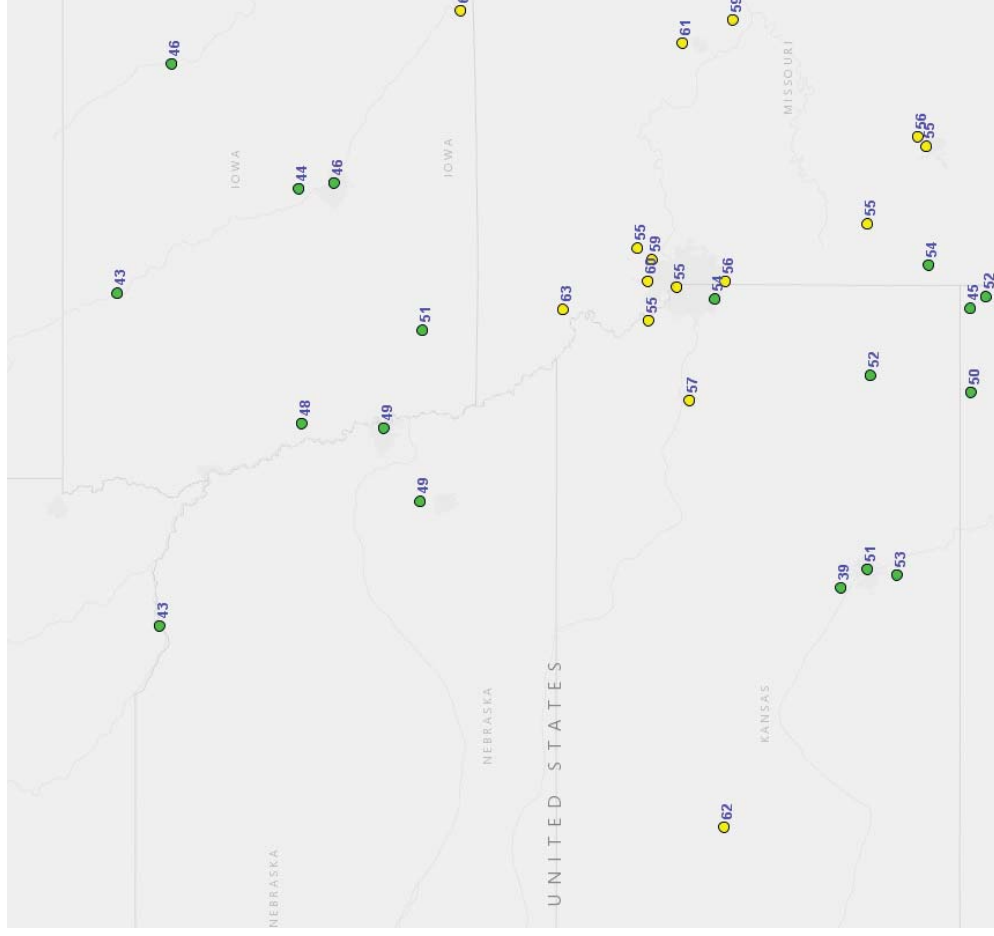


Thursday, April 12, 2018

PM2.5 (24-hour average)



Ozone (8-hour average maximum)





Fires and Smoke

Temperatures were stuck in the 40s for much of the Flint Hills during the Friday through Sunday (April 6-8) period. Breezy winds on Friday and Sunday alongside light precipitation kept burning to a minimum each of those days. Winds decreased for Saturday (April 7) under sunny skies which prompted numerous prescribed fires across the region. Temperatures began to warm up by Monday (April 9) although light rain over the prior 24 hours kept burning somewhat limited. Another day with near-significant burning occurred on Tuesday (April 10), especially over southeast Kansas and northeast Oklahoma. Burning was once again limited on Wednesday and Thursday (April 11-12) due to increased wind speeds and elevated fire danger.

Smoke from fires on Saturday (April 7) initially drifted to the south, but then was brought back to the north as winds shifted. Precipitation aided in decreasing particulate matter, but elevated values remained across the region as winds staggered between northerly and southerly. Additional smoke on Monday (April 9) followed a similar path. Initially being transported to the south before winds shifted and allowed prior day smoke to combine with Tuesday's (April 10) smoke. South winds across Kansas, and north/west winds across Nebraska led to a convergence of smoke. This created Moderate AQI, and brief AQI values in the Unhealthy range over parts of Nebraska and Iowa. Minimal burning Wednesday and Thursday introduced little new smoke, however fluctuating winds have kept some elevated particulate matter values hanging around the region. Note multiple significant wildfires over western Oklahoma introduced heavy smoke that will continue to be transported across the four-state region today (April 13).

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

KSFIRE.ORG

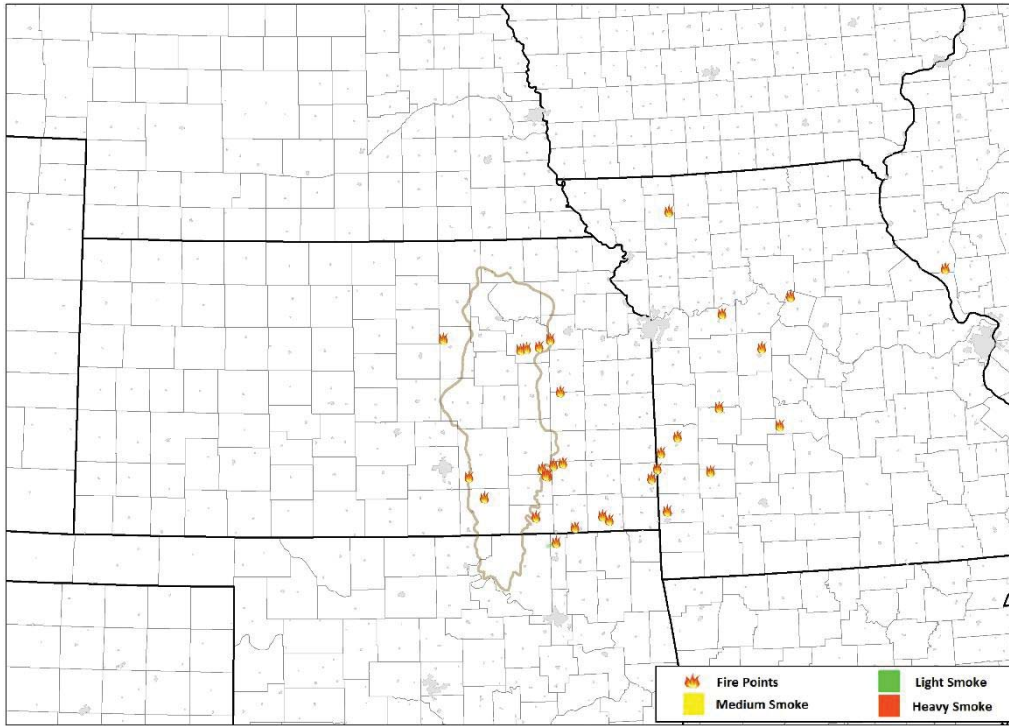


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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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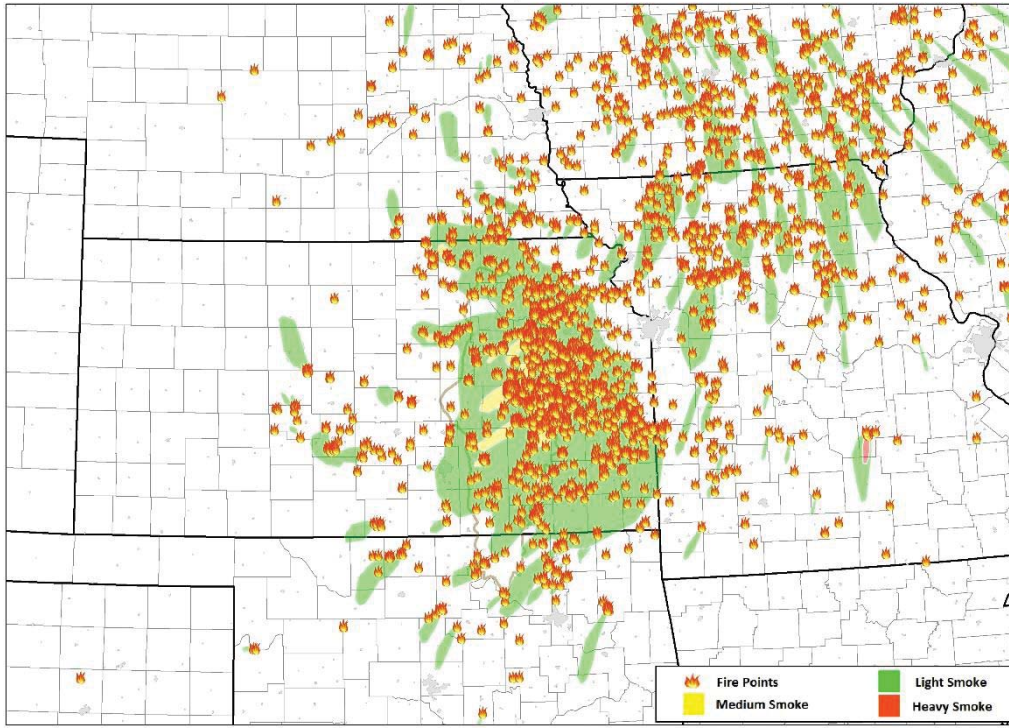
HMS Fire & Smoke Analysis April 06, 2018



Map: Jayson Prentice, KDHE Bureau of Air

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

HMS Fire & Smoke Analysis April 07, 2018



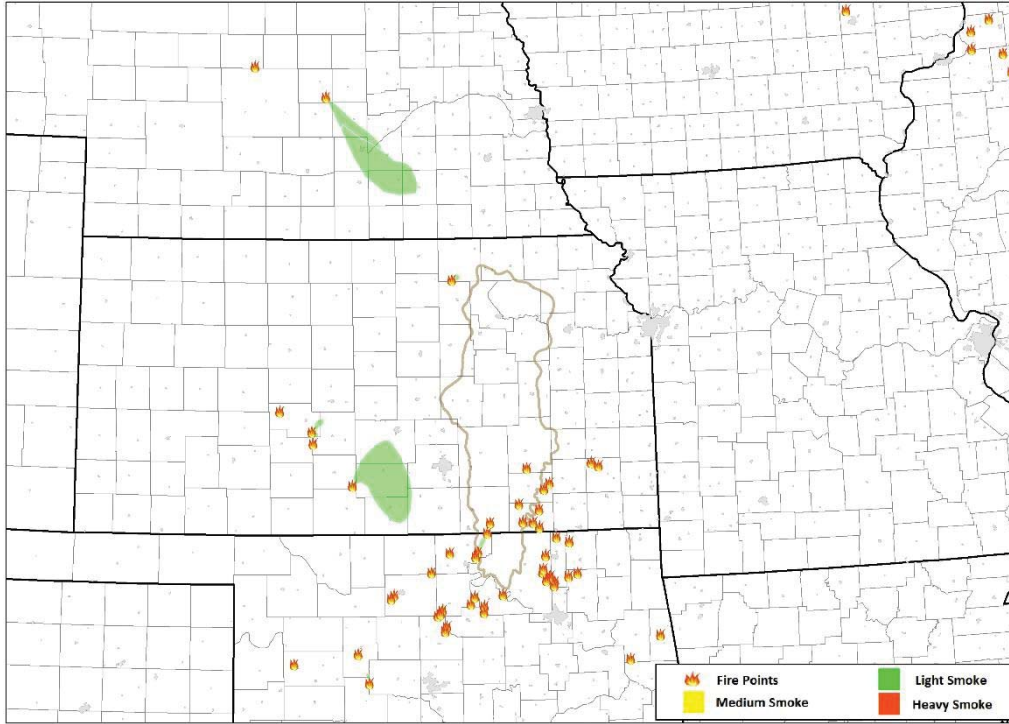
Map: Jayson Prentice, KDHE Bureau of Air

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

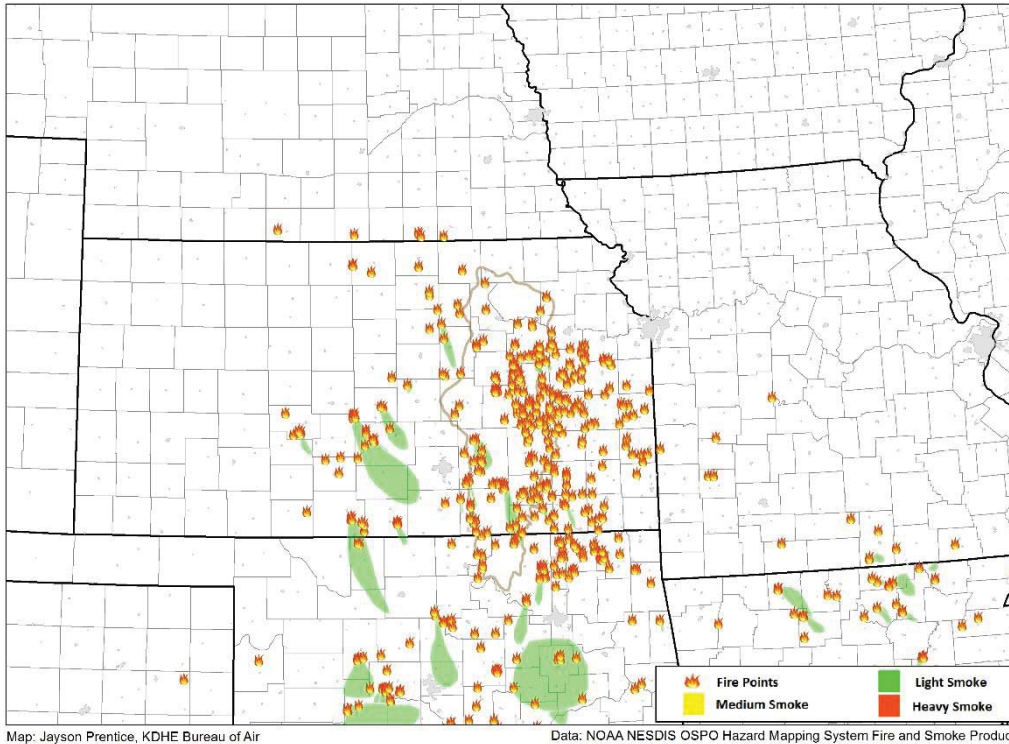
Flint Hills Prescribed Fire Update



HMS Fire & Smoke Analysis April 08, 2018



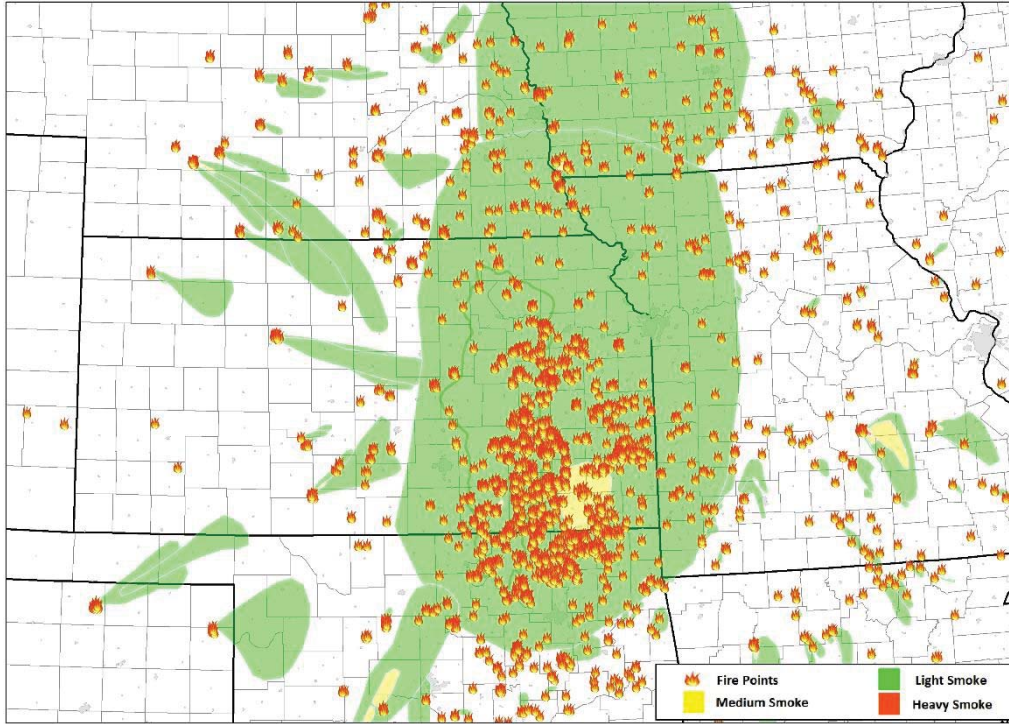
HMS Fire & Smoke Analysis April 09, 2018



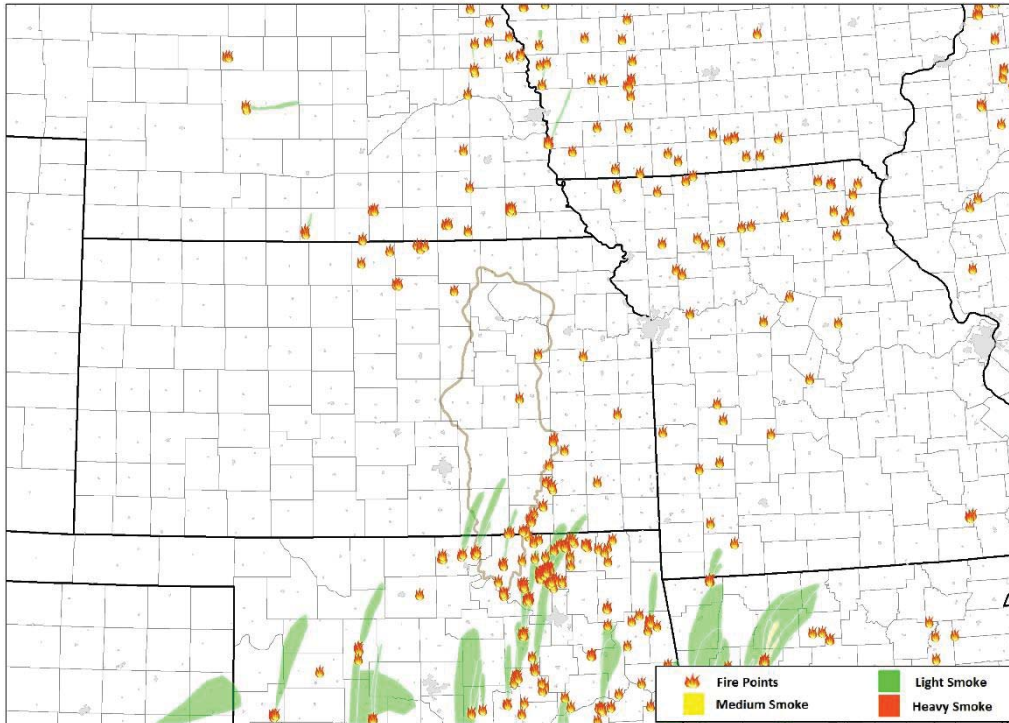
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HMS Fire & Smoke Analysis April 10, 2018



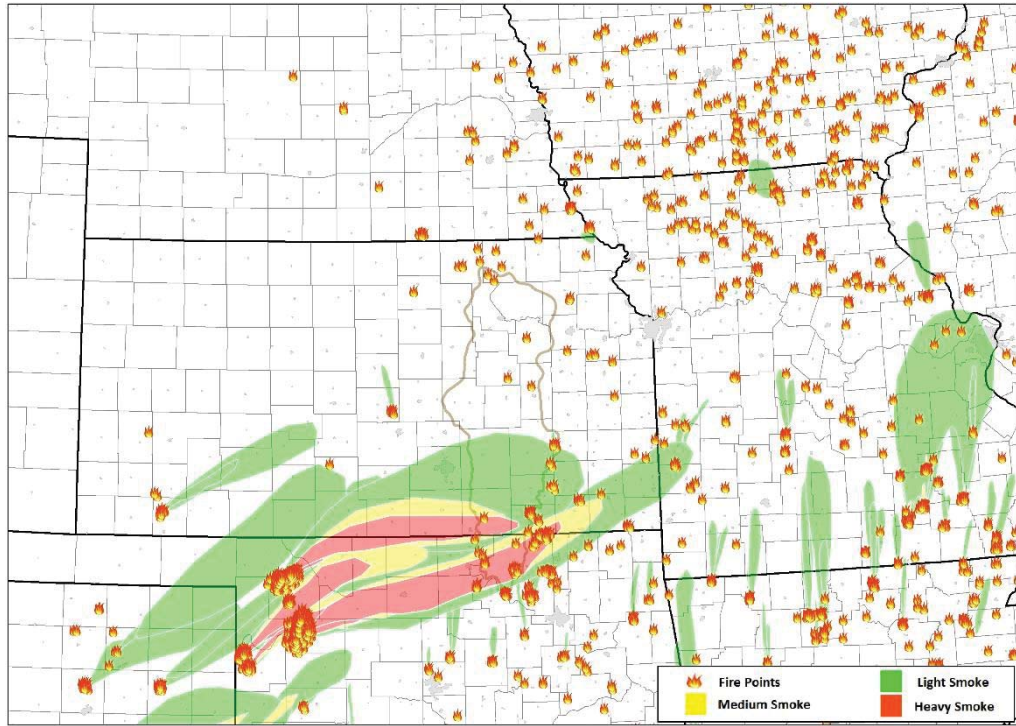
HMS Fire & Smoke Analysis April 11, 2018



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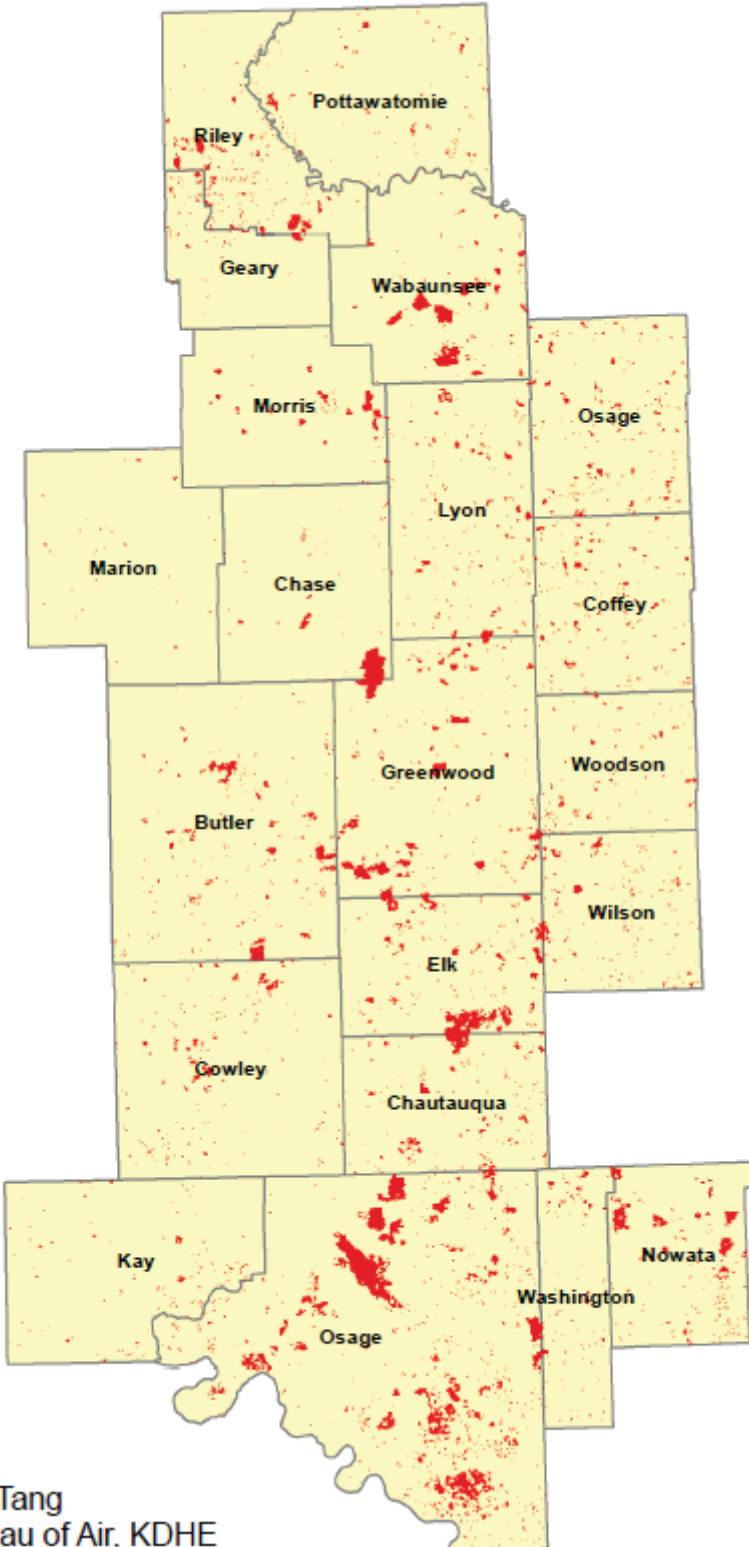
HMS Fire & Smoke Analysis April 12, 2018



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Flint Hills Acreage Burned (February 17 – April 5, 2018)



<u>Counties</u>	<u>Acres Burned</u>	
Butler	18,904	
Chase	10,919	
Chautauqua	13,421	*
Coffey	8,726	
Cowley	9,900	*
Elk	25,607	
Geary	3,166	
Greenwood	29,993	
Lyon	11,537	
Marion	1,081	
Morris	7,460	
Osage (KS)	10,765	
Pottawatomie	5,915	
Riley	13,529	
Wabaunsee	20,247	
Wilson	8,618	
Woodson	4,633	
Nowata (OK)	16,587	*
Osage (OK)	106,226	*
Washington (OK)	5,143	*
Kay (OK)	4,247	*
Total	336,624	
* Denotes county was partly or completely covered by clouds during latest analysis.		

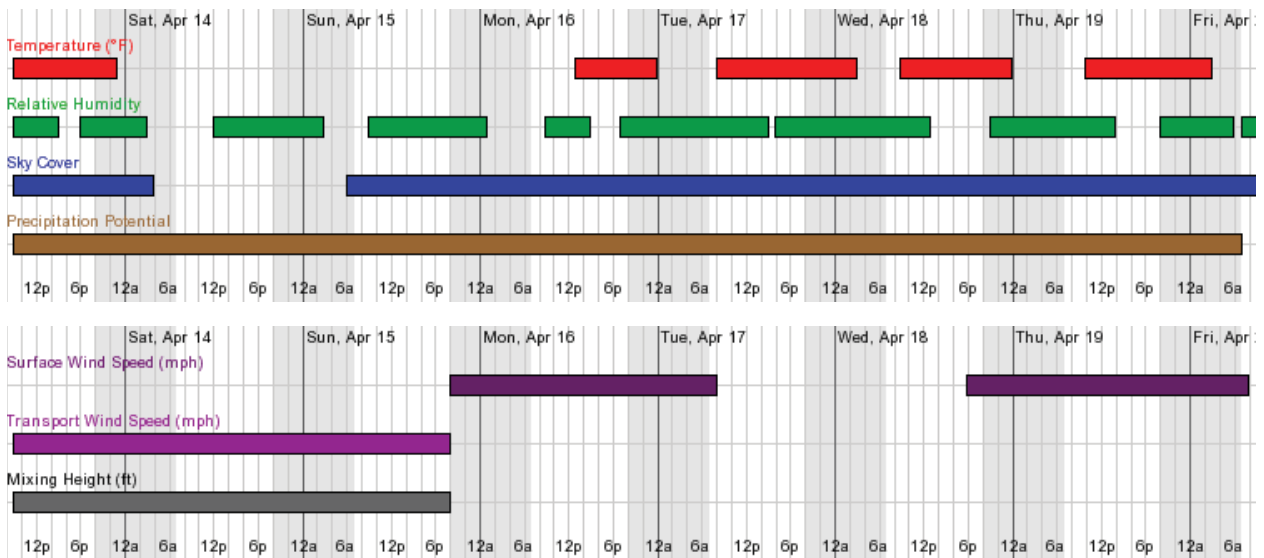
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

Windy conditions are expected today through Sunday, initially from the south then from the northwest over the weekend. Winds decrease and become southerly on Monday with temperatures warming up. Monday has the potential to be an ideal burn day for many and anticipate significant burning. Winds increase for Tuesday and Wednesday which will likely limit burning potential. A decrease in winds for Thursday may provide another burn day opportunity for much of the Flint Hills – although relative humidity indicates an elevated fire danger is 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. 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: 9am April 13, 2018.