Flint Hills Prescribed Fire Update

April 14, 2017

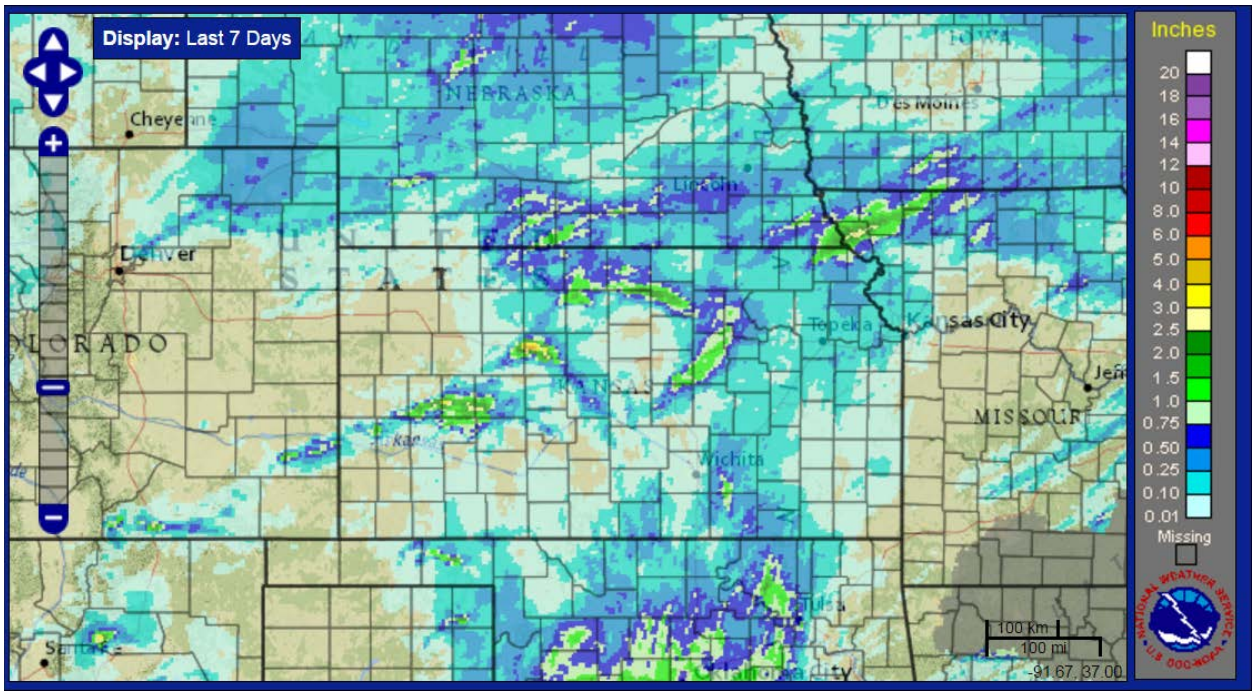
The following information on the Flint Hills prescribed fires will be sent out weekly to keep stakeholders up to date on fires and related smoke.

Kansas
Department of Health and Environment

Meteorology

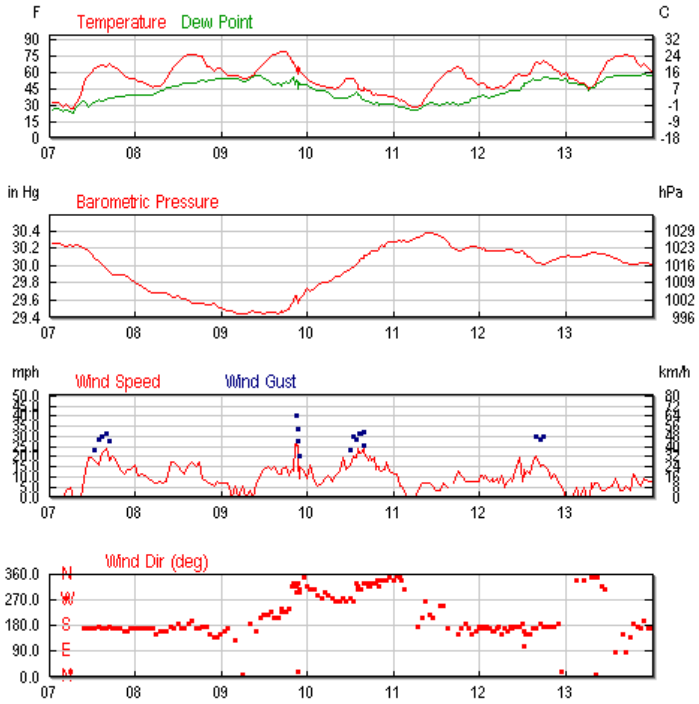
Dry conditions have prevailed last Friday (April 7) through Tuesday (April 11) of this week. Scattered rain showers and thunderstorms, and more widespread light rain occurred Wednesday (April 12) and Thursday into this Friday morning (April 13-14) across the Flint Hills. Temperatures have largely remained mild with highs in the 60s and 70s each afternoon. Winds were gusty at times during the afternoon hours, minus the near calm day on Tuesday (April 11) but wind directions have varied throughout the week from north to south.

Precipitation



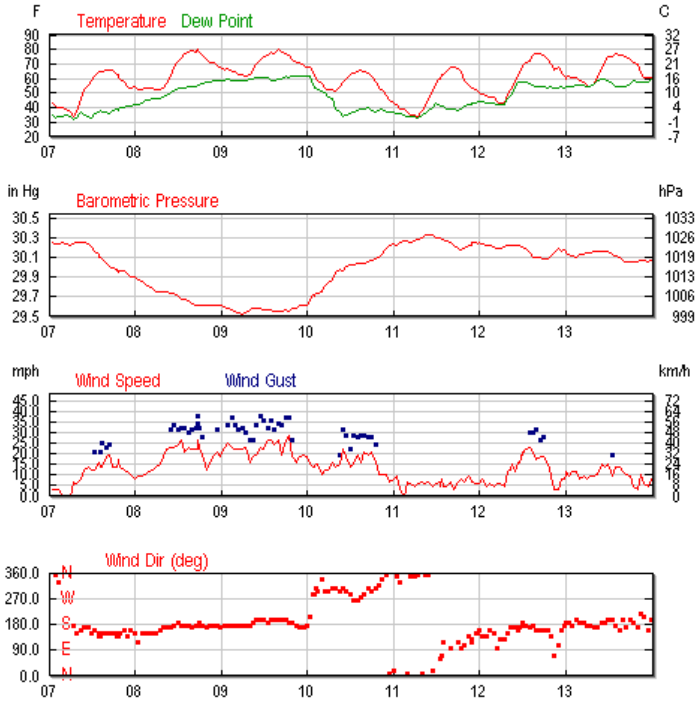
NOAA/NWS Observed Total Precipitation for April 7-13, 2017.

Lincoln, NE



Apr 7-13, 2017 Observed Weather from KLNK. Graphic: Weather Underground, Inc.

Emporia, KS



Apr 7-13, 2017 Observed Weather from KEMP. Graphic: Weather Underground, Inc.

Air Quality Data

Air quality data for the week of April 7-13, 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.

PM2.5: Preliminary data indicates three exceedances of the NAAQS 24-hour daily average of 35 µg/m^3.

Friday, April 7, 2017 at Copan (OK) measured 37.9 µg/m^3.

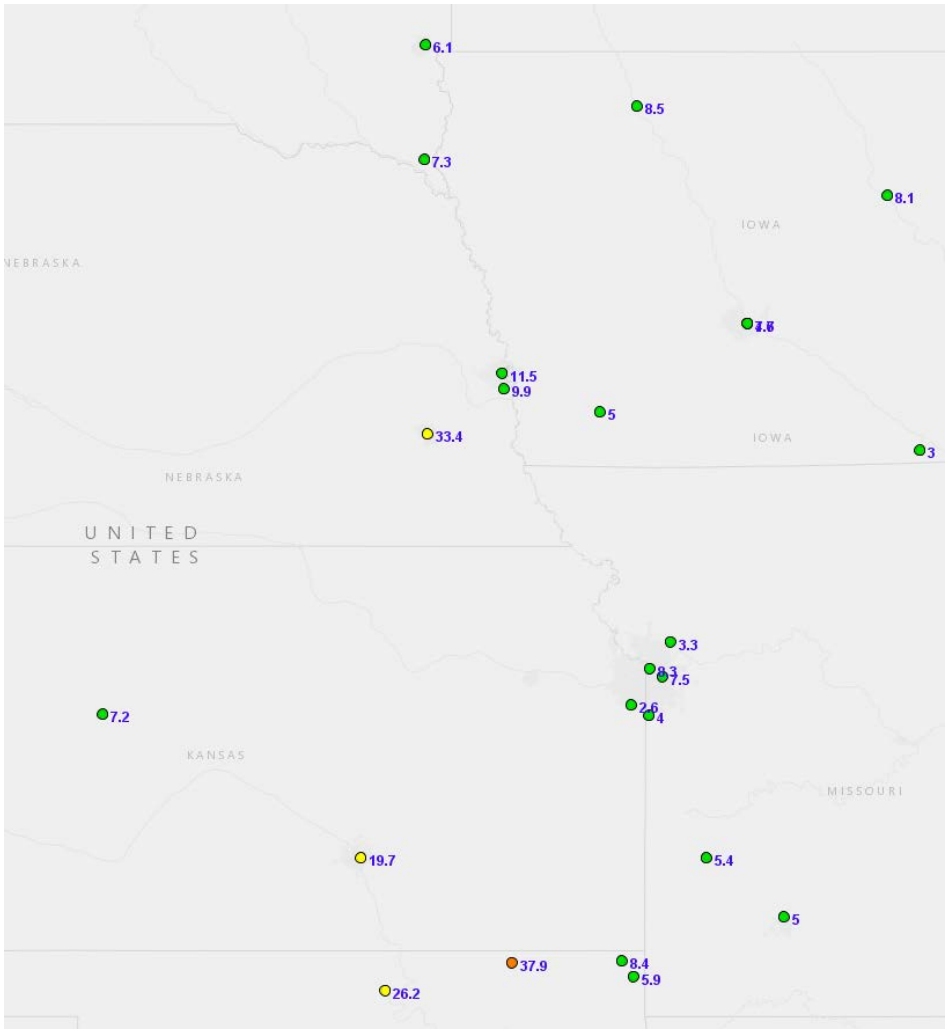
Saturday, April 8, 2017 at Lincoln-Lancaster (NE) measured 43.7 µg/m^3.

Wednesday, April 11, 2017 at Lincoln-Lancaster (NE) measured 49.6 µg/m^3.

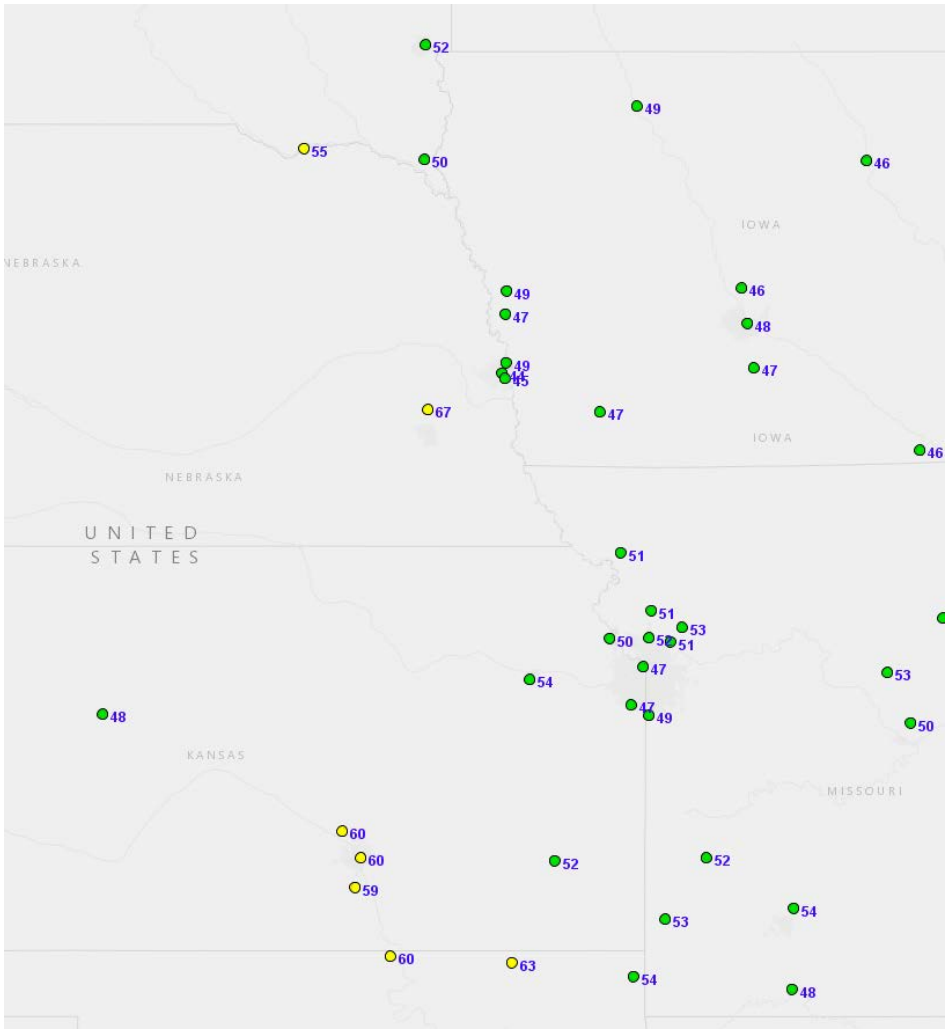
Air quality images on the following pages for each day show preliminary data, courtesy Air Now Tech.

Friday, April 7, 2017

PM2.5 (24-hour average)

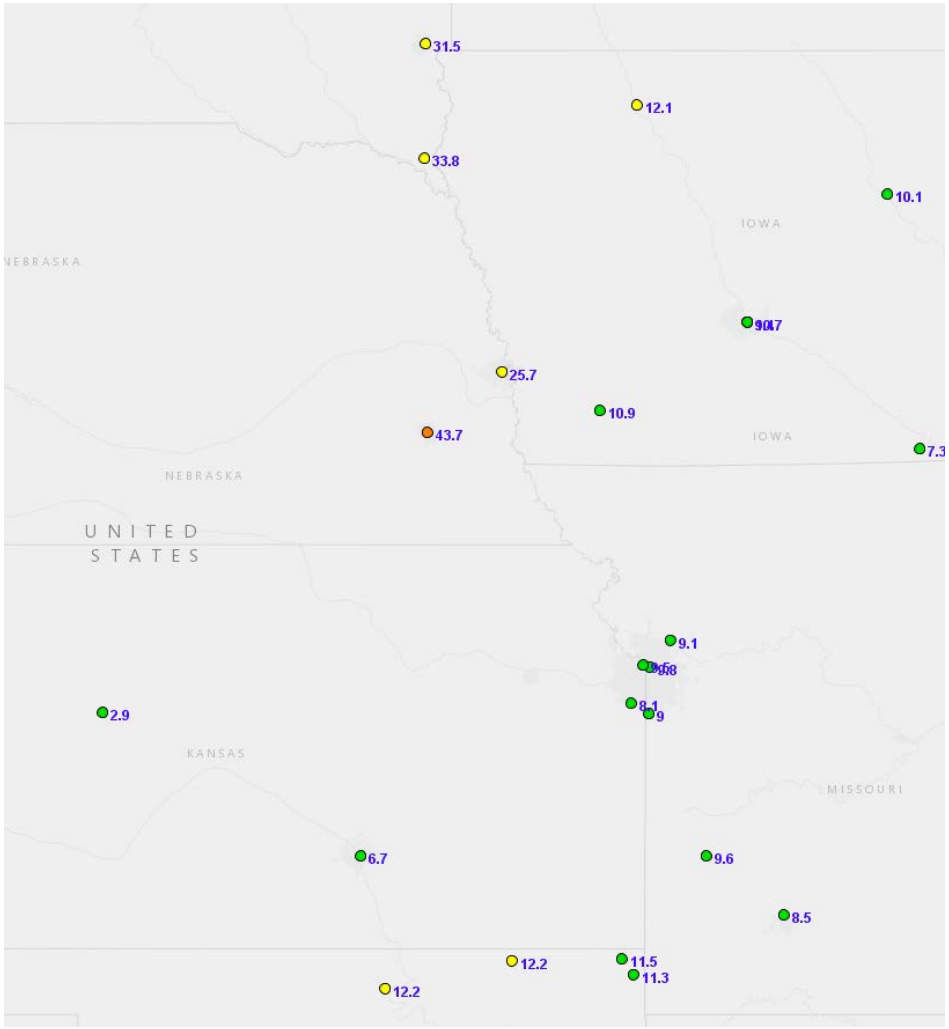


Ozone (8-hour average maximum)

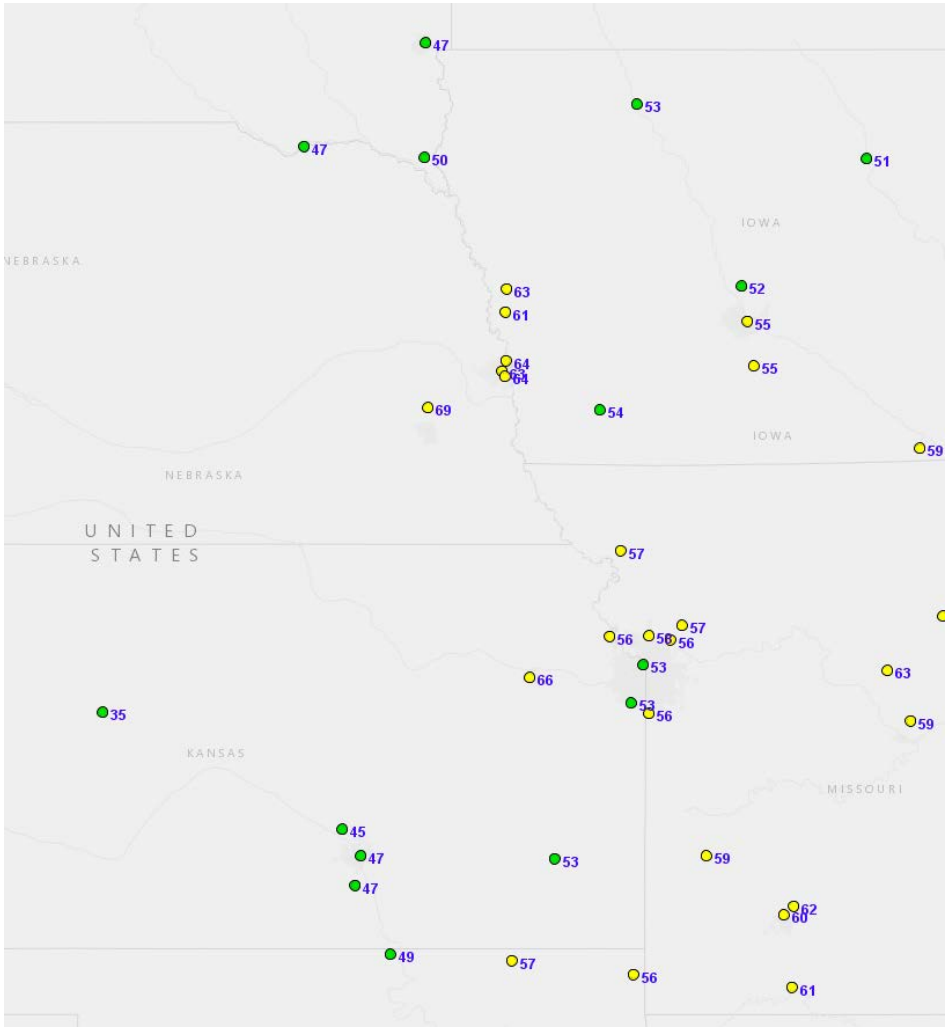


Saturday, April 8, 2017

PM2.5 (24-hour average)

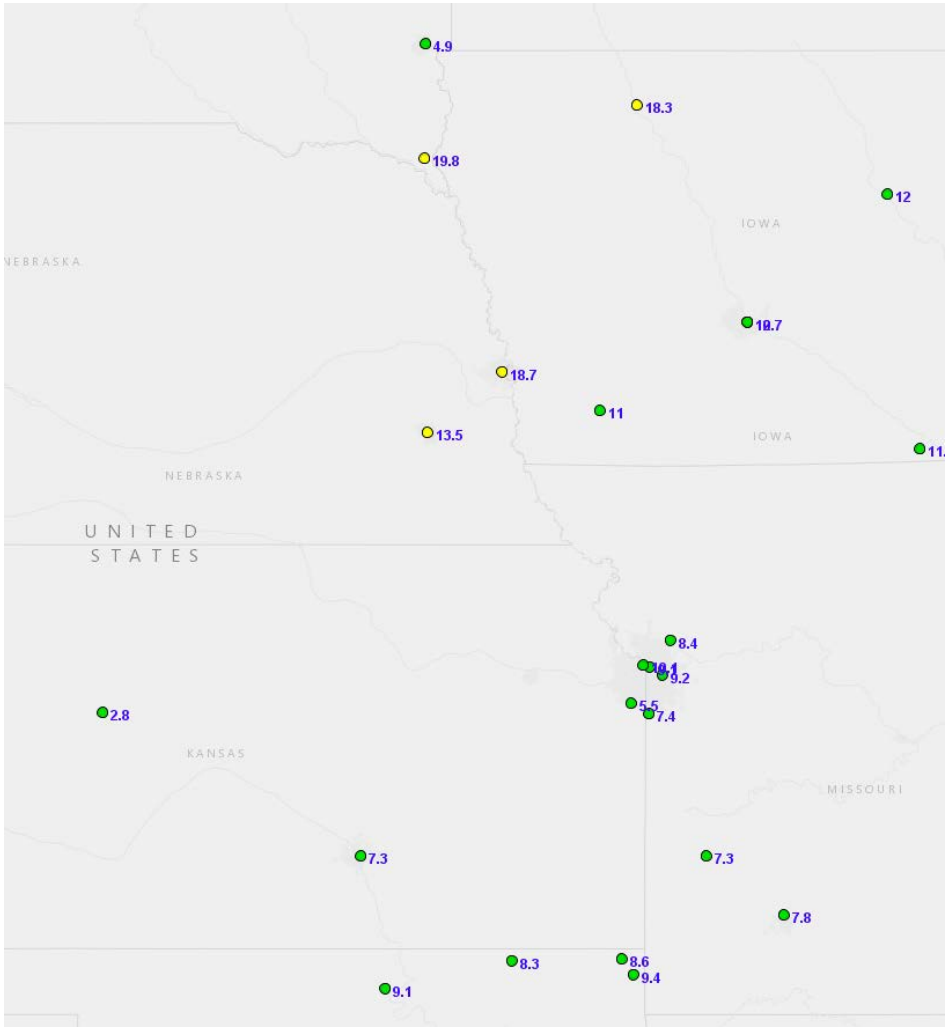


Ozone (8-hour average maximum)

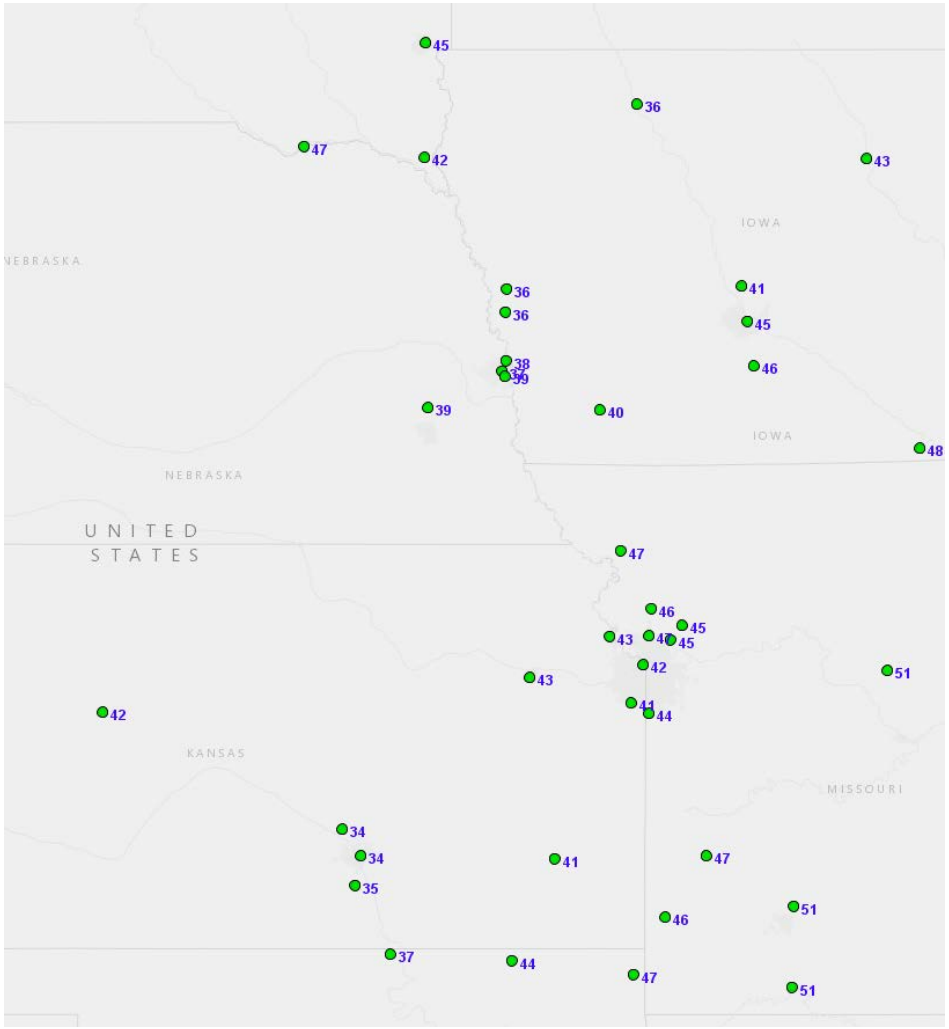


Sunday, April 9, 2017

PM2.5 (24-hour average)

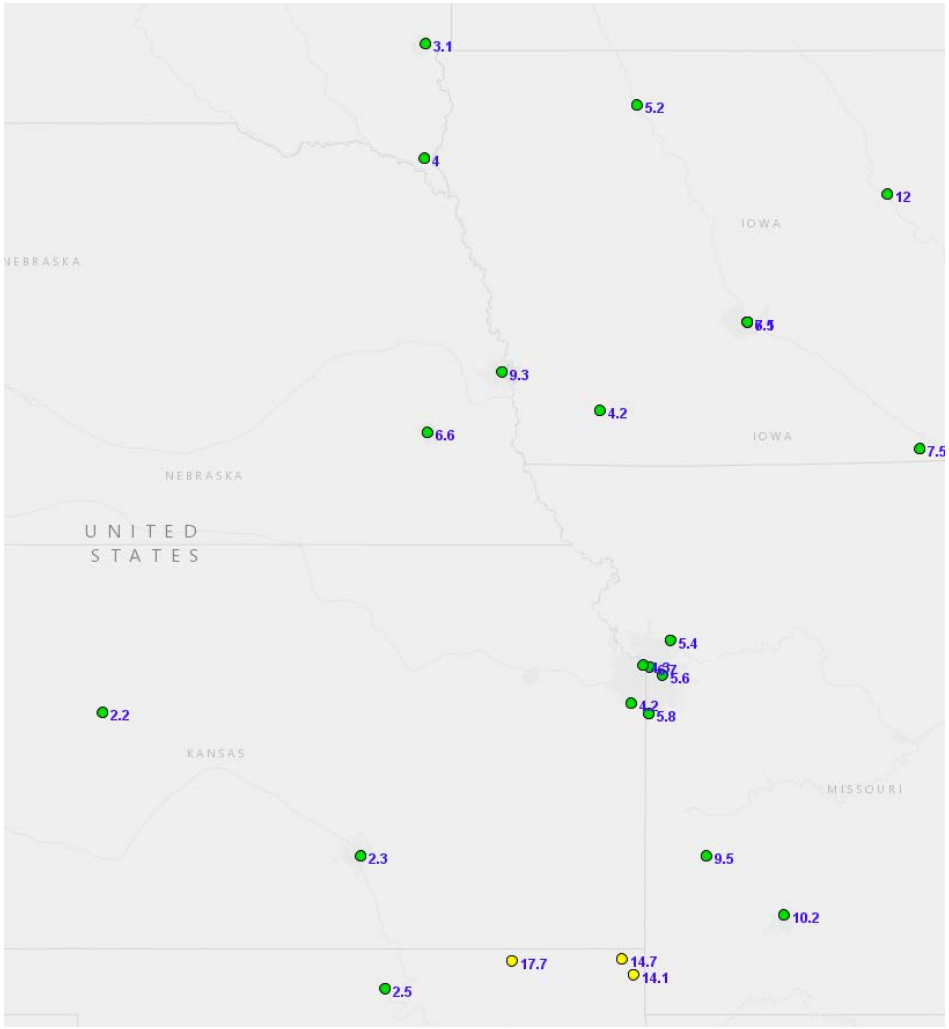


Ozone (8-hour average maximum)

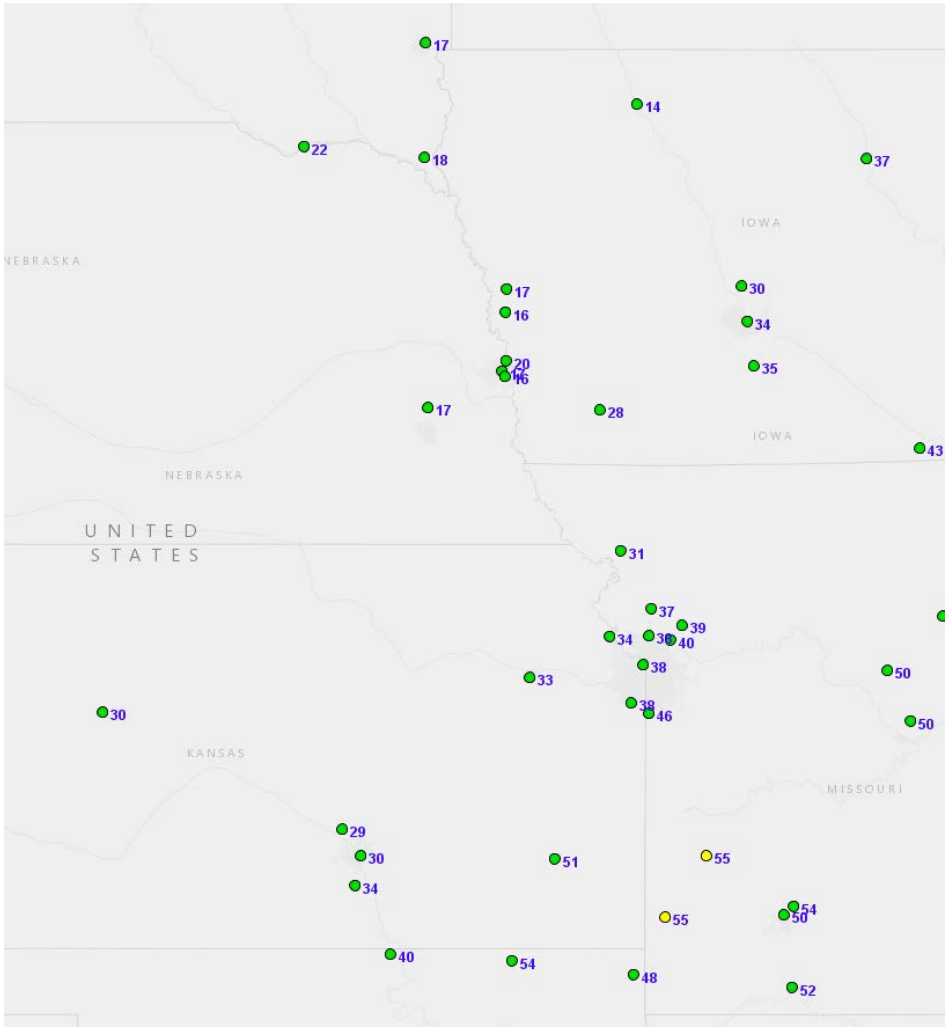


Monday, April 10, 2017

PM2.5 (24-hour average)

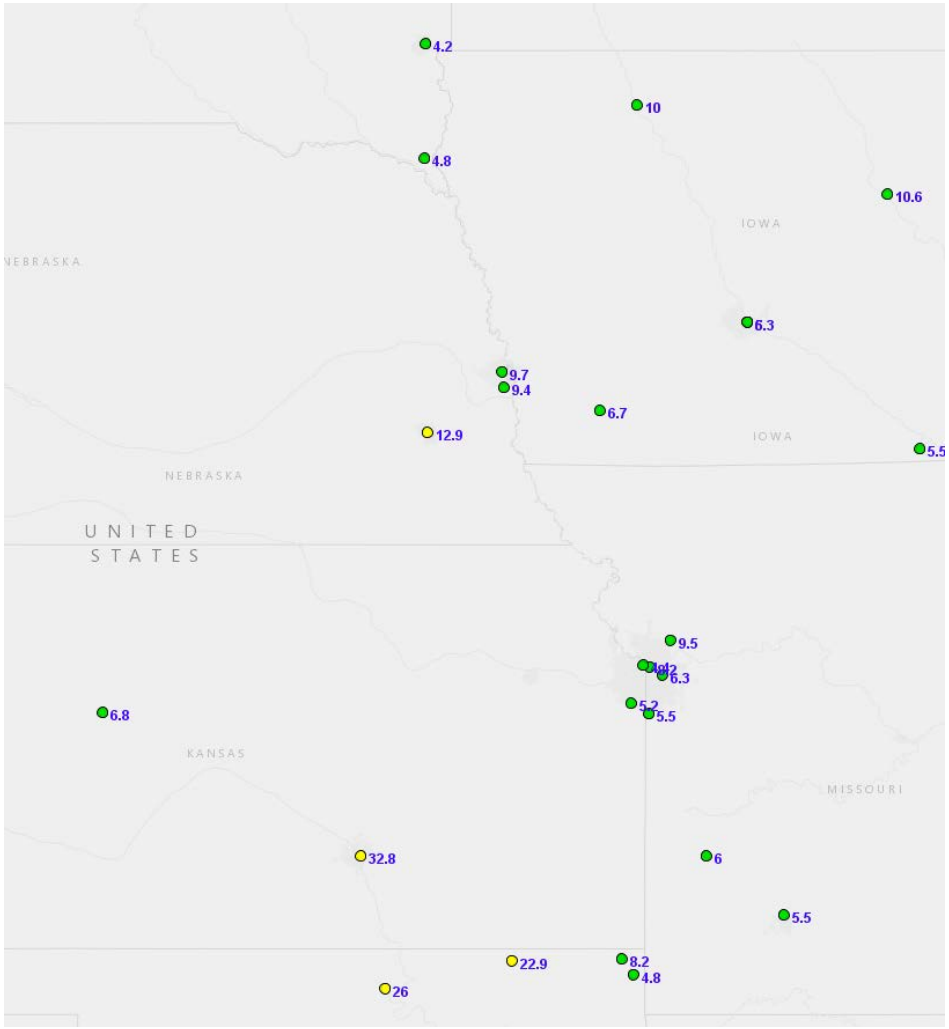


Ozone (8-hour average maximum)

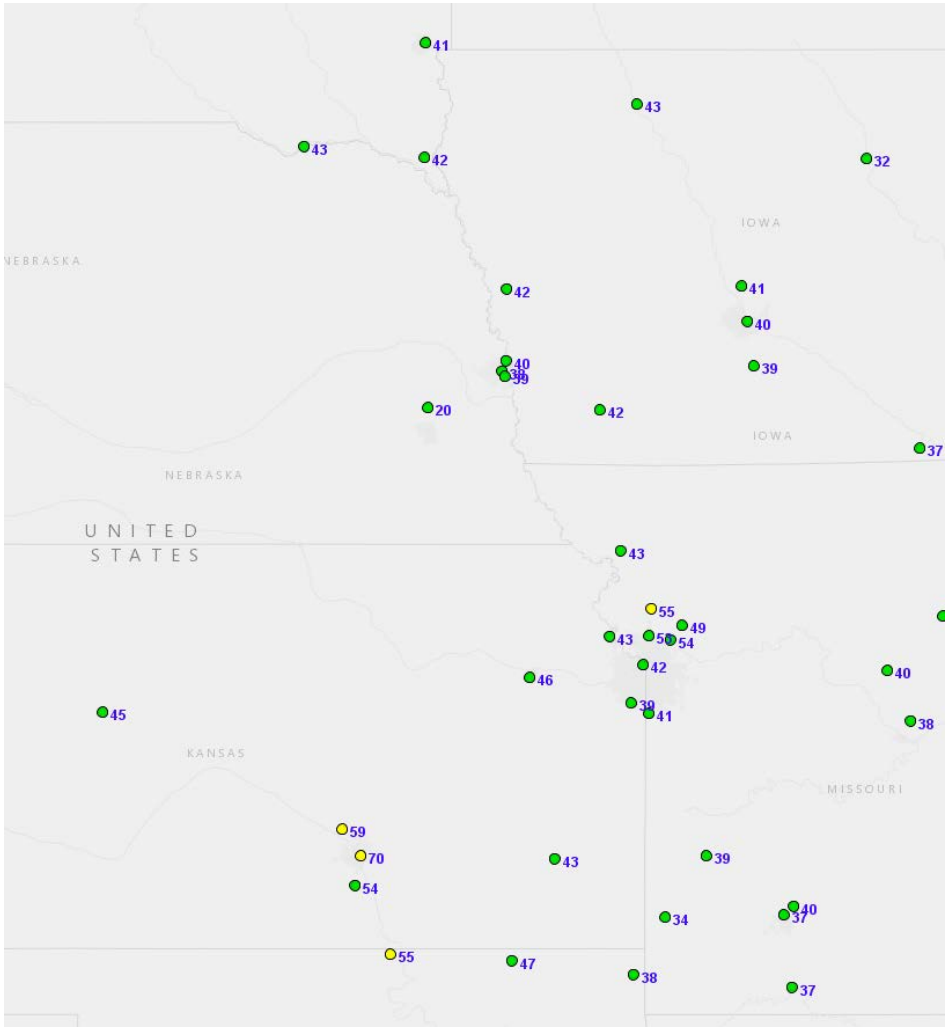


Tuesday, April 11, 2017

PM2.5 (24-hour average)

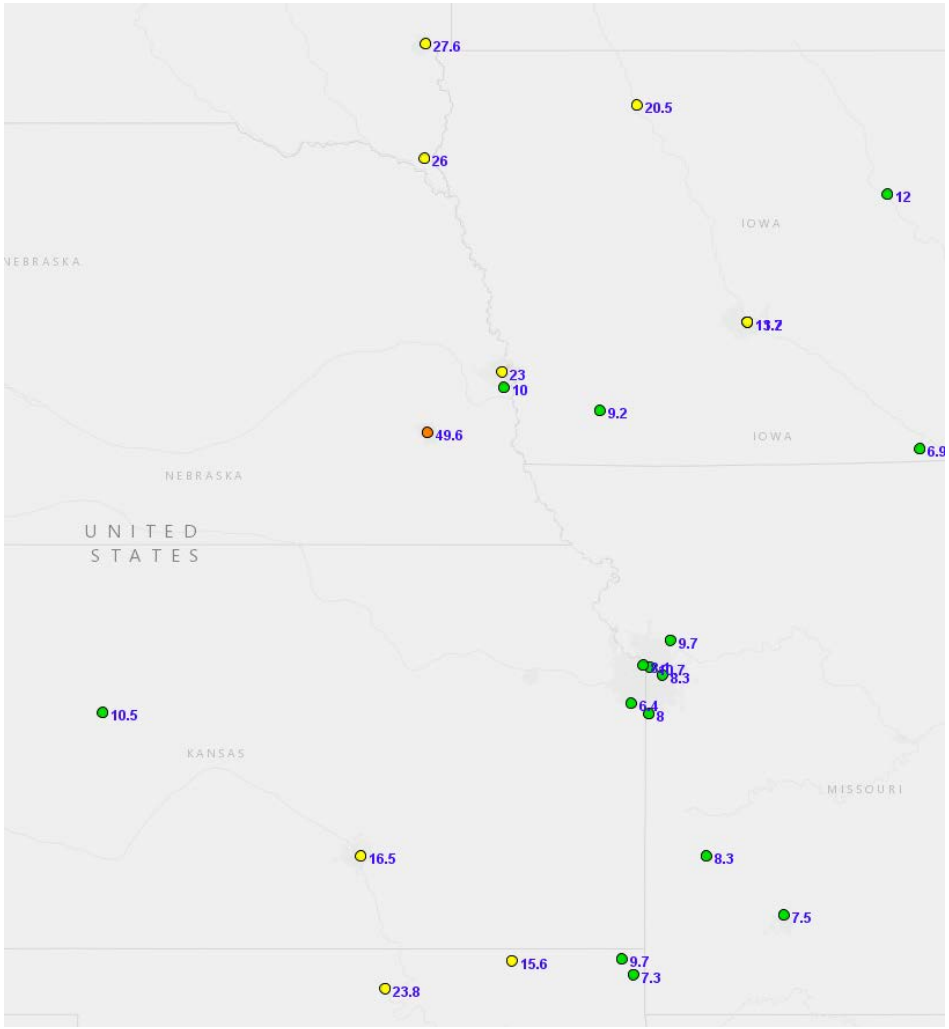


Ozone (8-hour average maximum)

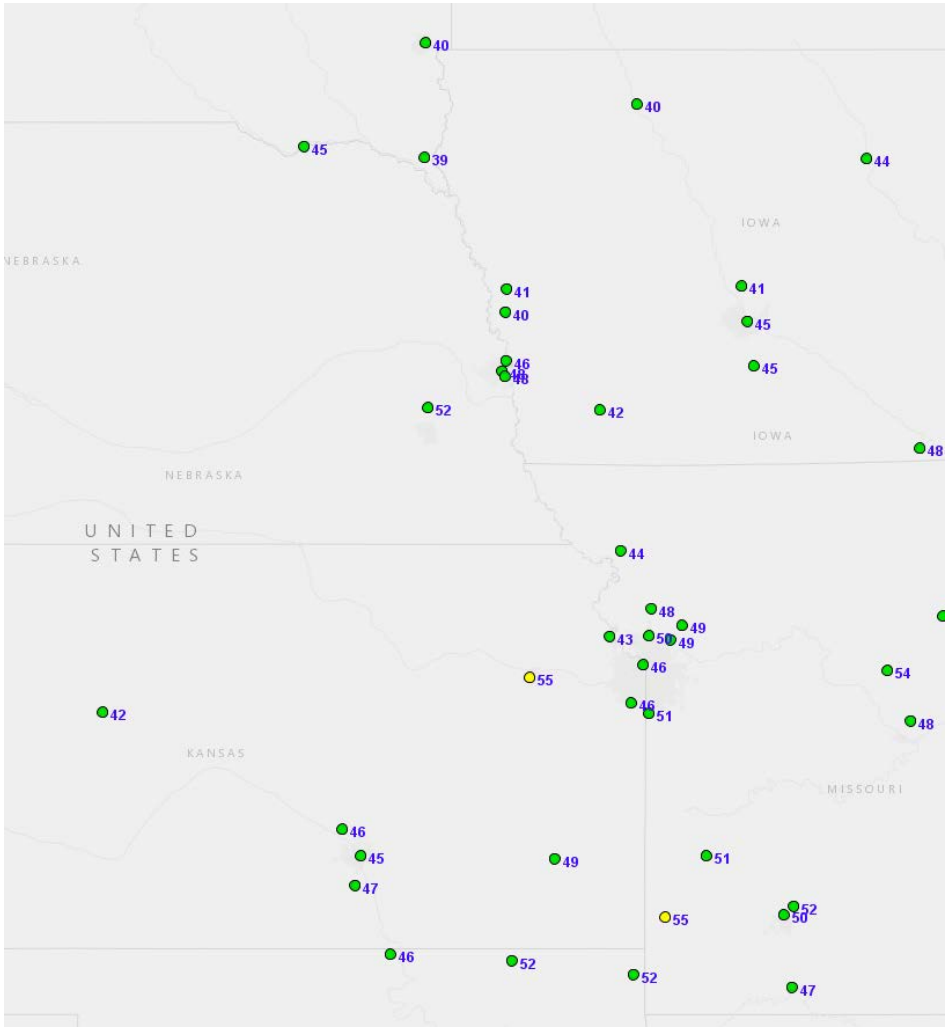


Wednesday, April 12, 2017

PM2.5 (24-hour average)

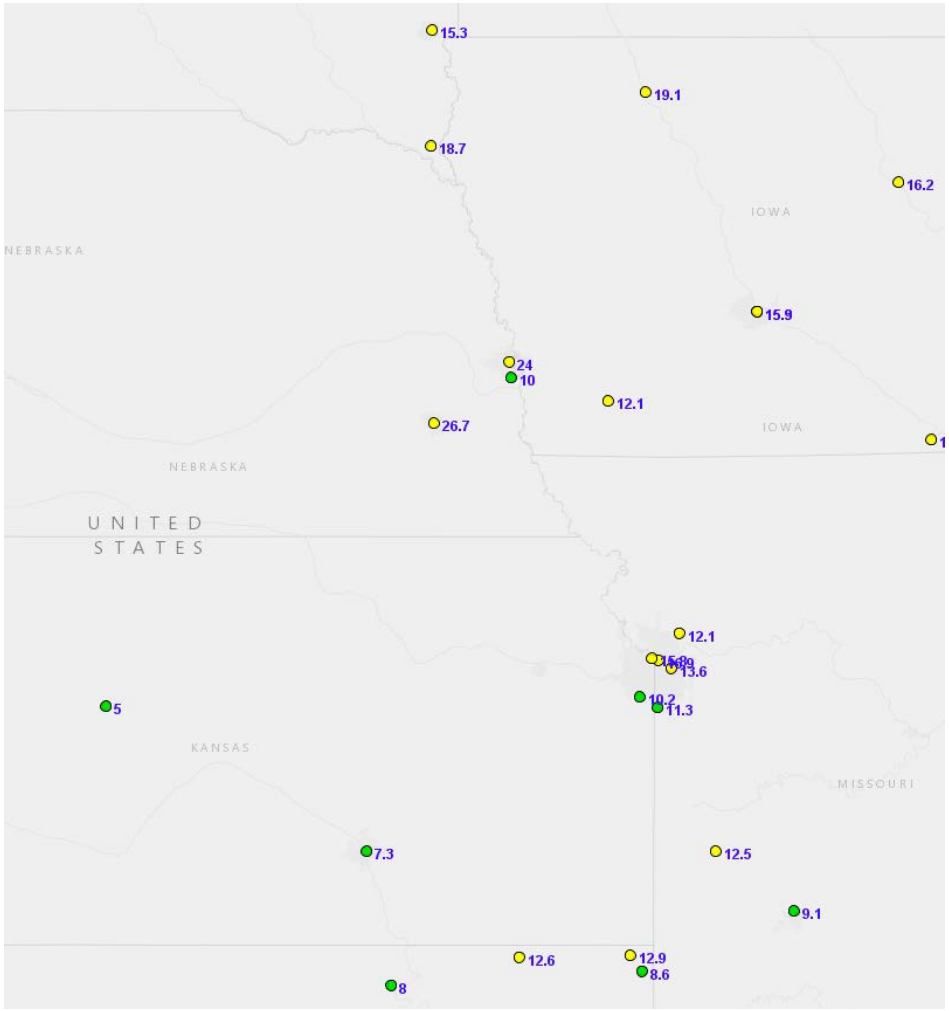


Ozone (8-hour average maximum)

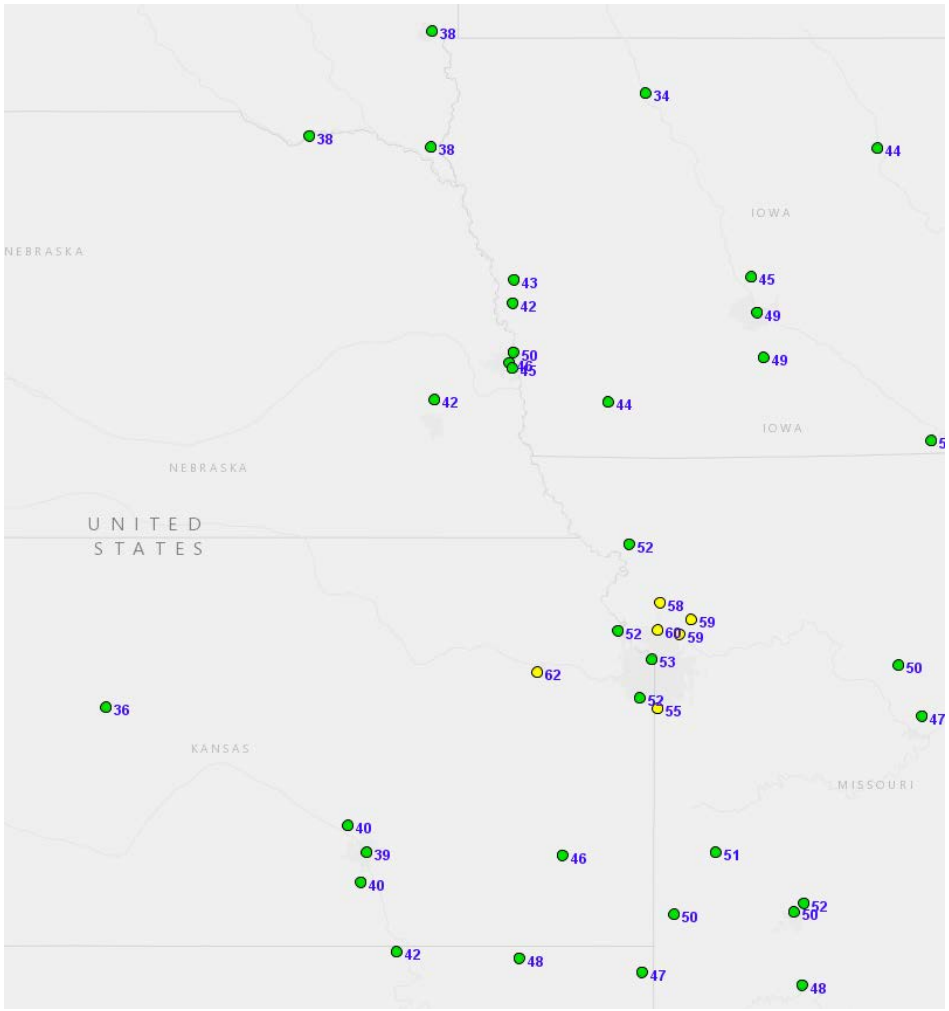


Thursday, April 13, 2017

PM2.5 (24-hour average)



Ozone (8-hour average maximum)



Fires and Smoke

The most intensive week of the year thus far for prescribed burning within the Flint Hills has occurred in the prior seven days. Significant burning was observed on Friday (April 7), Monday (April 10), and Tuesday (April 11). Moderate burning activity was still seen Saturday (April 8), Wednesday (April 12), and Thursday (April 13). The only day without a large number of prescribed fires was on Sunday (April 9).

This intensive week can likely be attributed to several factors. Alongside the climatology of burns being maximized in the second and third weeks of April the lack of available burn days in the prior 14+ days was likely key in seeing a significant week. The prior two weeks landowners endured periods of heavy rain, wind, and cloudy conditions that inhibited the ability to conduct prescribed fires. The past week also saw winds out of several different directions, which allows landowners the ability to burn in a safe manner by not putting smoke on highways.

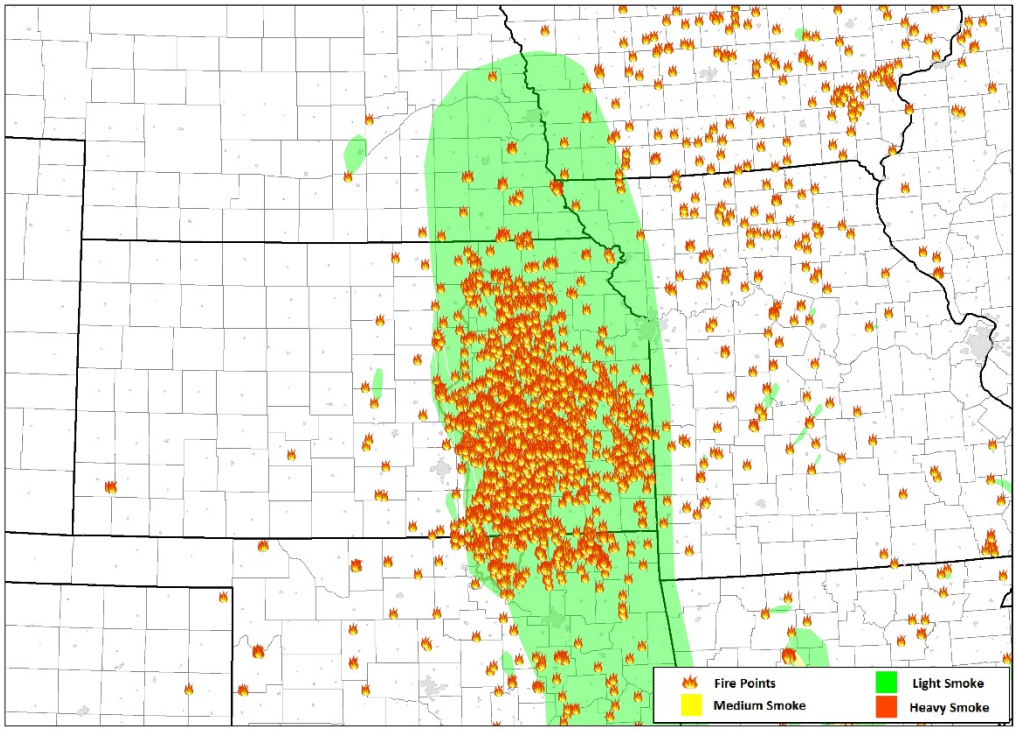
Analysis saw smoke push as far north as South Dakota and Minnesota, and then eastward towards the Great Lakes. Smoke had also pushed northward on Wednesday, then drift back south with a weak weather front on Thursday allowing smoke to linger across the 4-state region of Kansas, Missouri, Nebraska, and Iowa.

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

KSFIRE.ORG

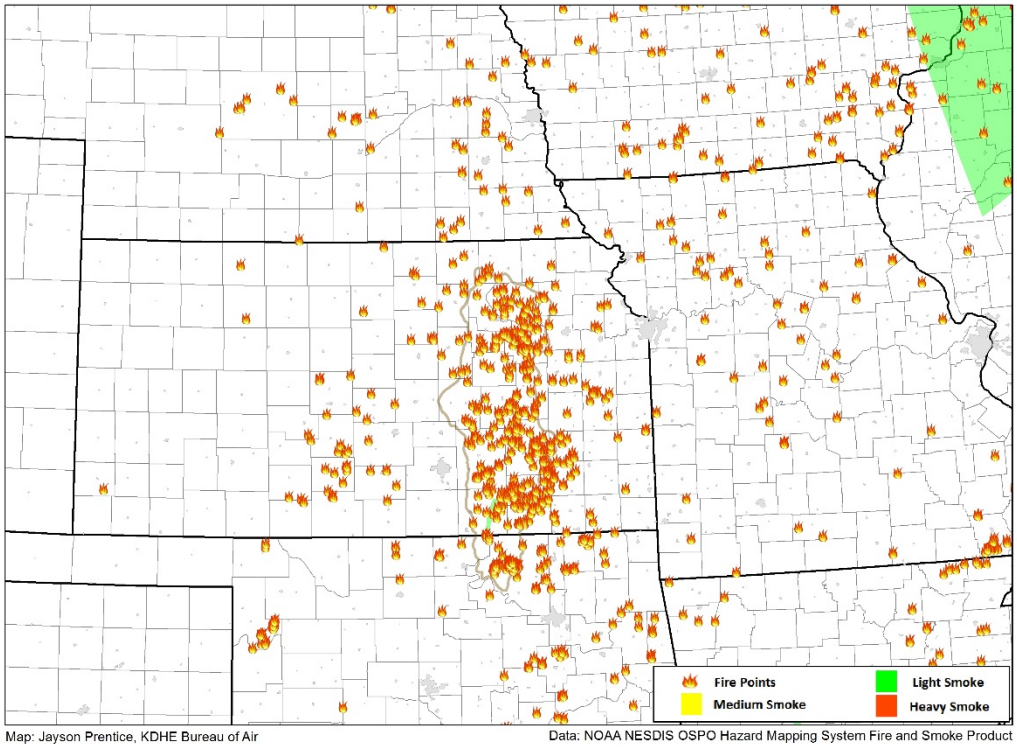
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

HMS Fire & Smoke Analysis
April 07, 2017



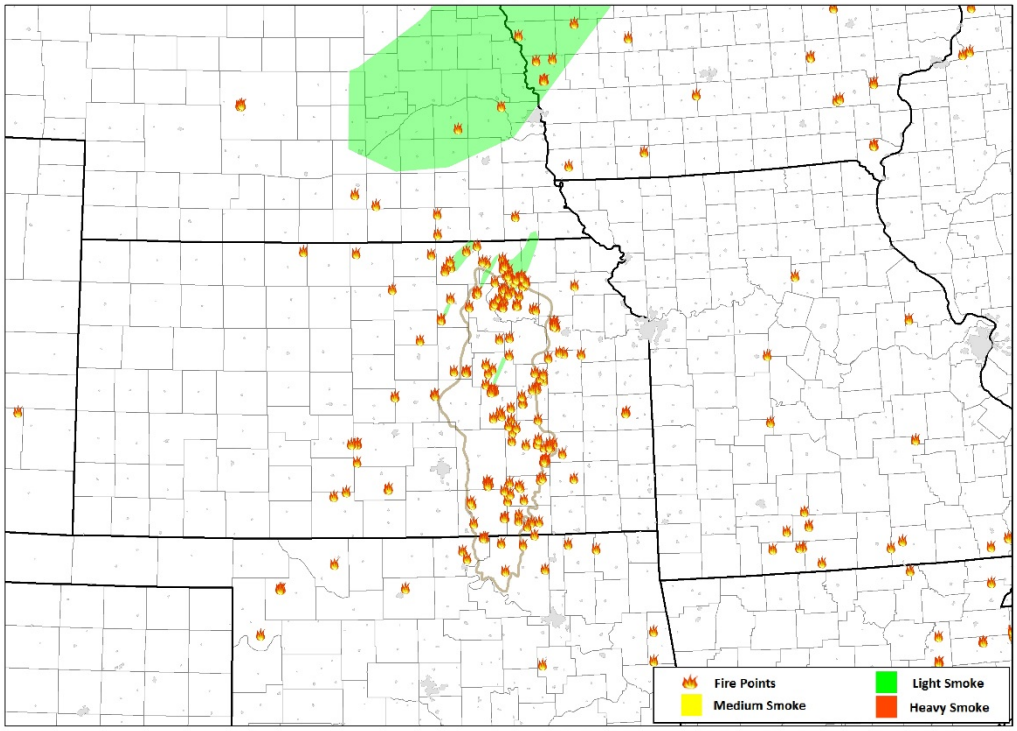
Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 08, 2017



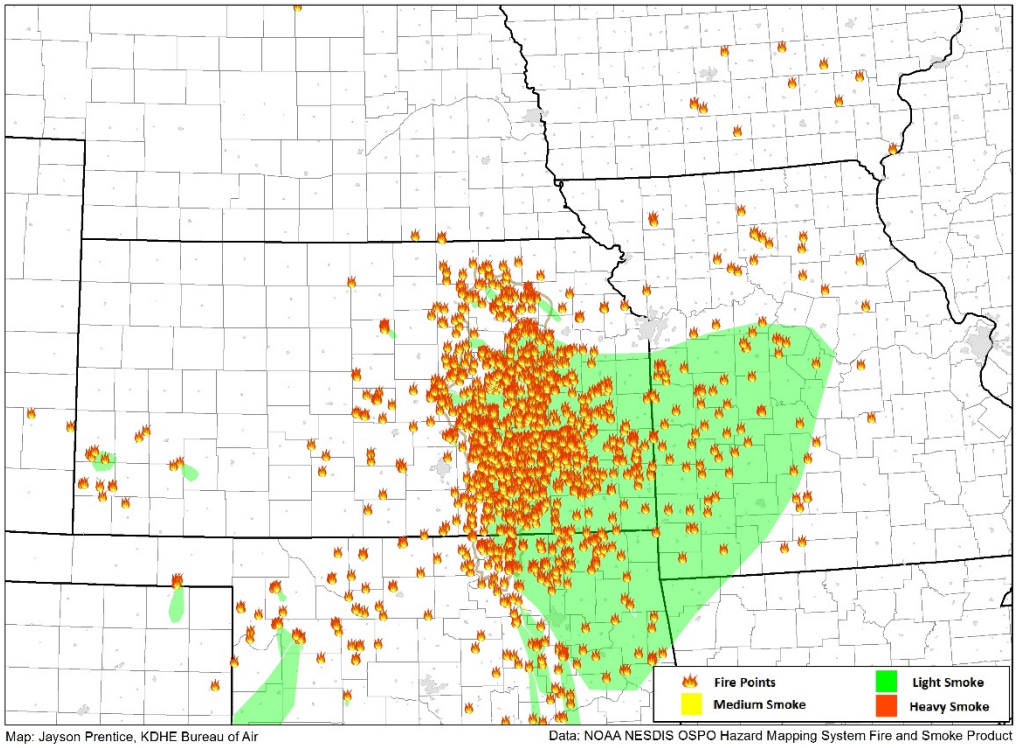
Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 09, 2017



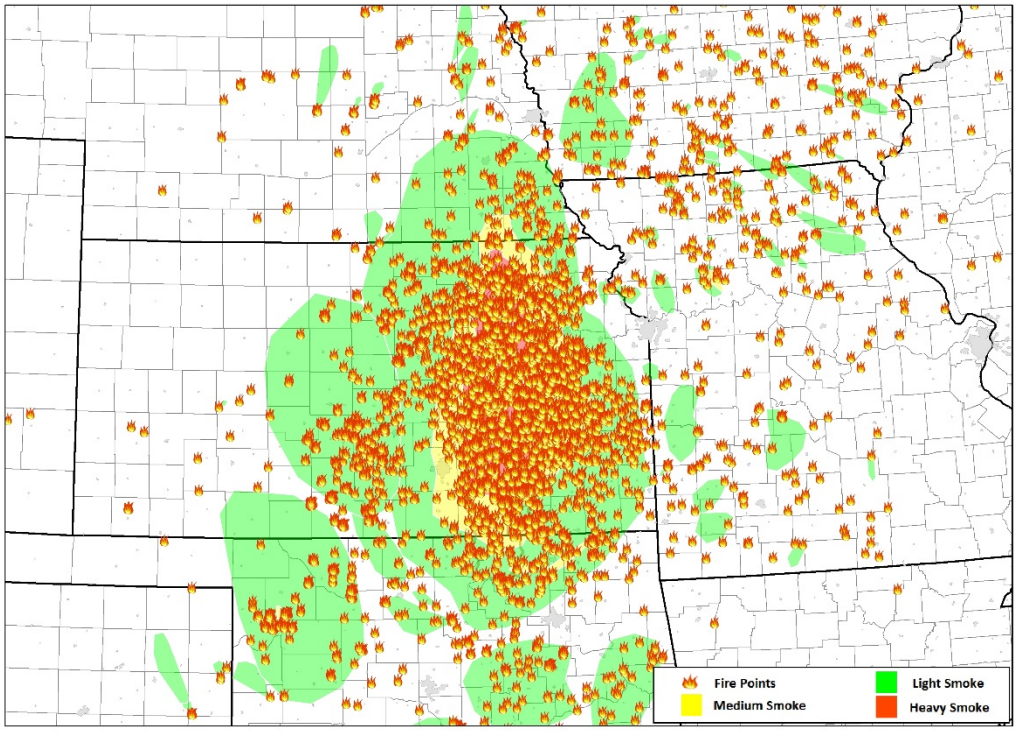
Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 10, 2017



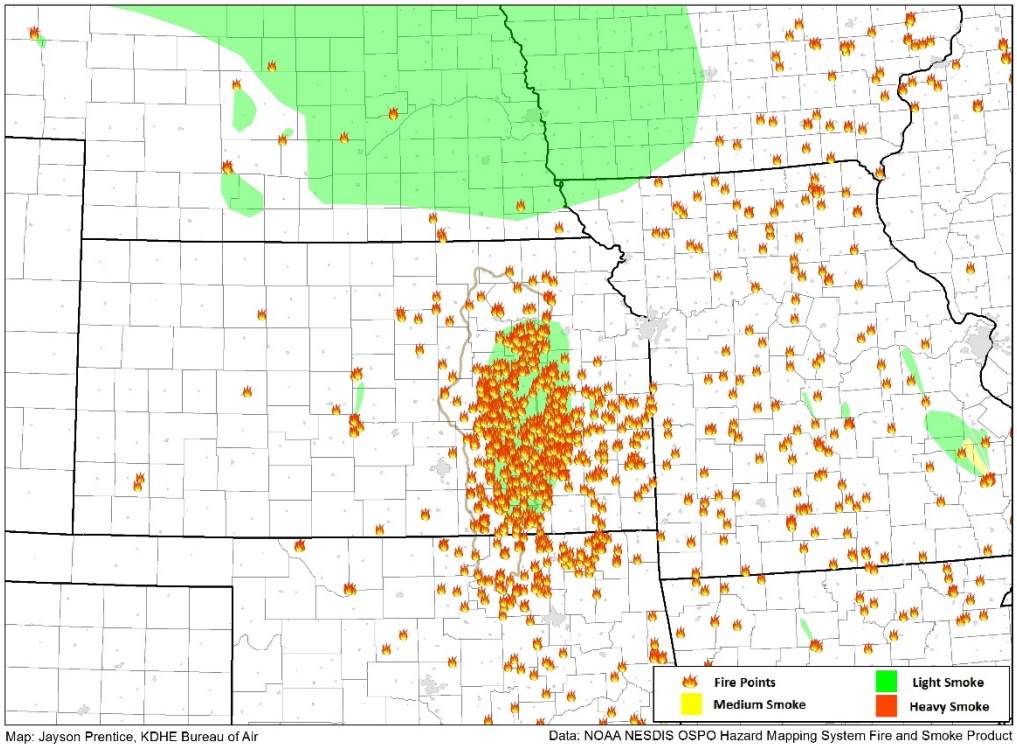
Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 11, 2017



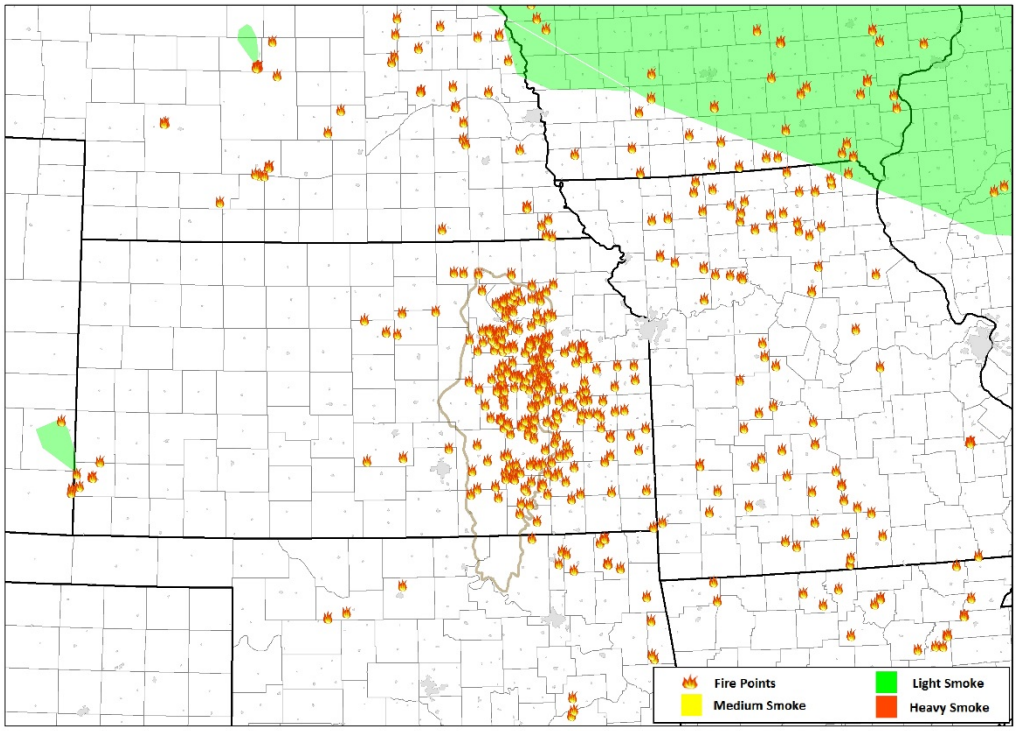
Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 12, 2017



Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

HMS Fire & Smoke Analysis
April 13, 2017



Map: Jayson Prentice, KDHE Bureau of Air
Data: NOAA NESDIS OSPO Hazard Mapping System Fire and Smoke Product

Flint Hills Acreage Burned

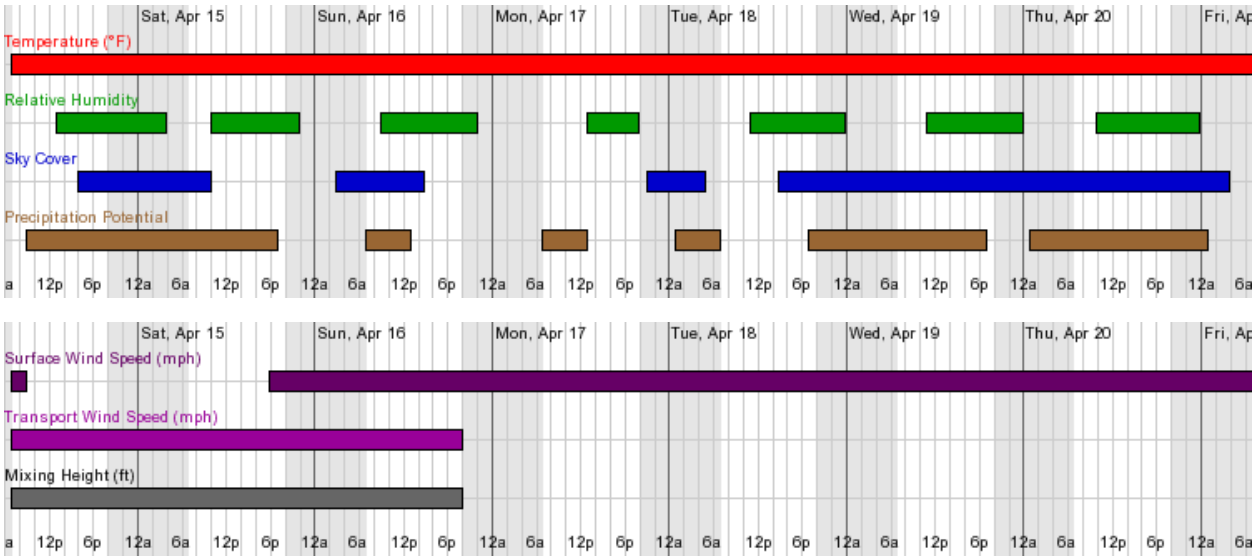
An update on acreage burned will be provided as soon as possible. Cloudy conditions during the daily satellite passes have inhibited the ability to analyze ground conditions. It is anticipated that an analysis can be conducted on images from April 10 and 11 once data is available.

Upcoming Look at Fires and Smoke

Despite an active week there are still acres that are planned to be burned in the upcoming week or so. An active weather pattern though may inhibit burning through next Tuesday, and perhaps beyond with periodic chances of showers and thunderstorms. With higher dew points and humidity values it will be a small window each day to have optimal conditions as shown with the green shaded bars below. Wind speeds look to be gusty and strong for Friday and Saturday, but then appear to settle down for the remainder of the week – still may see gusty afternoon though.

If proper planning has been conducted there may still be burning today and tomorrow (April 14-15) despite the increased wind speeds. The remainder of the week and the amount of burning will likely be varied by the timing and amount of precipitation received.

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 14, 2017.