

Flint Hills Prescribed Fire Update

April 21, 2017

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

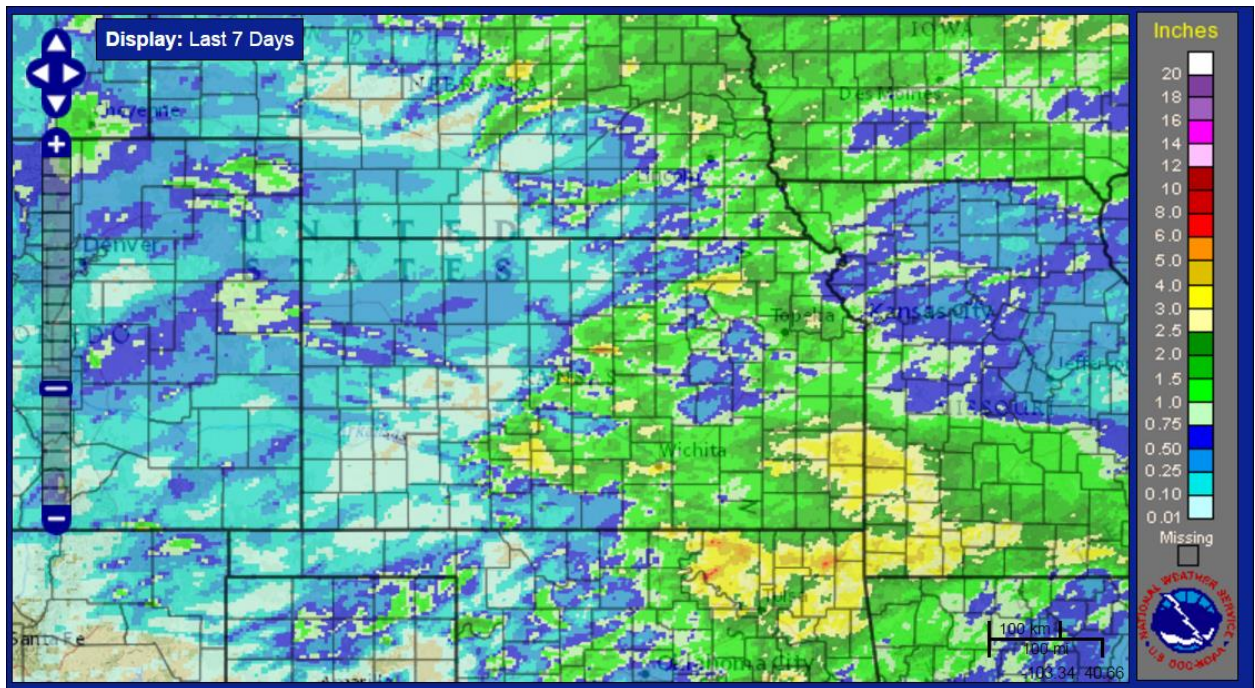




Meteorology

Light rain fell across portions of the Flint Hills last Friday (April 14) and Saturday (April 15) before scattered thunderstorms brought hit and miss heavy rain on Sunday (April 16). Additional light rain occurred on Monday (April 17) and over far northern Flint Hills on Tuesday (April 18). A cold front late Wednesday (April 19) brought rain showers and thunderstorms to the Flint Hills area once again. Temperatures remained quite mild with highs primarily in the 70s to 80s up until Thursday (April 20). Strong south winds occurred on Friday and Saturday, and Wednesday with the remaining days seeing manageable winds.

Precipitation

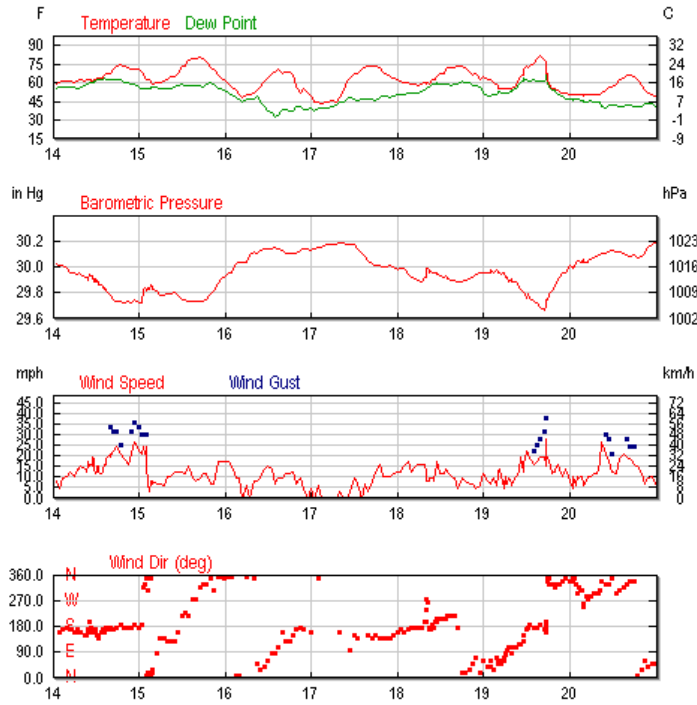


NOAA/NWS Observed Total Precipitation for April 14-20, 2017.

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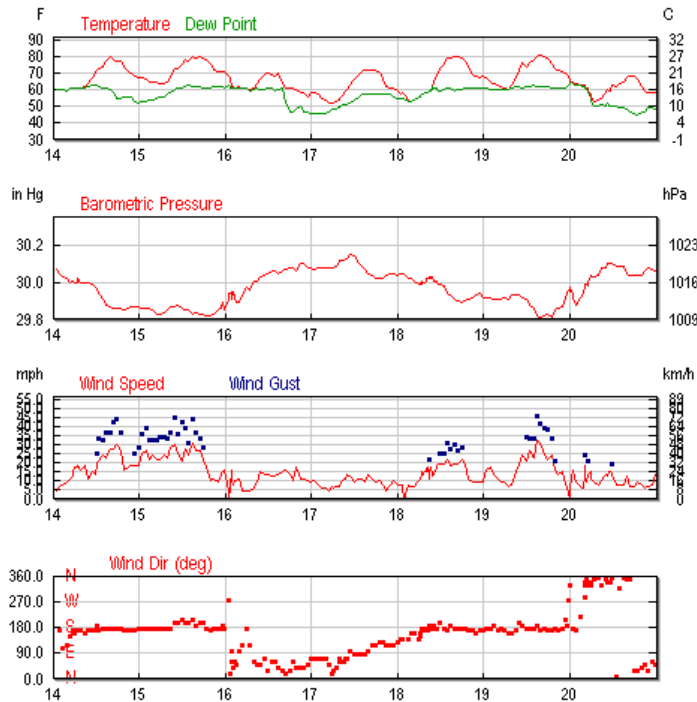


Lincoln, NE



Apr 14-20, 2017 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



Apr 14-20, 2017 Observed Weather from KEMP. Graphic: Weather Underground, Inc.



Air Quality Data

Air quality data for the week of April 14-20, 2017 showed multiple days with elevated values that can be attributed to smoke and associated pollutants from fires in the Flint Hills and surrounding areas.

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 $\mu\text{g}/\text{m}^3$.

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

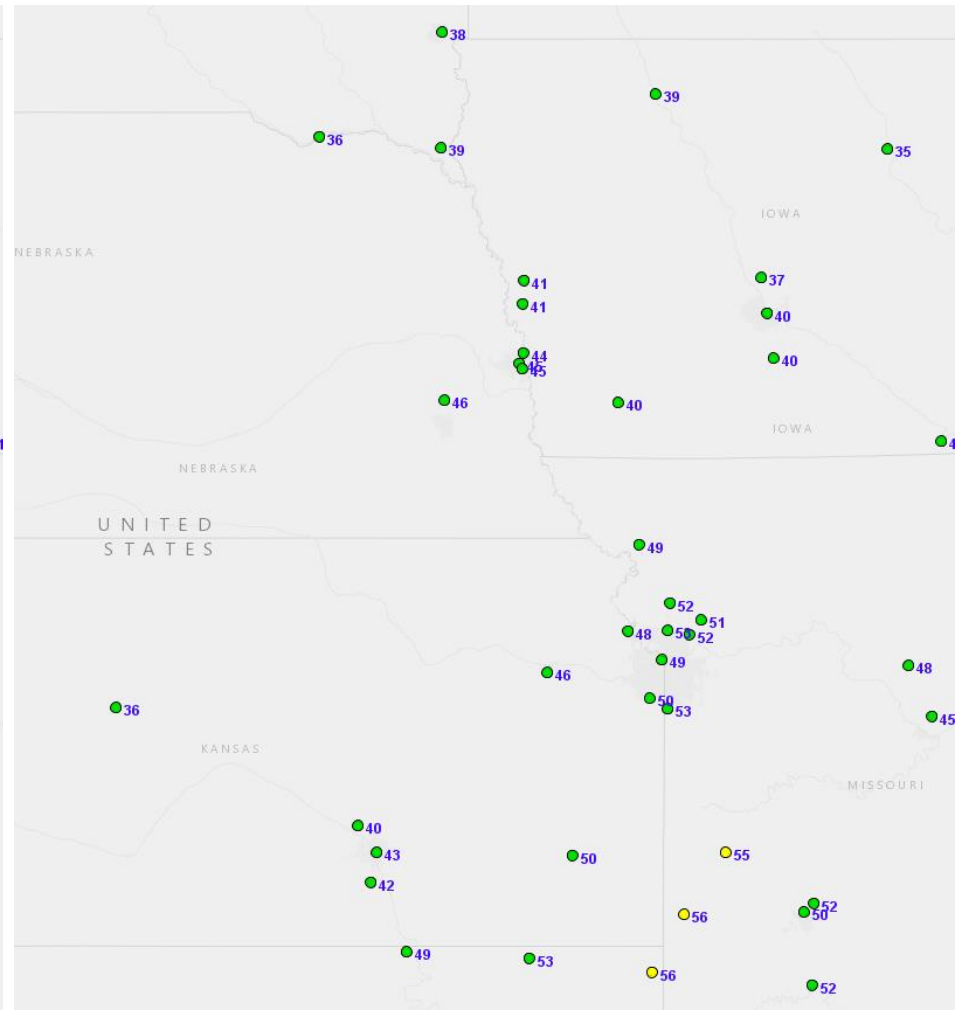
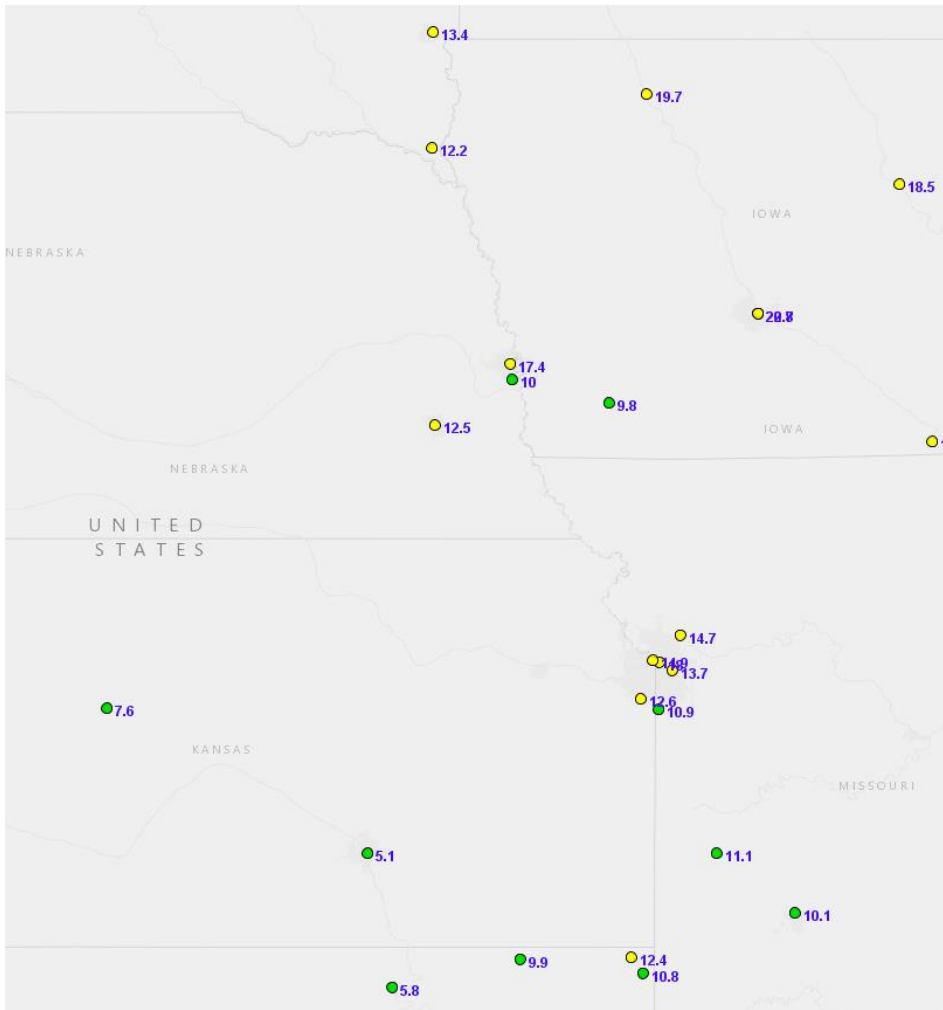
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Friday, April 14, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



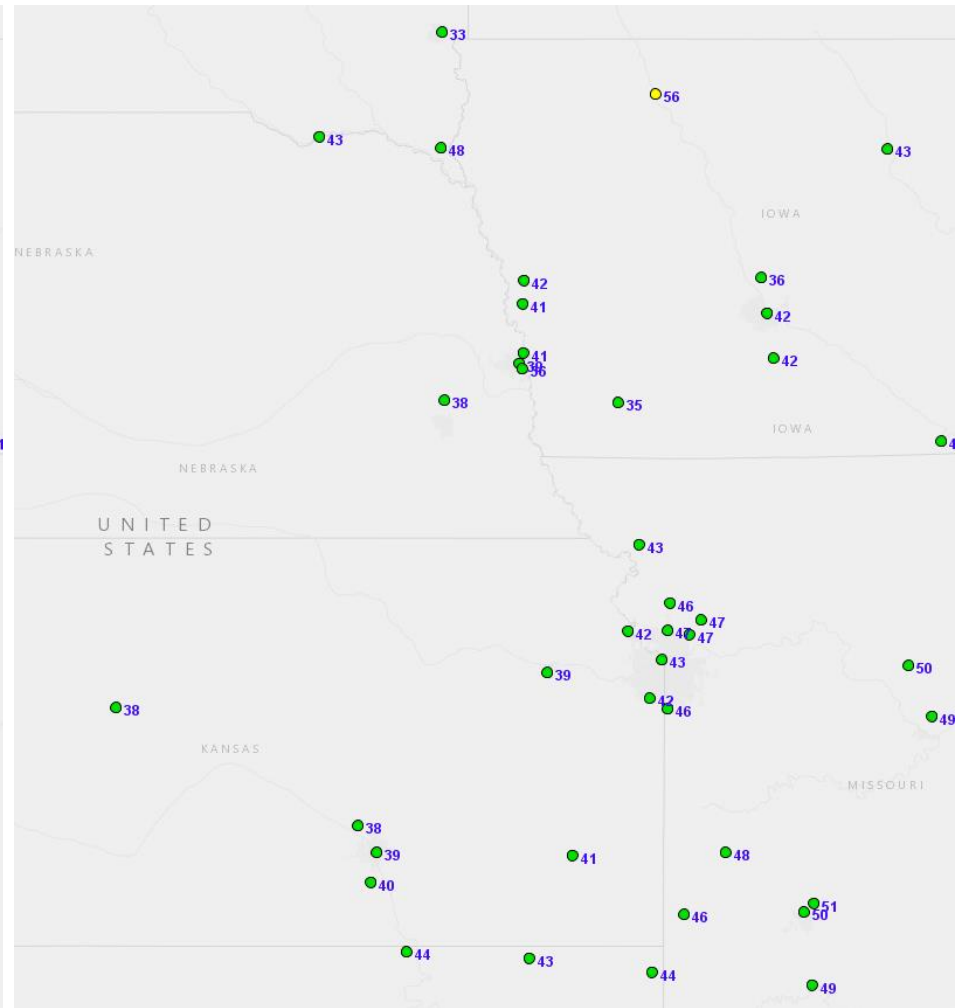
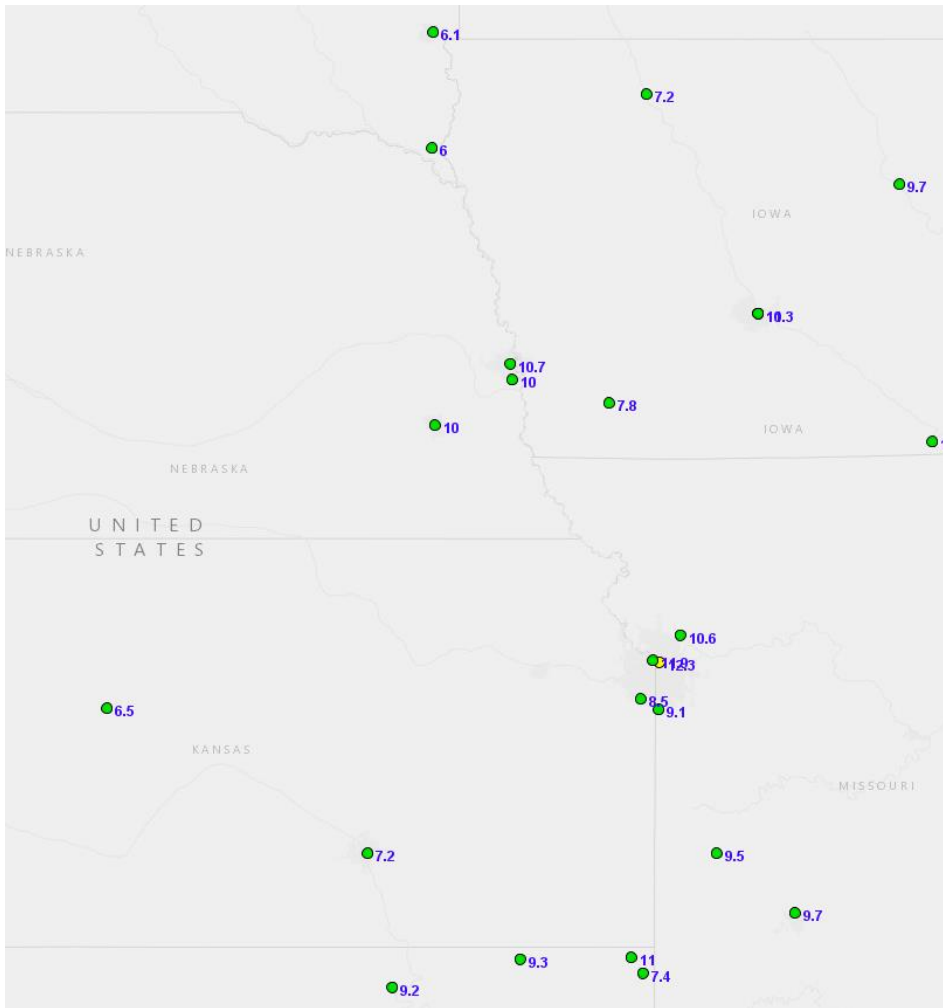
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Saturday, April 15, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



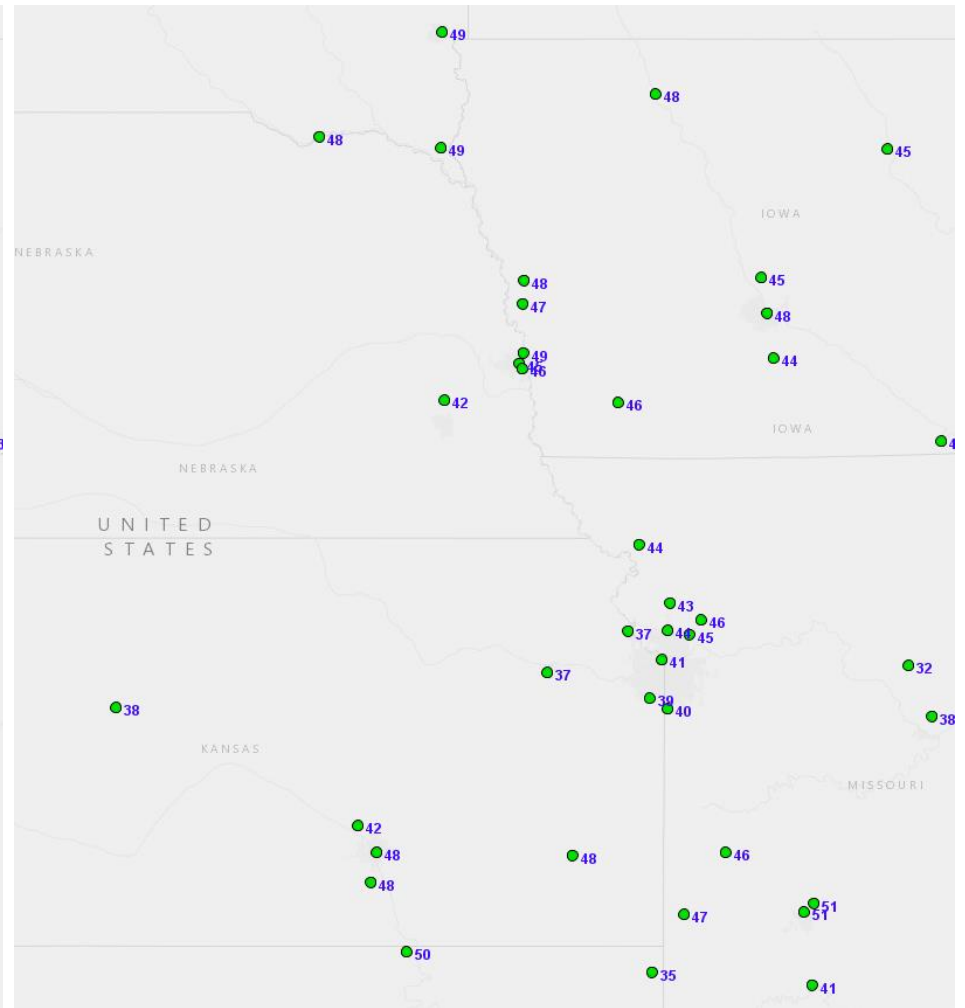
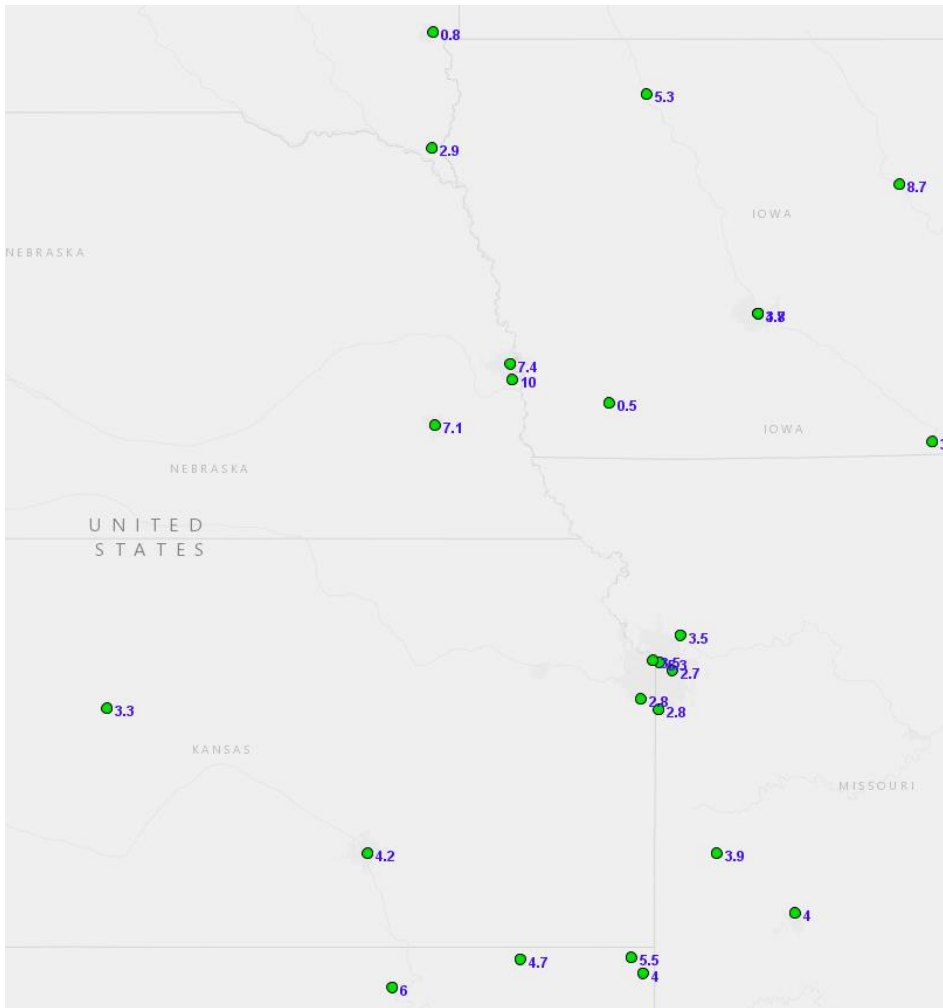
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Sunday, April 16, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



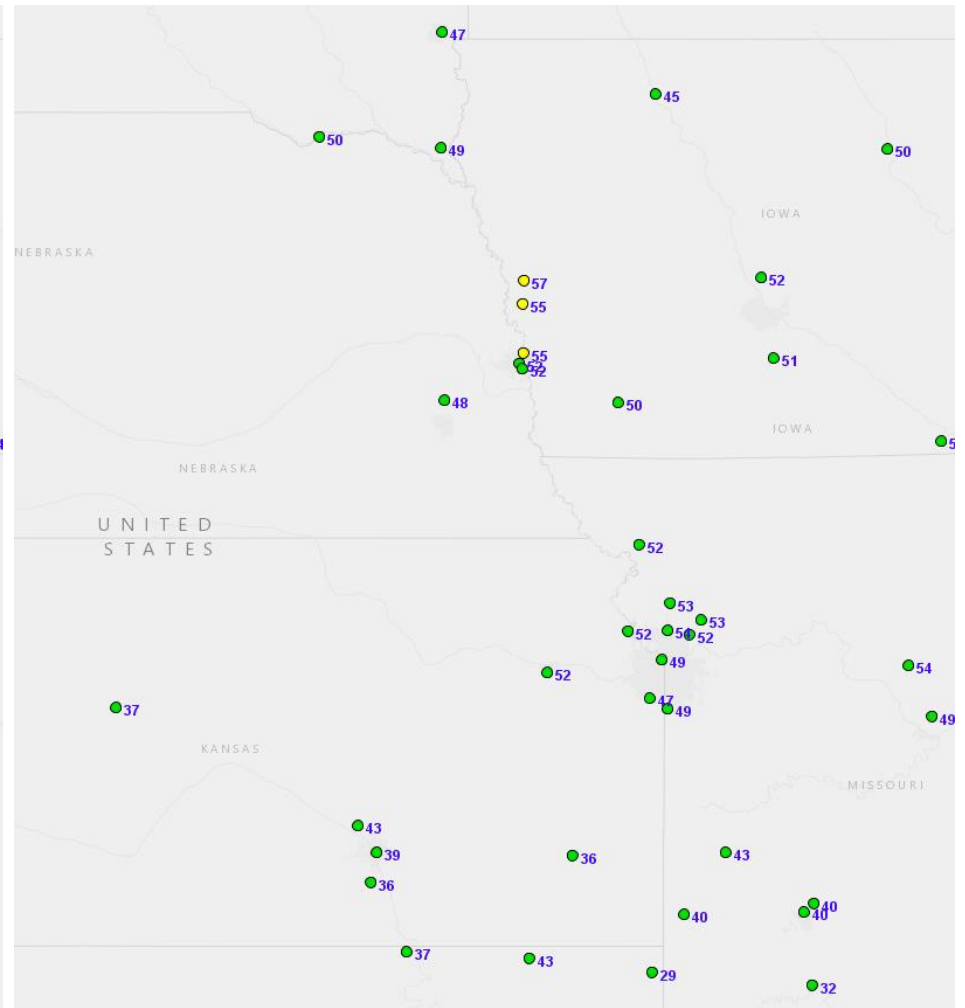
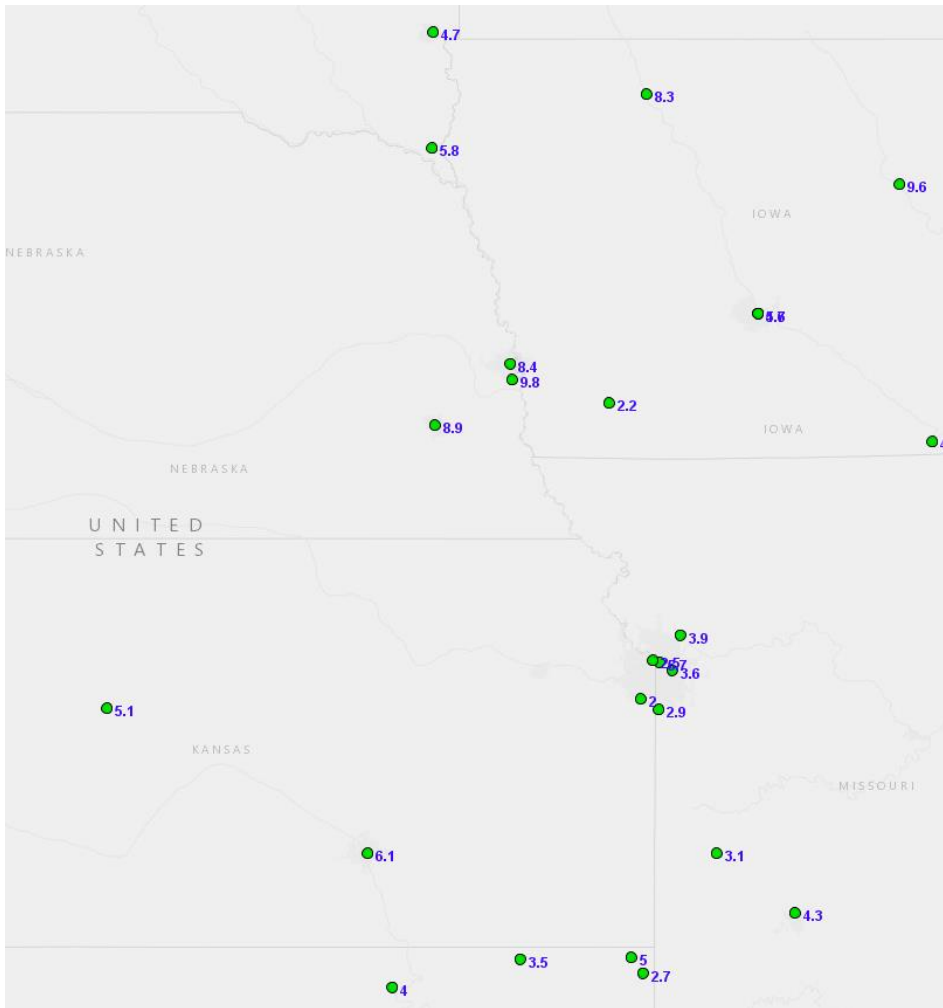
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Monday, April 17, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



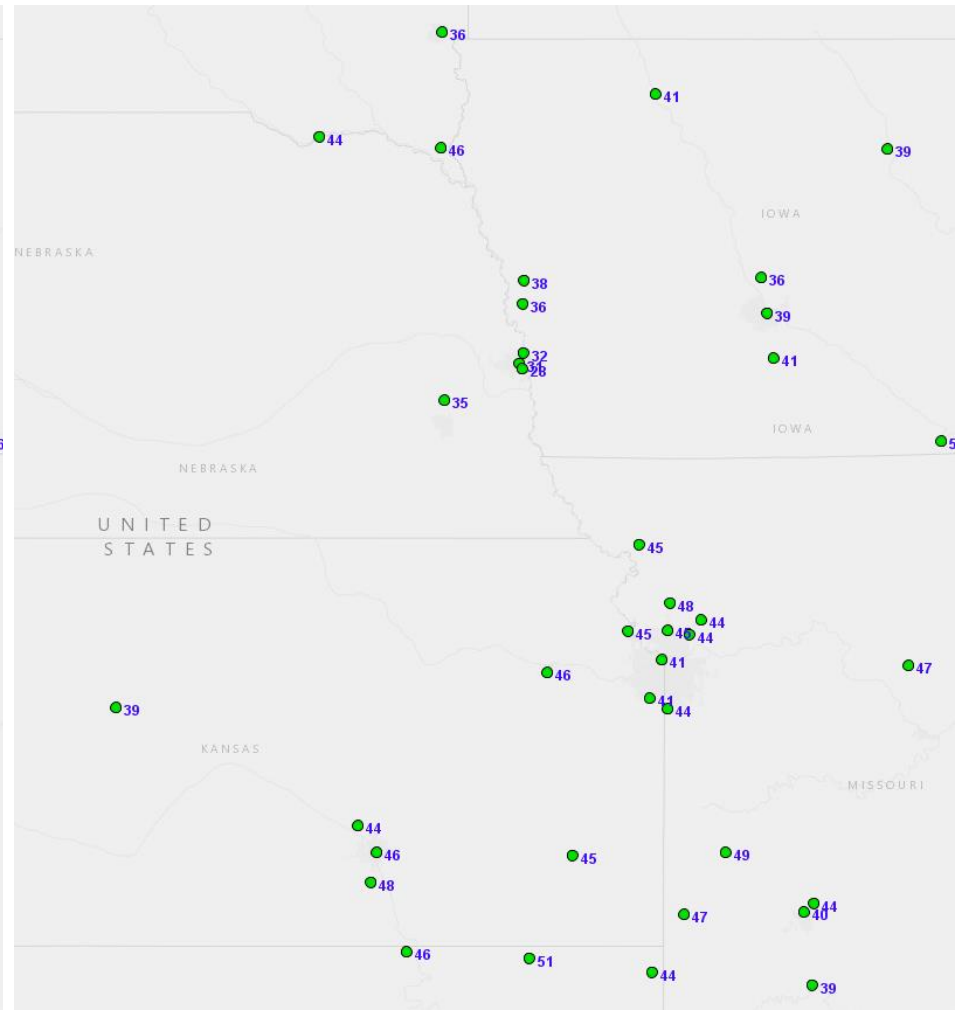
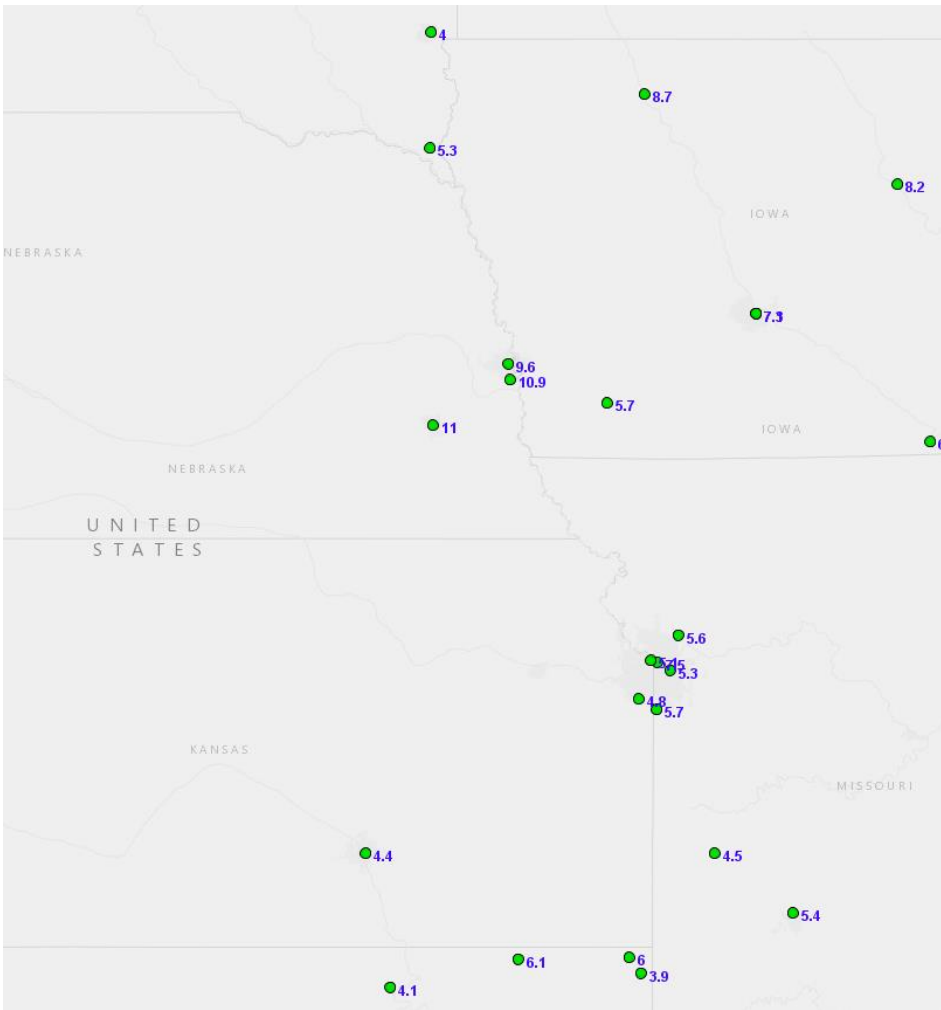
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Tuesday, April 18, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



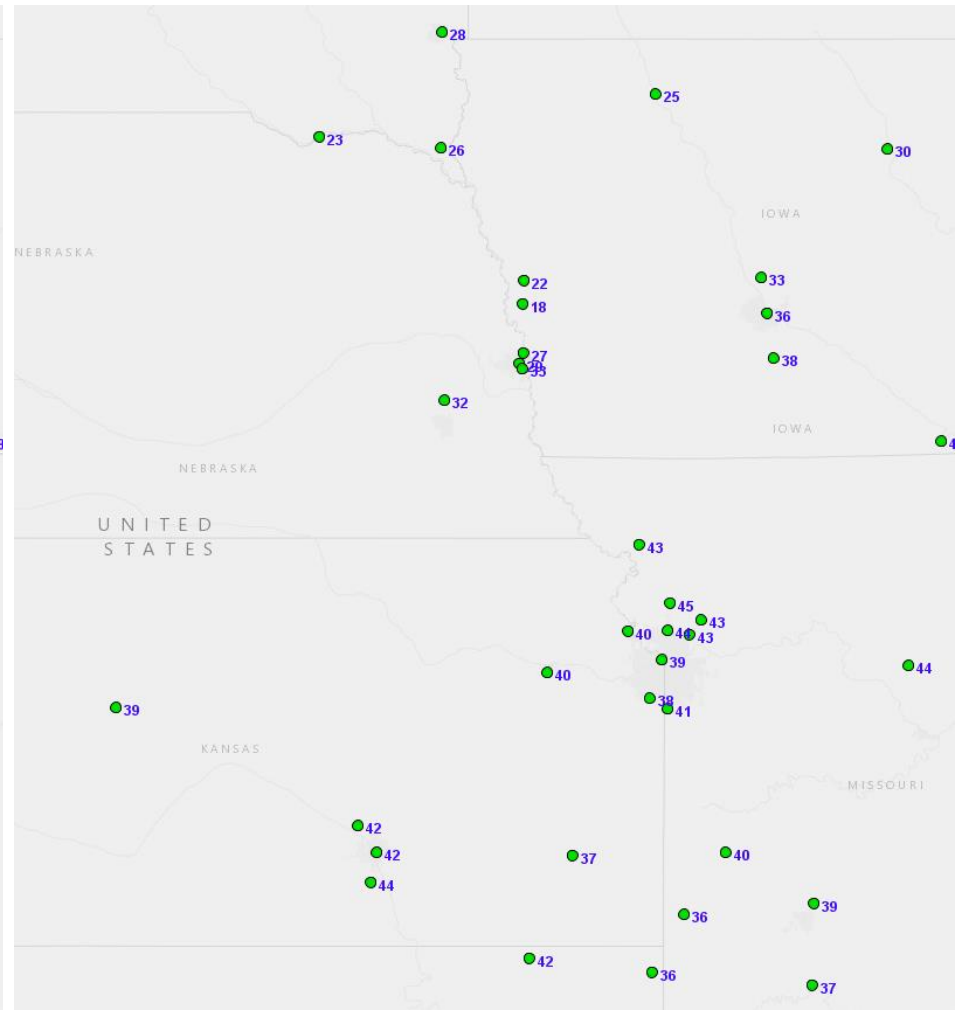
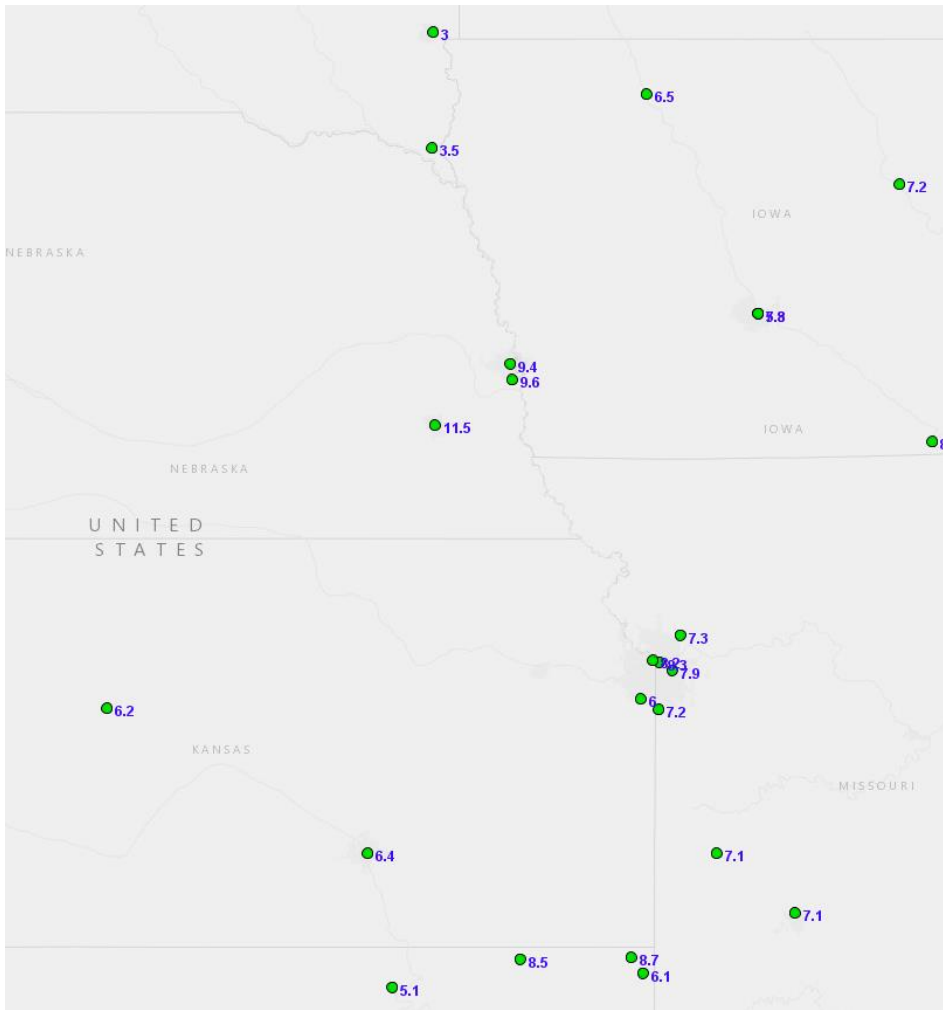
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Wednesday, April 19, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)



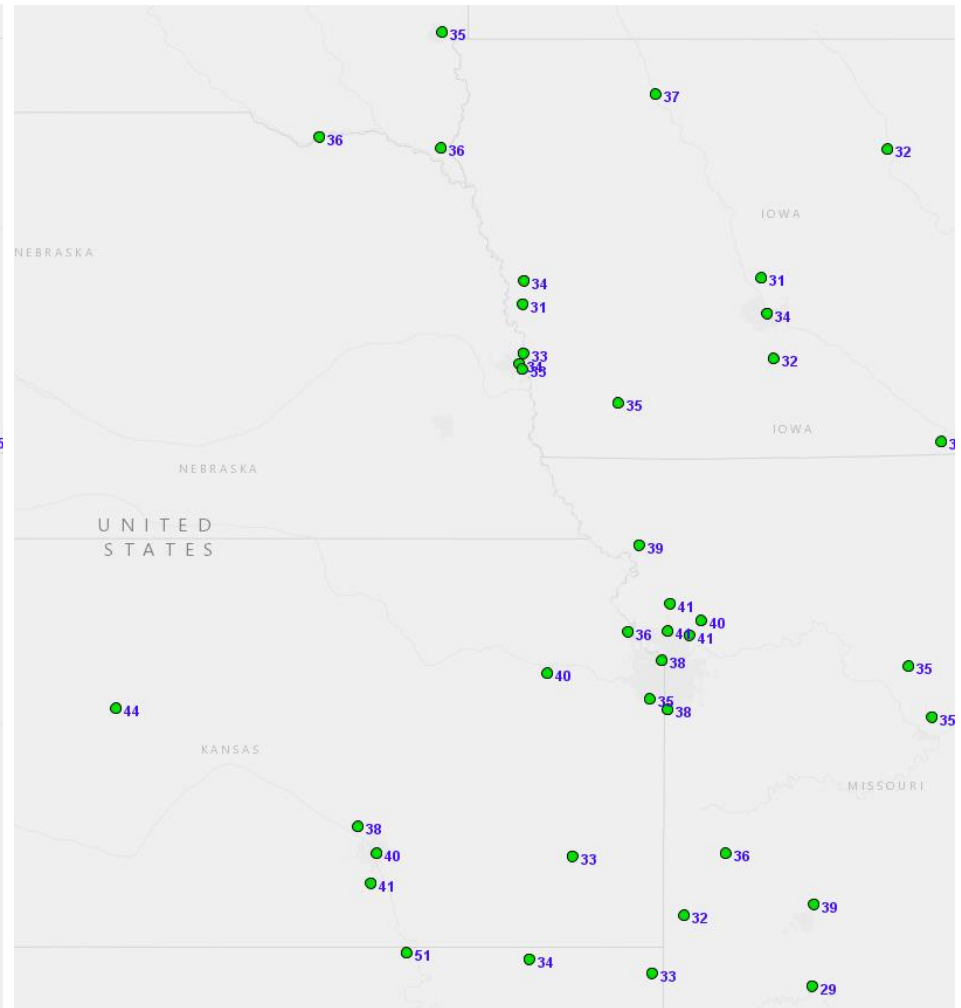
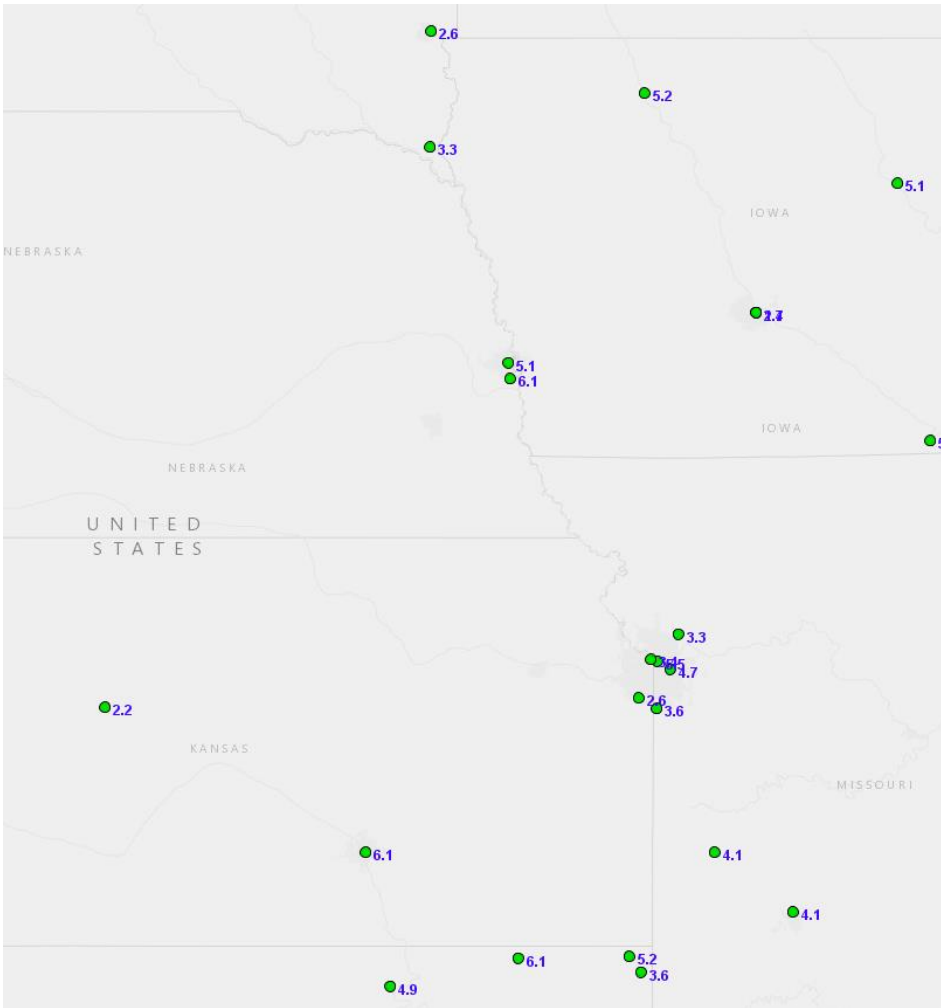
Flint Hills Prescribed Fire Update



Thursday, April 20, 2017

PM2.5 (24-hour average)

Ozone (8-hour average maximum)





Fires and Smoke

Areas of light rain and cloudy conditions kept burning confined to central and southern Flint Hills last Friday (April 14) and Saturday (April 15) before approaching thunderstorms and the Easter holiday led to near zero burning on Sunday (April 16).

Clear skies and light to manageable winds allowed for a good amount of prescribed burning on Monday (April 17) and Tuesday (April 18). The return of gusty winds and approaching rain limited burning on Wednesday (April 19). Despite rain Wednesday night there was still a fair amount of burning that occurred on Thursday (April 20).

Southerly winds on Monday and Tuesday provided areas of light to medium smoke being analyzed to the north of the fires. Northerly winds on Thursday pushed analyzed plumes of light smoke to the south.

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

KSFIRE.ORG

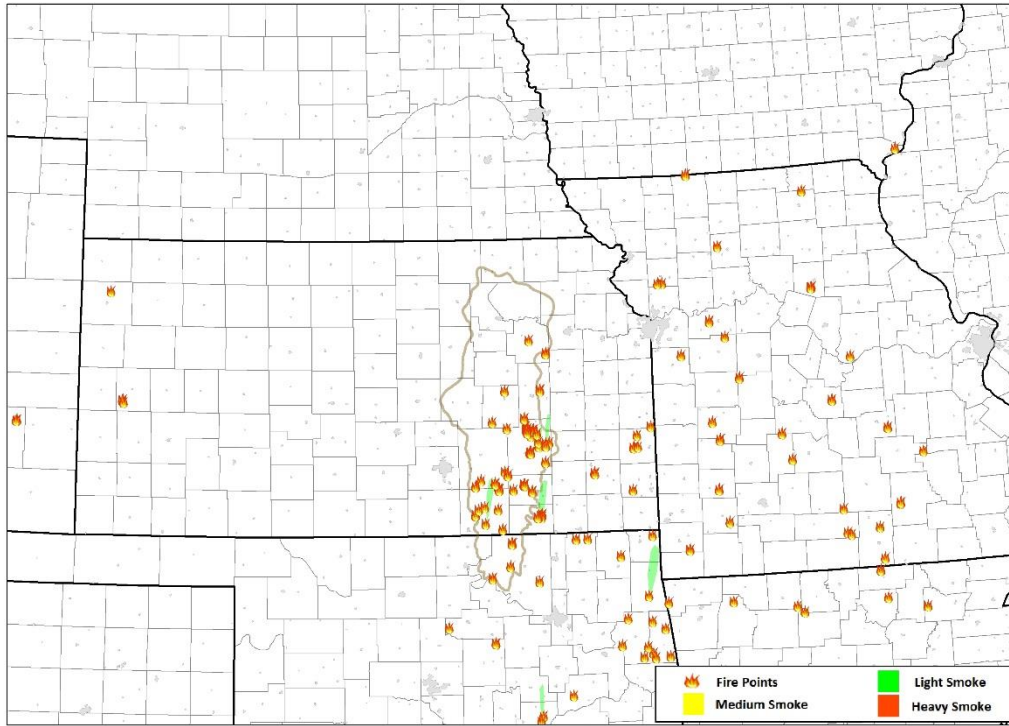


This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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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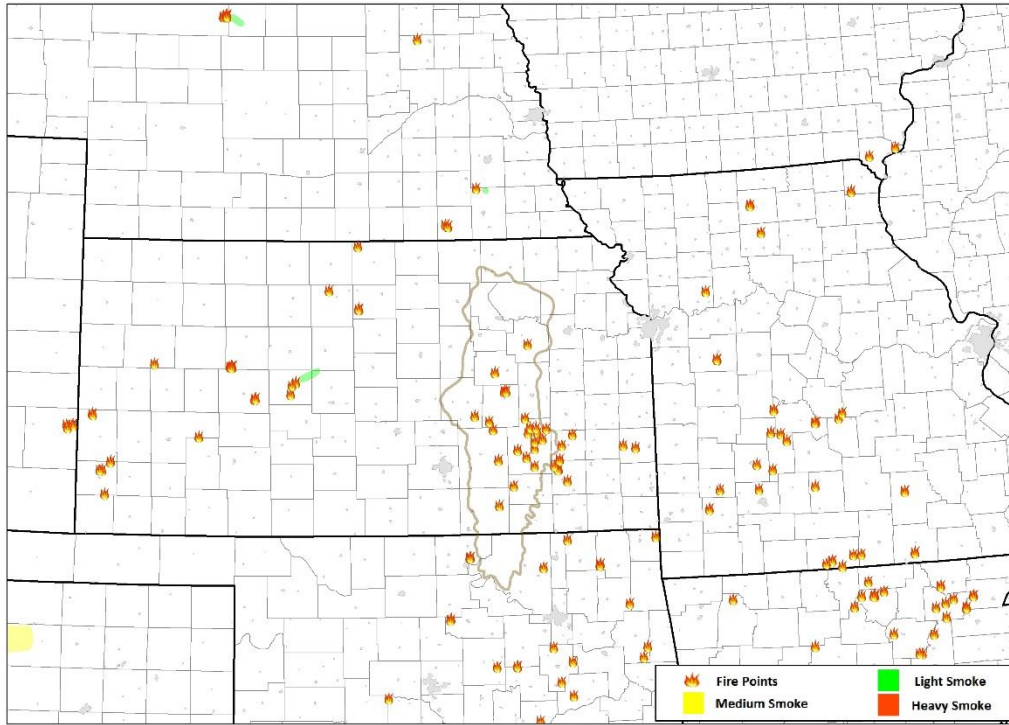
HMS Fire & Smoke Analysis April 14, 2017



Map: Jayson Prentice, KDHE Bureau of Air

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

HMS Fire & Smoke Analysis April 15, 2017



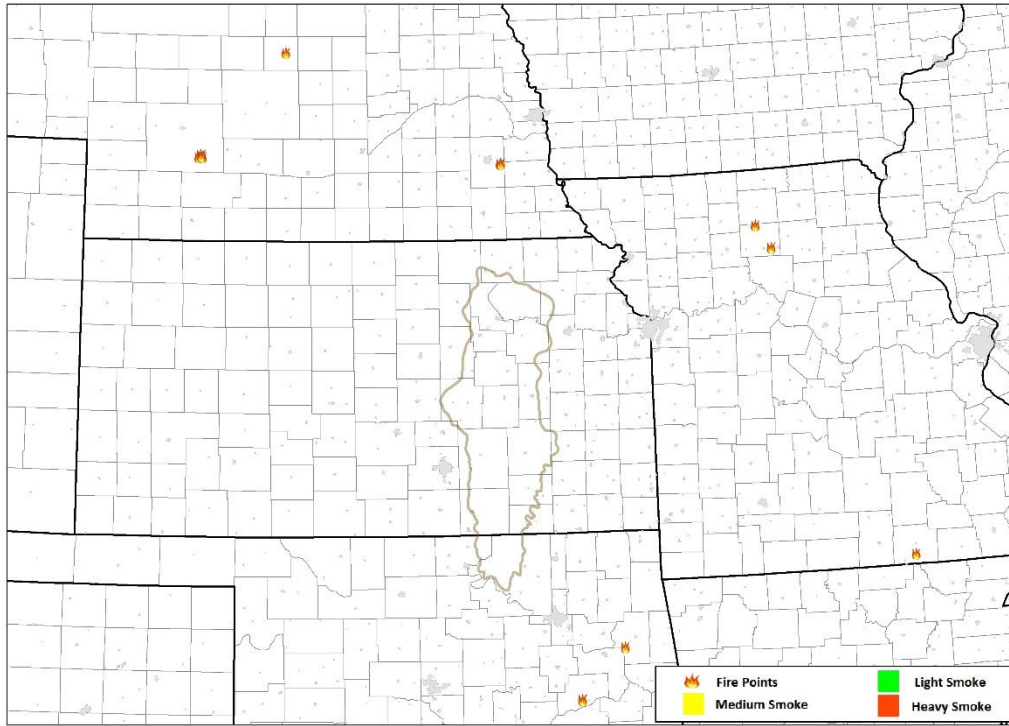
Map: Jayson Prentice, KDHE Bureau of Air

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

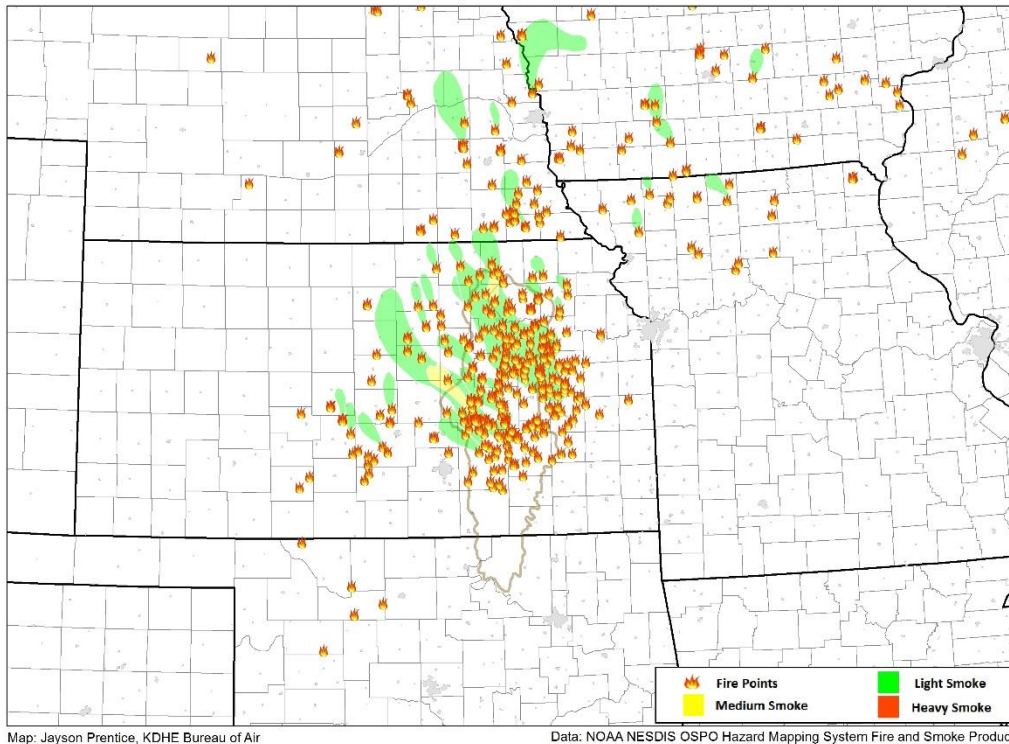
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HMS Fire & Smoke Analysis April 16, 2017



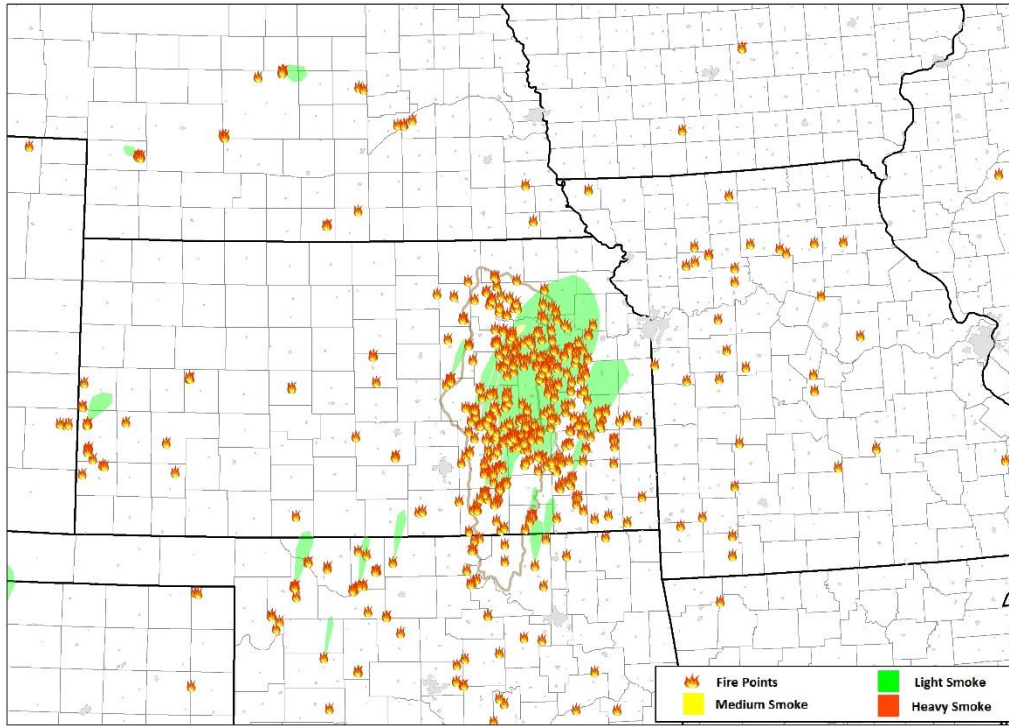
HMS Fire & Smoke Analysis April 17, 2017



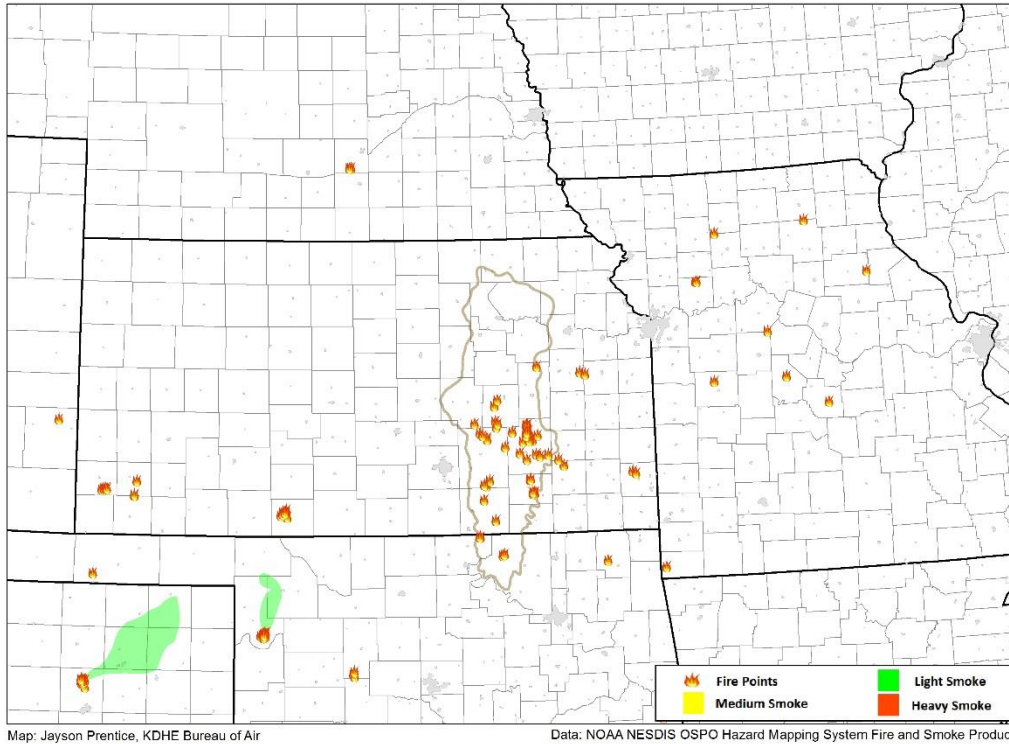
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HMS Fire & Smoke Analysis April 18, 2017



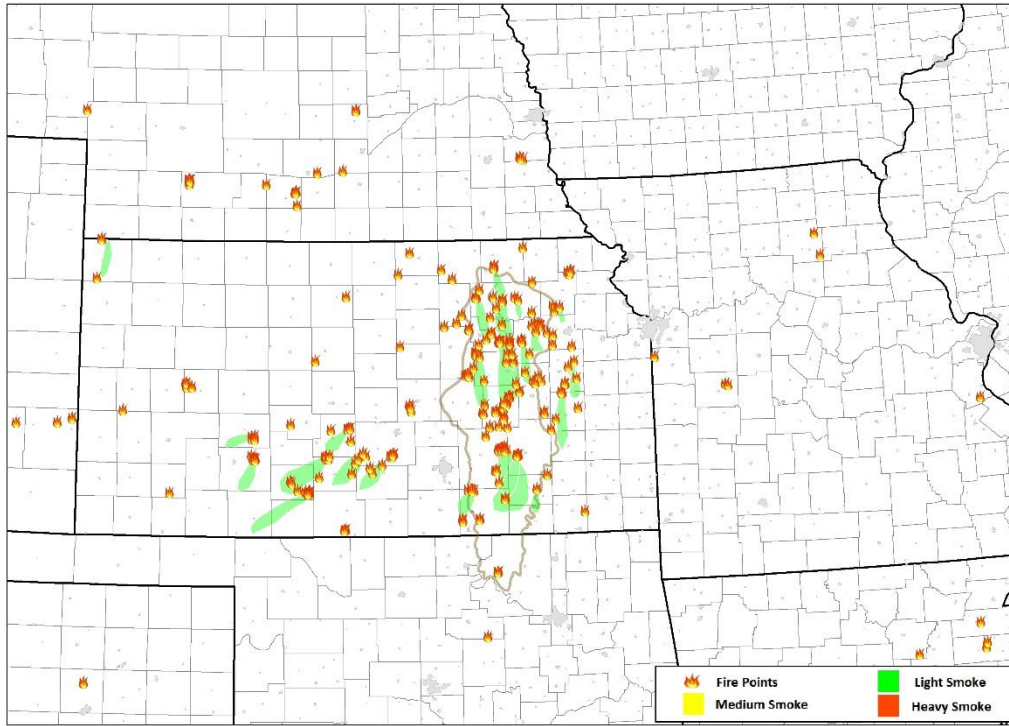
HMS Fire & Smoke Analysis April 19, 2017



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HMS Fire & Smoke Analysis April 20, 2017

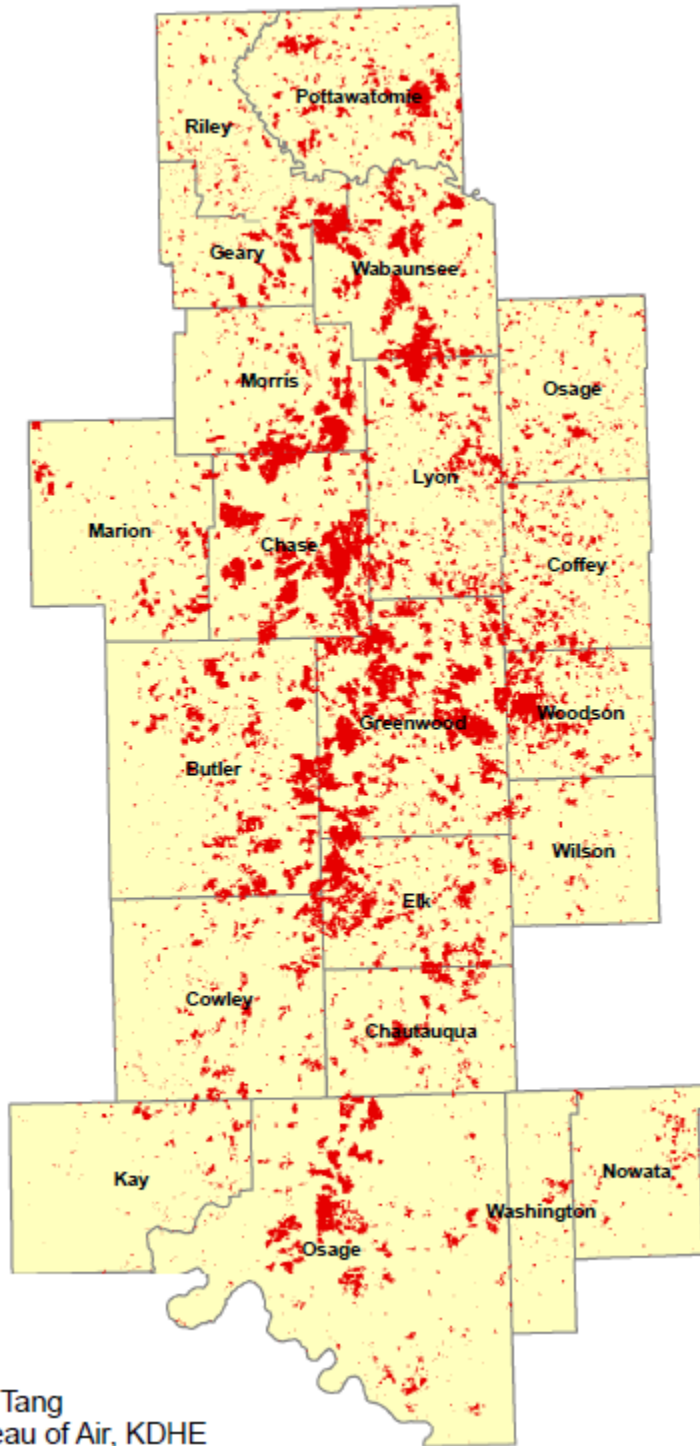


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No additional analysis of Flint Hills acreage burned has been completed since April 11 due to cloud cover.

Flint Hills Acreage Burned (February 15 – April 11, 2017)



<u>Counties</u>	<u>Acres Burned</u>
Butler	111,354
Chase	139,880
Chautauqua	36,094
Coffey	42,642
Cowley	49,190
Elk	83,801
Geary	28,387
Greenwood	211,572
Lyon	82,643
Marion	34,148
Morris	65,036
Osage (KS)	30,549
Pottawatomie	62,318
Riley	33,514
Wabaunsee	93,052
Wilson	13,591
Woodson	61,391
Nowata (OK)	12,093
Osage (OK)	100,944
Washington (OK)	6,224
Kay (OK)	13,622
Total	1,312,045

** Denotes county was partly or completely covered by clouds during analysis.*

Yao Tang
Bureau of Air, KDHE

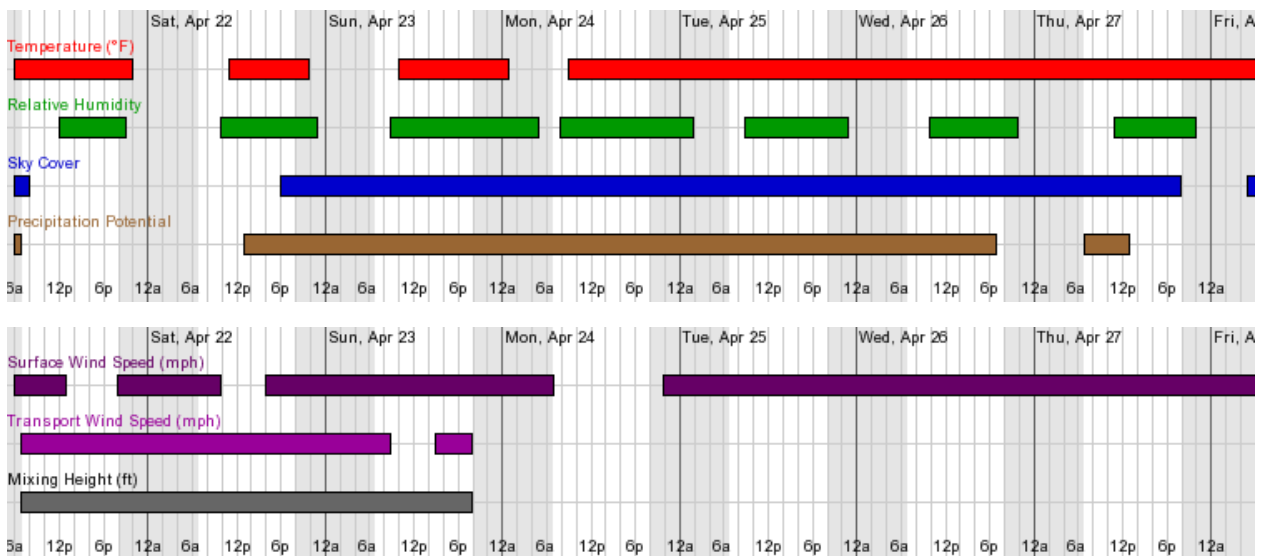


Upcoming Look at Fires and Smoke

Persistent rain, some heavy, is expected today into tomorrow (Saturday) across much of the Flint Hills. Cooler temperatures but dry conditions return for Sunday although wind speeds may become too low for ideal smoke transport/dispersion. The early half of next week mainly dry – there is a small precipitation chance Monday night into Tuesday - otherwise seasonable with temperatures in the 70s, and partly cloudy to clear skies. Another potential for rain and thunderstorms looms for Wednesday night, Thursday, and even Friday across the Flint Hills.

With recent rainfall and warm temperatures, much of the underlying grass is becoming greener and taller. Early next week may prove to be the last window of optimal burn conditions for most before new (green) growth makes it difficult for fire to carry.

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 21, 2017.