

# Flint Hills Wildland Fire Update

April 5, 2024

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/>

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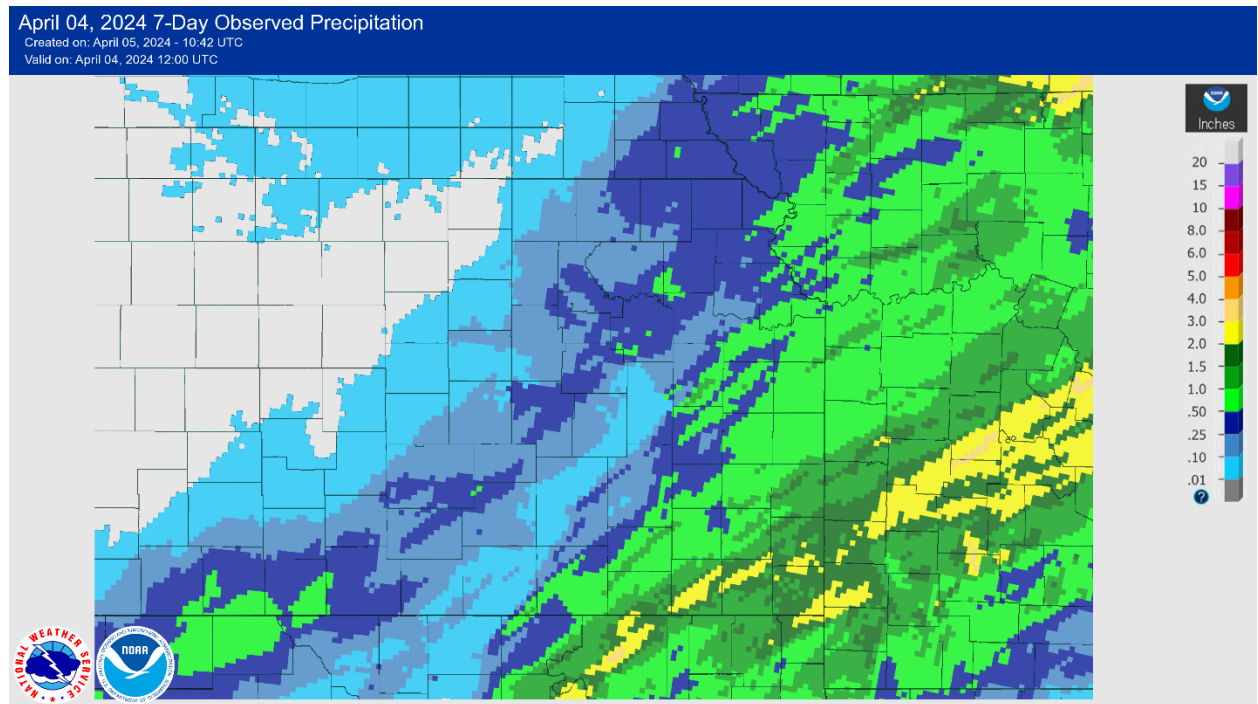
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage, and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

Breezy south winds were observed last Friday (March 29) with wind gusts greater than 35 mph during the afternoon hours. A cold front pushed through most of the Flint Hills by Saturday (March 30) with lighter easterly winds behind the front. This front pushed back to the north on Sunday (March 31) and placed itself along the I70 corridor with very warm temperatures and south winds for much of the Flint Hills. A cold front moved through the area on Monday (Apr 1) which transitioned the area from above normal temperatures and south winds to a brisk northwest wind and falling temperatures. Some thunderstorms occurred late Monday with areas of rain continuing into Tuesday (Apr 2) with breezy northwest winds and cooler temperatures. Total rainfall amounts of a few hundredths to near a half-inch were common with some thunderstorms producing strong winds, hail, and rainfall amounts up to two inches occurred in the far south Flint Hills. Northwest winds with gusts near 25 mph continued Wednesday (Apr 3) and Thursday (Apr 4) as temperatures slowly warmed under sunny skies.

## Precipitation

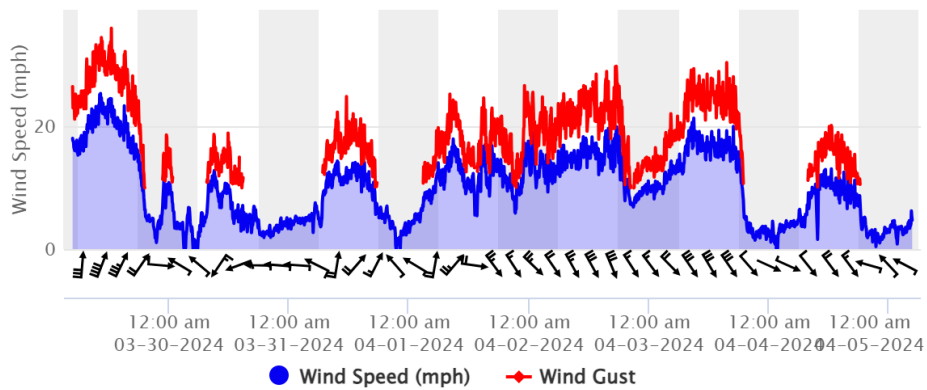
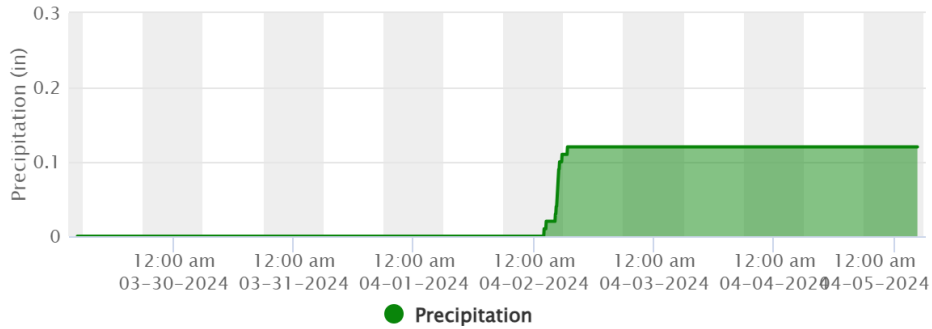
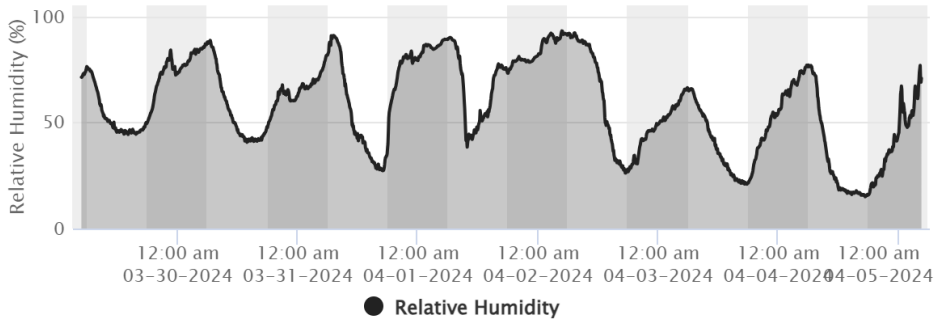
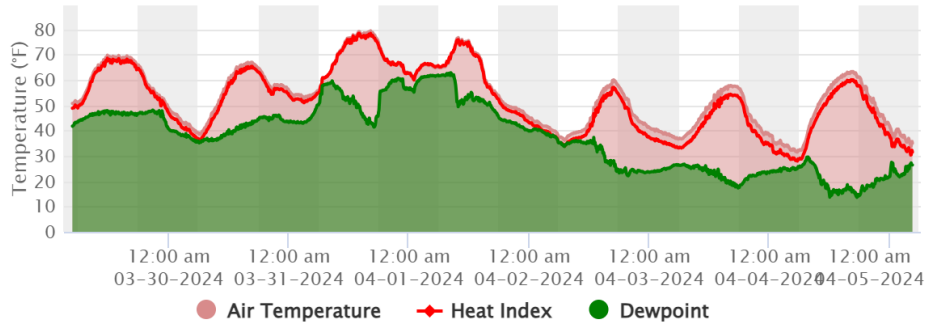


NOAA/NWS Observed Total Precipitation for March 29 – April 4, 2024.

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## Meteogram for Elmdale 1SE



7-day (March 29 – April 5, 2024) Observed Weather from the Kansas Mesonet station near Elmdale, Kansas  
[\(https://mesonet.k-state.edu/\)](https://mesonet.k-state.edu/)



## Fire, Smoke, and Air Quality

For the period of March 29 – April 4, 2024, there were two preliminary air quality exceedances that were potentially influenced by prescribed fire within the Flint Hills.

**Ozone:** Preliminary data indicates two exceedances of the NAAQS daily 8-hour average maximum of 70 ppb. On Thursday, April 4 the monitors at Glenpool and Mannford, both a part of the Tulsa Metropolitan Area exceeded with an 8-hour maximum of 71 ppb and 97 ppb respectively.

**PM<sub>2.5</sub>:** Preliminary data indicates no exceedances of the NAAQS daily 24-hour average maximum of 35 µg/m<sup>3</sup>.

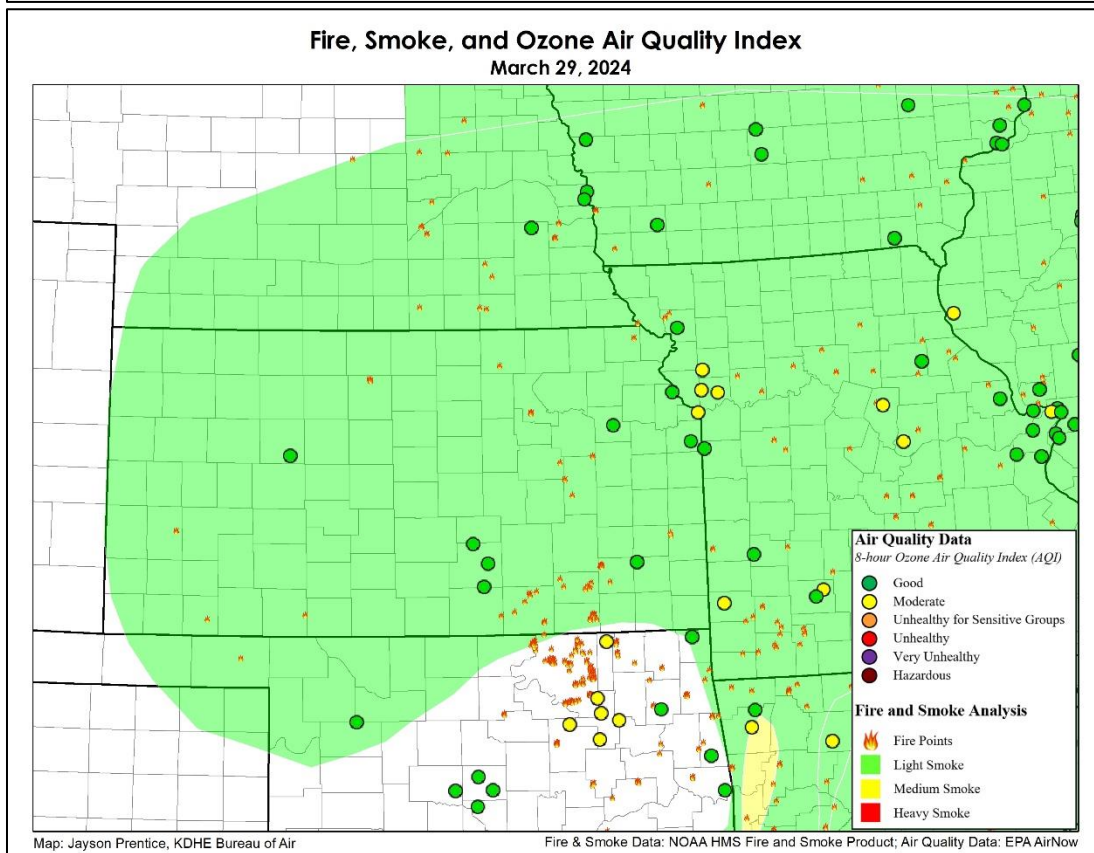
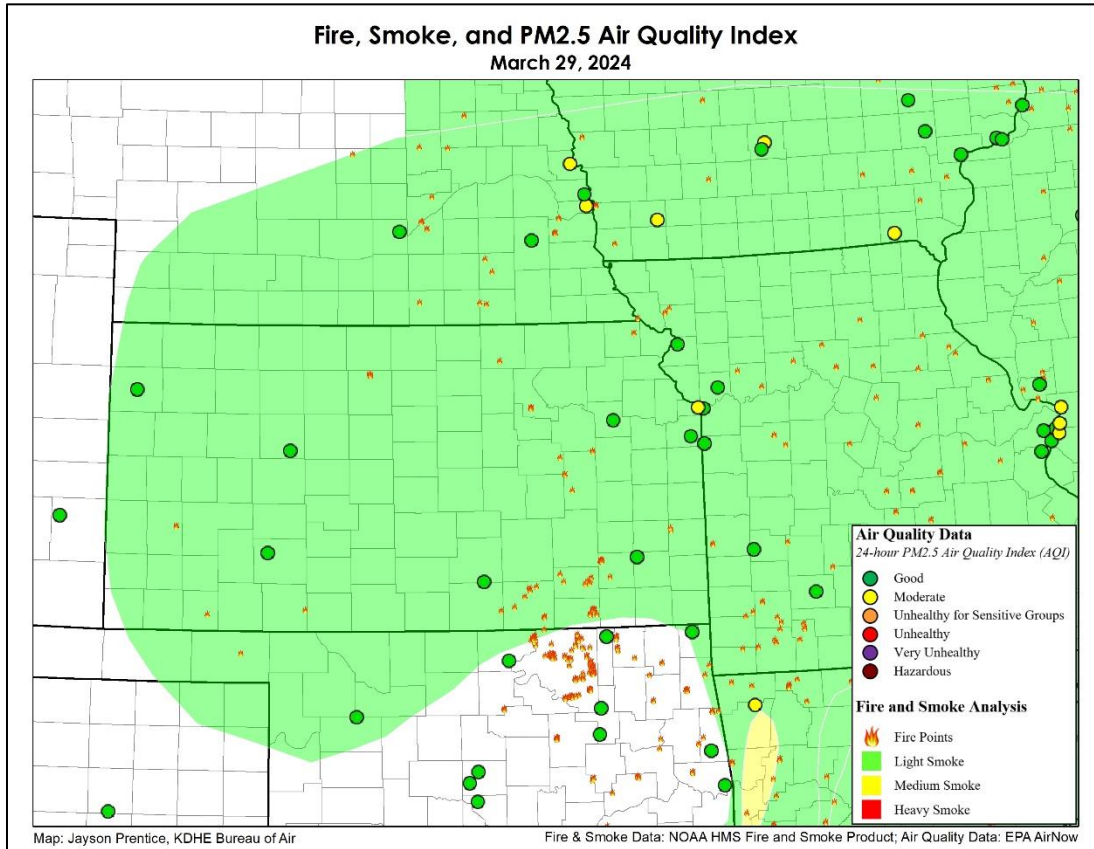
Strong south winds inhibited prescribed fire activity for much of the Flint Hills last Friday (March 29) with most of the fires occurring in the southern portion. The south winds and subsequent cold front moving through the area kept any smoke impacts limited. Light easterly winds on Saturday (March 30) behind the front allowed for significant prescribed fire activity for much of the Flint Hills with widespread Moderate air quality observed in the region with localized worse conditions likely, especially within and west of the Flint Hills. Smoke lingered somewhat on Sunday (March 31) with Moderate air quality and light fire activity with a variable and somewhat breezy wind conditions.

A cold front moved through on Monday (April 1) with strong northwest winds and cooler temperatures behind with minimal prescribed fire activity; Moderate air quality for the day in some areas was due to remnant smoke before being cleared out by the cold front. Cool and (early) cloudy conditions on Tuesday (April 2) led to near zero prescribed fire activity. Activity increased a bit on Wednesday (April 3) primarily in the southern Flint Hills where temperatures were a bit warmer.

Northerly winds were a bit weaker on Thursday (April 4) which combined with warmer temperatures and sunny skies led to widespread prescribed fire activity across the region. Nearby fires and sunny skies produced elevated ozone and resulted in two exceedances in the Tulsa metro Thursday afternoon. Air quality impacts late Thursday into Friday (April 5) were enhanced by a strong inversion and cold temperatures overnight; Widespread Unhealthy air quality (due to particulate matter) was observed Friday morning throughout the Flint Hills and areas to the south, including Wichita, Tulsa, and Oklahoma City.

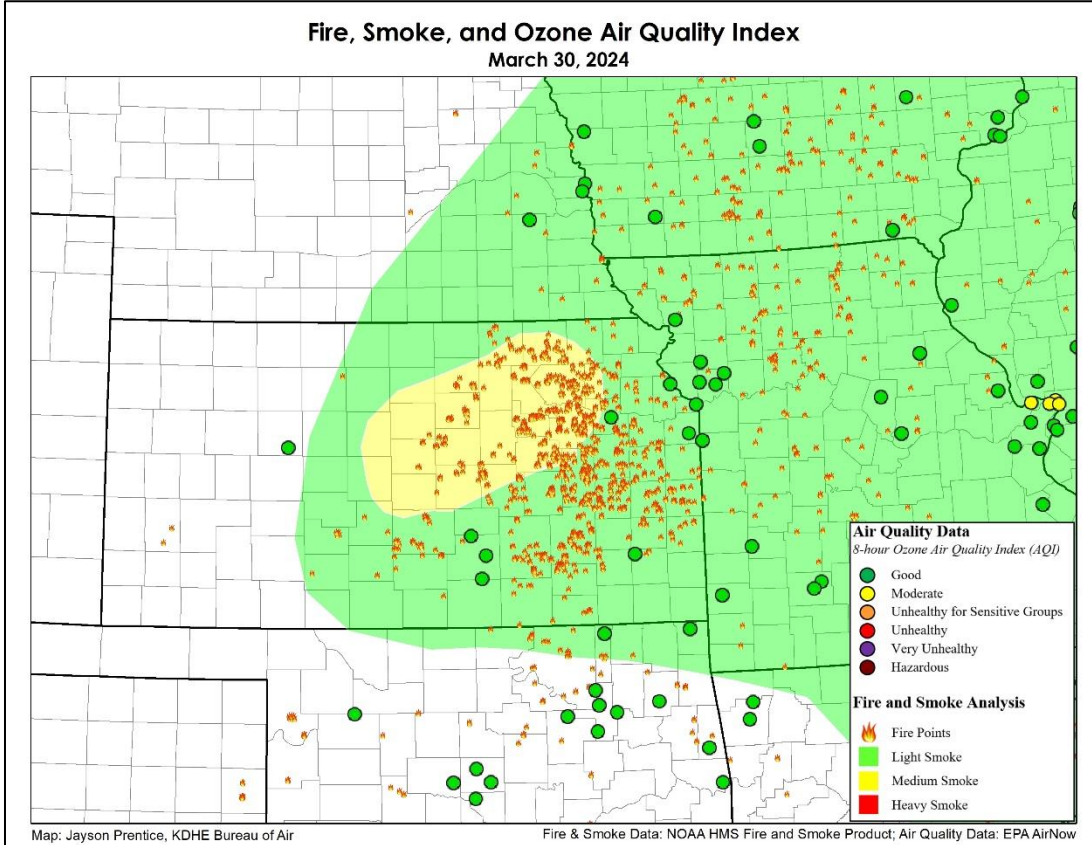
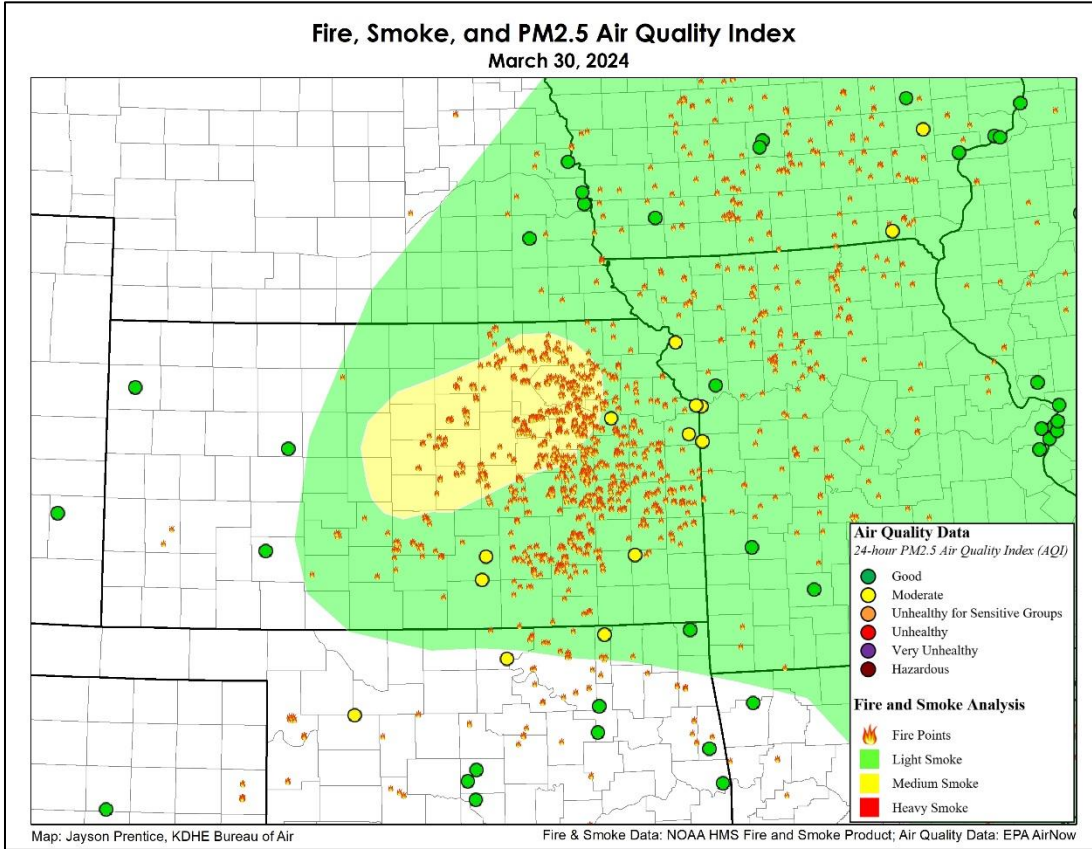
*The following pages have two maps for each day; One showing the 24-hour average Air Quality Index category for PM<sub>2.5</sub> and the other showing the 8-hour average maximum Air Quality Index category for Ozone from regulatory air quality monitors in the region. Both maps show fires and smoke as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

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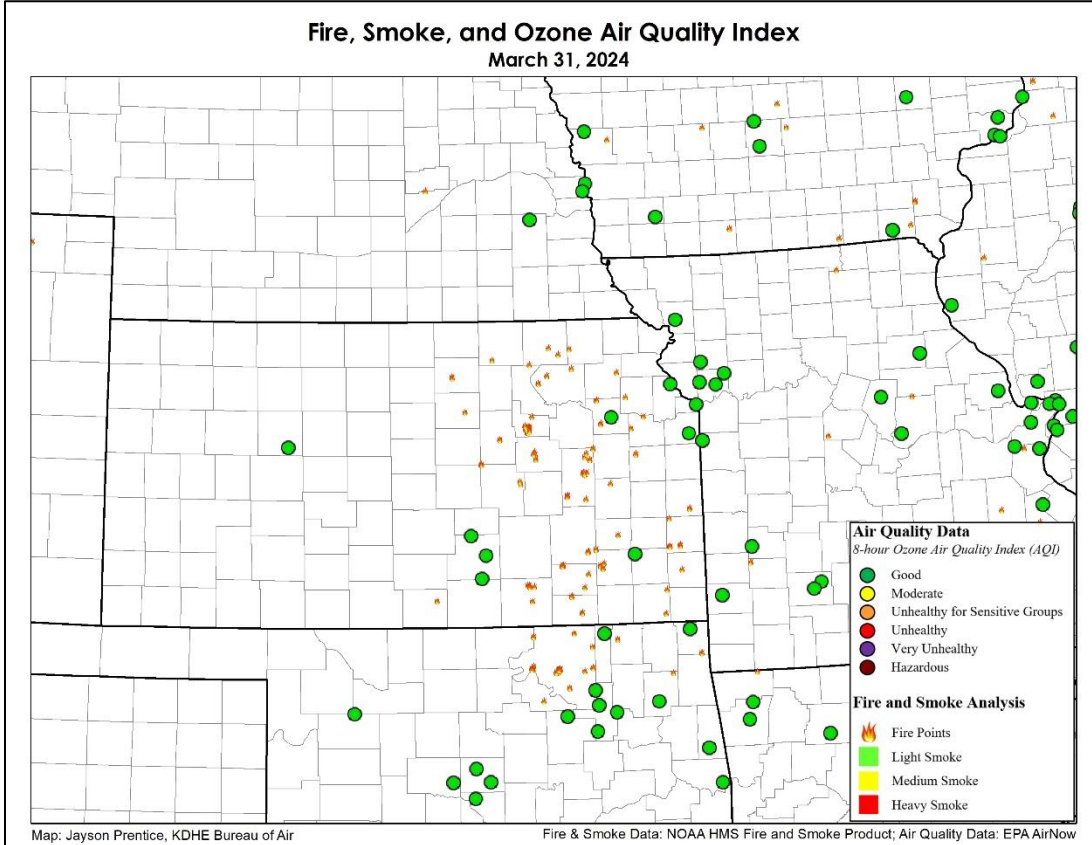
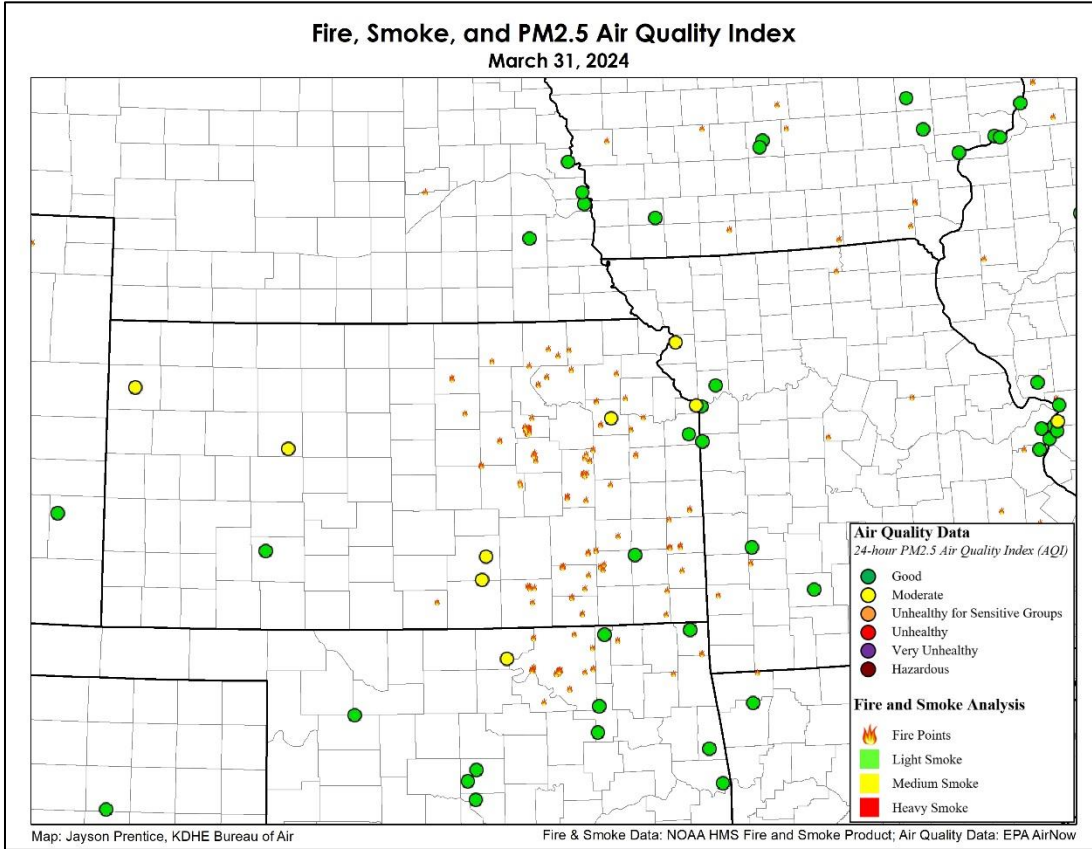




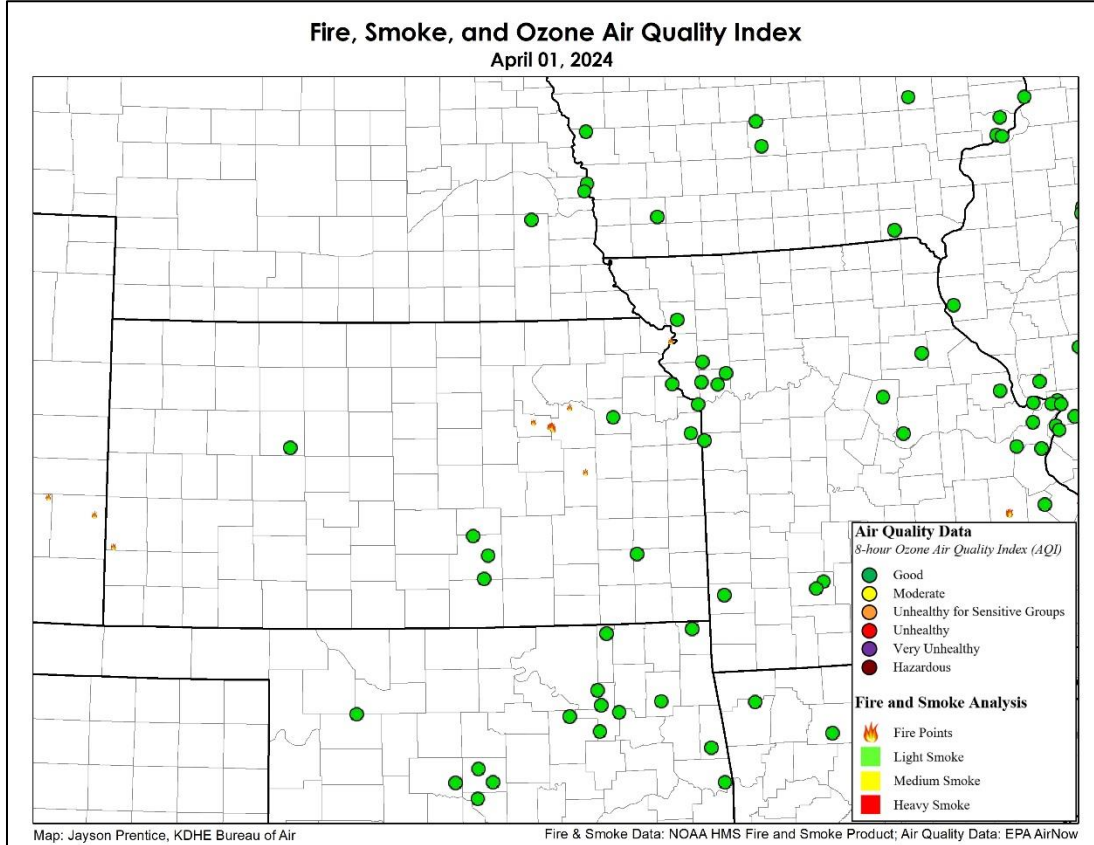
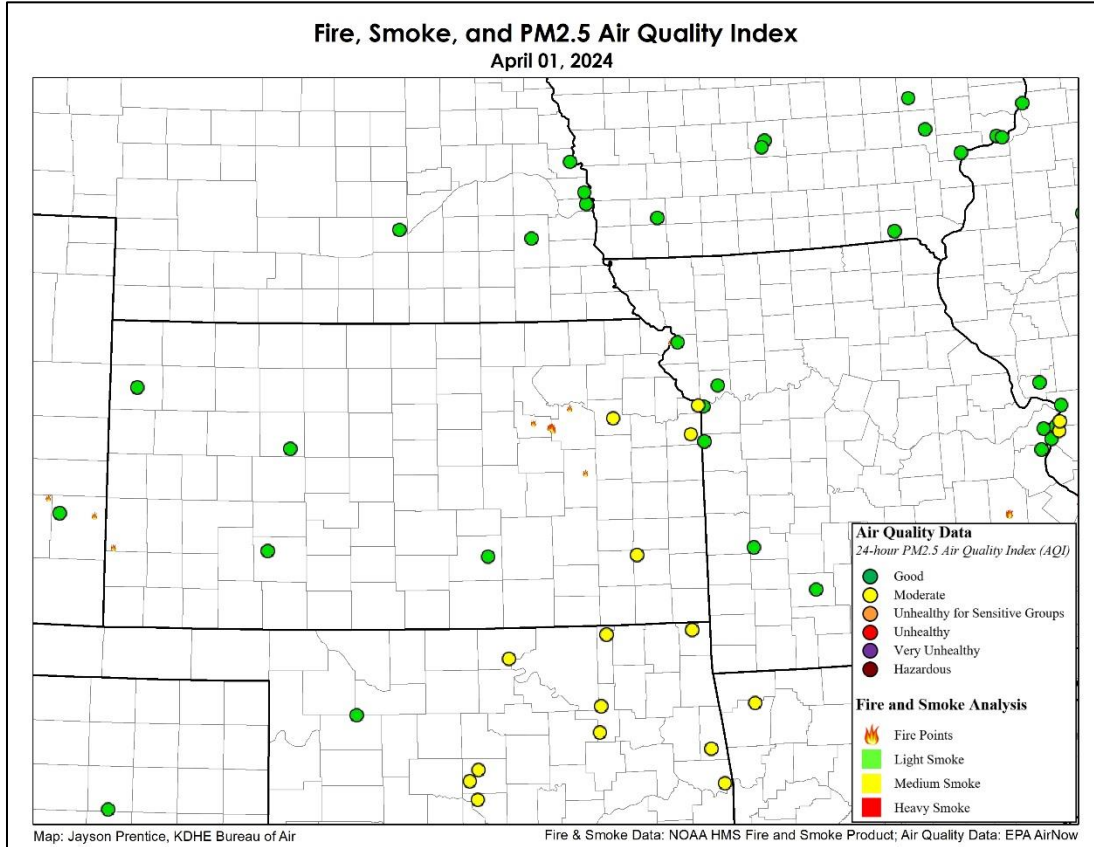
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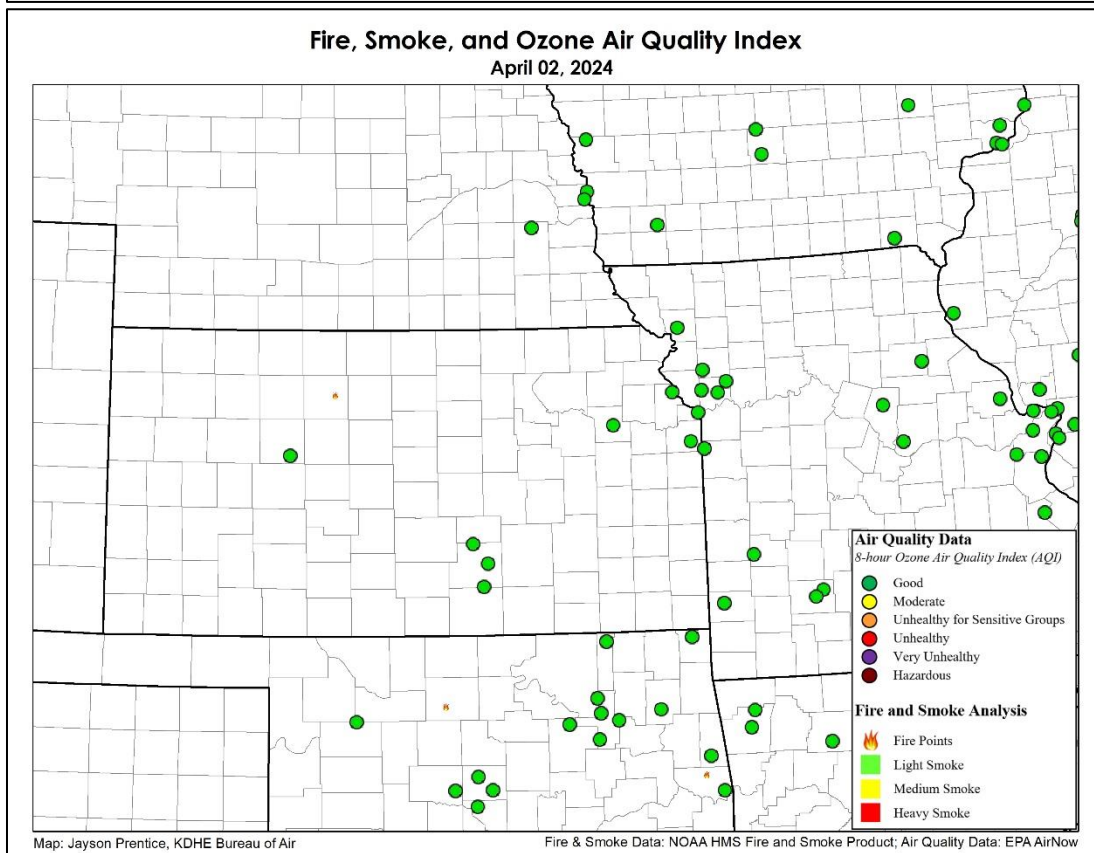
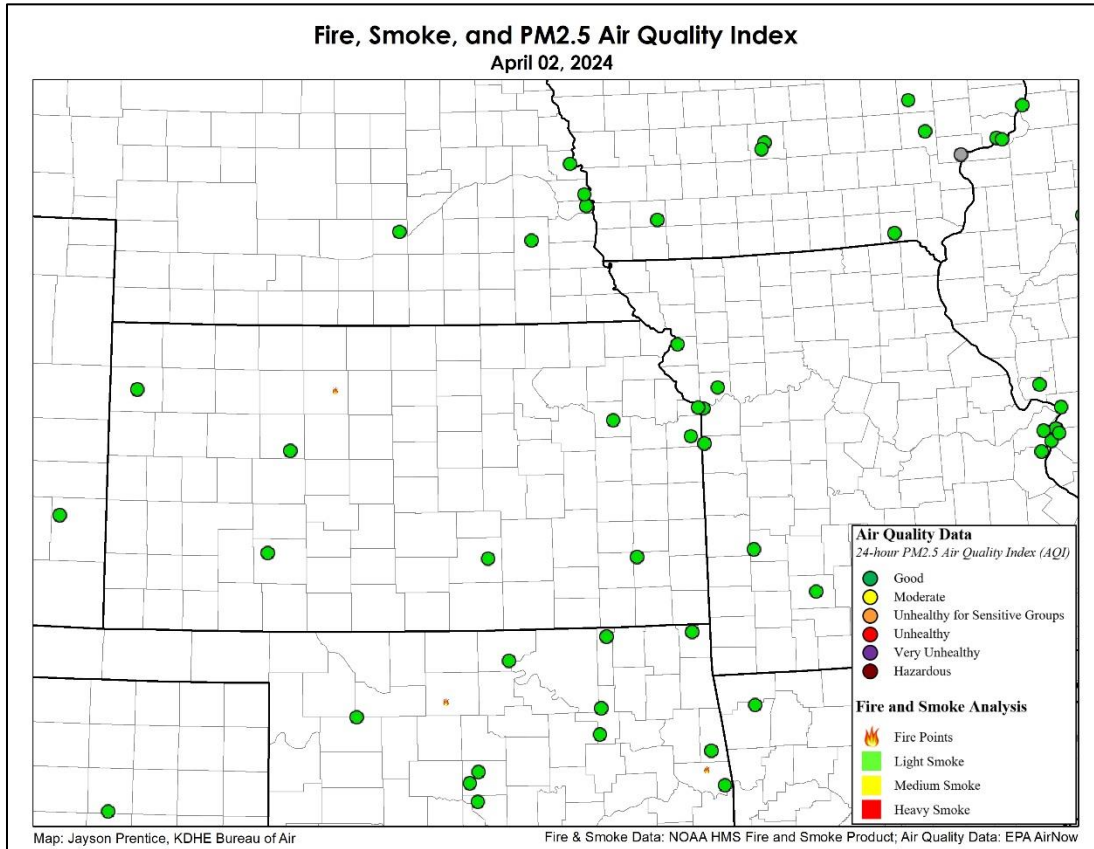


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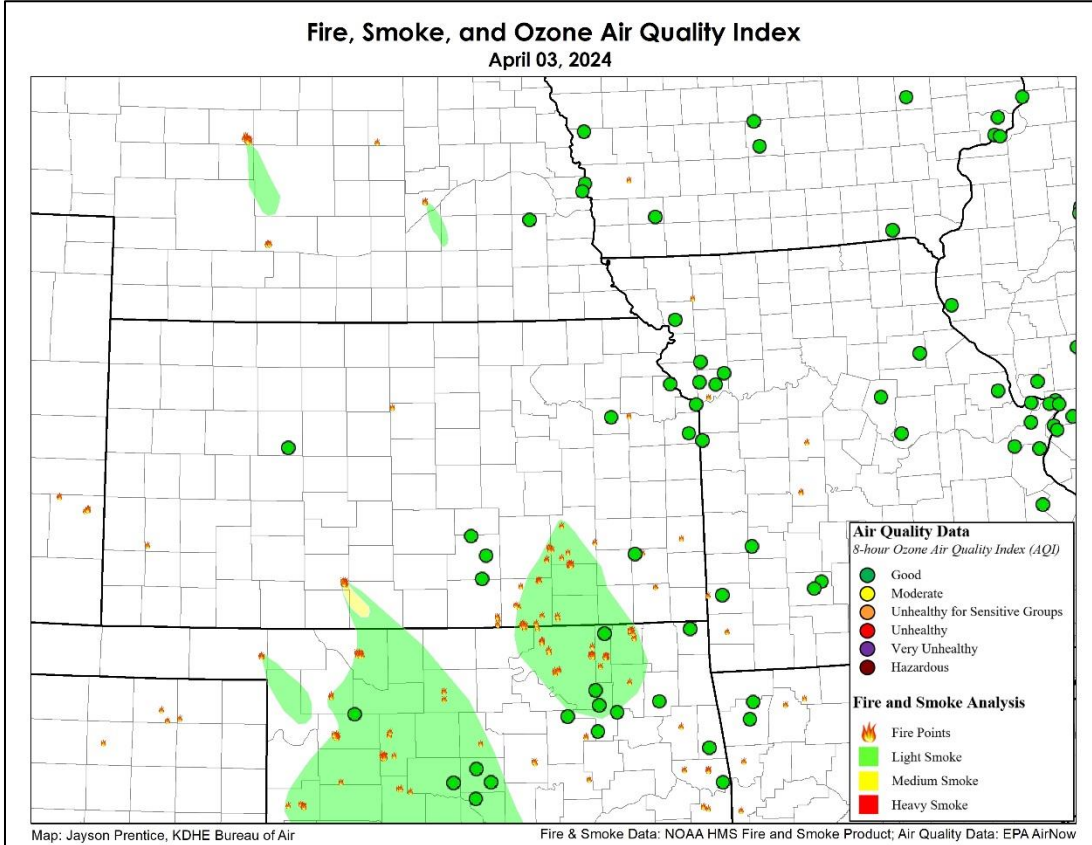
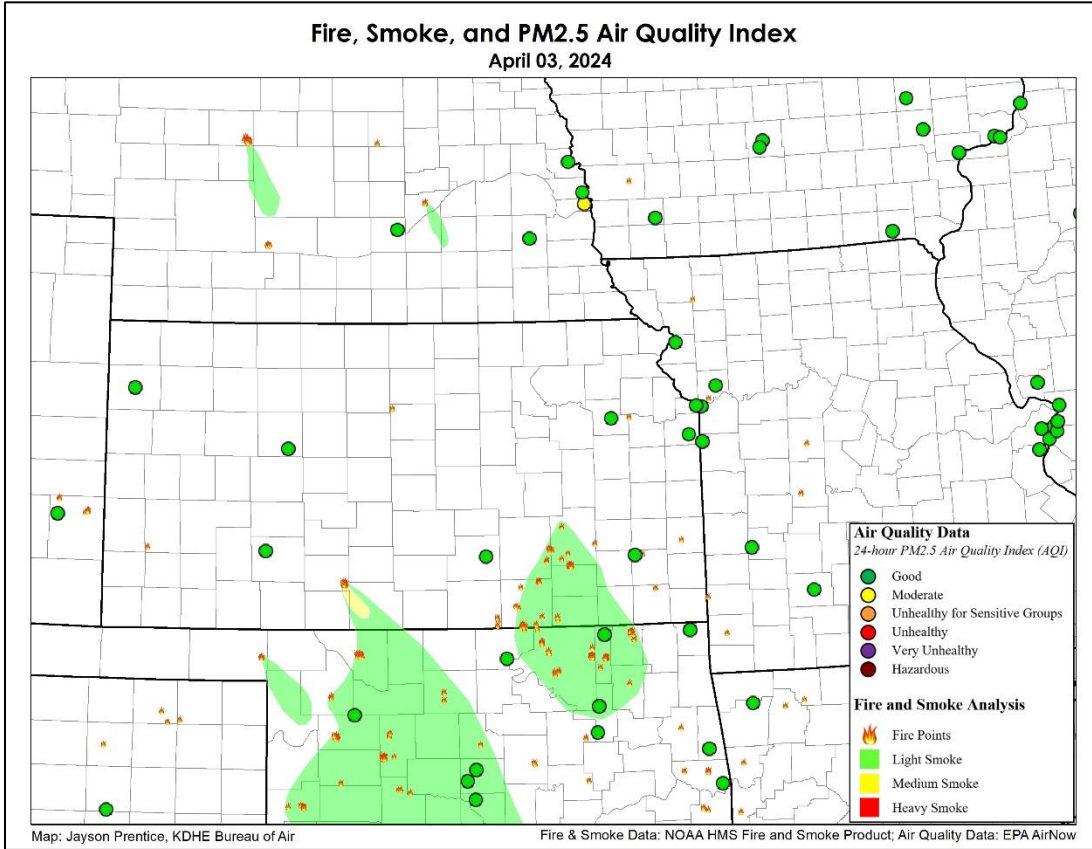




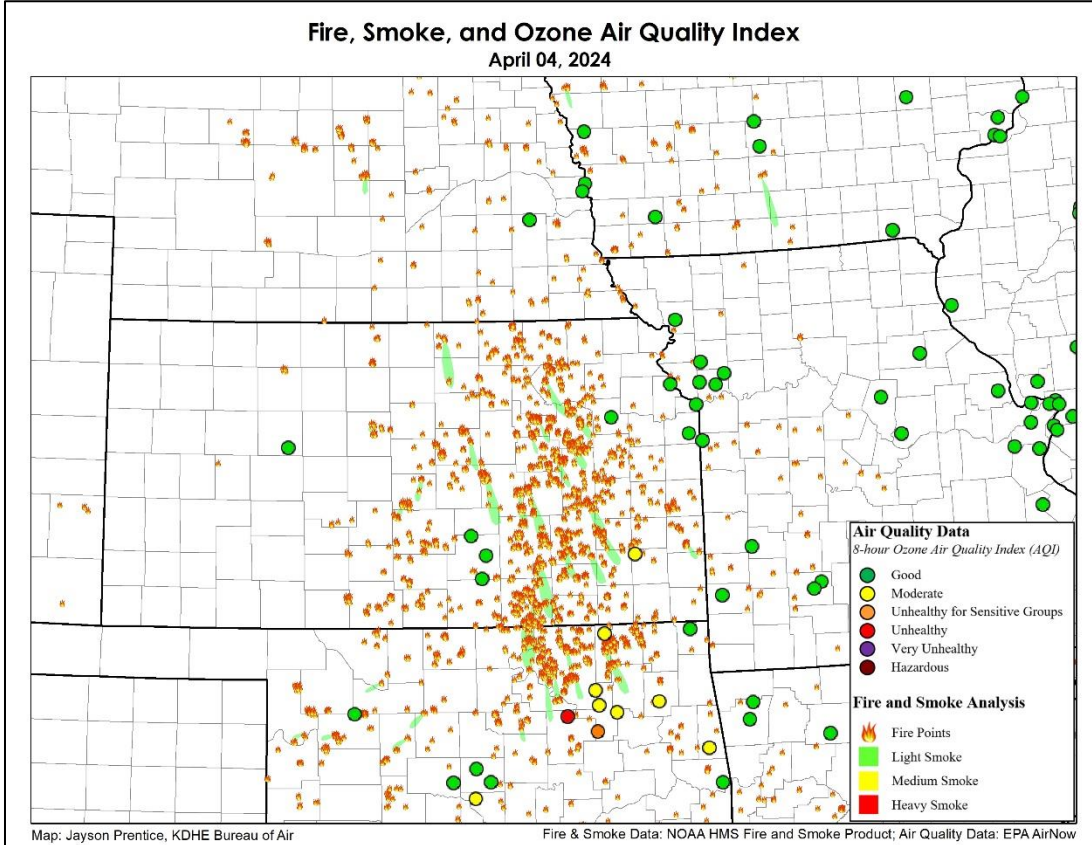
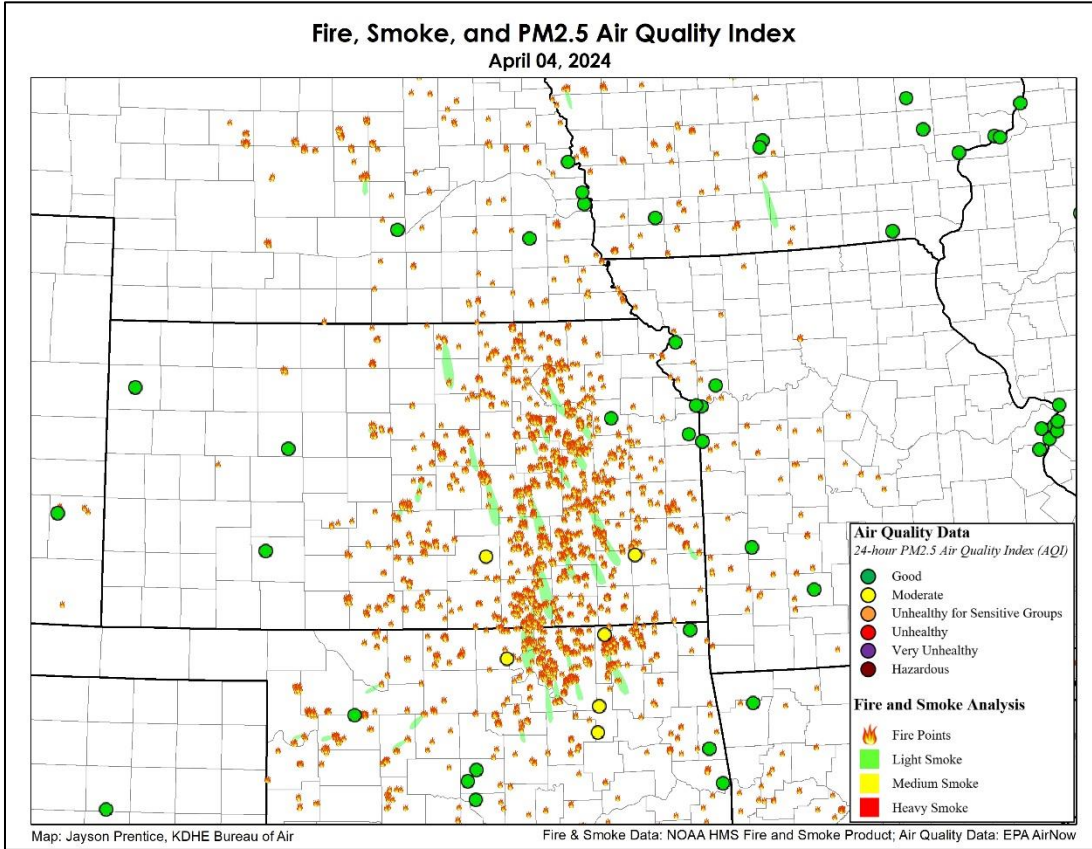
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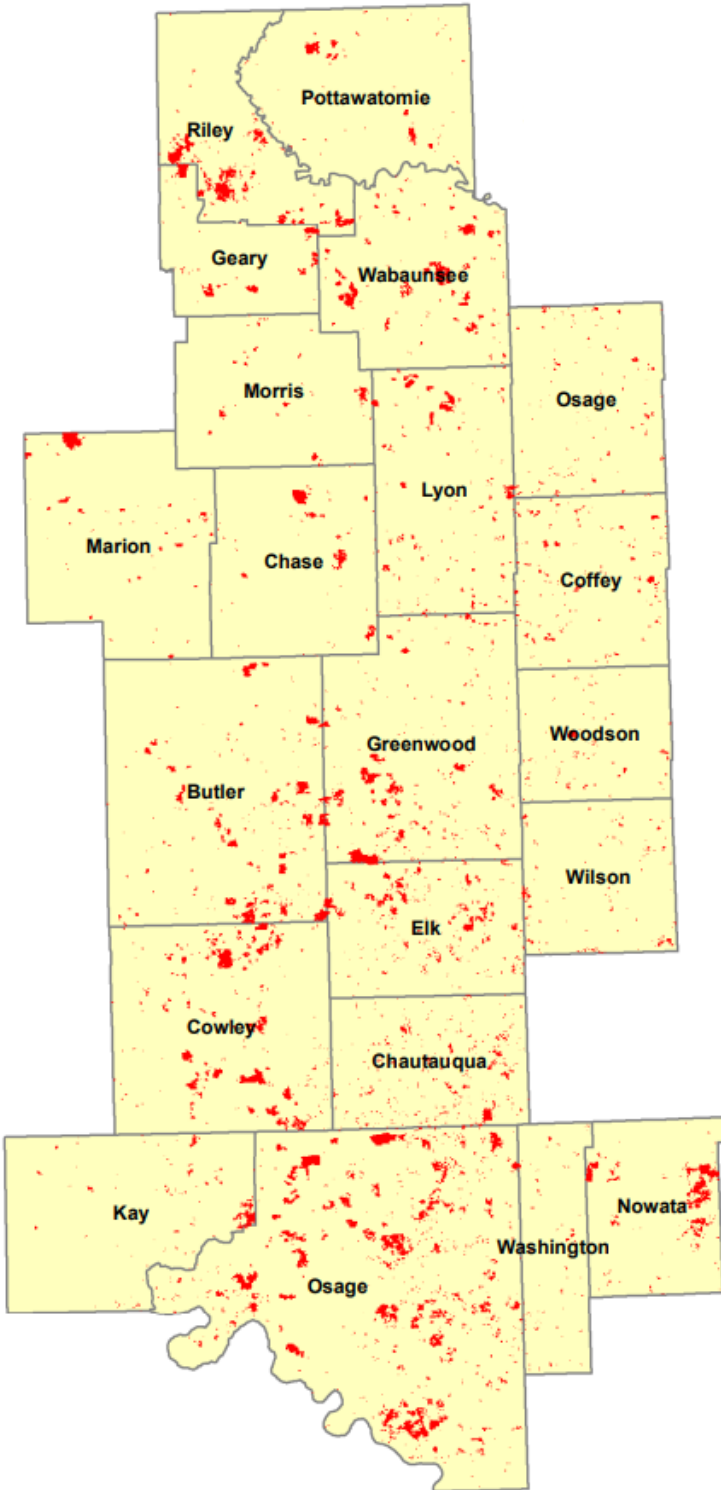
# Flint Hills Wildland Fire Update







Flint Hills Acreage Burned (February 14 – March 28, 2024)



| <u>Counties</u>   | <u>Acres Burned</u> |
|---|---------------------|
| Butler  | 28,464              |
| Chase   | 8,417               |
| Chautauqua  | 12,556              |
| Coffey  | 8,664               |
| Cowley  | 30,997              |
| Elk   | 19,352              |
| Geary   | 7,707               |
| Greenwood   | 25,854              |
| Lyon  | 14,301              |
| Marion  | 8,433               |
| Morris  | 4,664               |
| Osage (KS)  | 5,097               |
| Pottawatomie  | 6,487               |
| Riley   | 22,333              |
| Wabaunsee   | 20,294              |
| Wilson  | 4,819               |
| Woodson   | 3,629               |
| Nowata (OK)   | 16,124              |
| Osage (OK)  | 87,909              |
| Washington (OK)   | 2,626               |
| Kay (OK)  | 6,811               |
|   |                     |
| <b>Total</b>  | <b>345,538</b>      |
| * Denotes county was partly or completely covered by clouds during latest analysis. |                     |

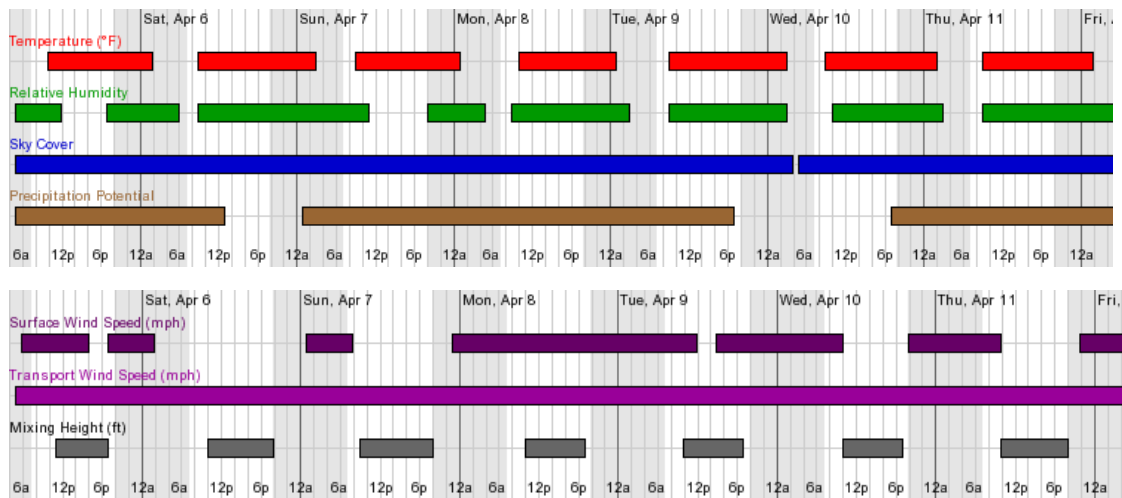




## Upcoming Look at Fires and Smoke

Fairly favorable prescribed fire conditions are expected today (Apr 5) despite increasing winds and lower relative humidity values. Breezy to windy conditions arrive over the weekend with a chance of showers and storms late Saturday (Apr 6). Sunday (Apr 7) may be a day with very high fire danger over much of the Flint Hills. Conditions for prescribed fire become favorable again on Monday (Apr 8). Tuesday (Apr 9) has good conditions for fire activity early but increasing clouds and potential for rain will likely inhibit any significant prescribed fire activity. The potential for rain continues Wednesday (Apr 10) alongside breezy conditions. Breezy conditions are forecast for Thursday (Apr 11) too which may inhibit burning potential.

### 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](https://ksfire.org). Conditions are most favorable when each parameter has a colored boxplot displayed. Forecast valid: 7am April 5, 2024.*

For more information, contact:

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