

Flint Hills Wildland Fire Update

March 31, 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/>

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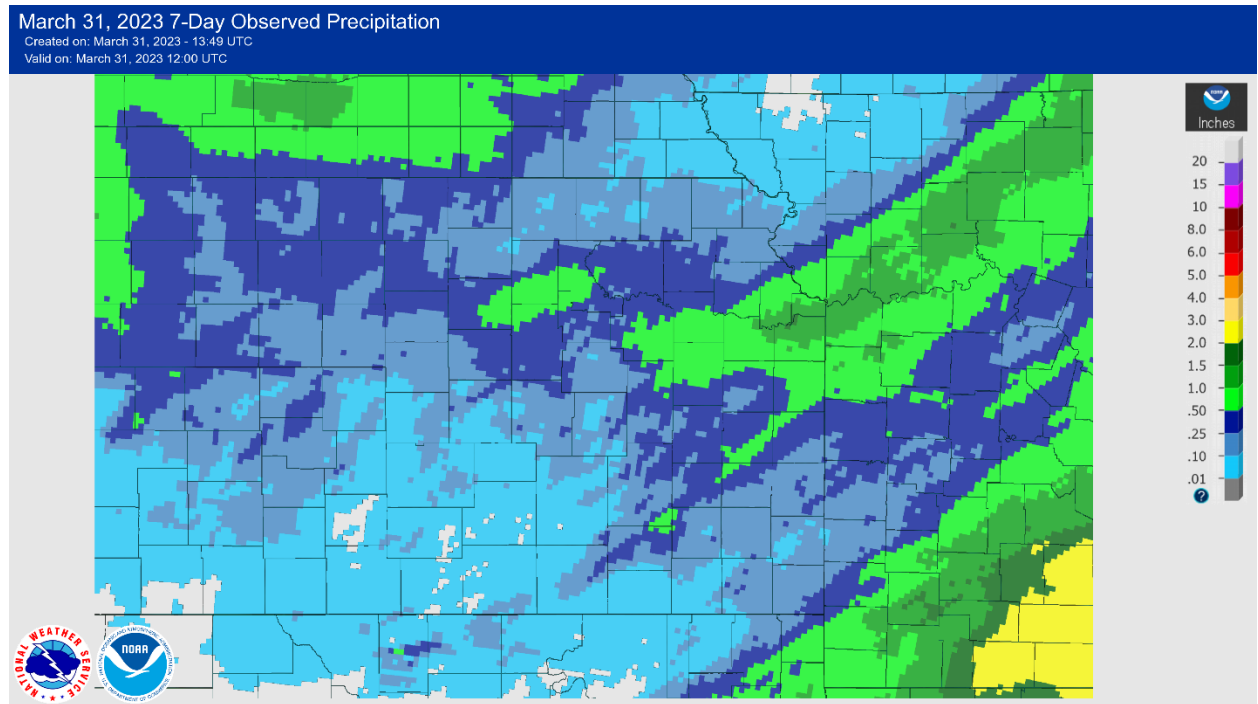
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

Temperatures were seasonable despite northeast winds and cloud cover last Friday (March 24) ahead of a warm front which brought cloud cover and light precipitation to the region at times on Saturday (March 25). A cold front pushed across the region on Sunday (March 26) which led to cooler temperatures and a northwest wind. Both Monday and Tuesday (March 27-28) featured somewhat light and variables winds with temperatures a bit below normal but with sunny skies. A warm front lifting northward across the area brought additional light precipitation. The south winds became established on Wednesday (March 29) which led to the start of above normal temperatures for much of the area as the warm front laid just north of the Flint Hills. Temperatures remained well above normal on Thursday (March 30) as very strong south winds, gusts near 40 mph, brought up moisture ahead of the next storm system.

Precipitation

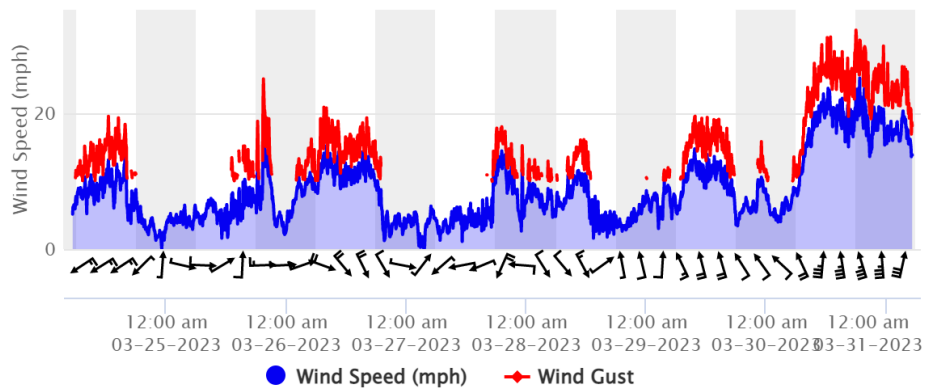
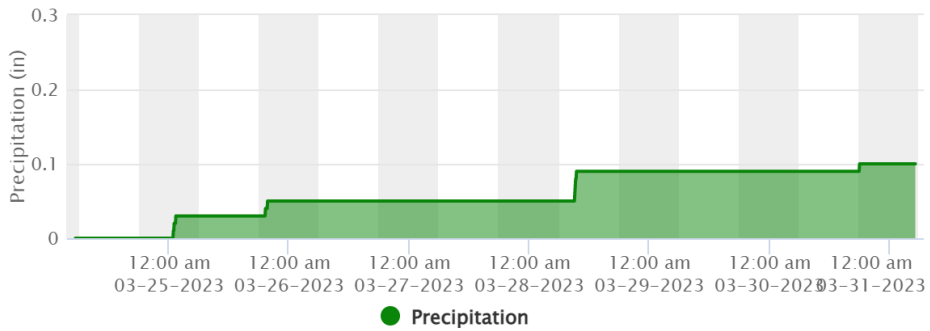
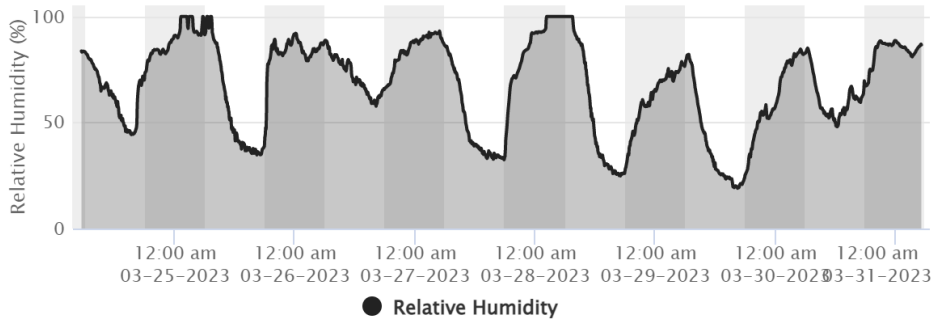
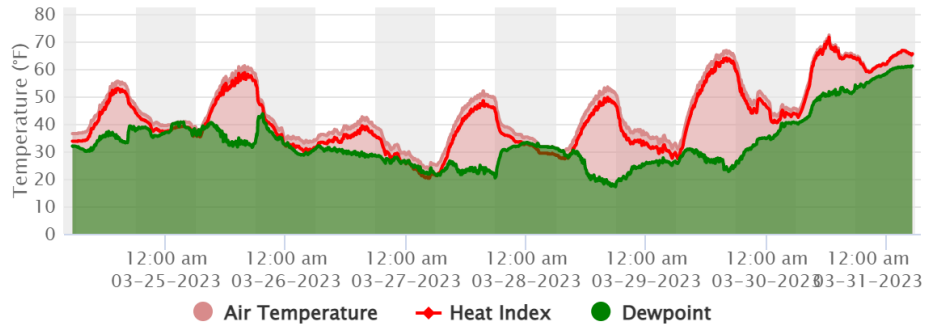


NOAA/NWS Observed Total Precipitation for March 24-31, 2023.

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Meteogram for Elmdale 1SE



7-day (March 24-31, 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 24-30, 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.

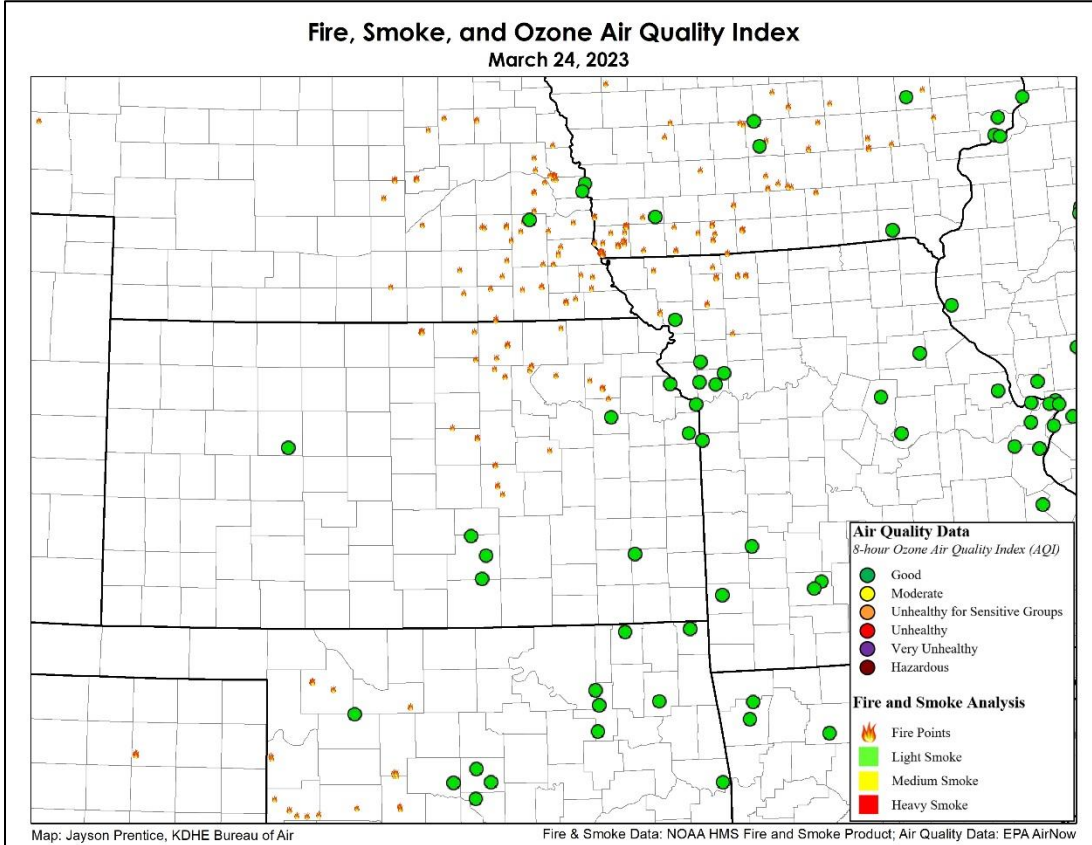
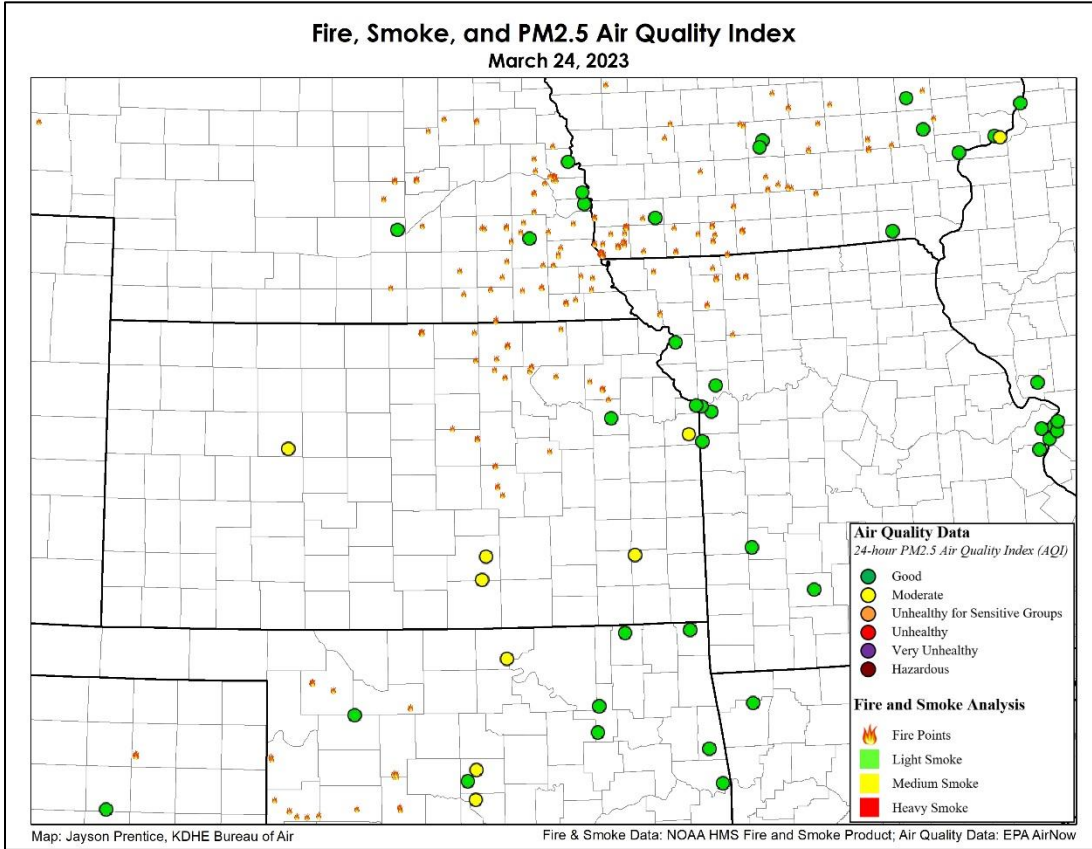
PM_{2.5}: Preliminary data indicates no exceedances of the NAAQS daily 24-hour average maximum of 35 µg/m³.

Minimal fire activity was observed last Friday (March 24) with cloudy skies, cool temperatures, and a northeast breeze. Clear skies, light winds, and seasonable temperatures on Saturday (March 25) provided an opportunity for some prescribed fire despite light precipitation in the region. Sunday (March 26) was a quiet day for fires under a cool northwest breeze behind a cold front. Monday (March 27) began a stretch of opportunity for prescribed fire activity across the region with sunny skies, light winds, and reasonable relative humidity values each afternoon. Fairly widespread prescribed fire activity continued across the region on Tuesday and Wednesday (March 28-29) under similar conditions with winds becoming southerly by Wednesday. Winds became too strong by Thursday (March 30) with gusts up to 40 mph which led to a stop in prescribed fire activity, but a few wildfires were reported.

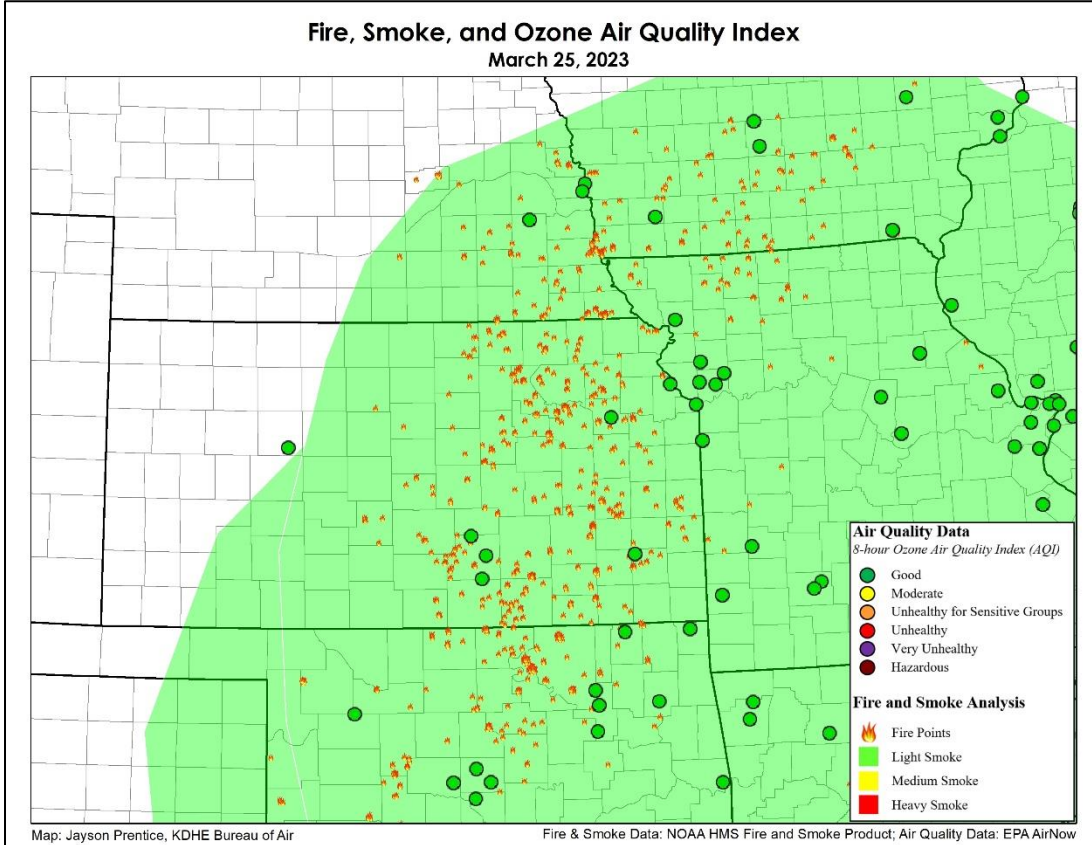
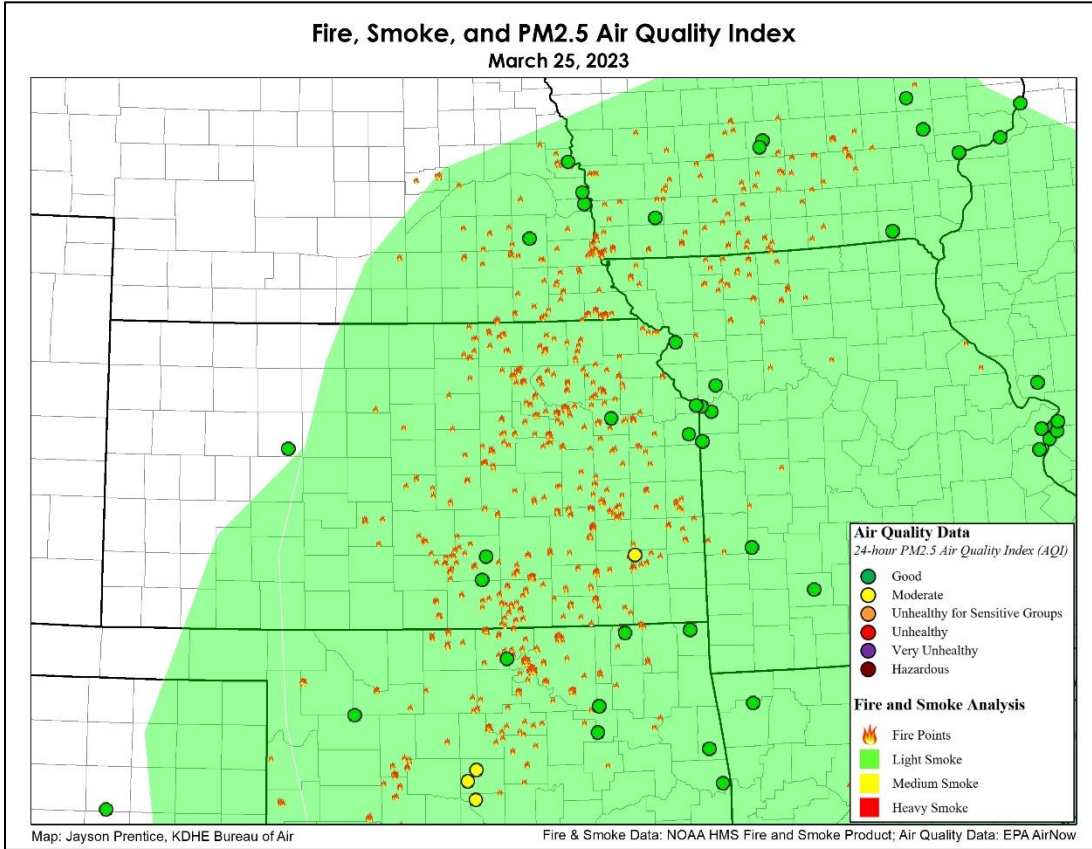
Periods of Moderate Air Quality Index (AQI) were common during the prior week, especially Tuesday-Thursday during widespread prescribed fire activity. Localized and brief impacts up to Unhealthy AQI were observed in the southern Flint Hills on Thursday morning. Otherwise, the combination of good dispersion during the daytime and variable wind directions avoided significant air quality issues for most.

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.

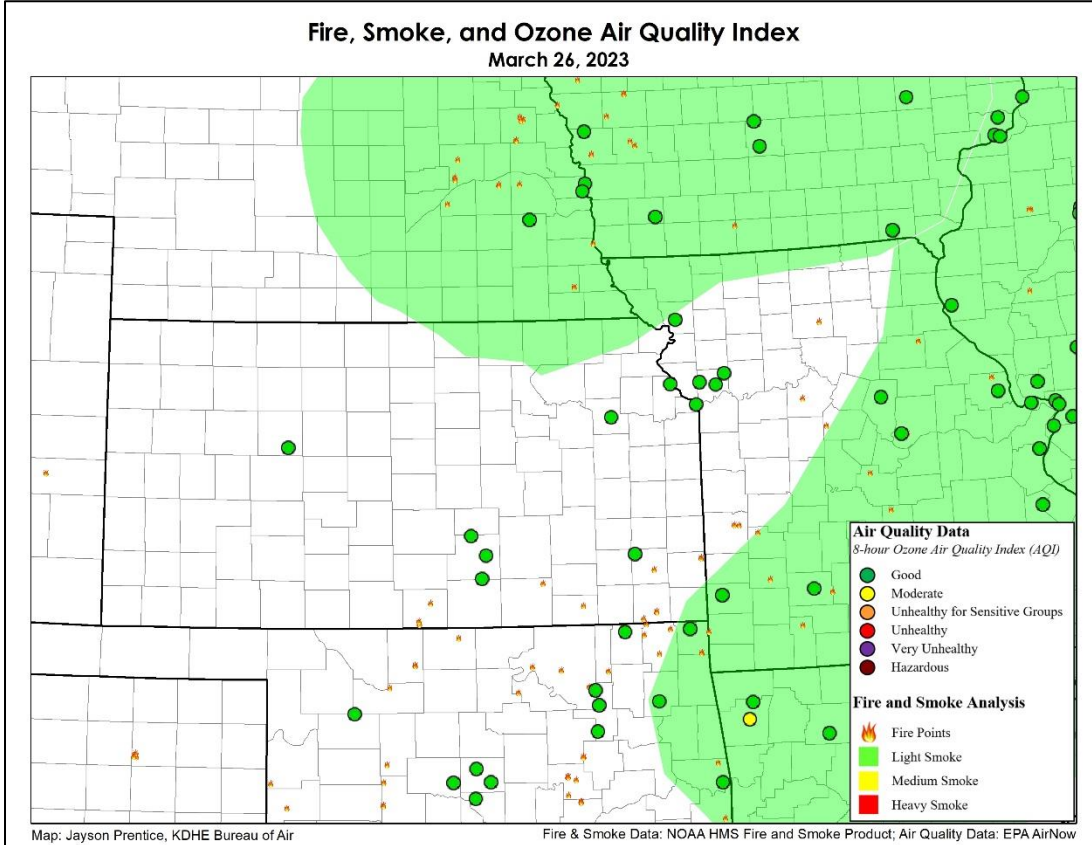
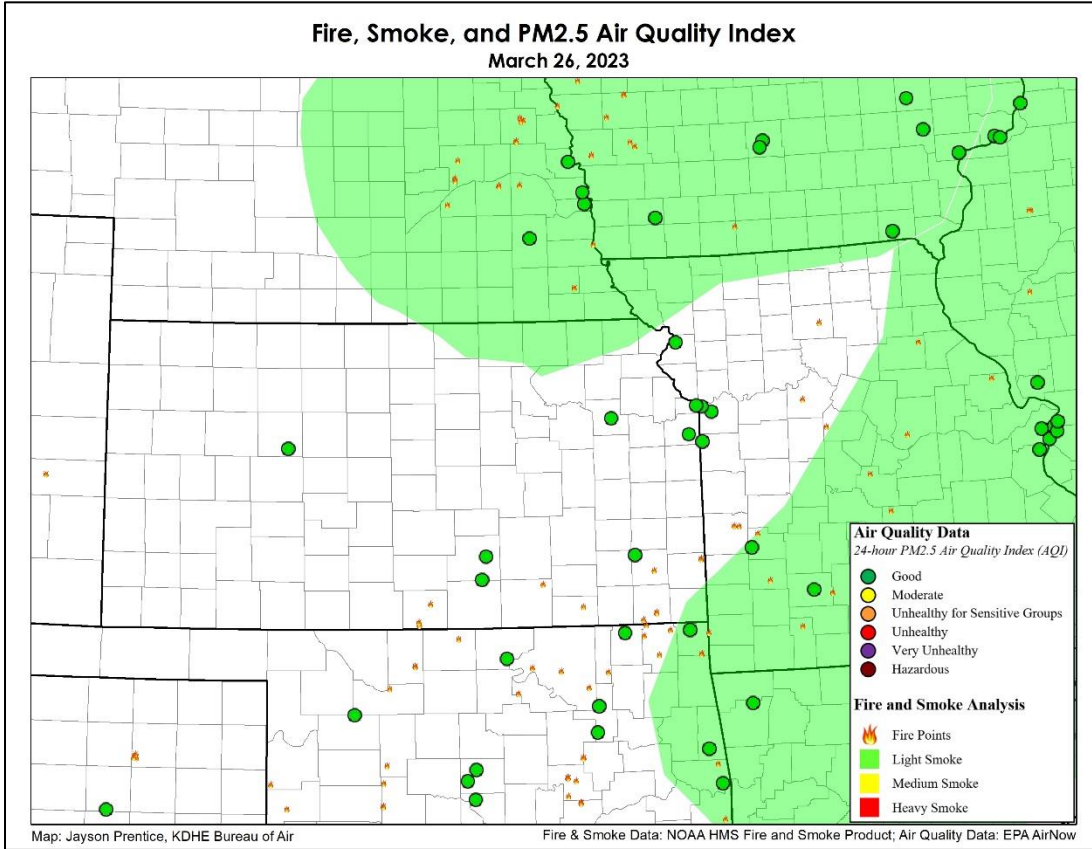
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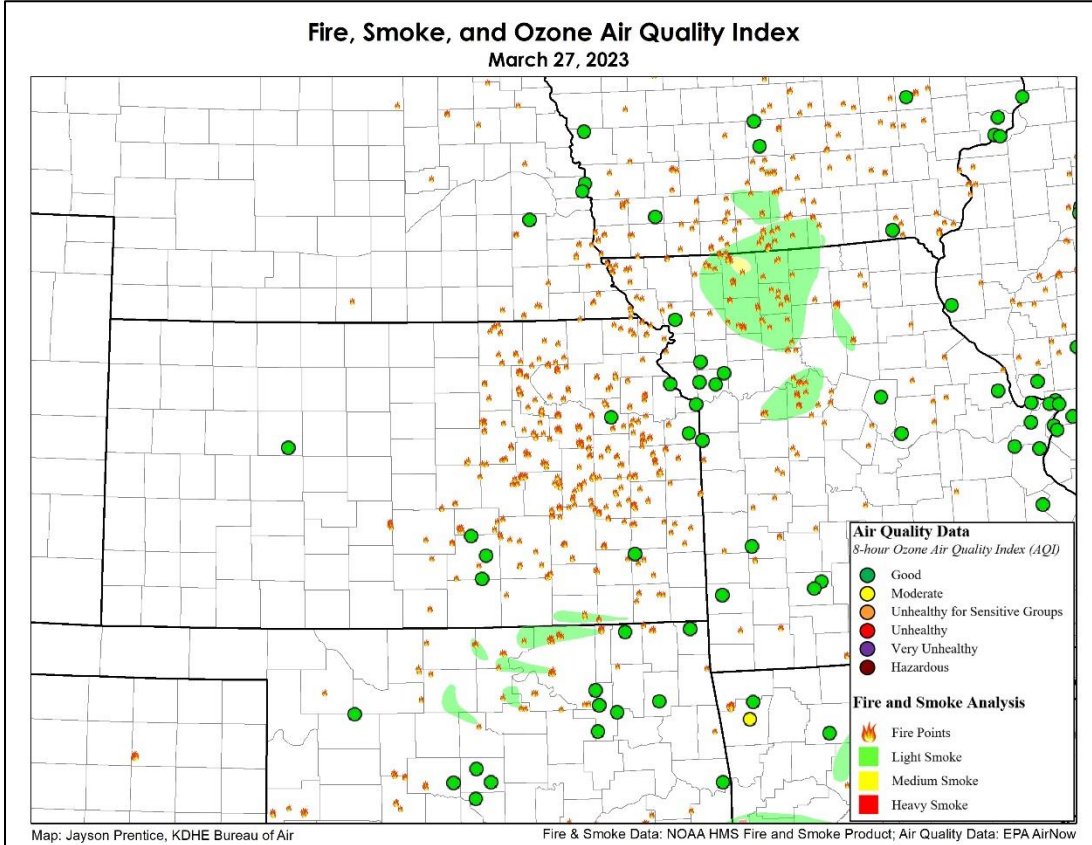
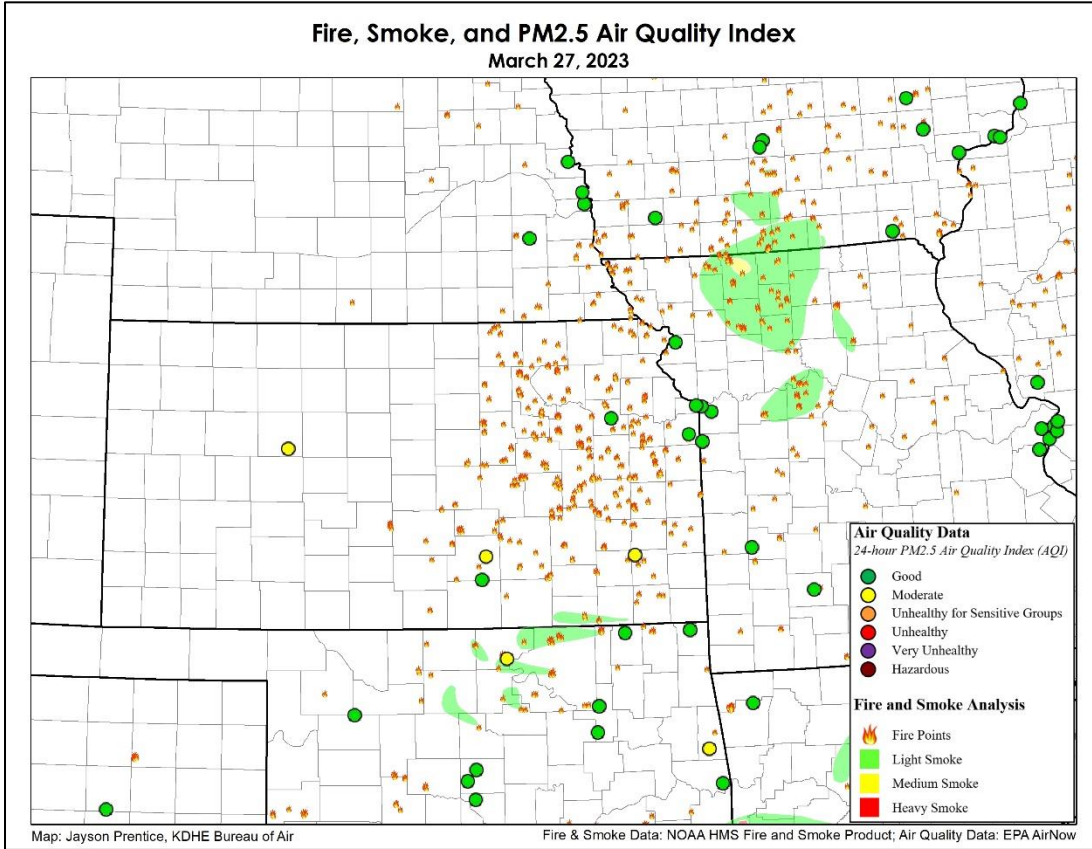
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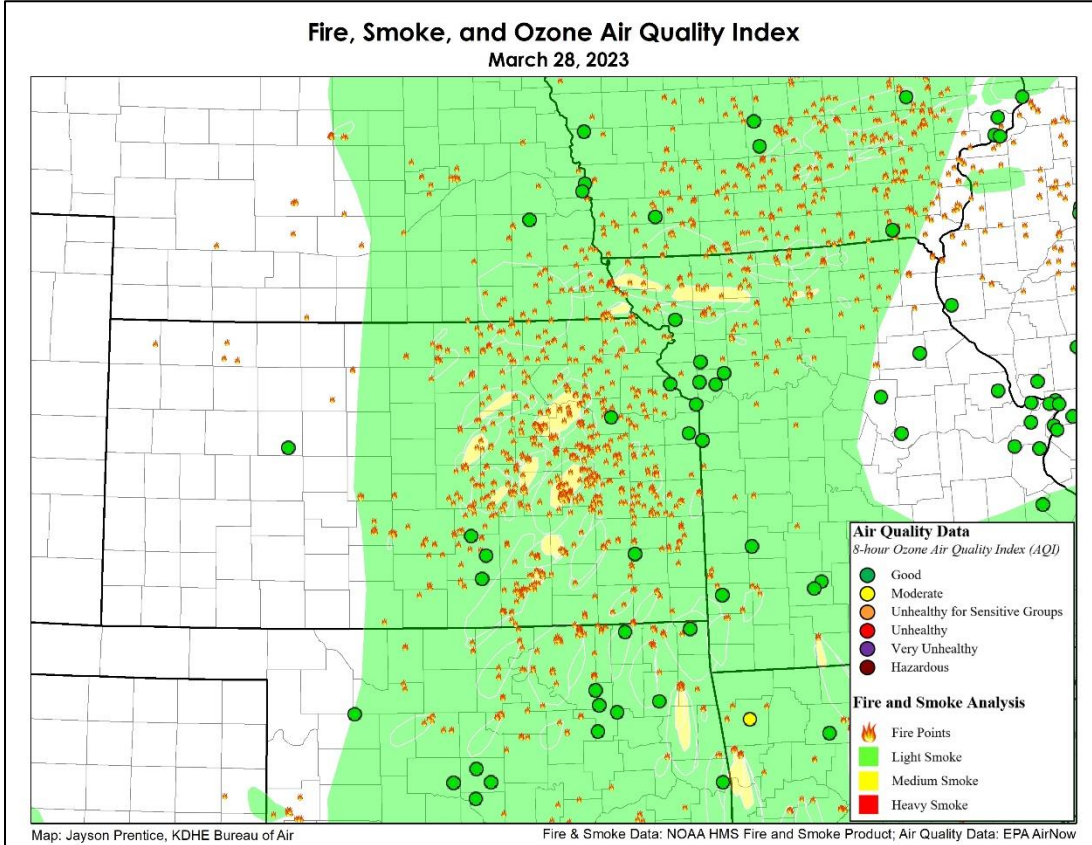
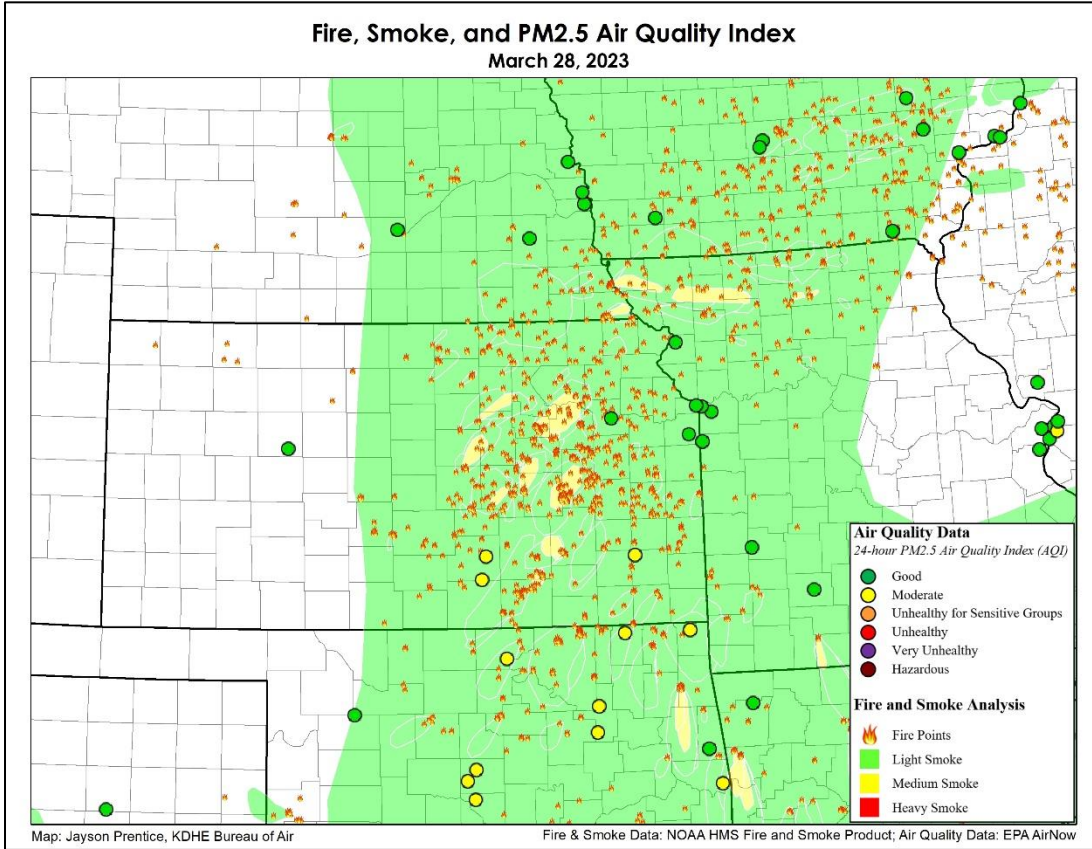
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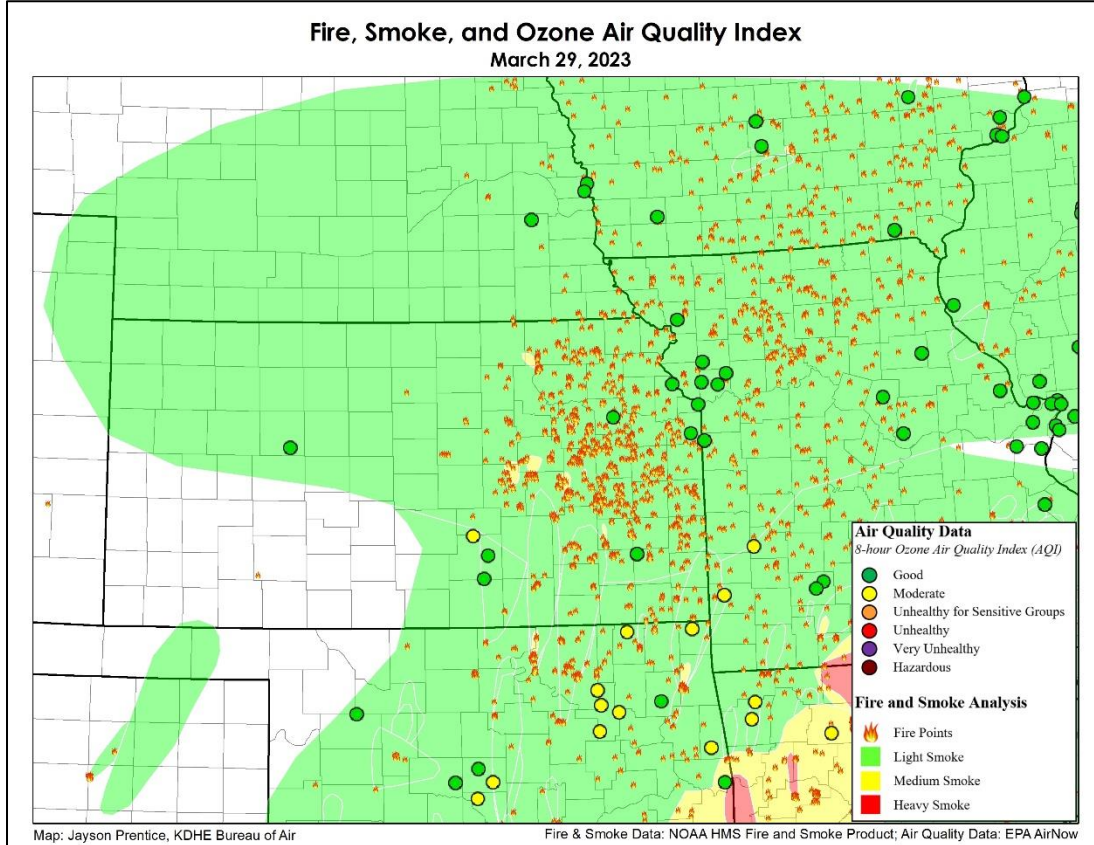
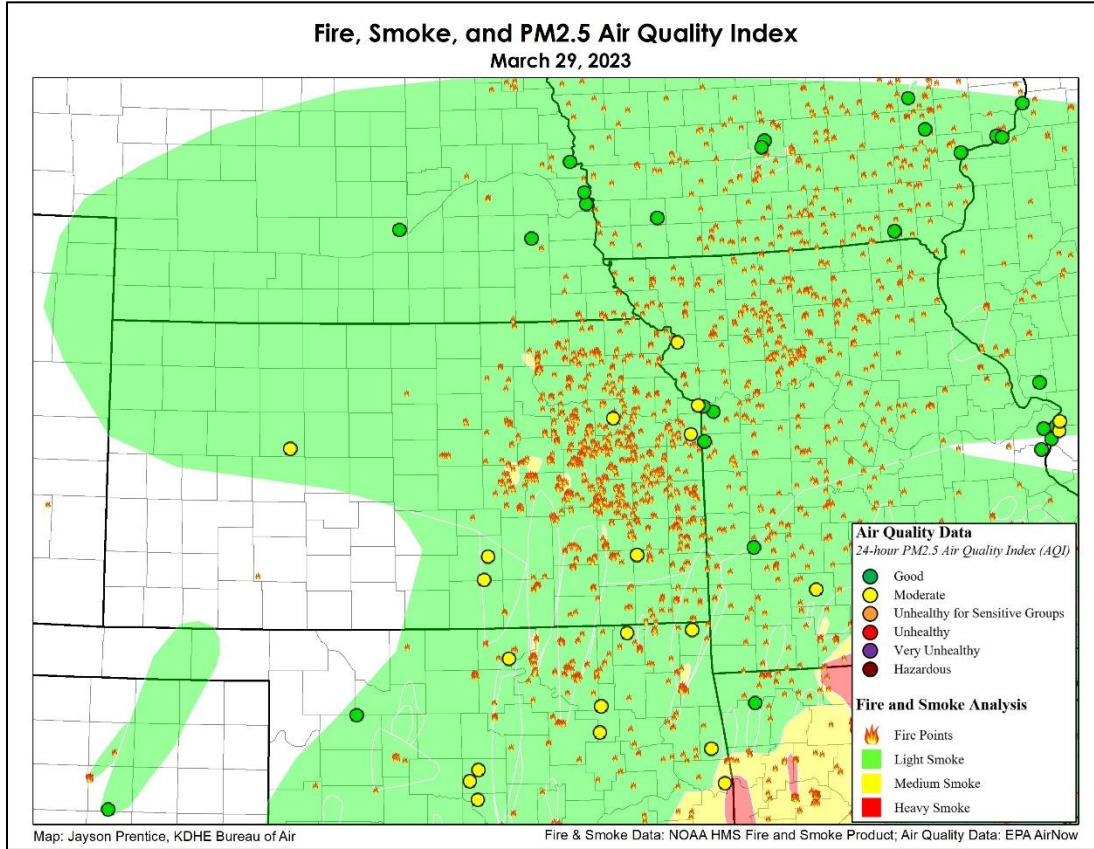
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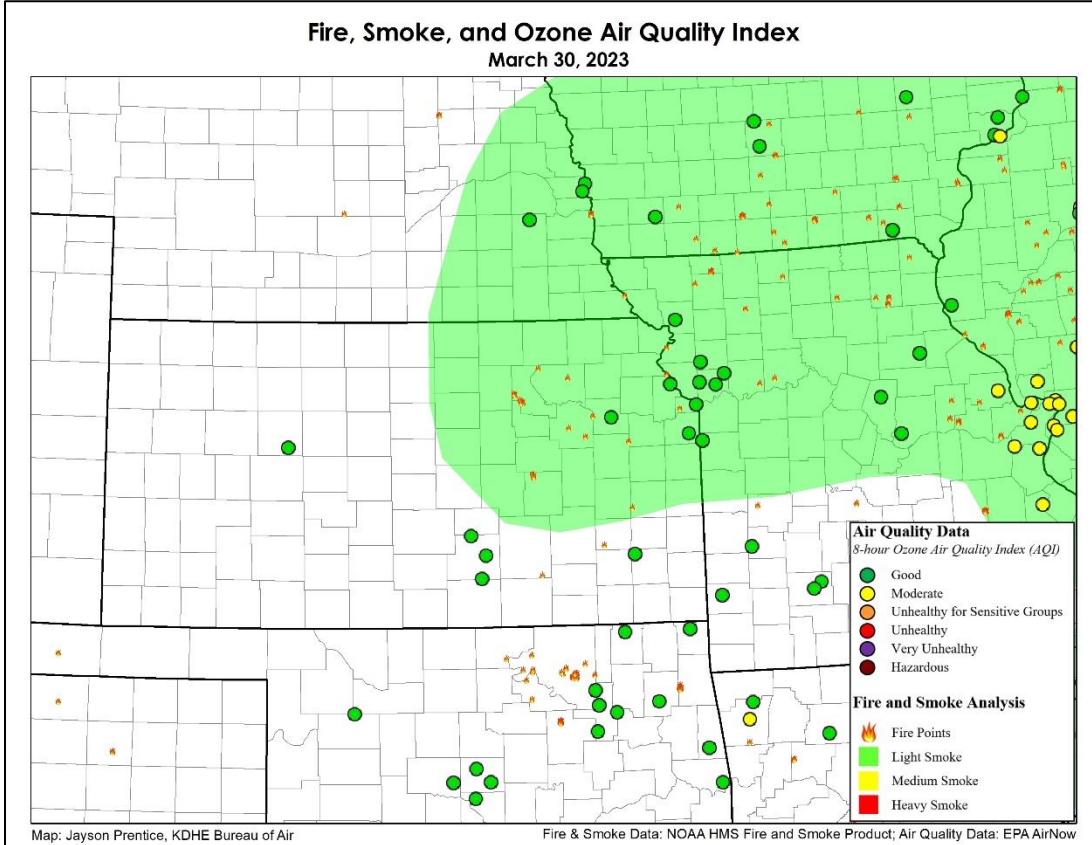
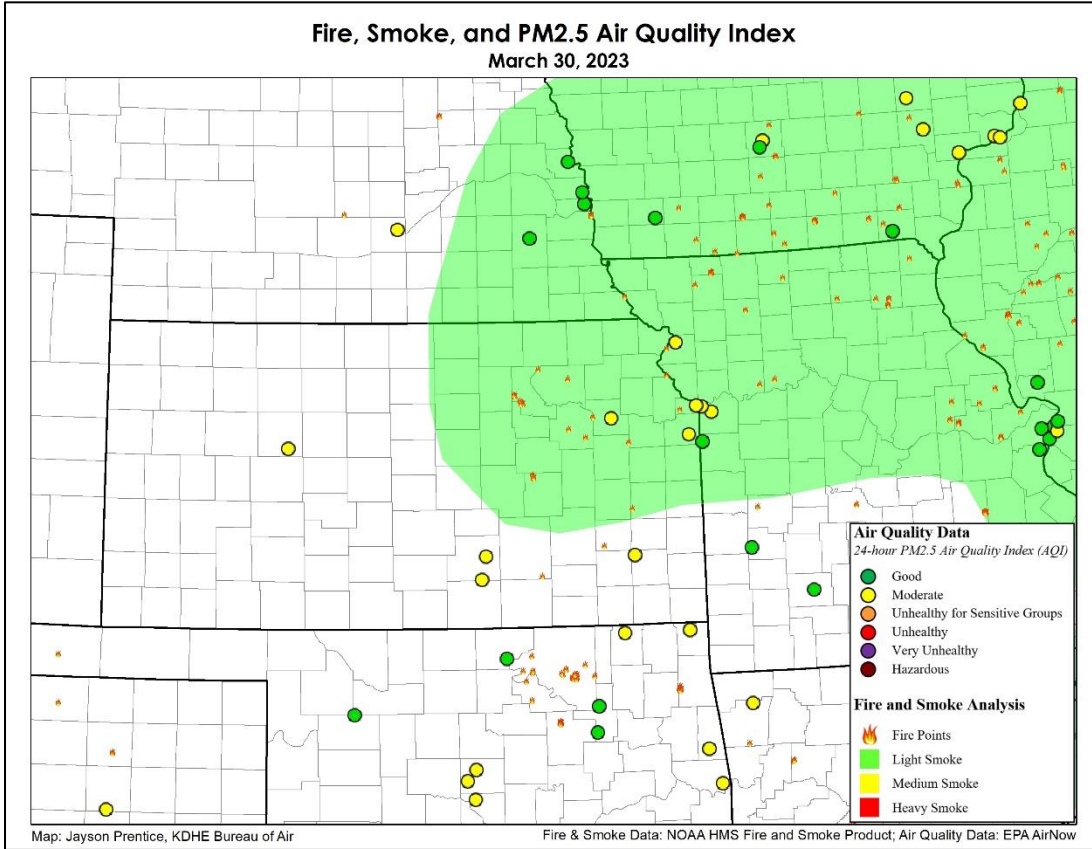
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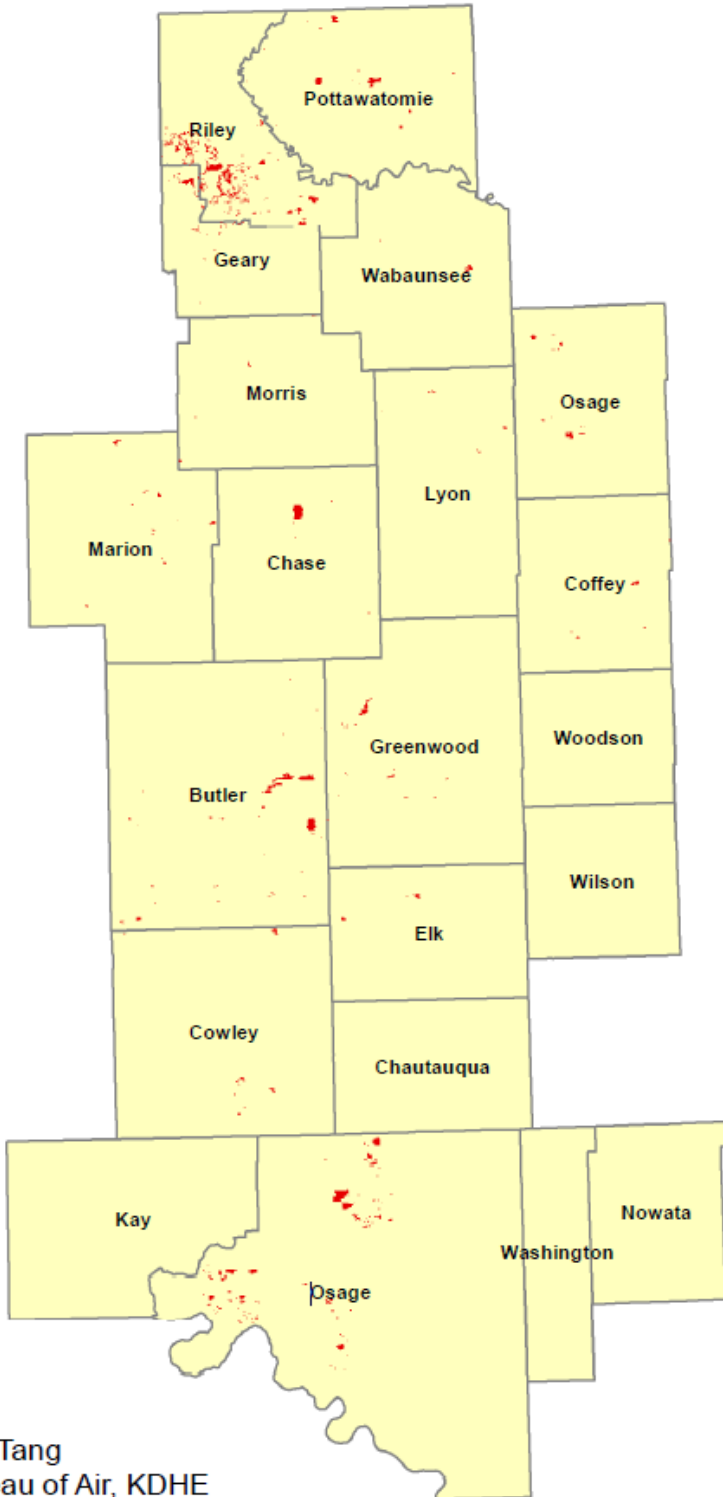


Flint Hills Wildland Fire Update





Flint Hills Acreage Burned (February 3 – March 19, 2023)



<u>Counties</u>	<u>Acres Burned</u>
Butler	4,973
Chase	1,683
Chautauqua	0
Coffey	479
Cowley	985
Elk	402
Geary	1,853
Greenwood	1,143
Lyon	324
Marion	1,035
Morris	293
Osage (KS)	1,174
Pottawatomie	2,440
Riley	13,097
Wabaunsee	432
Wilson	0
Woodson	0
Nowata (OK)	0
Osage (OK)	9,128
Washington (OK)	0
Kay (OK)	0
Total	39,414
* Denotes county was partly or completely covered by clouds during latest analysis.	

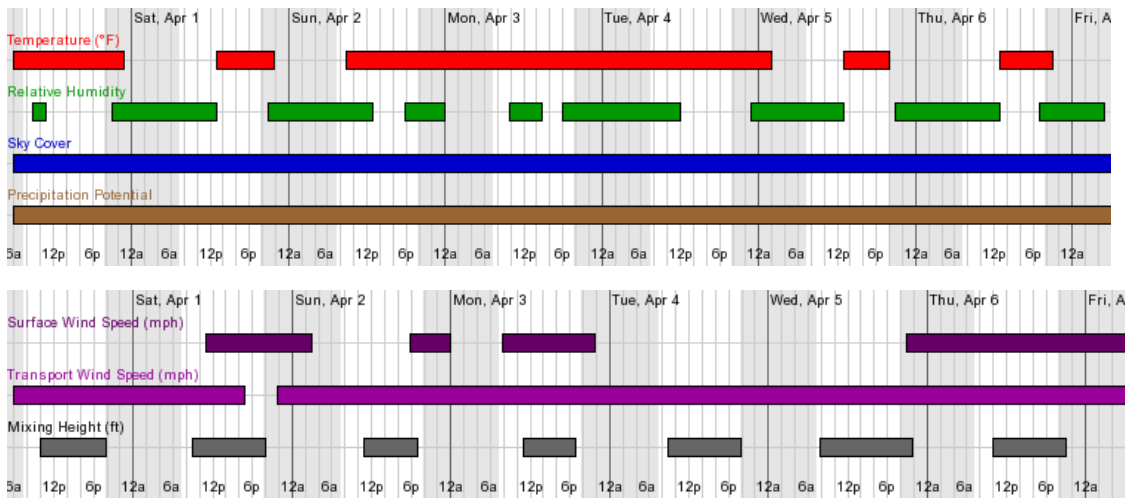
Yao Tang
Bureau of Air, KDHE



Upcoming Look at Fires and Smoke

Temperatures look to remain seasonable to above normal for the upcoming week with sufficient transport winds and mixing heights each afternoon to be adequate for prescribed fire activity. However, surface wind speeds will likely remain too strong today (Friday, March 31), perhaps on Sunday (April 2), and especially on Tuesday and Wednesday (April 4-5) as another storm system moves across the region. Precipitation chances remain low currently throughout the week as thunderstorms are more likely to the east of the Flint Hills. This puts the region in the 'dry sector' of any storm system with afternoon relative humidity values routinely dropping below 30 percent nearly each day. There may be prescribed fire opportunities but adequate planning and safety due to winds and increased wildfire danger will need to be accounted for.

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: 8am March 31, 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