

Flint Hills Wildland Fire Update

April 7, 2023

The following information on the Flint Hills wildland fires is provided weekly to keep stakeholders up to date on fires, smoke, and air quality.



<https://www.KSFire.org/>

• • •

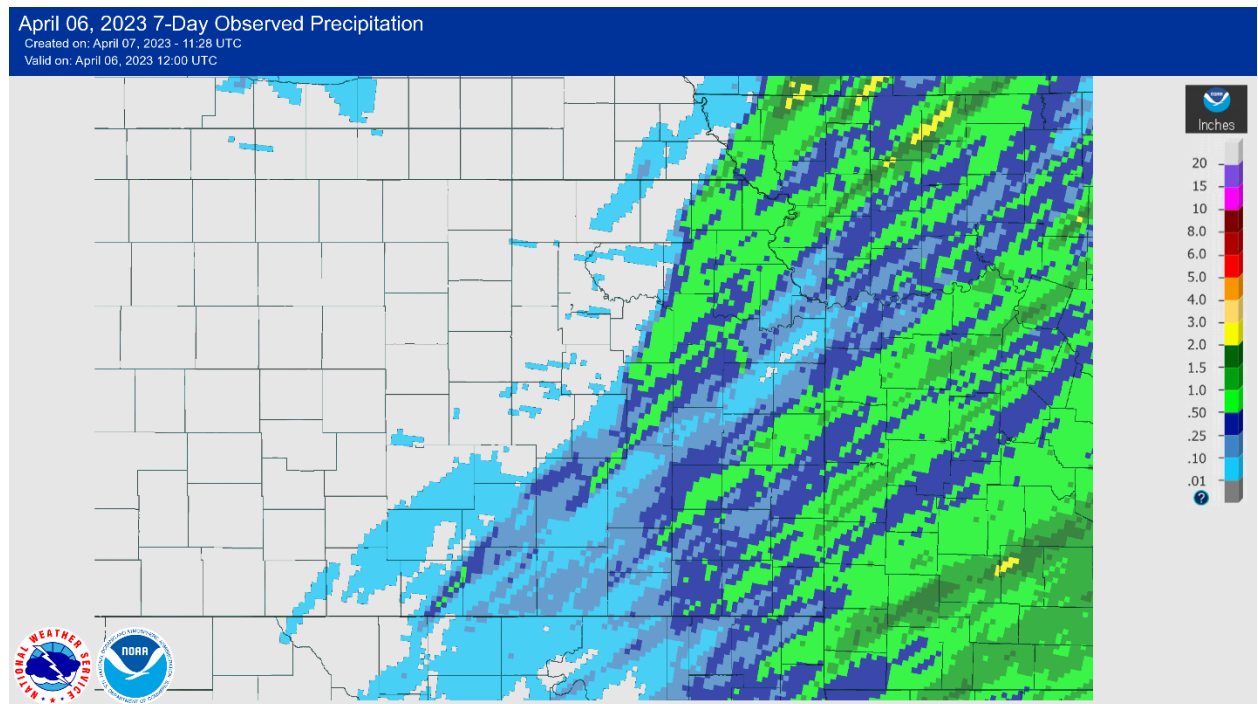
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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



Meteorology

Breezy winds on Friday (March 31) were observed as a storm system moved through the area which also resulted in some elevated fire weather conditions. Light northwest winds behind a cold front were dominant for Saturday (April 1) with temperatures remaining seasonable. Strong southerly winds and low relative humidity occurring on Sunday (April 2) led to more fire weather concerns. Seasonable temperatures and northeast winds occurred on Monday (April 3) before strong south winds with gusts up to 50 mph arrived on Tuesday (April 4) with another strong storm system; Thunderstorms and some severe weather occurring Tuesday evening across parts of the Flint Hills. Strong northwest winds and below normal temperatures occurred on Wednesday (April 5) before conditions calmed on Thursday (April 6) with light and variables winds alongside seasonable temperatures.

Precipitation

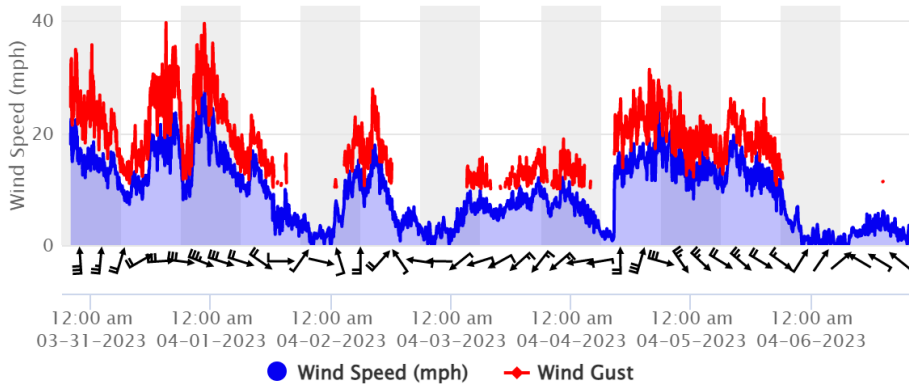
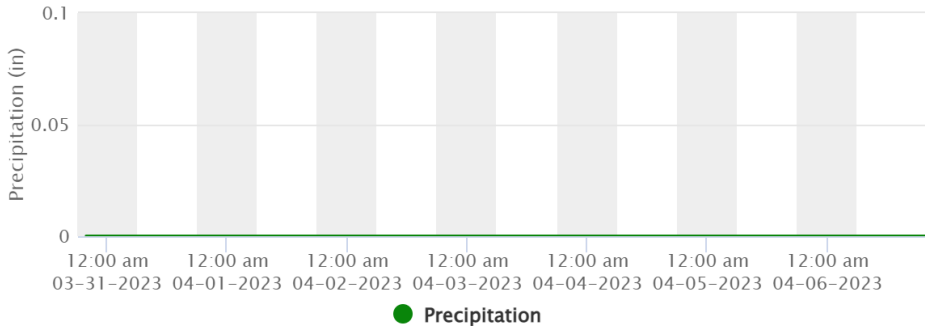
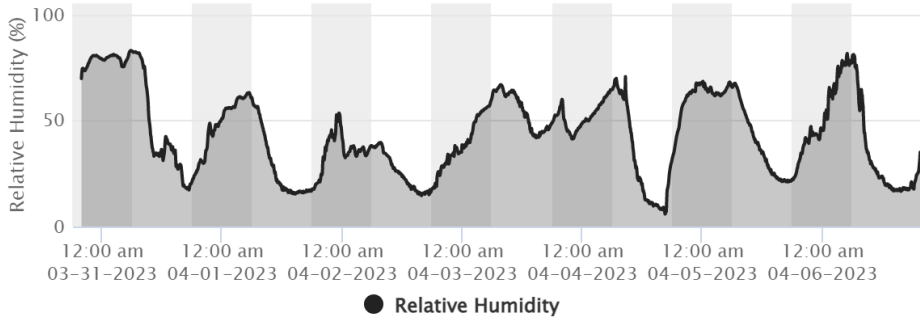
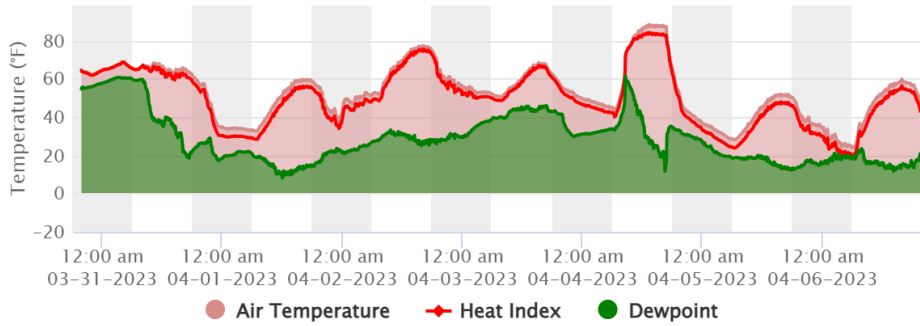


NOAA/NWS Observed Total Precipitation for March 31 – April 6, 2023.

Flint Hills Wildland Fire Update



Meteogram for Manhattan



7-day (Mar 31 – Apr 7, 2023) Observed Weather from the Kansas Mesonet station near Elmdale, Kansas (<https://mesonet.k-state.edu/>)



Fire, Smoke, and Air Quality

For the period of March 30 – April 6, 2023 there were no air quality exceedances that were potentially influenced by prescribed fire within the Flint Hills region.

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

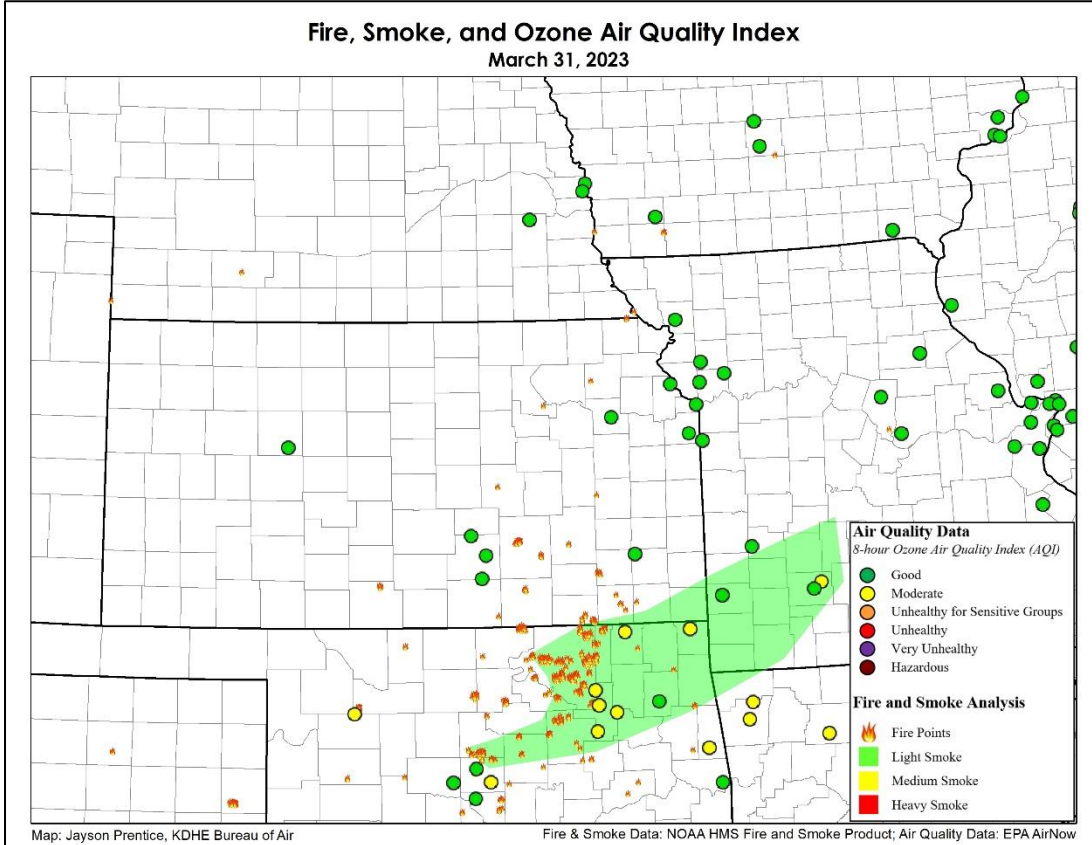
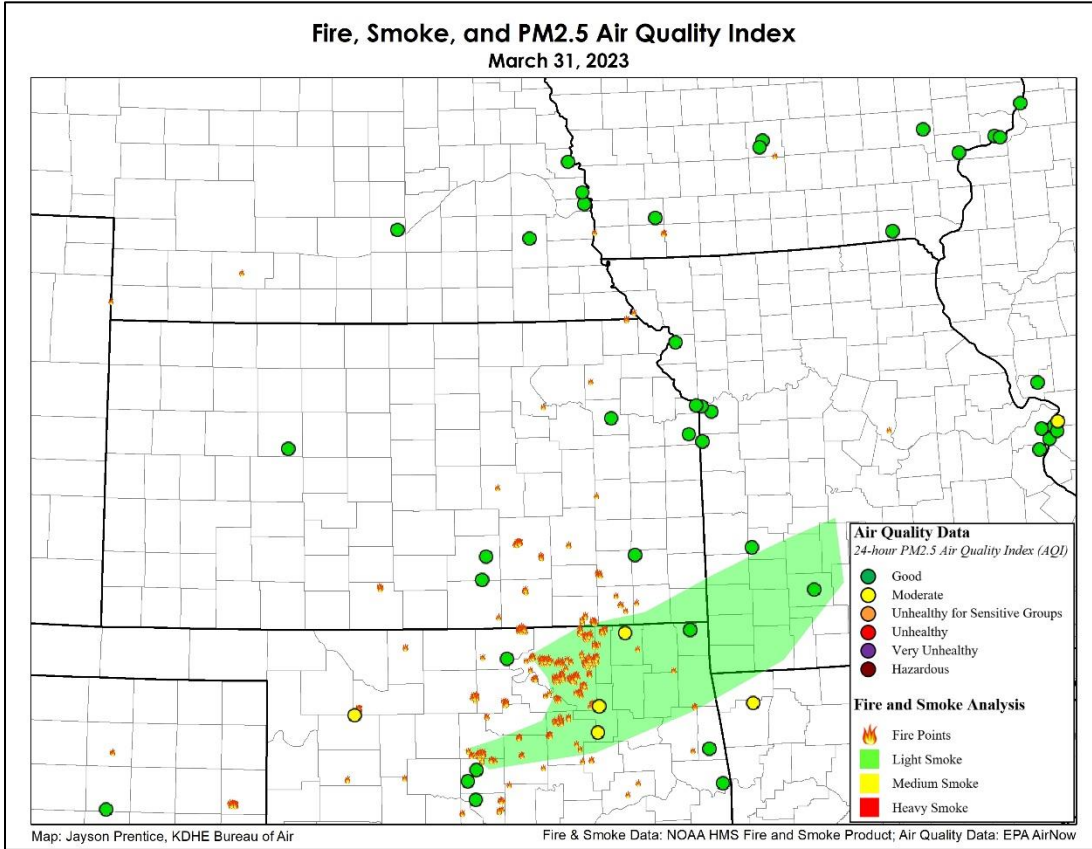
PM_{2.5}: Preliminary data indicates no exceedances of the NAAQS daily 24-hour average maximum of 35 µg/m³.

A strong storm system moving across the region on Friday (March 31) resulted in minimal prescribed fire activity for much of the Flint Hills; A combination of prescribed fires and wildfires was observed/reported in the southern Flint Hills. While the southern Flint Hills dealt with wildfire concerns much of the central and northern Flint Hills proceeded with prescribed fires with clearing skies and light winds on Saturday (April 1). Elevated fire weather concerns on Sunday (April 2) led to reduced prescribed fires while wildfires continued in much of the Flint Hills. Light northeast winds led to an increase in prescribed fire activity for much of the central Flint Hills on Monday (April 3). Very high to Extreme Fire Danger was observed on Tuesday (April 4) which resulted in several wildfires throughout the Flint Hills region. Northwest winds behind the cold front alongside cooler temperatures were observed on Wednesday (April 5) with some prescribed fire activity occurring through the central Flint Hills. Light winds, clear skies, and seasonable temperatures were observed on Thursday (April 6) with significant prescribed fire activity occurring across the central and northern Flint Hills; At the same time wildfires continued for some of the southern Flint Hills and several wildfires were also reported for the remainder of the region.

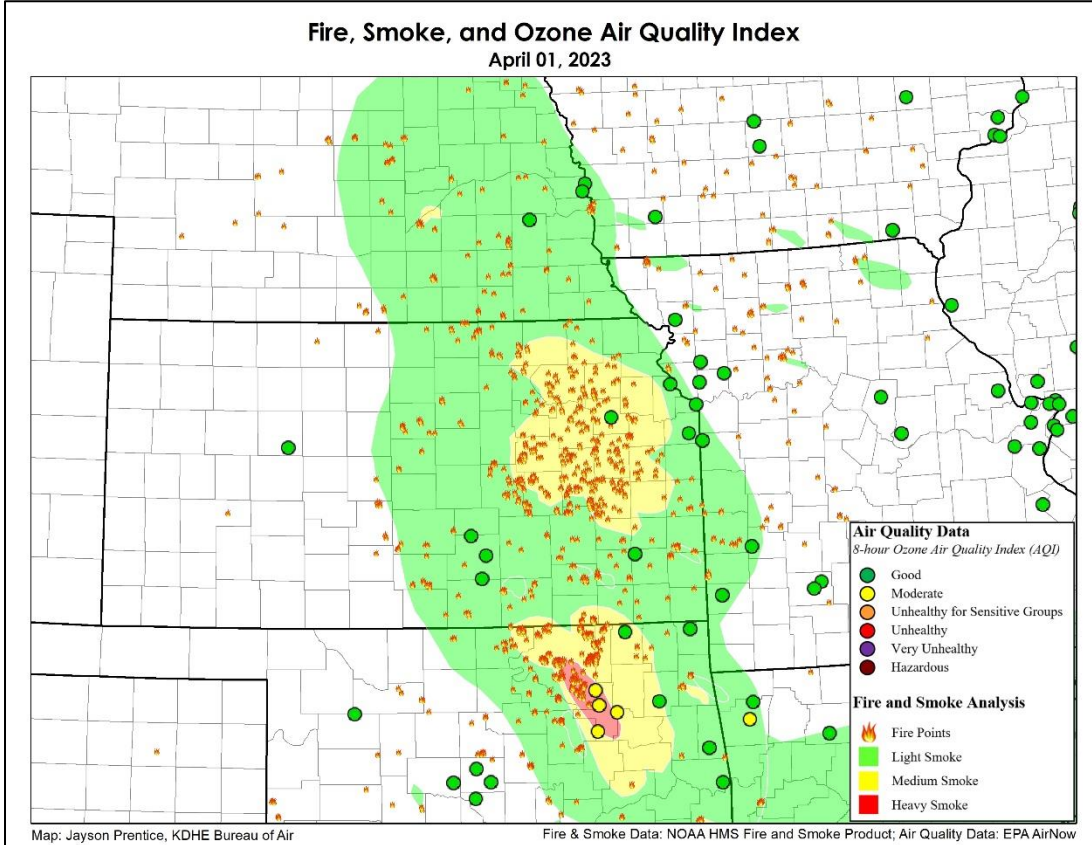
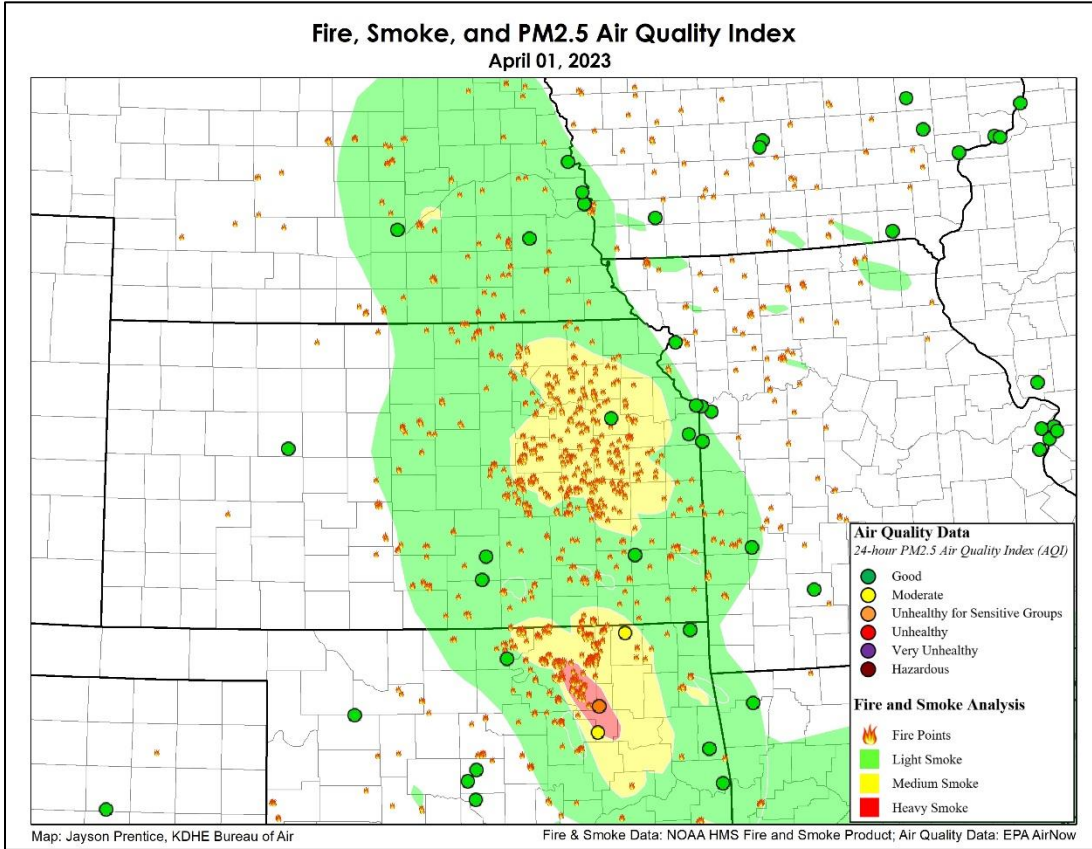
Air Quality became Moderate in the southern Flint Hills by Saturday and smoke resulted in more Moderate Air Quality Index (AQI) across the Flint Hills region and into western Missouri by Sunday. Moderate AQI continued Monday throughout eastern Kansas as prescribed fire activity increased. Smoke impacted air quality throughout the region on Tuesday with Moderate AQI overall. Occasional Unhealthy for Sensitive Groups AQI for brief periods was also observed for the Sunday through Tuesday period. Air quality improved for Wednesday with only brief Moderate AQI and otherwise Good AQI overall. Significant prescribed fire activity on Thursday resulted in more widespread Moderate AQI with localized impacts up to Unhealthy AQI occurring by Thursday night.

The following pages have two maps for each day; One showing the 24-hour average Air Quality Index category for PM_{2.5} and the other showing the 8-hour average maximum Air Quality Index category for Ozone from regulatory air quality monitors in the region. Both maps show fires and smoke as analyzed by NOAA Hazard Mapping Services.

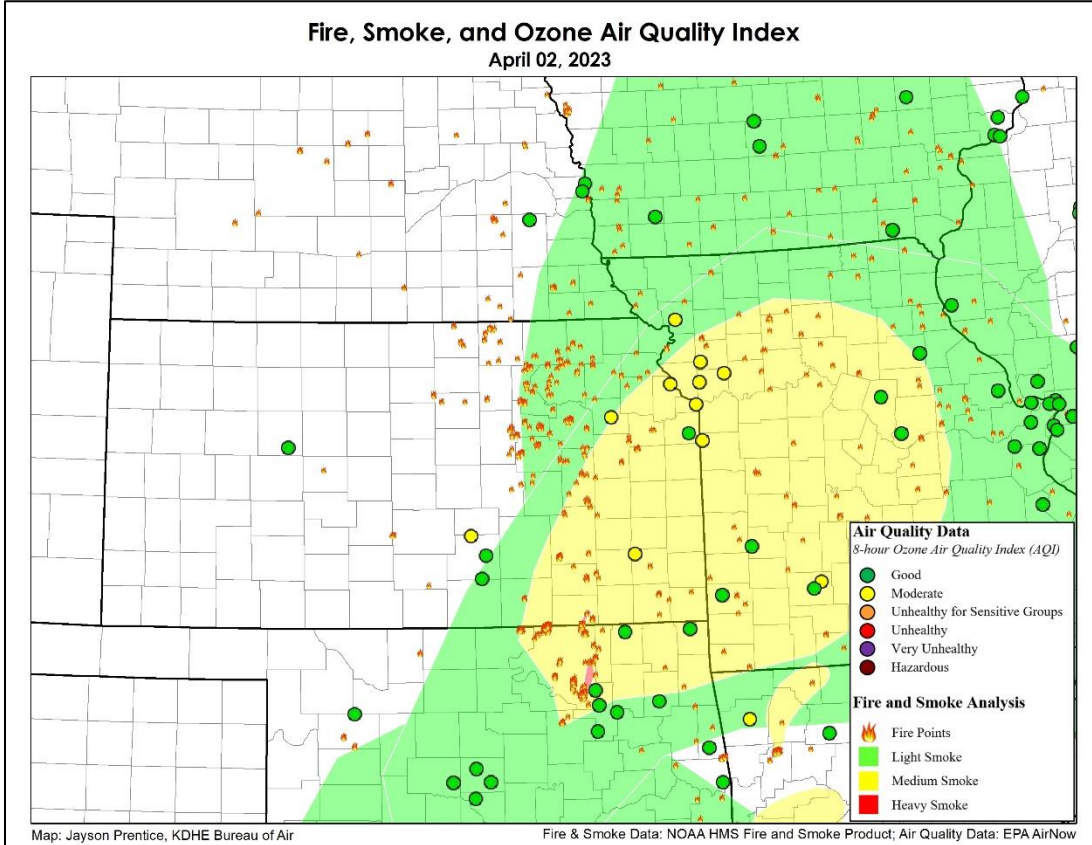
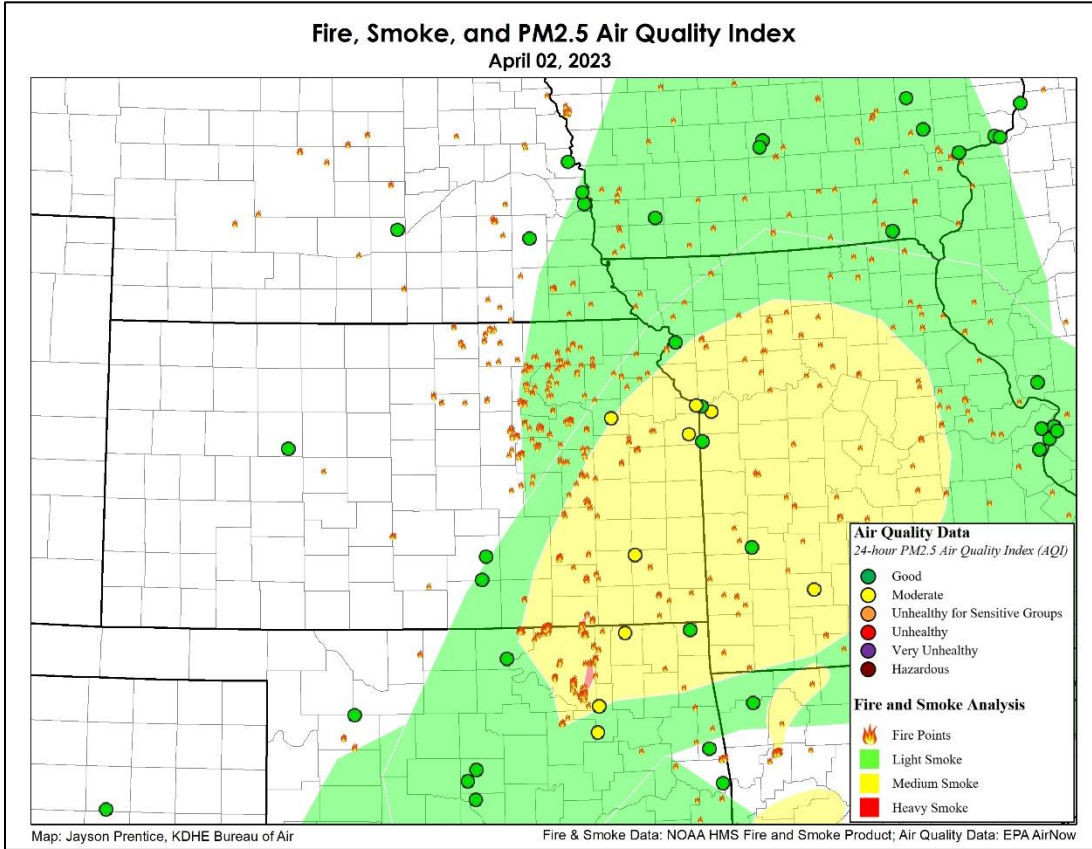
Flint Hills Wildland Fire Update



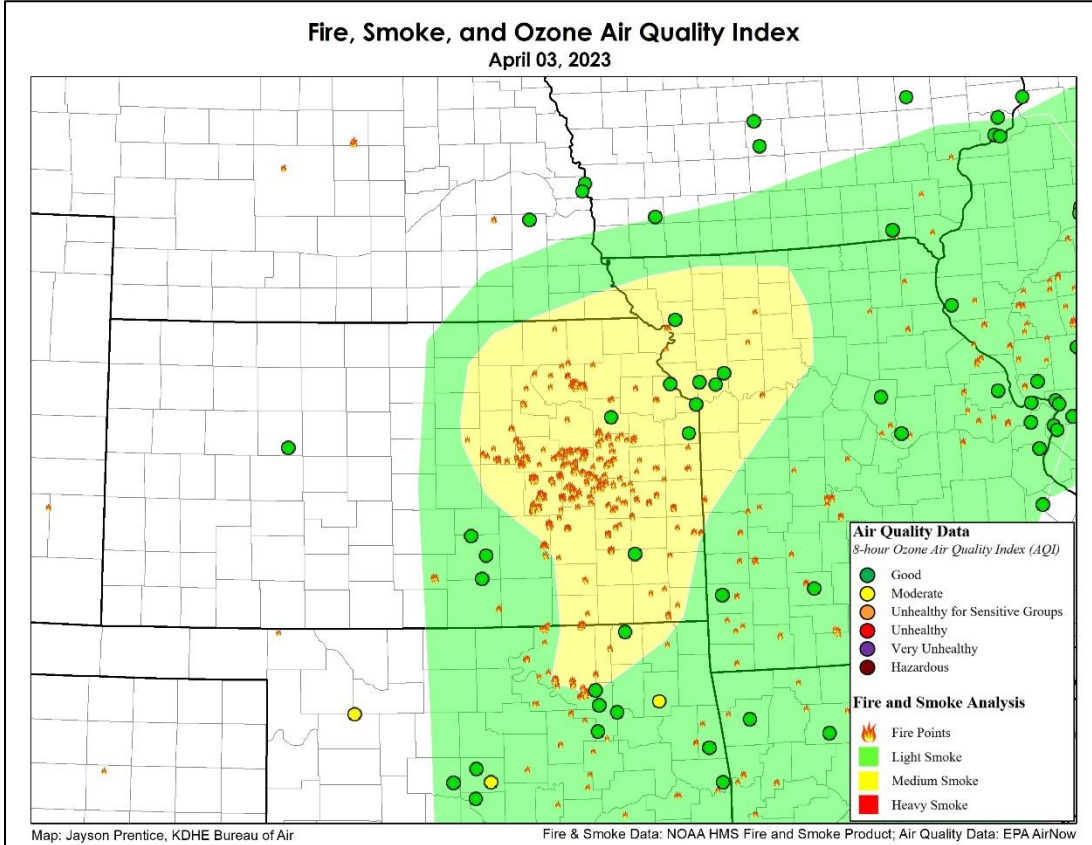
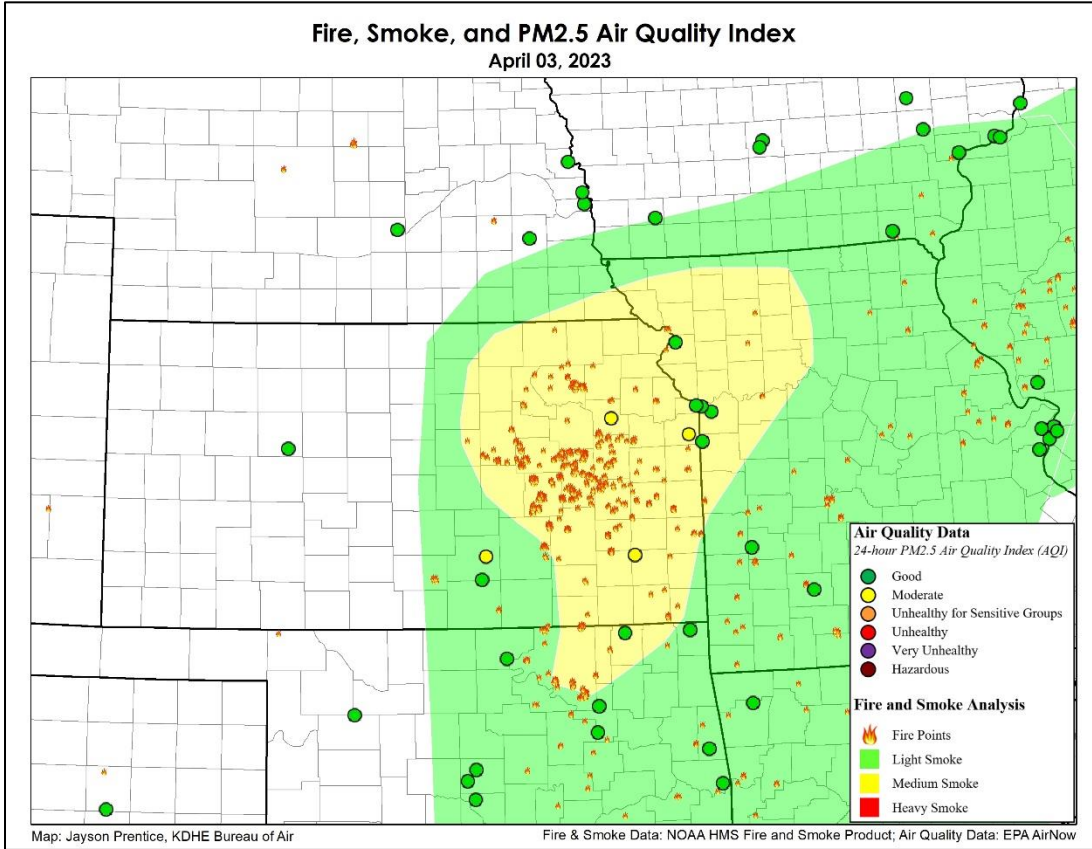
Flint Hills Wildland Fire Update



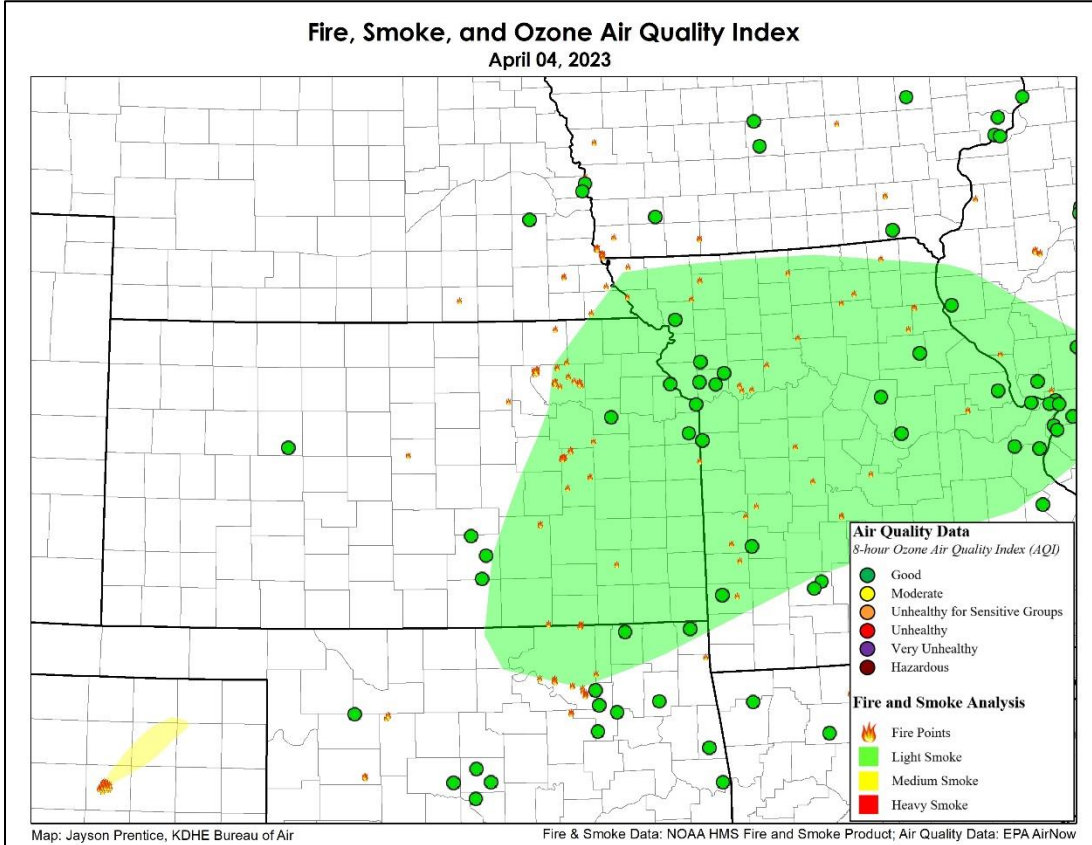
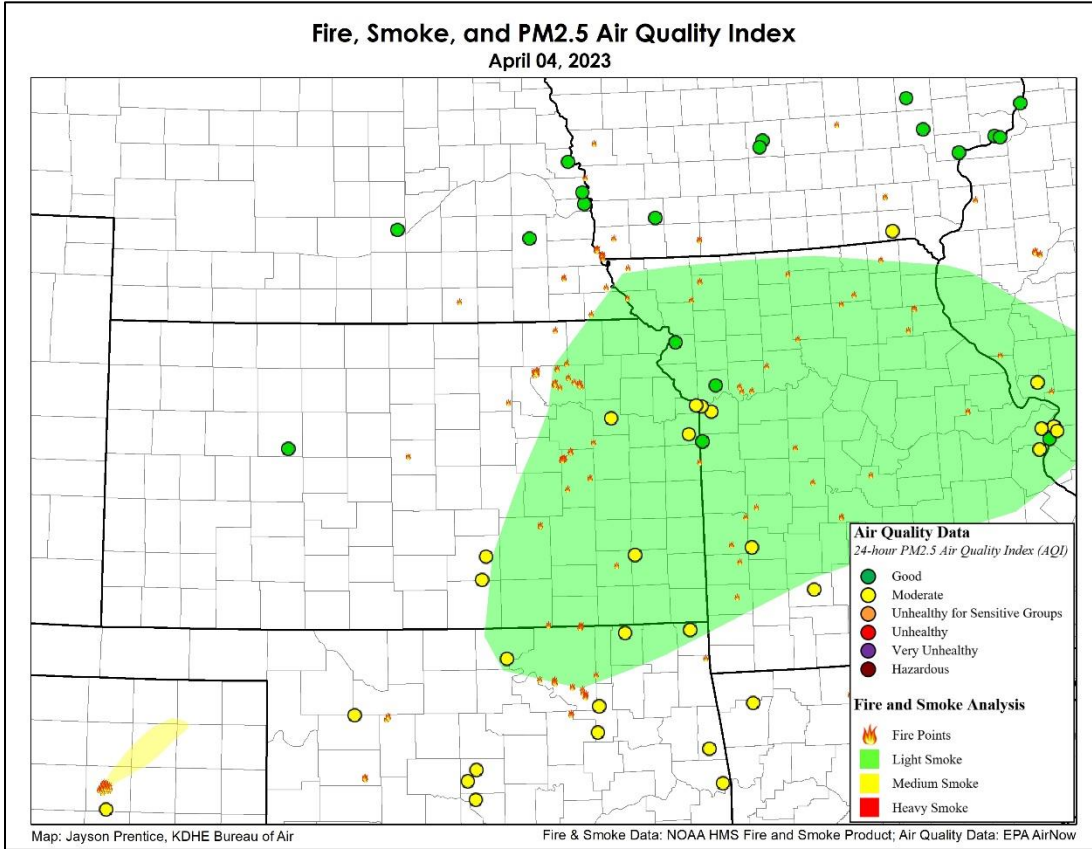
Flint Hills Wildland Fire Update



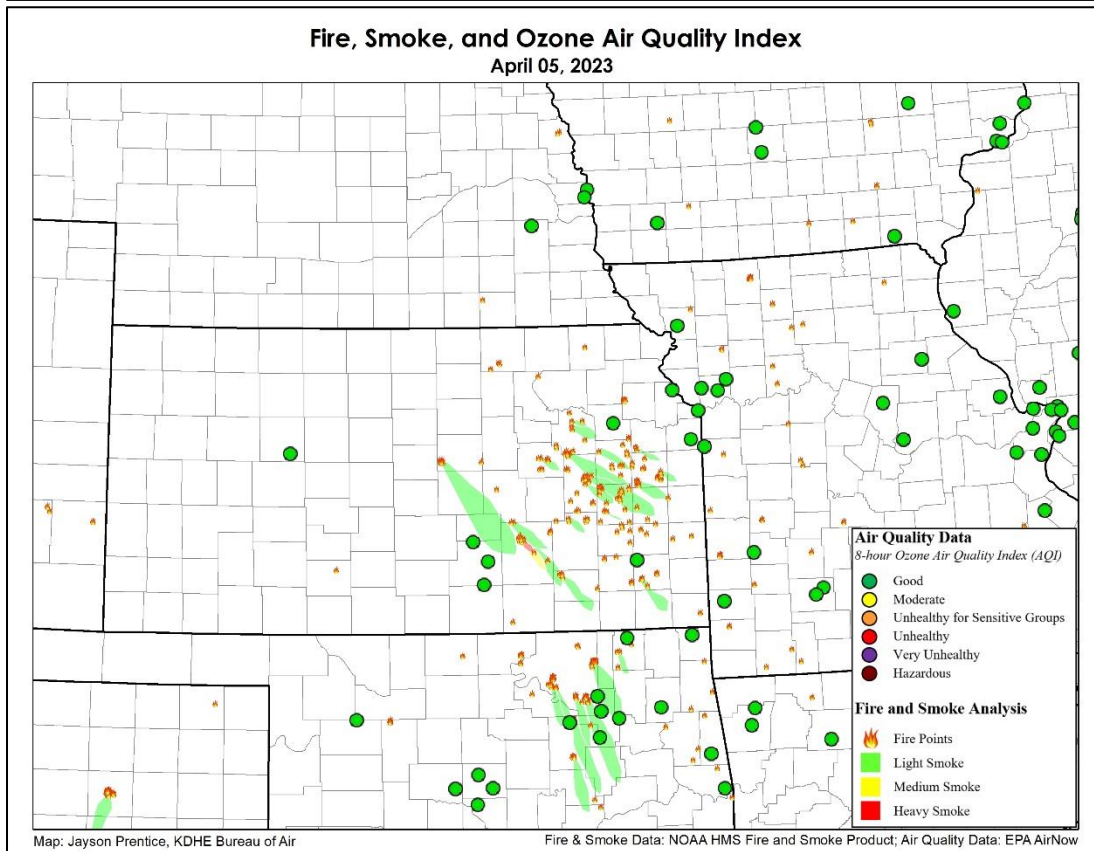
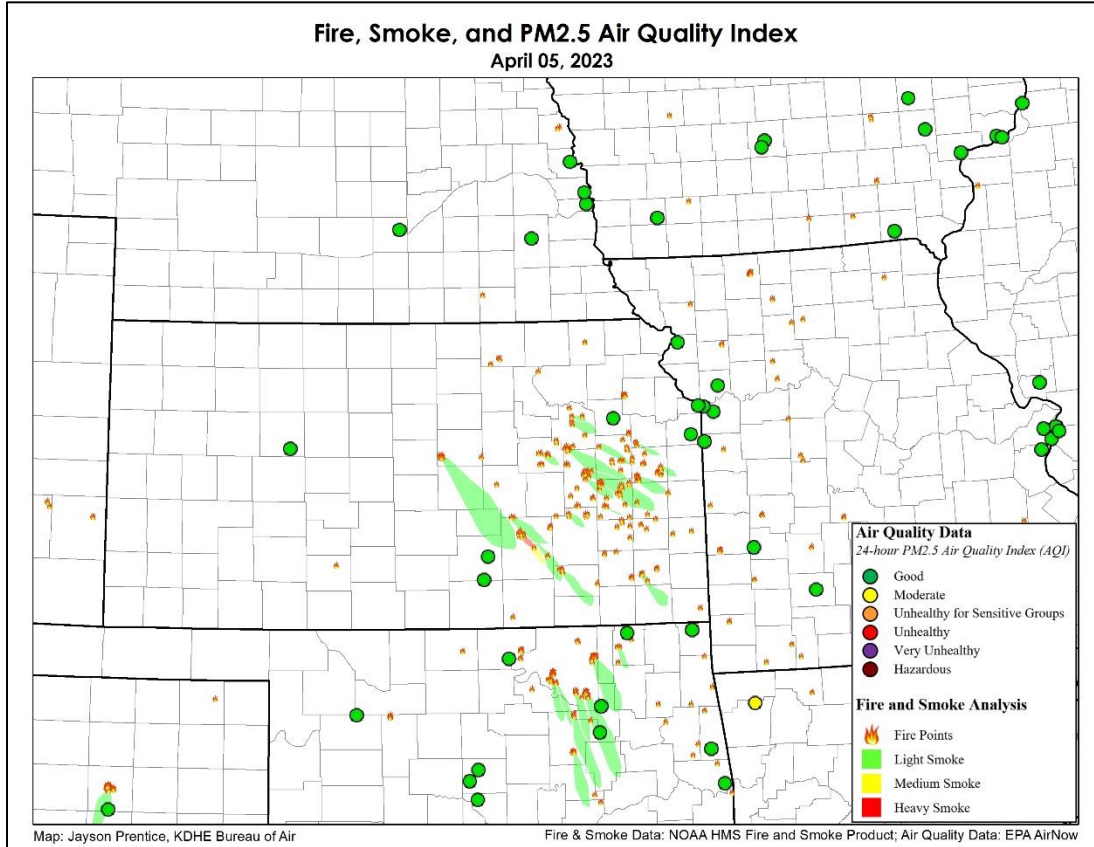
Flint Hills Wildland Fire Update



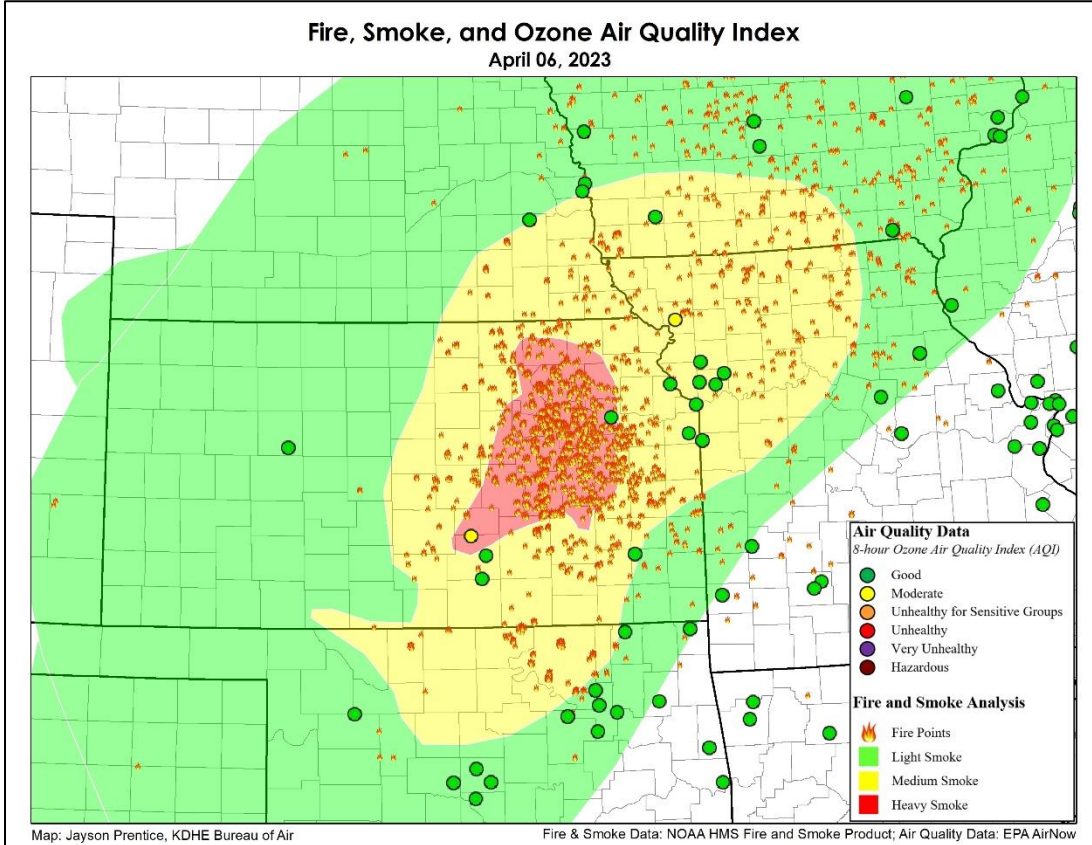
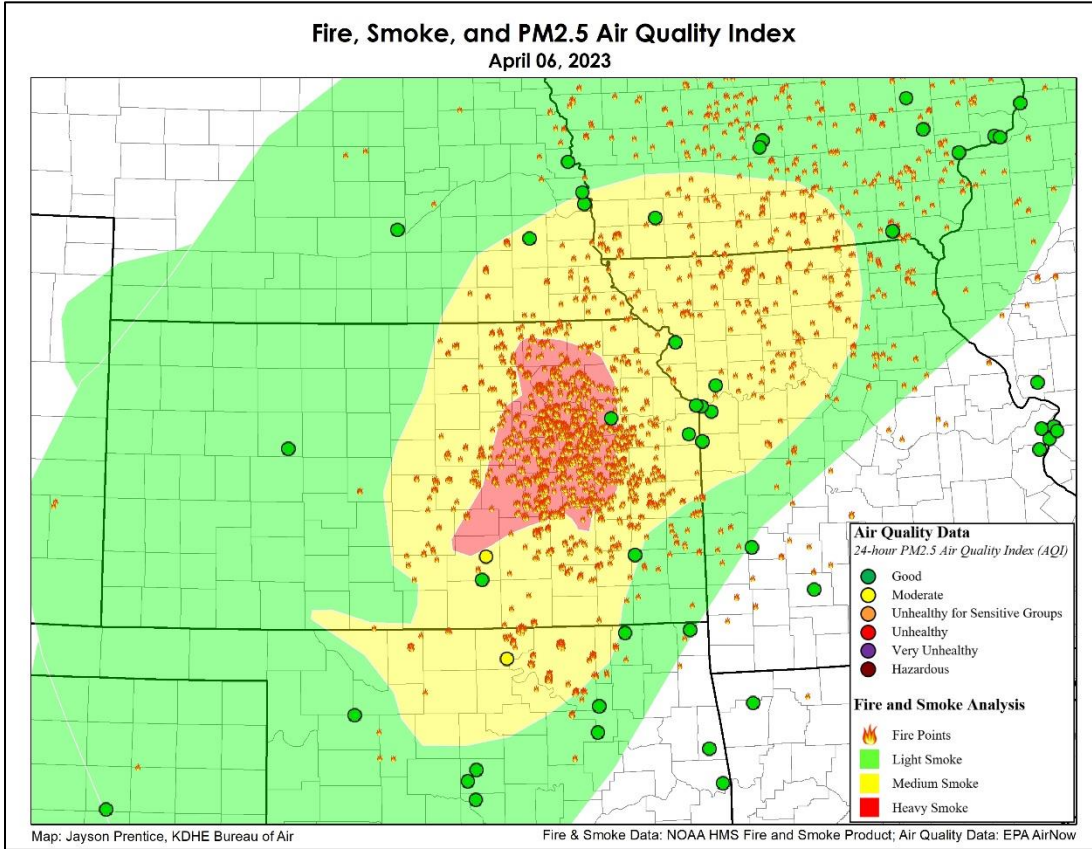
Flint Hills Wildland Fire Update



Flint Hills Wildland Fire Update

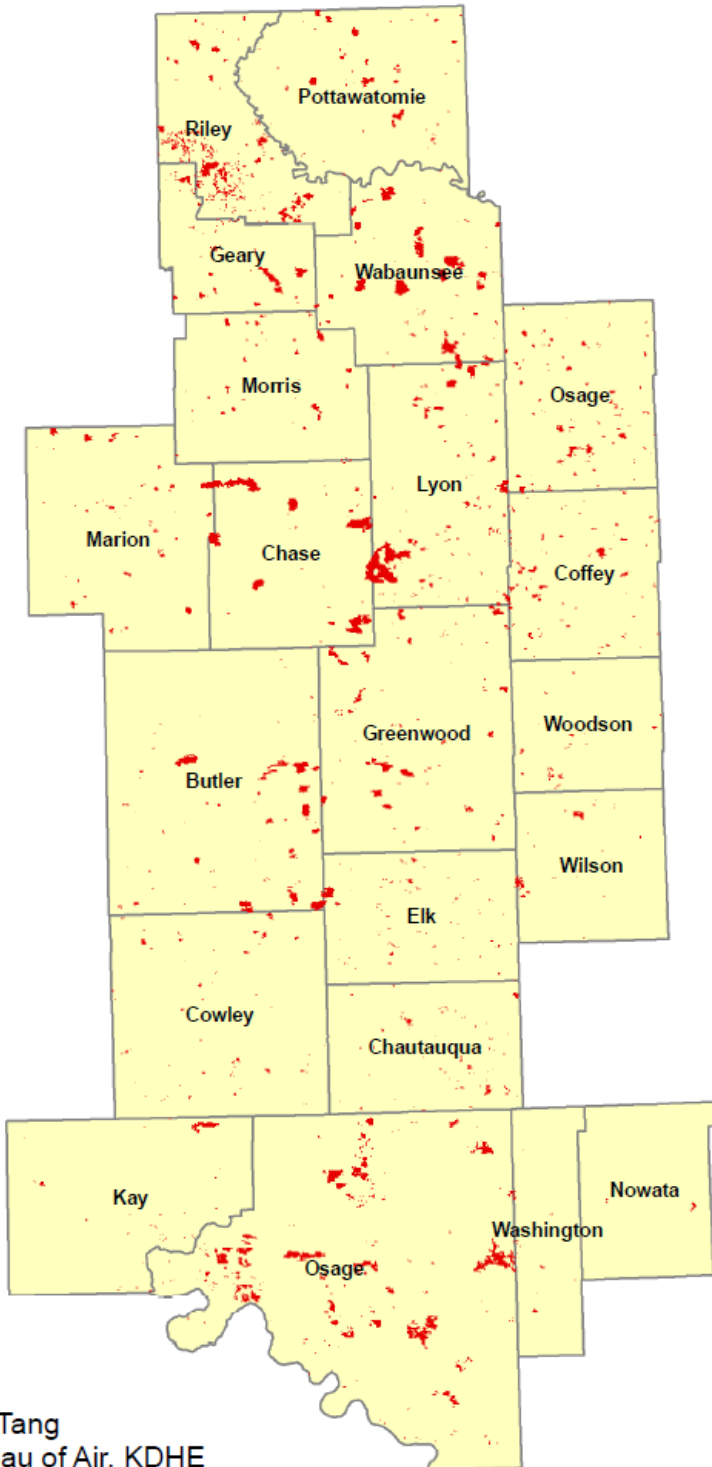


Flint Hills Wildland Fire Update





Flint Hills Acreage Burned (February 3 – April 1, 2023)



Yao Tang
Bureau of Air, KDHE

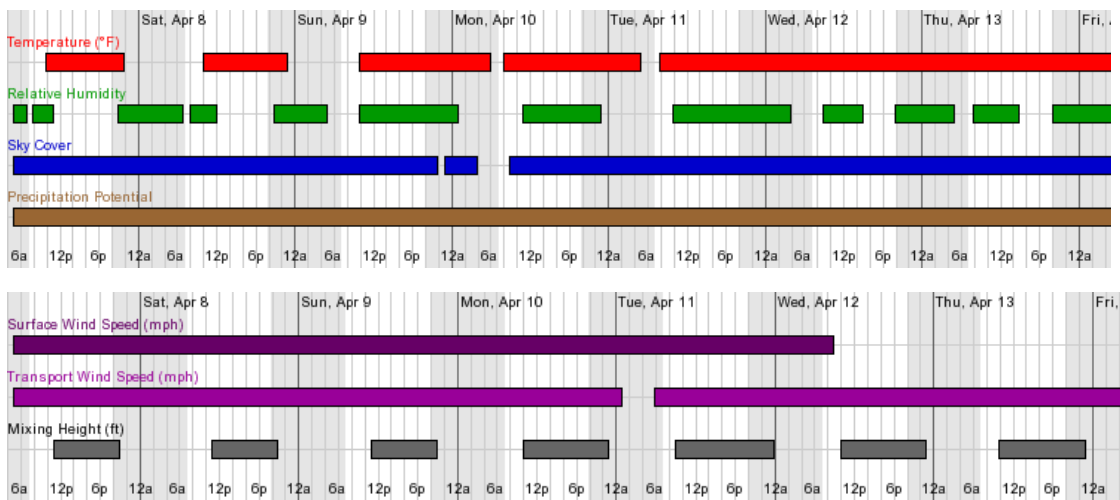
<u>Counties</u>	<u>Acres Burned</u>	
Butler	16,556	
Chase	20,603	
Chautauqua	3,305	
Coffey	6,888	
Cowley	3,568	
Elk	4,479	
Geary	7,552	
Greenwood	13,406	
Lyon	22,950	
Marion	7,475	
Morris	4,973	
Osage (KS)	8,433	
Pottawatomie	7,182	
Riley	21,668	
Wabaunsee	22,271	
Wilson	2,409	
Woodson	1,591	
Nowata (OK)	432	
Osage (OK)	45,716	
Washington (OK)	695	
Kay (OK)	3,104	
Total	225,256	
* Denotes county was partly or completely covered by clouds during latest analysis.		



Upcoming Look at Fires and Smoke

Seasonable to above normal temperatures are expected throughout the region for the upcoming week with highs into the 80s for many by Monday or Tuesday. Precipitation chances remain low with perhaps only a slight chance of rain late Sunday or Monday as a storm system and frontal boundary moves through the region. Wind speeds remain reasonable until Wednesday (April 12) when breezy to gusty conditions are expected to return. Afternoon relative humidity values will be the primary driver for go-no go prescribed fire decisions as values both Friday and Saturday dip to near 20-percent. Moisture improves for Sunday-Tuesday before fire weather concerns increase for Wednesday and beyond. Overall there is several windows for significant prescribed fire use across the Flint Hills despite dry 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. Forecast valid: 6am April 7, 2023.

For more information, contact:

Jayson Prentice

Chief, Environmental Data & Projects, Bureau of Air
 Kansas Department of Health & Environment
 785-291-3782
 Jayson.Prentice@ks.gov