Flint Hills Wildland Fire Update

March 10, 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.

Kansas Department of Health and Environment

https://www.KSFire.org/

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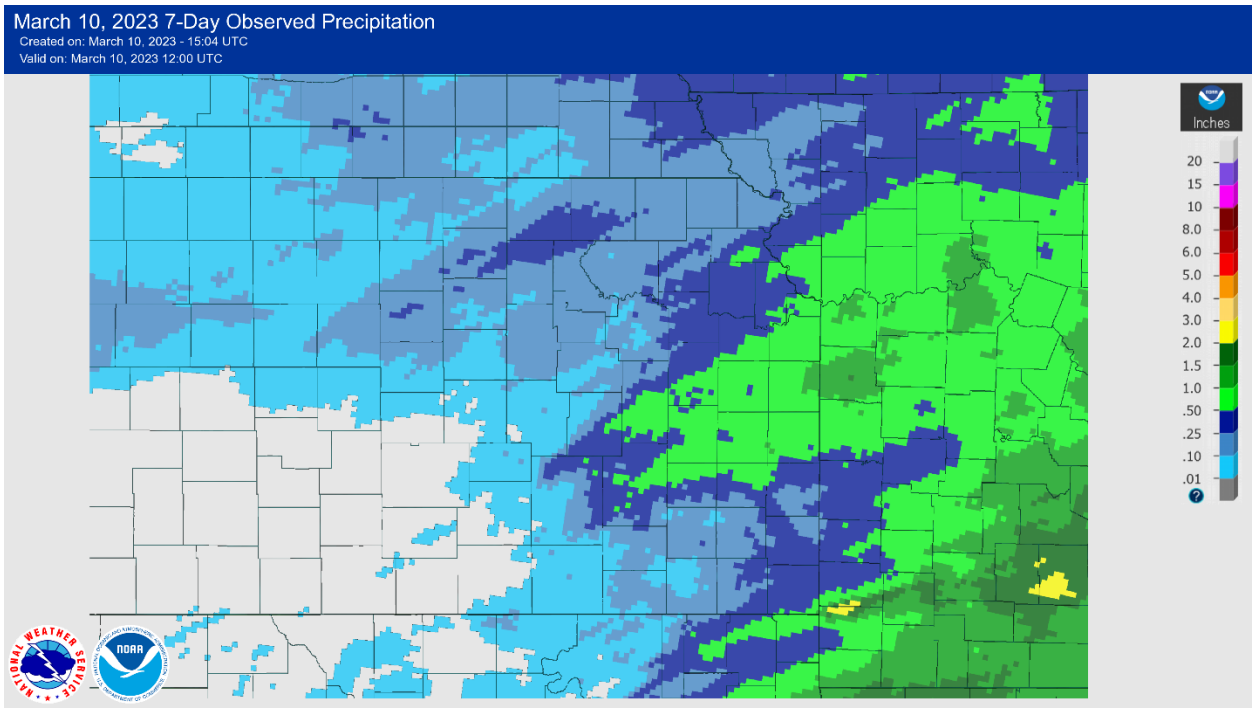
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

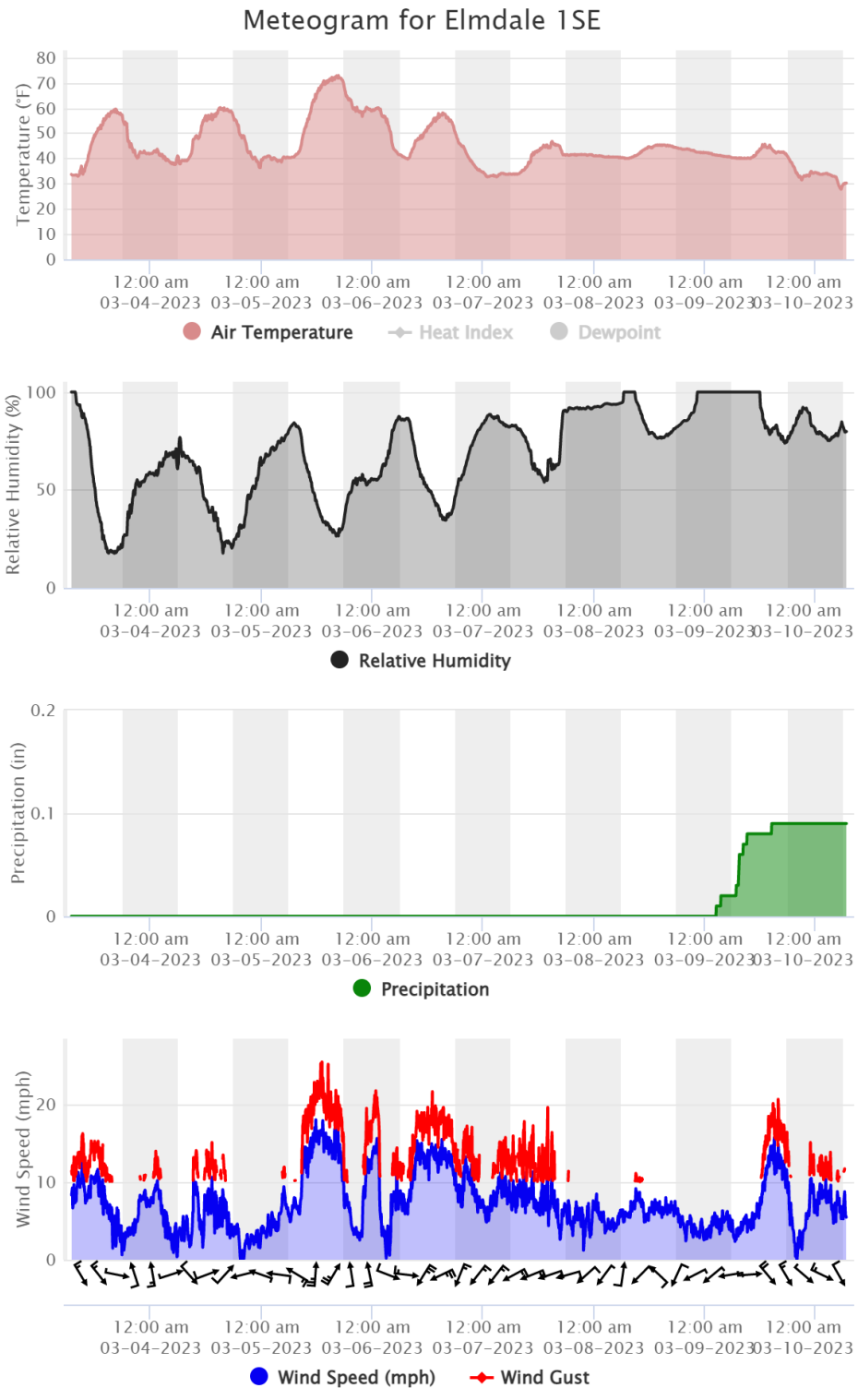
Sunny skies and seasonable temperatures under lighter and variables winds were observed last Friday and Saturday across the region. Temperatures warmed even higher with highs in the 70s for many on Sunday aided by a strong south wind with gusts of 25+ mph observed. Sunday also featured the lowest relative humidity values across the region as they fell into the 20-35 percent range in the afternoon hours. Clear skies and seasonable temperatures continued Monday as winds began to shift with a storm system approaching the region.

Cloudy skies and cooler temperatures arrived on Tuesday with the cloudy conditions and a drizzle or light rain entering the area on Wednesday. Much of the precipitation over the past week fell late Wednesday and through Thursday with anywhere from a few hundredths of an inch to upwards of a half-inch of rainfall occurring across the Flint Hills region. Temperatures were largely below average for Wednesday and Thursday.

Precipitation



NOAA/NWS Observed Total Precipitation for March 3-10, 2023.



7-day (March 3-10, 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 3-9, 2023 there were no air quality exceedances that were potentially influenced by prescribed fire within the Flint Hills region.

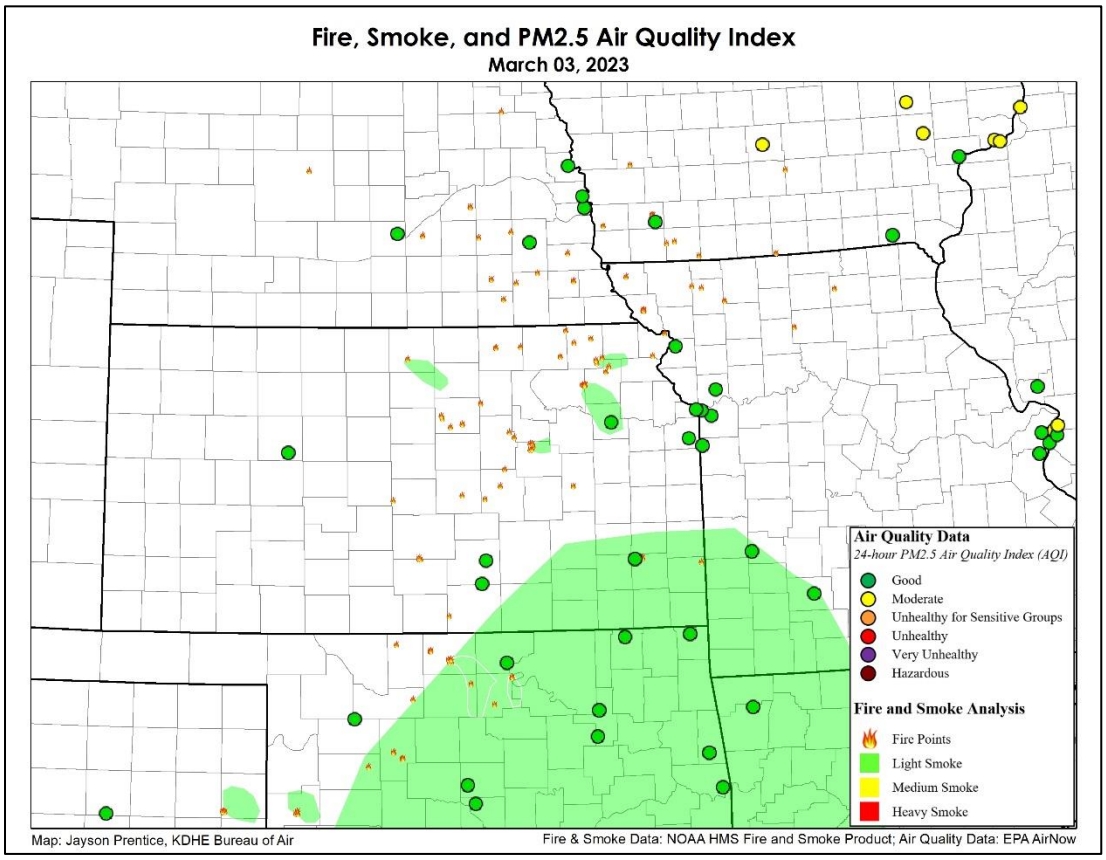
Ozone: Preliminary data indicates no exceedances of the NAAQS daily 8-hour average maximum of 70 ppb.

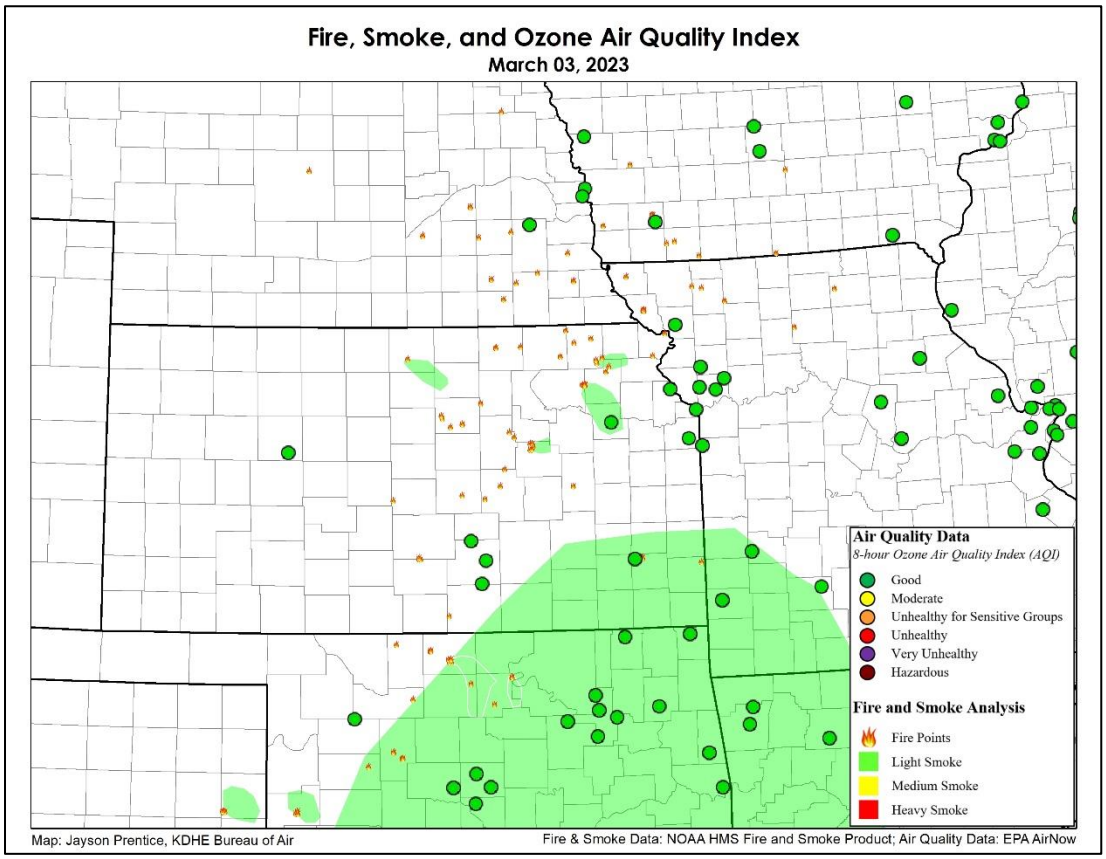
$PM_{2.5}$: Preliminary data indicates no exceedances of the NAAQS daily 24-hour average maximum of 35 µg/m^3.

Seasonal to above normal temperatures at times over the past week allowed for some prescribed fire activity within the Flint Hills and across the region. Regulatory monitors throughout the region reported some Moderate Air Quality Index (AQI) values for both fine particulate matter (PM2.5) and ozone at times, many of which were likely influenced by smoke from fires within the region.

Following the daily maps below is the initial Flint Hills burned acres analysis for the 2023 spring burn period. Additional acreage for the month of February may be found in subsequent analysis.

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.


Fire, Smoke, and PM2.5 Air Quality Index
March 03, 2023
Air Quality Data
24-hour PM2.5 Air Quality Index (AQI)
Good
Moderate
Unhealthy for Sensitive Groups
Unhealthy
Very Unhealthy
Hazardous
Fire and Smoke Analysis
Fire Points
Light Smoke
Medium Smoke
Heavy Smoke
Map: Jayson Prentice, KDHE Bureau of Air
Fire & Smoke Data: NOAA HMS Fire and Smoke Product; Air Quality Data: EPA AirNow


Fire, Smoke, and Ozone Air Quality Index
March 03, 2023
Air Quality Data
8-hour Ozone Air Quality Index (AQI)
Good
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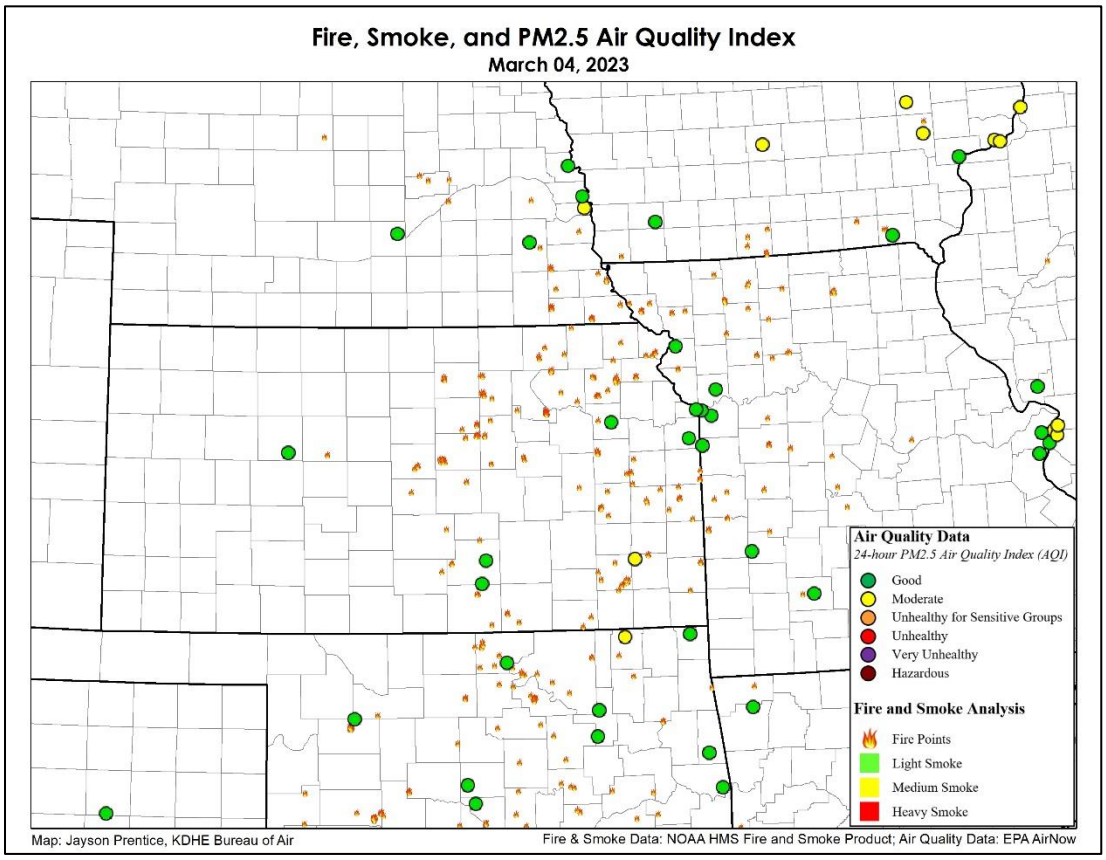
Fire, Smoke, and PM2.5 Air Quality Index
March 04, 2023
Air Quality Data
24-hour PM2.5 Air Quality Index (AQI)
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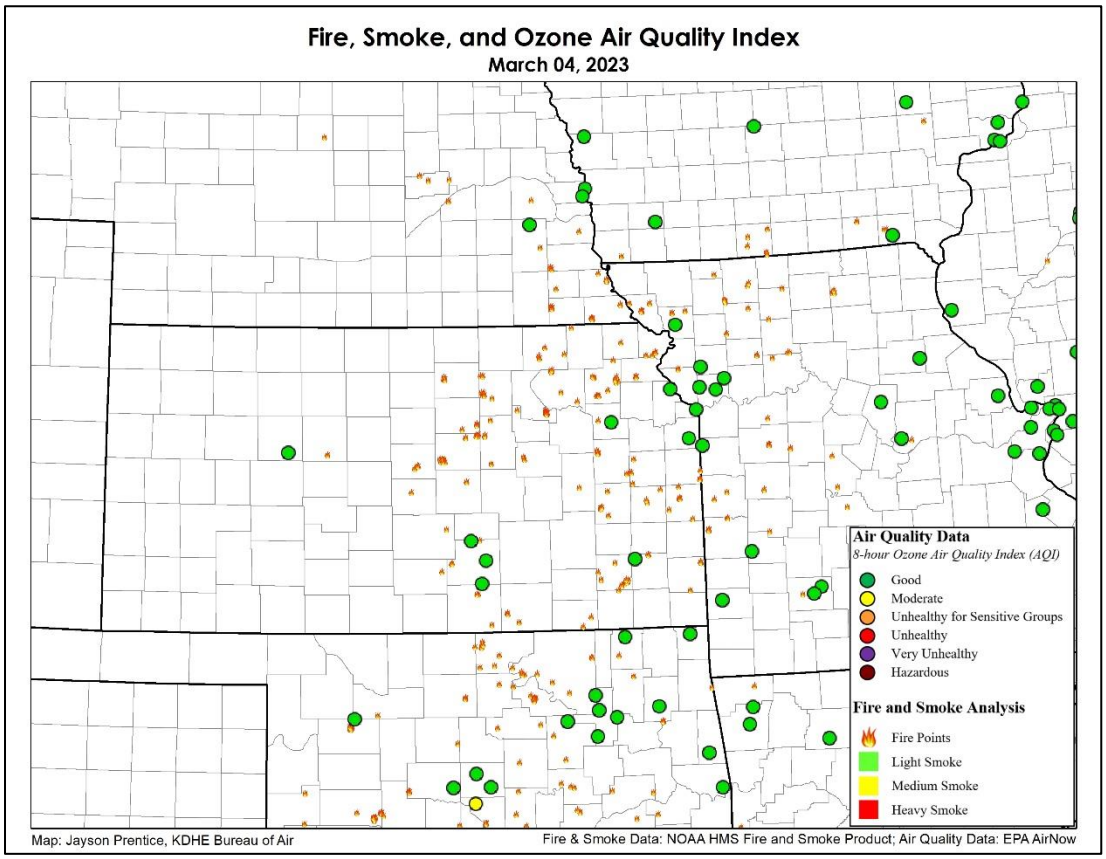
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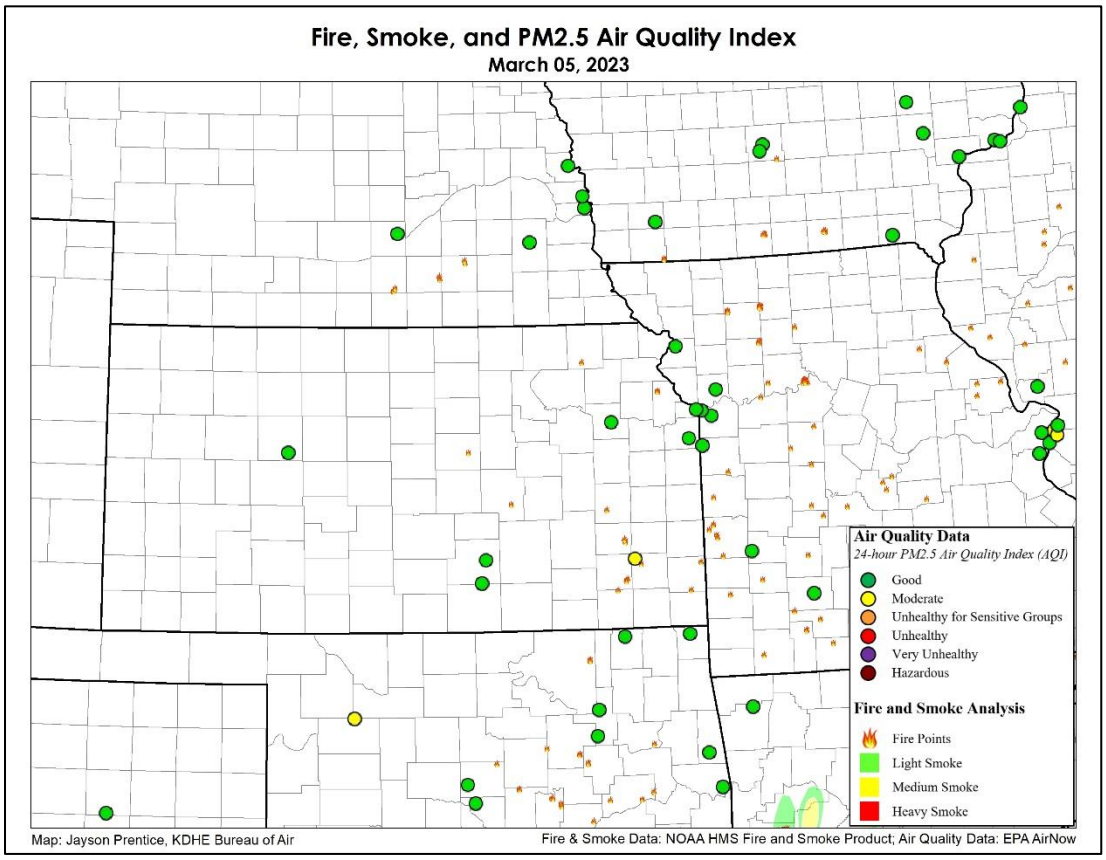
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March 05, 2023
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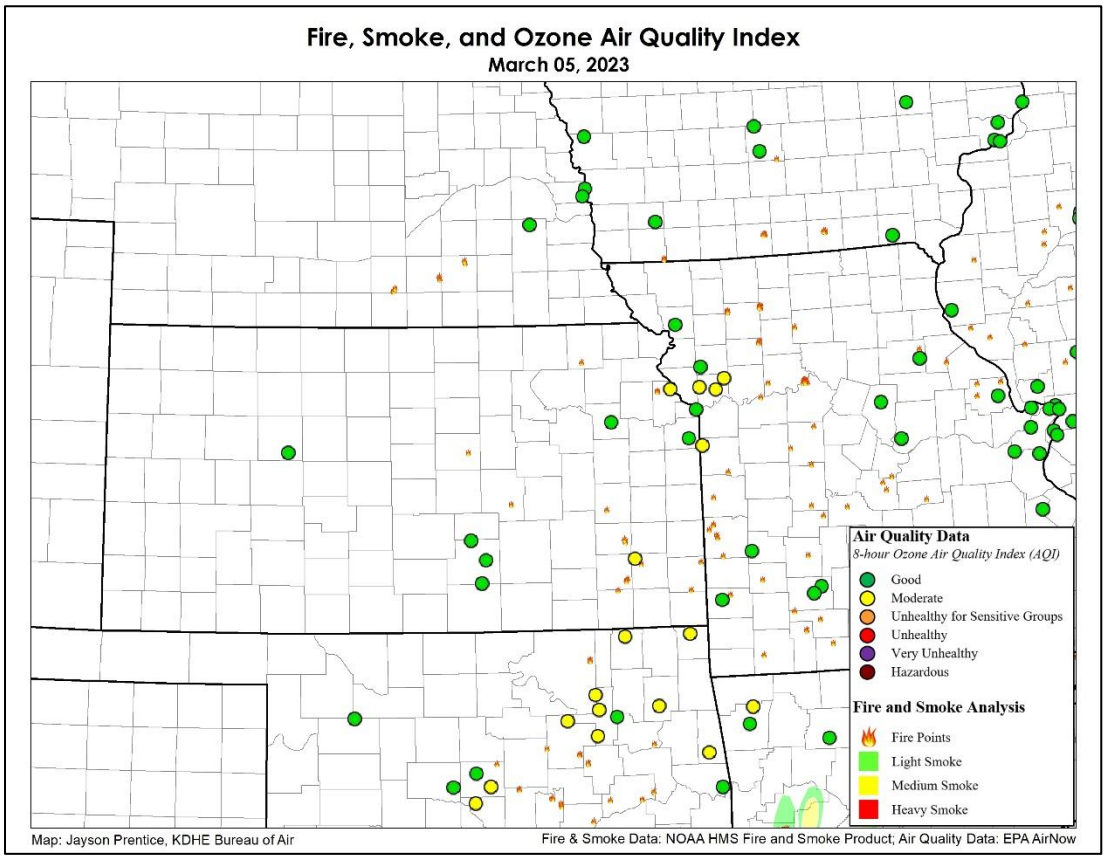
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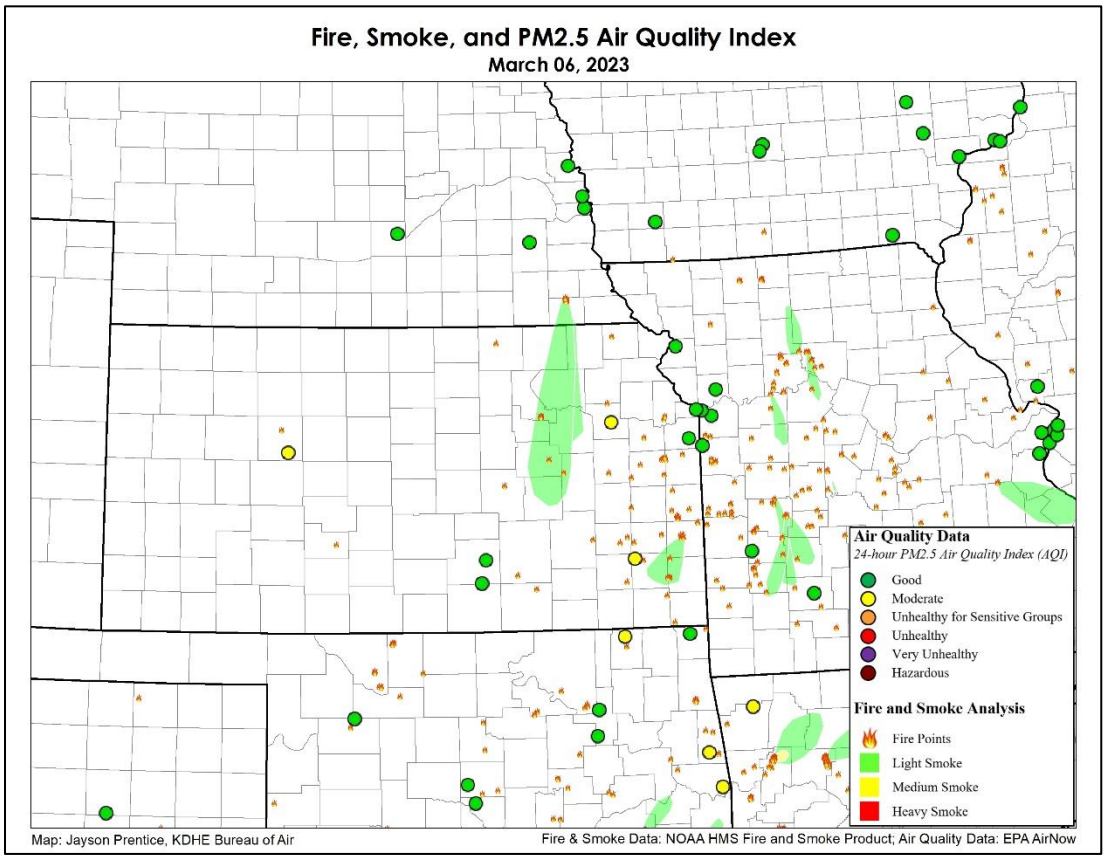
Fire, Smoke, and PM2.5 Air Quality Index
March 06, 2023
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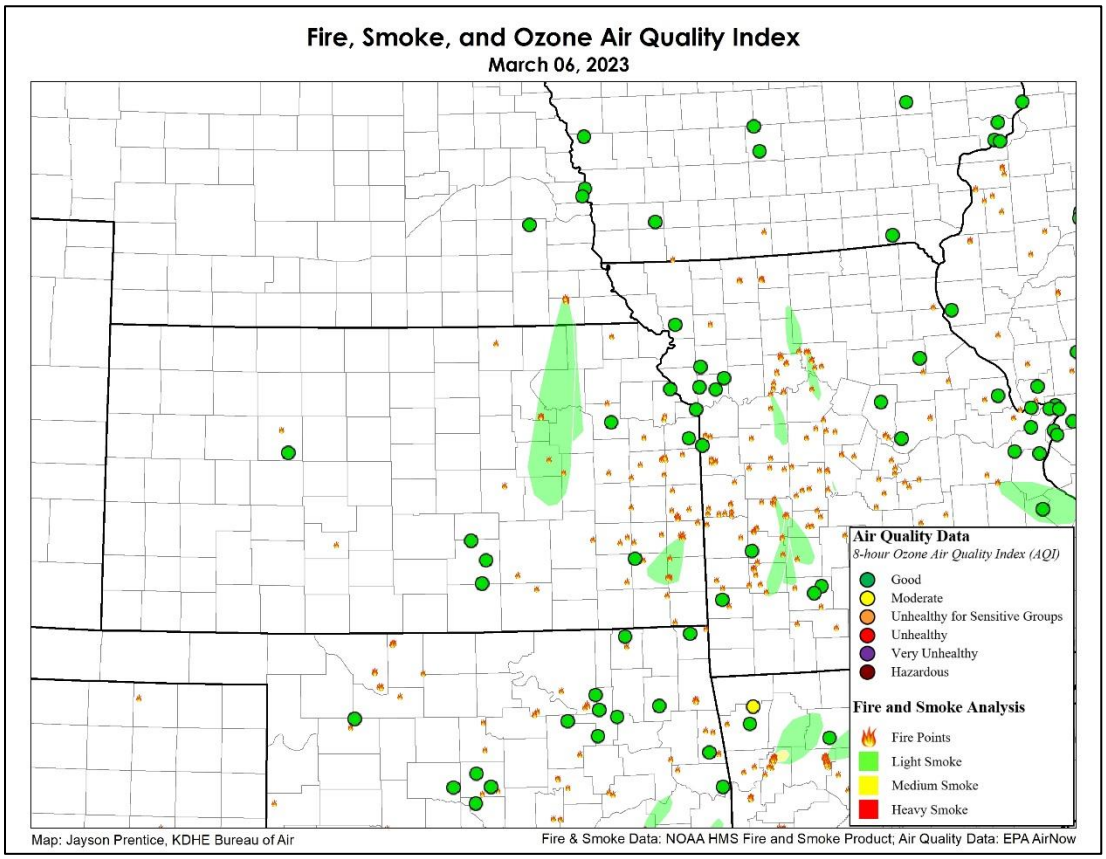
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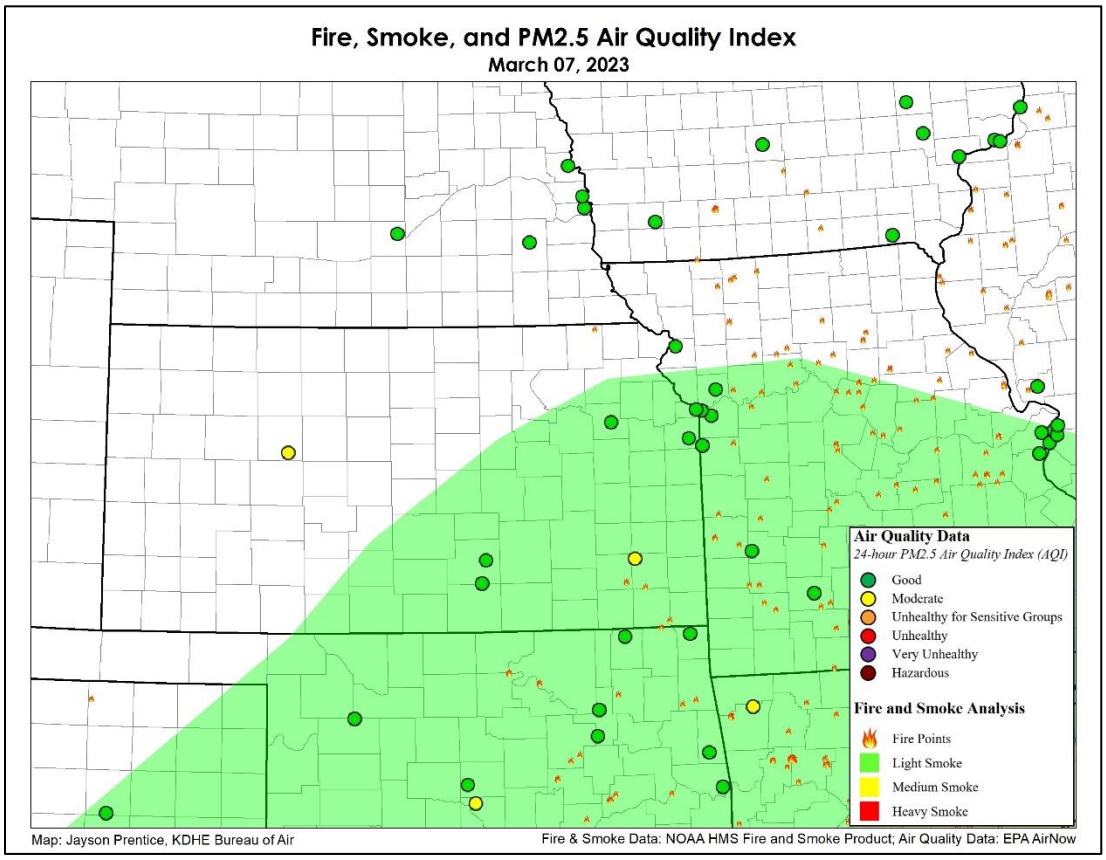
Fire, Smoke, and PM2.5 Air Quality Index
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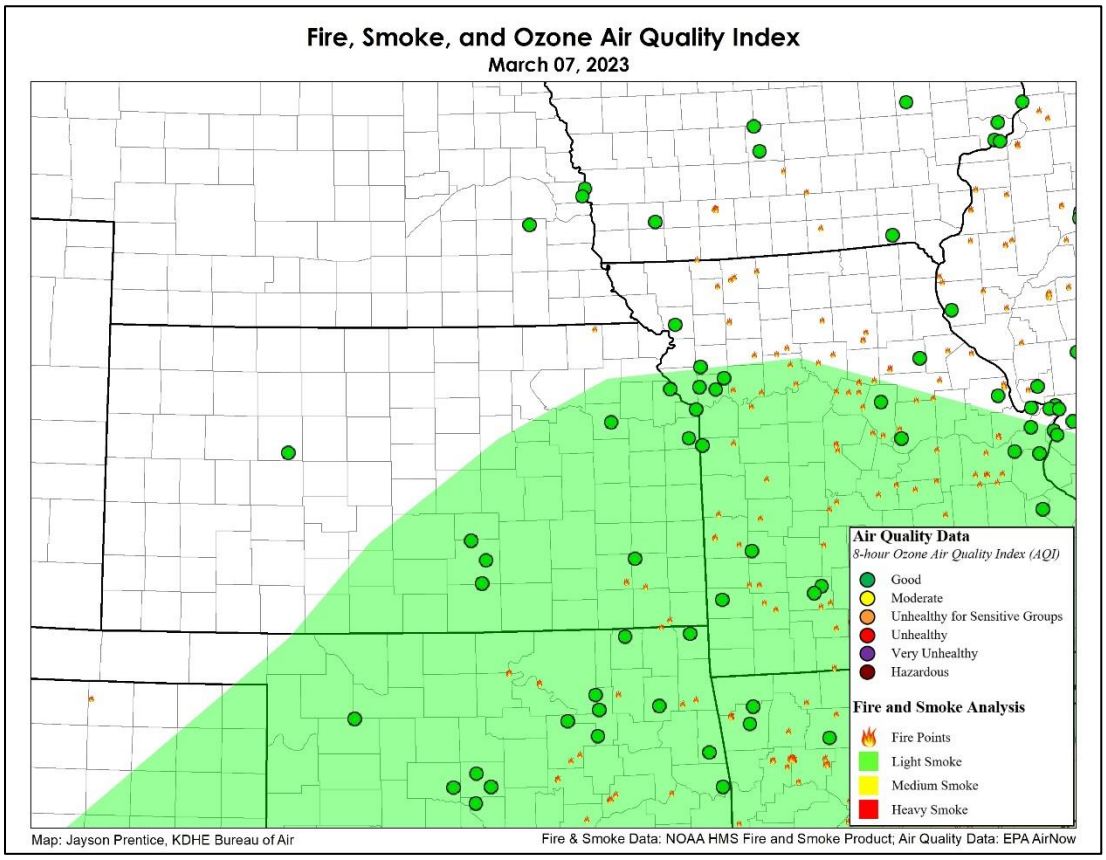
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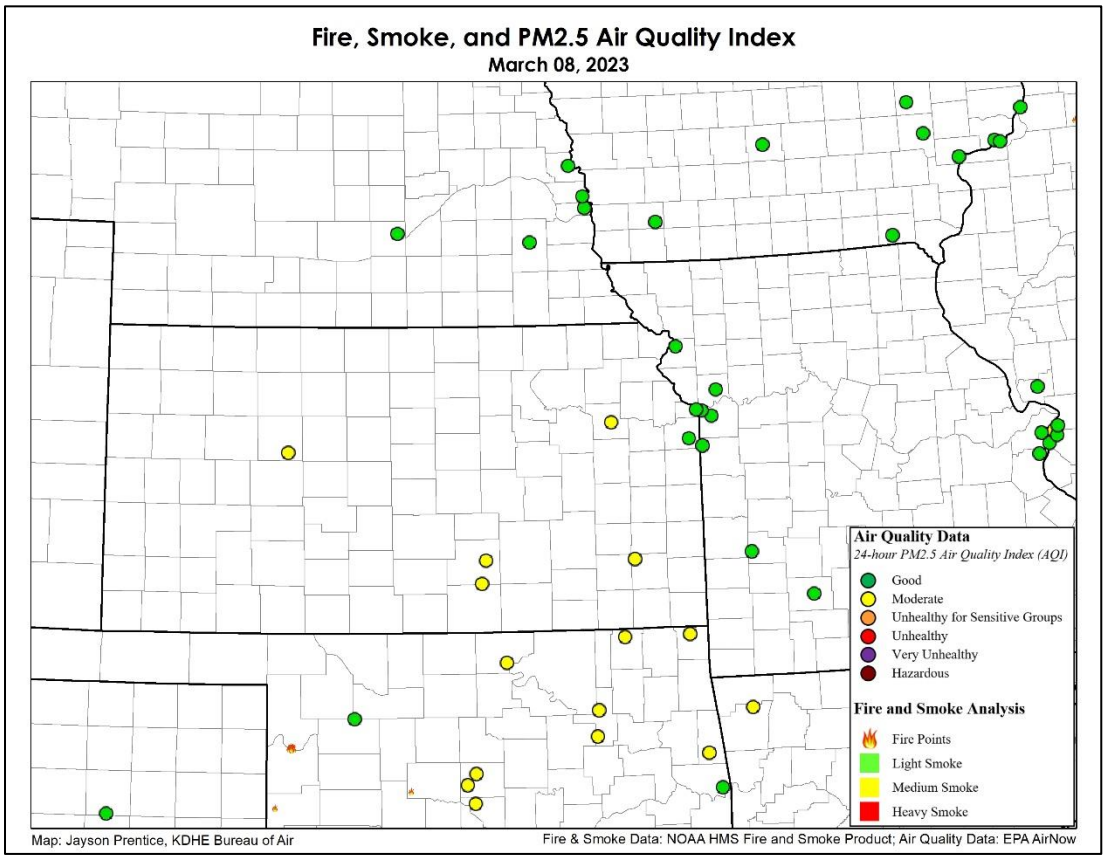
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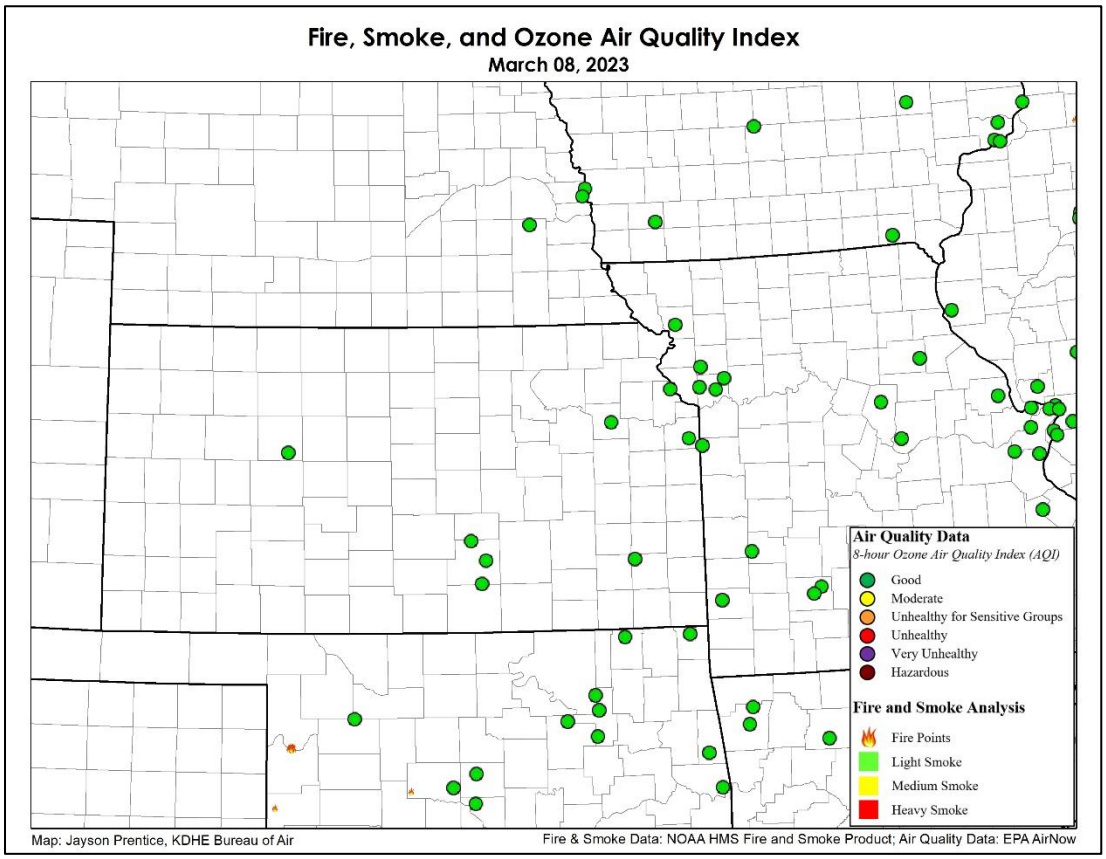
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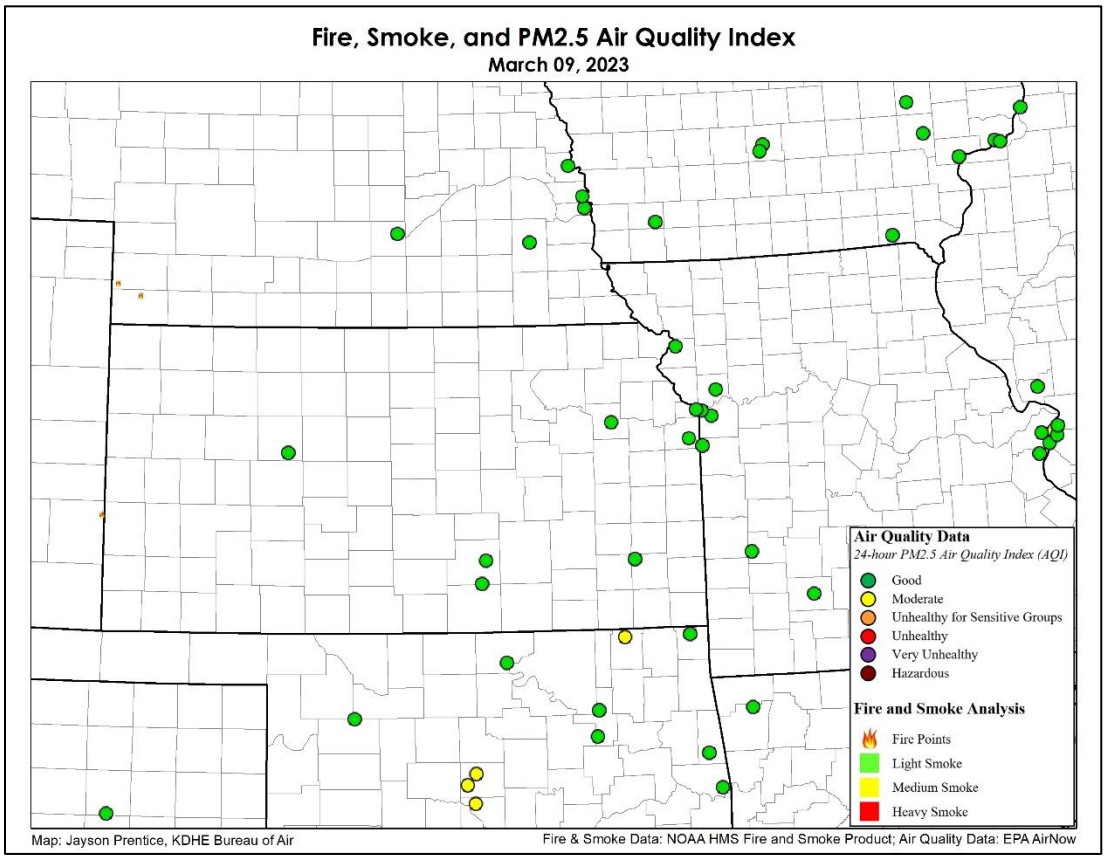
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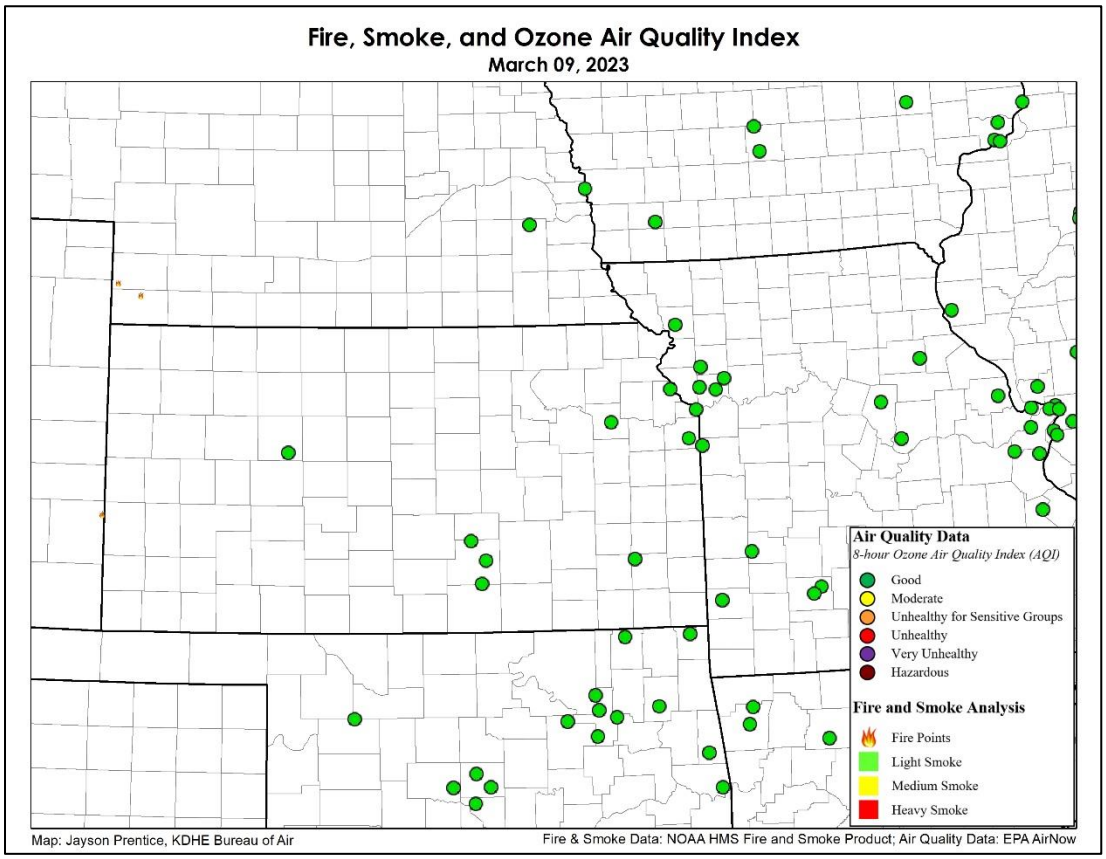
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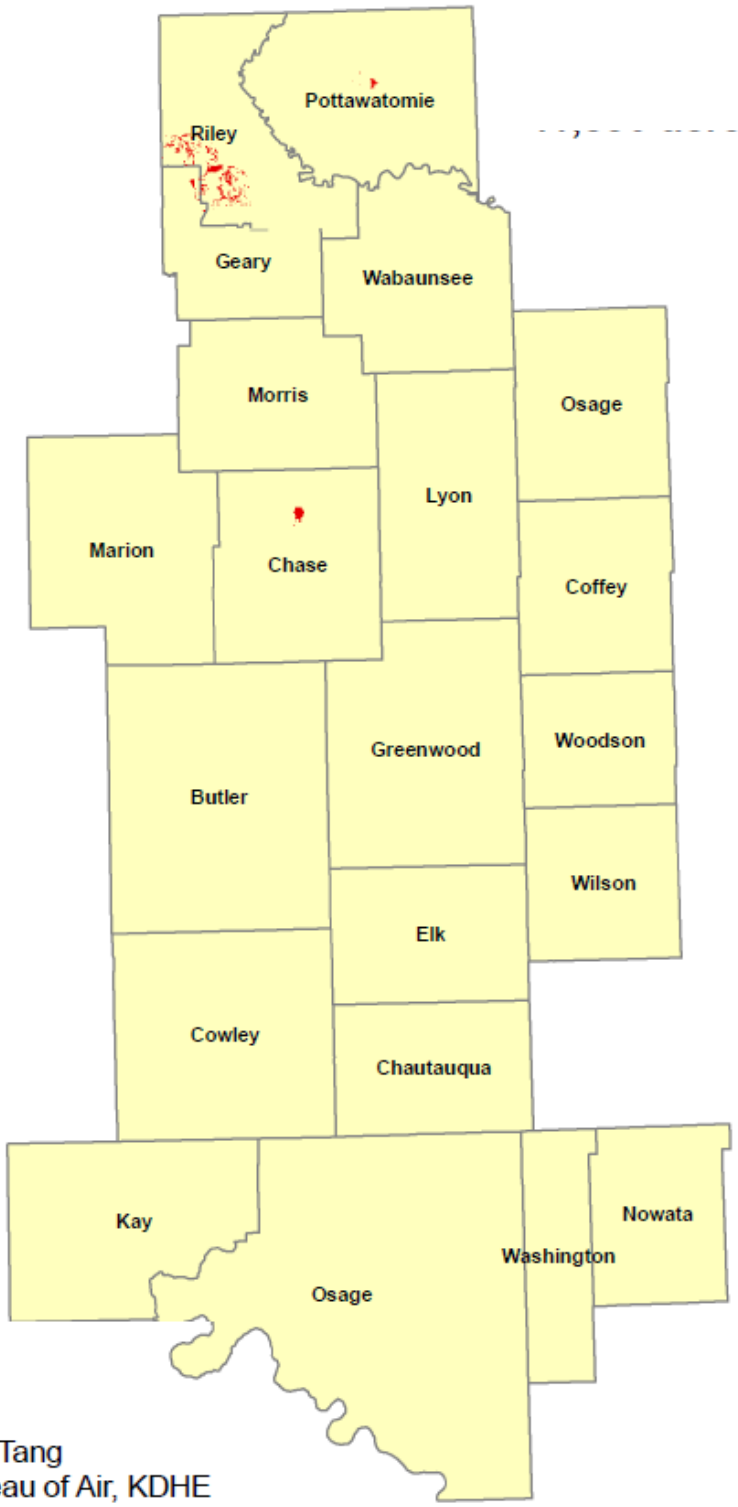
Flint Hills Acreage Burned (February 3 – 27, 2023)



Yao Tang
Bureau of Air, KDHE

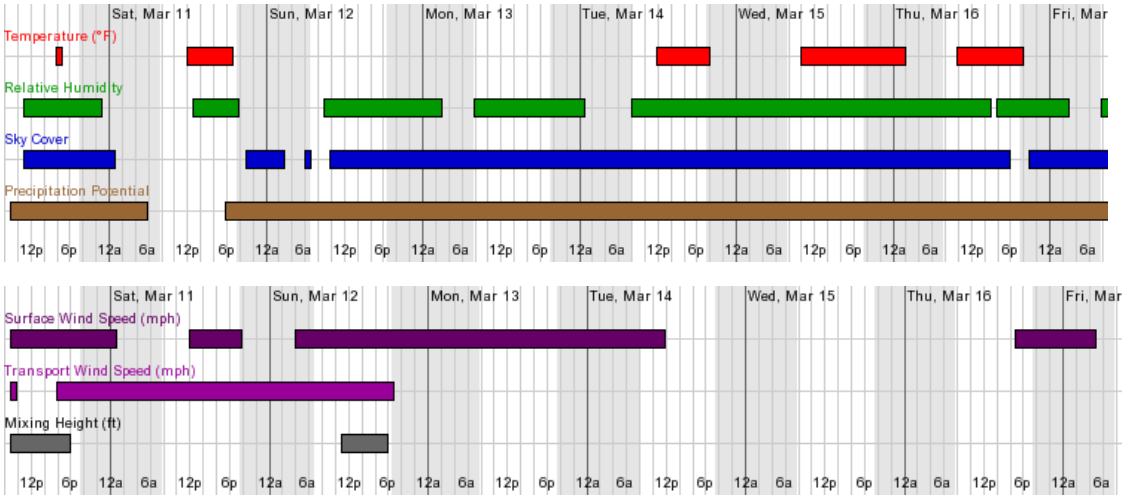
Counties	Acres Burned	
Butler	0	
Chase	1,483	
Chautauqua	0	
Coffey	0	
Cowley	0	
Elk	0	
Geary	648	
Greenwood	0	
Lyon	0	
Marion	0	
Morris	0	
Osage (KS)	0	
Pottawatomie	618	
Riley	9,081	
Wabaunsee	0	
Wilson	0	
Woodson	0	
Nowata (OK)	0	
Osage (OK)	0	
Washington (OK)	0	
Kay (OK)	0	
Total	**11,830**	

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

Upcoming Look at Fires and Smoke

Cooler than normal temperatures are expected today under light northerly winds. While temperatures will be more seasonable on Saturday look for cloudy skies and light rainfall possible across the region. Temperatures will be cool on Sunday and Monday under northerly winds. Winds will begin to transition to southerly for mid-week next week and temperatures will respond by becoming near to slightly above normal. Look for breezy to perhaps windy conditions at times Tuesday through Thursday of next week. Overall anticipate minimal prescribed burning over the next week given the current forecasted weather 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 issued for 2 days beyond current day.
Forecast valid: 8am March 10, 2022.

For more information, contact:

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Kansas Department of Health & Environment
785-291-3782
Jayson.Prentice@ks.gov