

Flint Hills Wildland Fire Update

March 22, 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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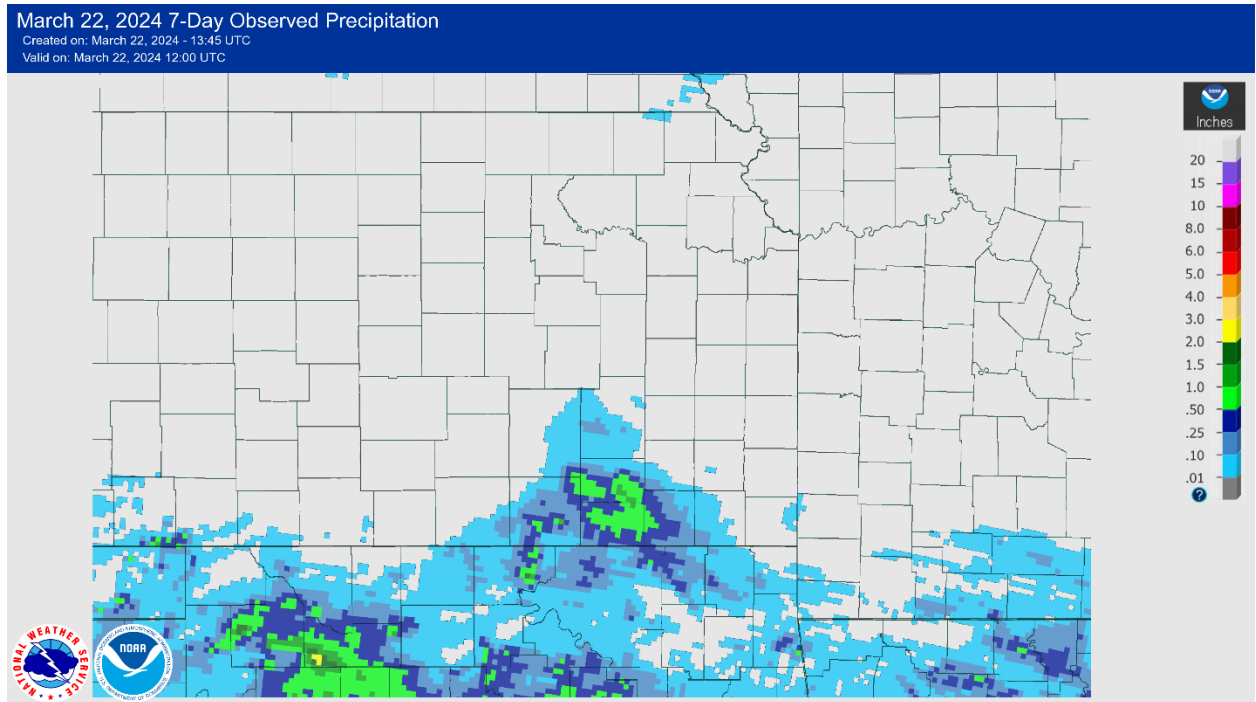
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage, and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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

Temperatures were seasonable to a bit above average last Friday (March 15) and Saturday (March 16) with winds speeds generally 5-15 mph and gusts up to 20 mph before a cold front came through which led to cooler conditions for Sunday (March 17) and Monday (March 18) alongside breezier conditions with northwest winds gusting up to 30 mph on Sunday. Temperatures rebounded quickly for Tuesday (March 19) with highs in the mid-60s to mid-70s across much of the Flint Hills, but also led to some dry conditions with relative humidity values dipping below 20 percent in some areas. Another cold front moved across the region and led to more seasonable temperatures for Wednesday (March 20), and a return to northerly winds with some gusts up to 25 mph. A slight warm-up on Thursday (March 21) as winds became more easterly at just 5-15 mph. Despite the few cold fronts, precipitation across the Flint Hills was confined to only southern portions of the area with localized amounts up to an inch and otherwise less than a quarter-inch for the southern third of the area.

Precipitation

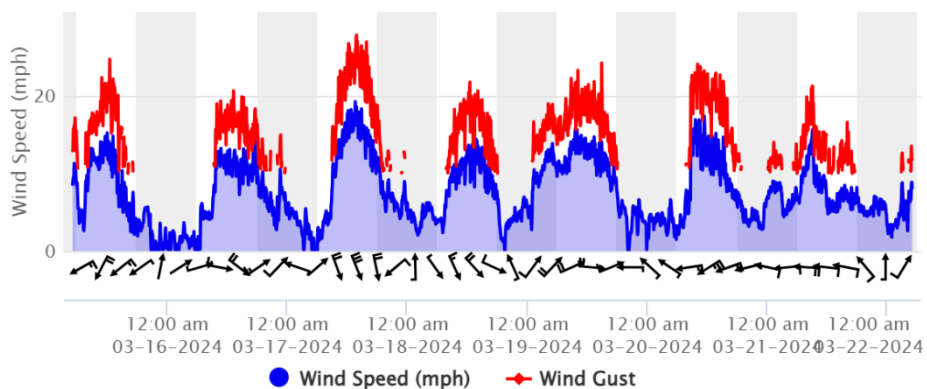
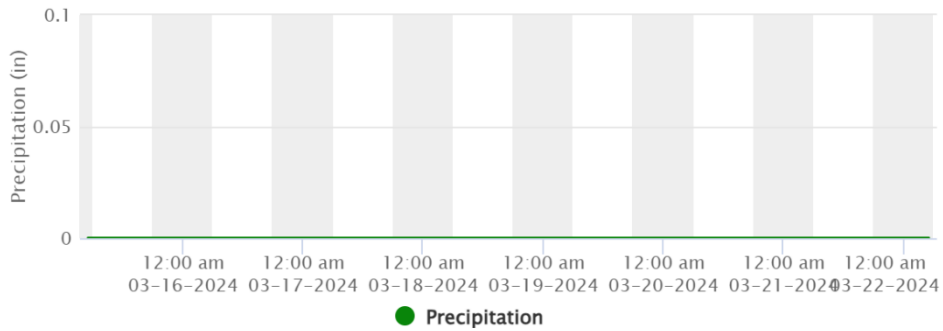
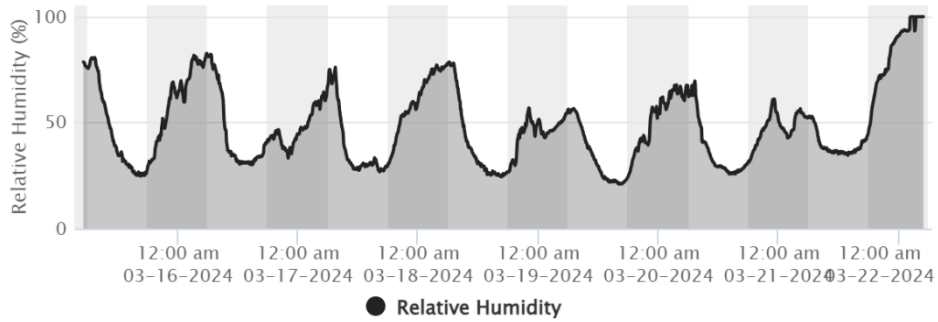
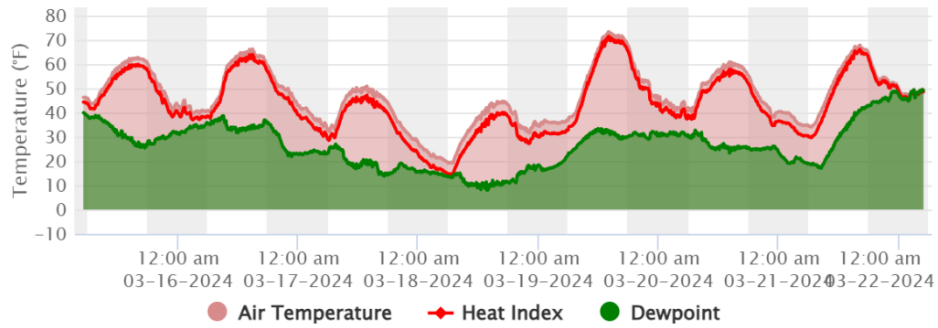


NOAA/NWS Observed Total Precipitation for March 15-22, 2024.

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Meteogram for Elmdale 1SE



7-day (March 15-22, 2024) 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 15-21, 2024, there were two preliminary air quality exceedances that were potentially influenced by prescribed fire within the Flint Hills.

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

PM_{2.5}: Preliminary data indicates two exceedances of the NAAQS daily 24-hour average maximum of 35 µg/m³. On March 16, 2024, the air quality monitor in Glenpool, OK (Tulsa Metropolitan Area) recorded a 24-hour average of 39.4 µg/m³. On March 21, 2024, the air quality monitor in Chanute, KS recorded a 24-hour average of 79.9 µg/m³.

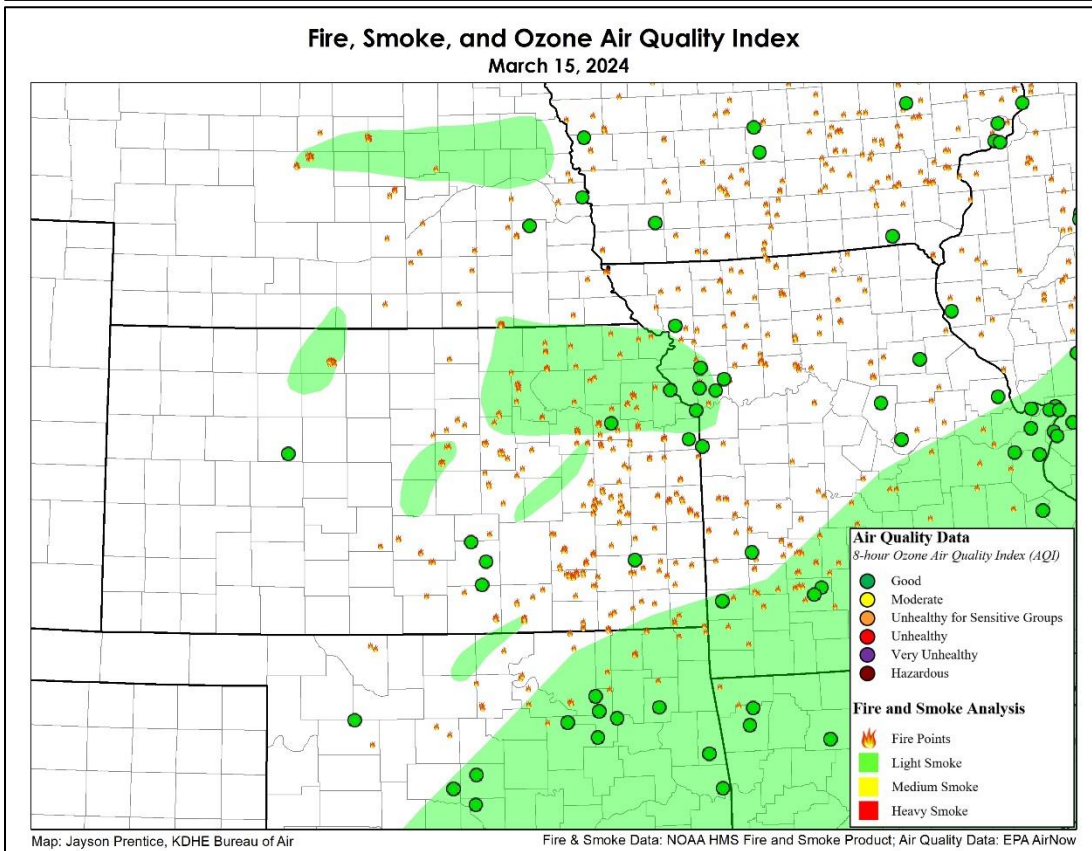
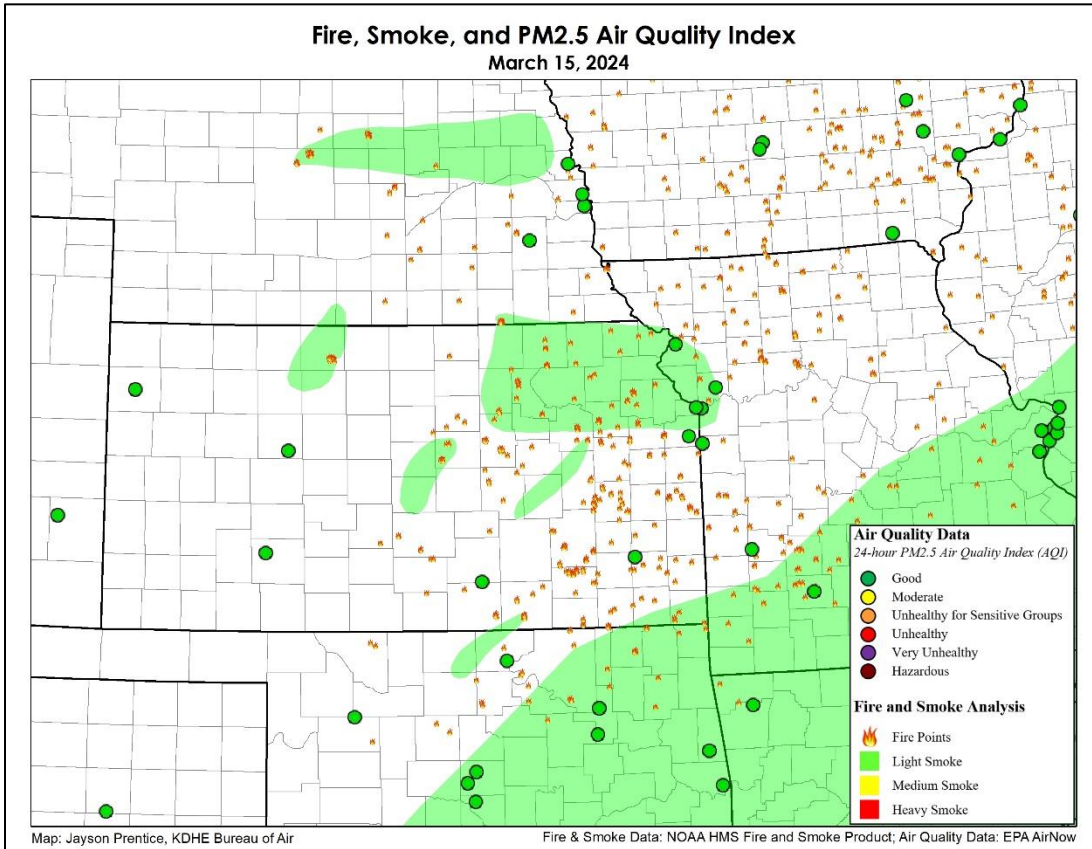
Light to moderate prescribed burning activity was observed on Friday (March 15) with light smoke in several areas as a result. More widespread prescribed burning occurred on Saturday (March 16) especially across the southern portion of the Flint Hills; Northerly winds pushed smoke from these burns across northeast Oklahoma and likely contributed to the PM_{2.5} air quality exceedance that was observed south of Tulsa, OK.

Some fires were observed across the southern Flint Hills on Sunday (March 17) under somewhat breezy north winds; Good dispersion conditions overall led to minimal air quality impacts. North winds continued Monday (March 18) with an increased in prescribed fire activity across the Flint Hills and surrounding region. A few larger prescribed fires in the southern Flint Hills contributed to Moderate smoke and air quality conditions.

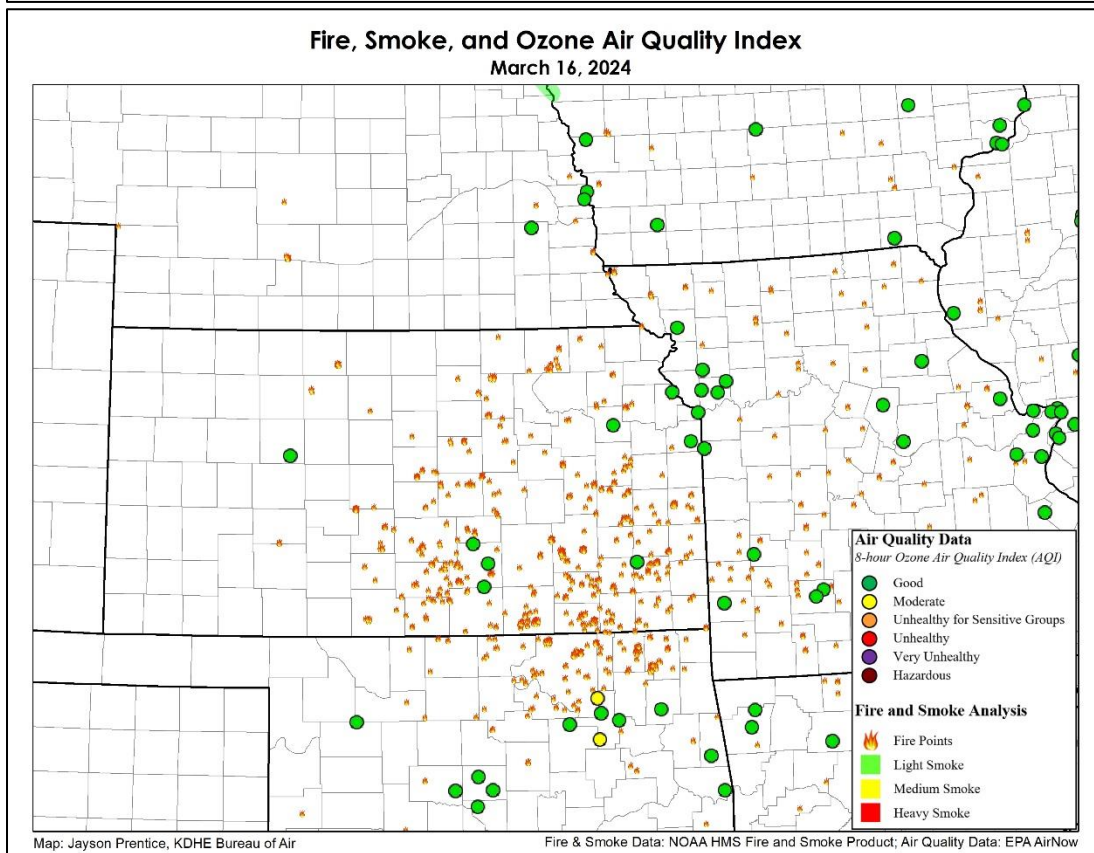
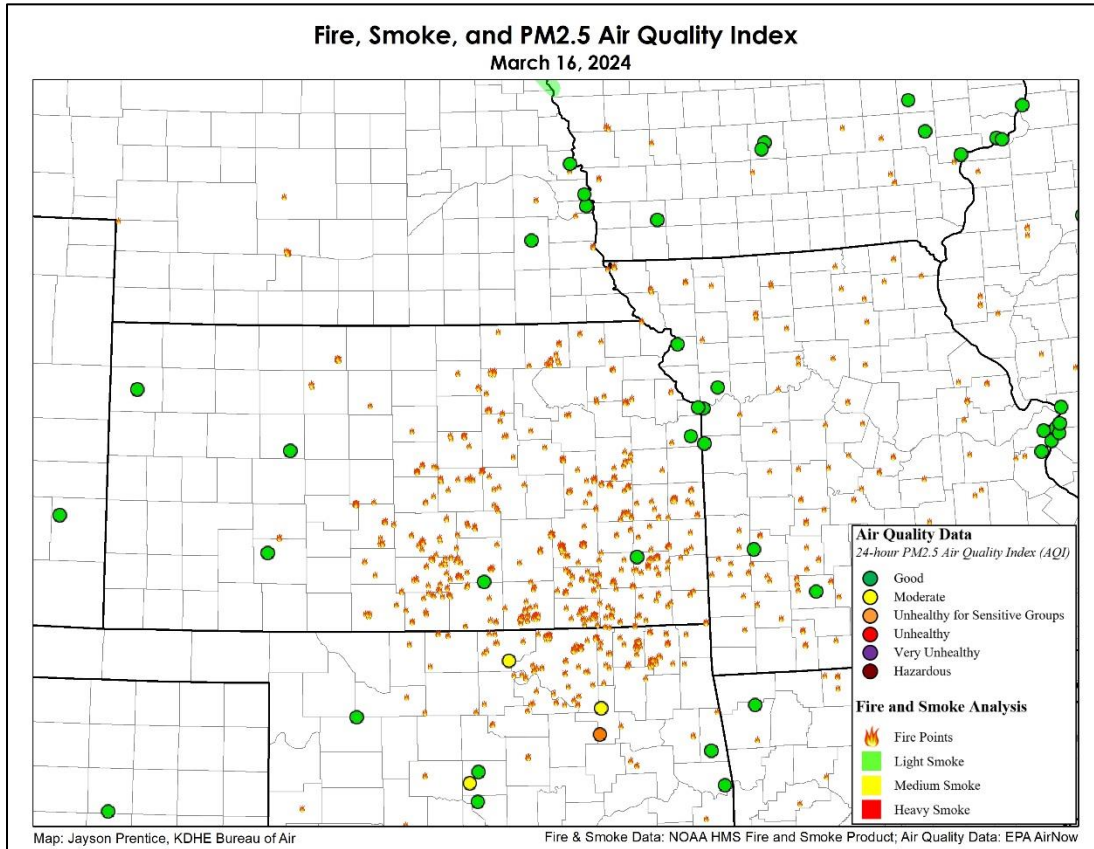
Prescribed fire activity on Tuesday (March 19) was light to moderate under variable wind directions which contributed to a general light smoke across the region and a few air quality monitors observing Moderate air quality. Regional fire activity, the prior day activity, and several larger prescribed fires on Wednesday (March 20) led to widespread light to moderate smoke. A strong inversion Wednesday night into Thursday (March 21) led to localized areas of dense smoke, including the Chanute air quality monitor. Moderate fire activity was noted during the daytime on Thursday as well across the Flint Hills with a haze throughout the region and Good to Moderate air quality.

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.

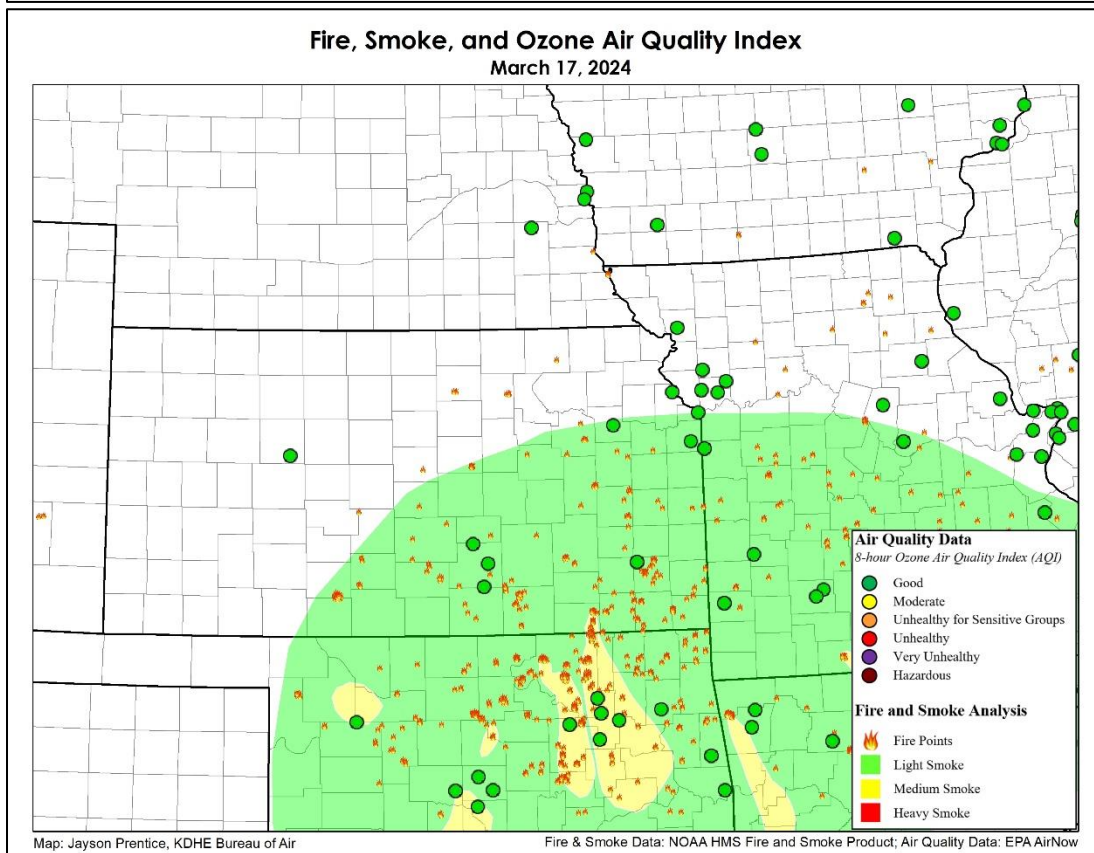
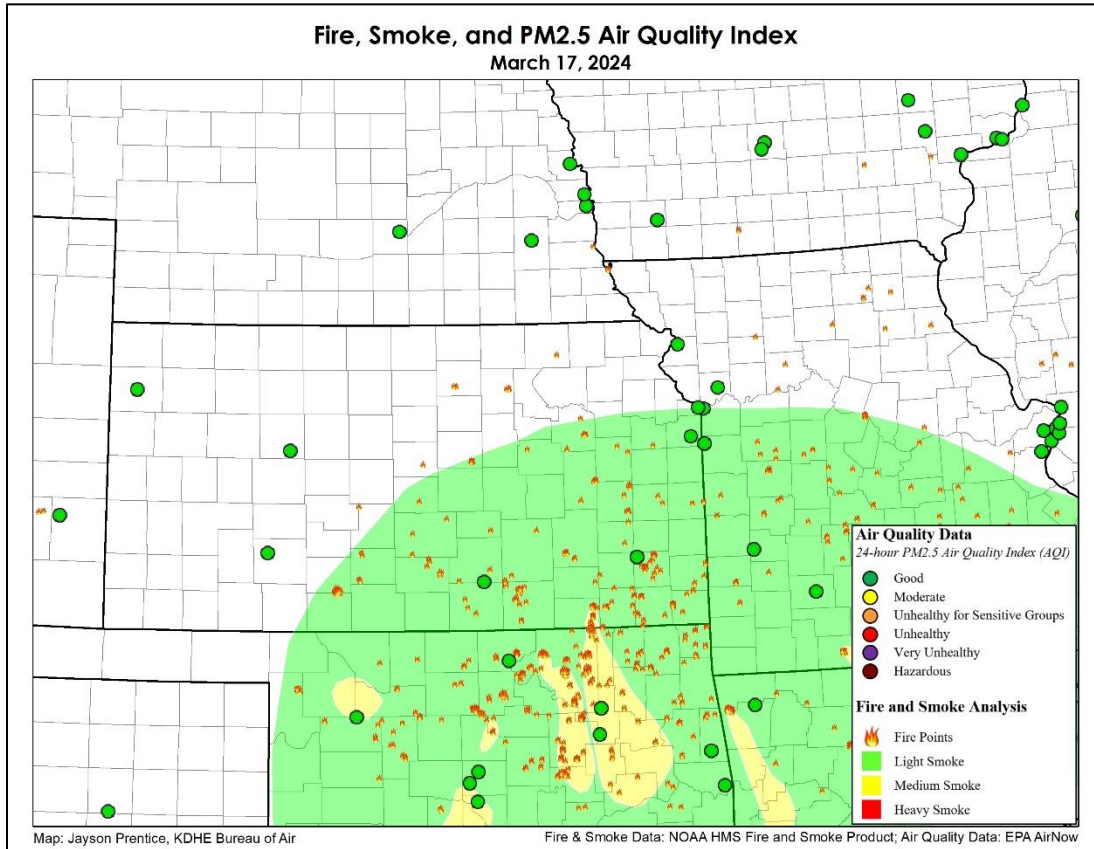
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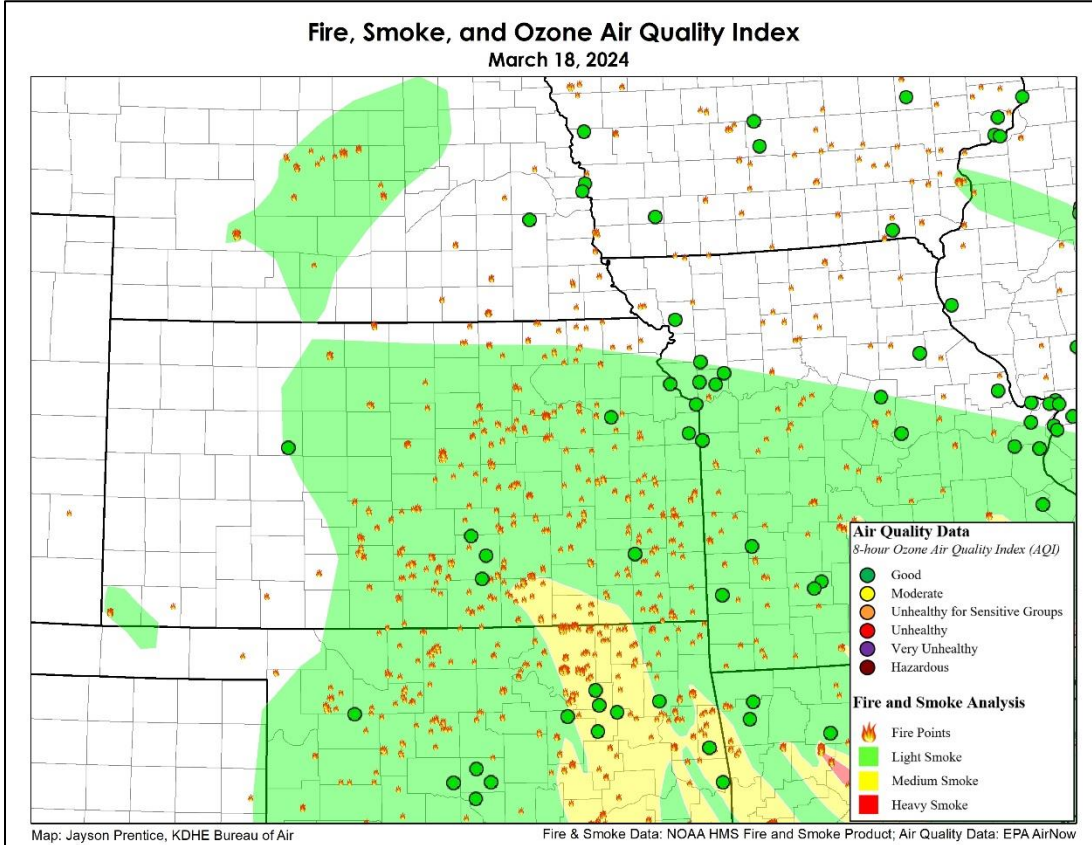
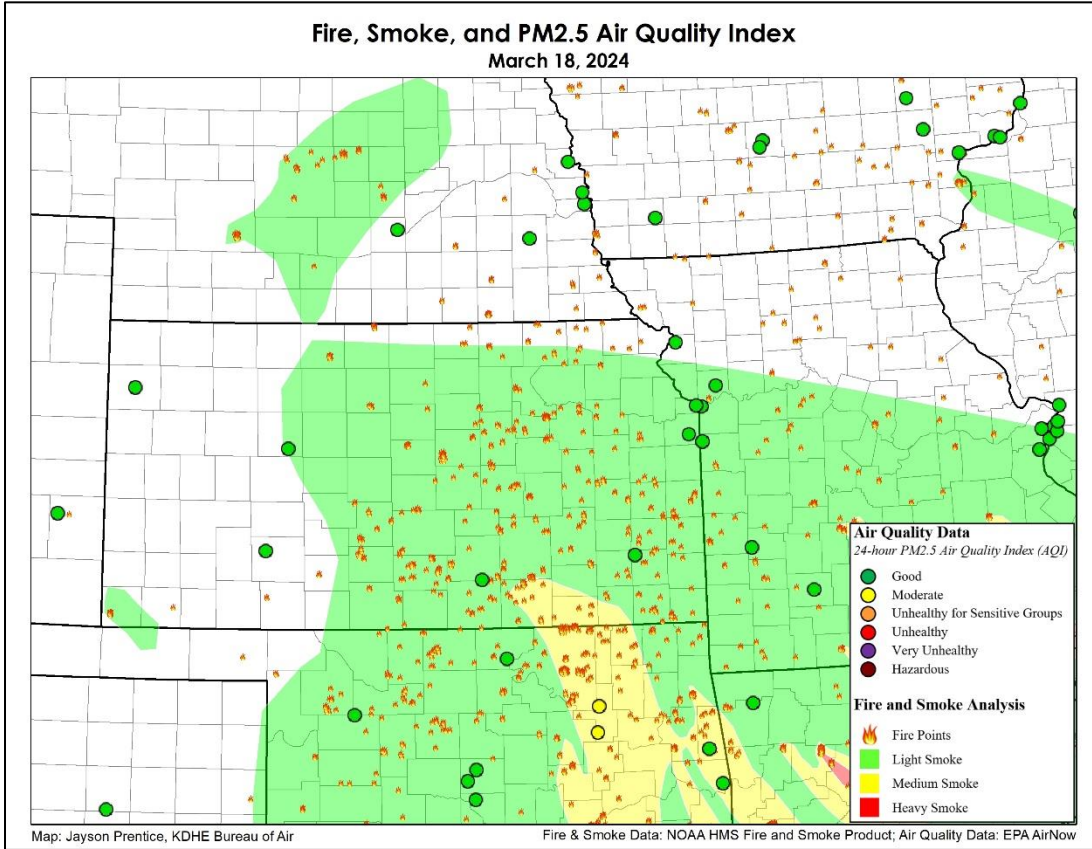
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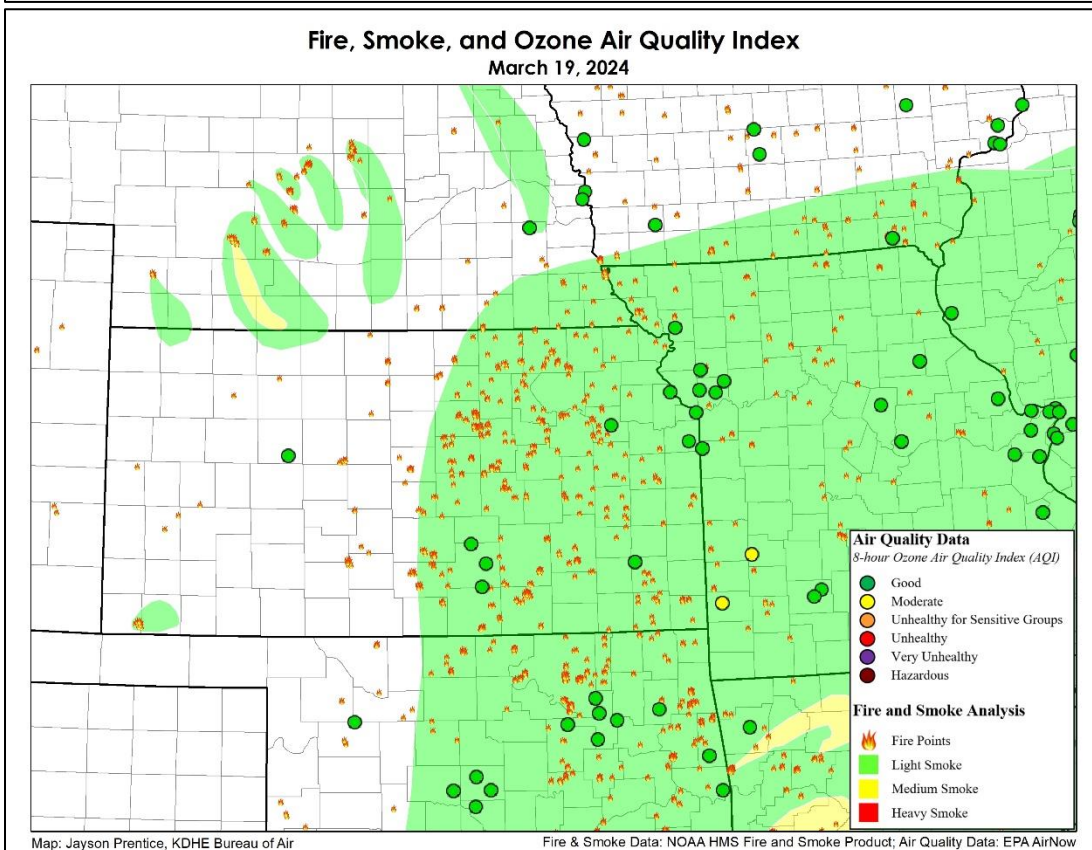
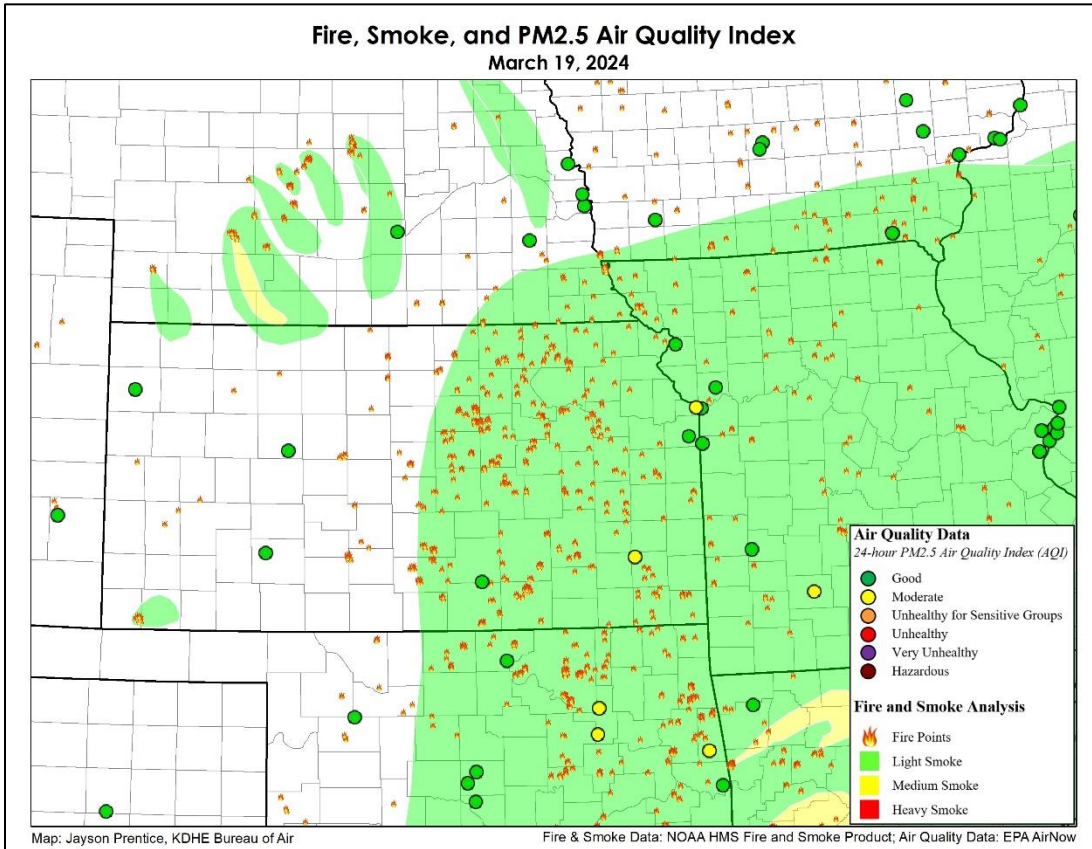
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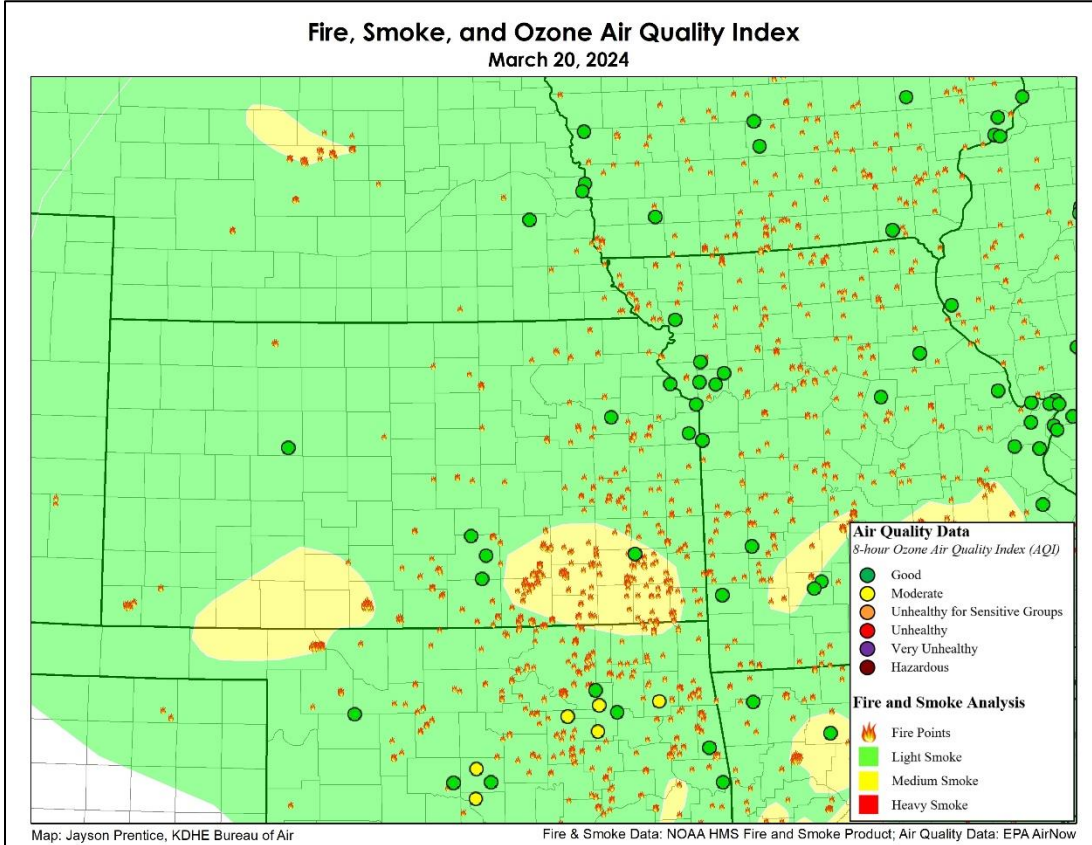
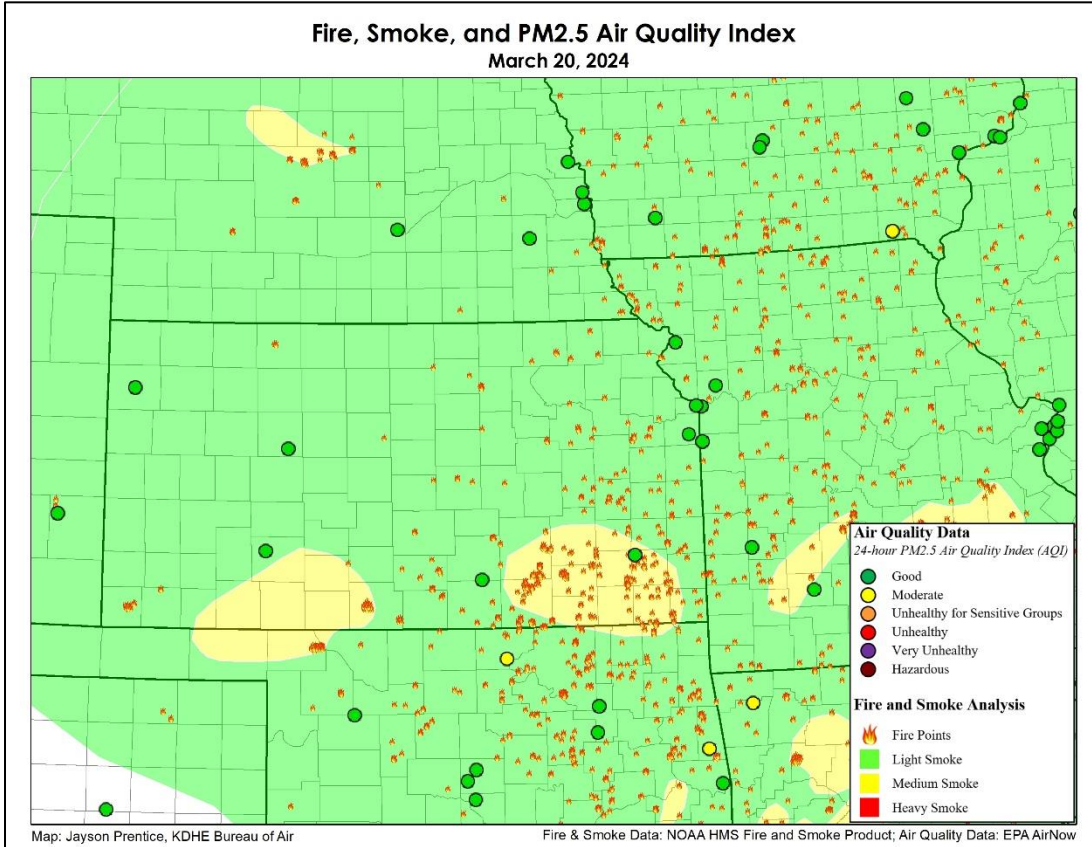
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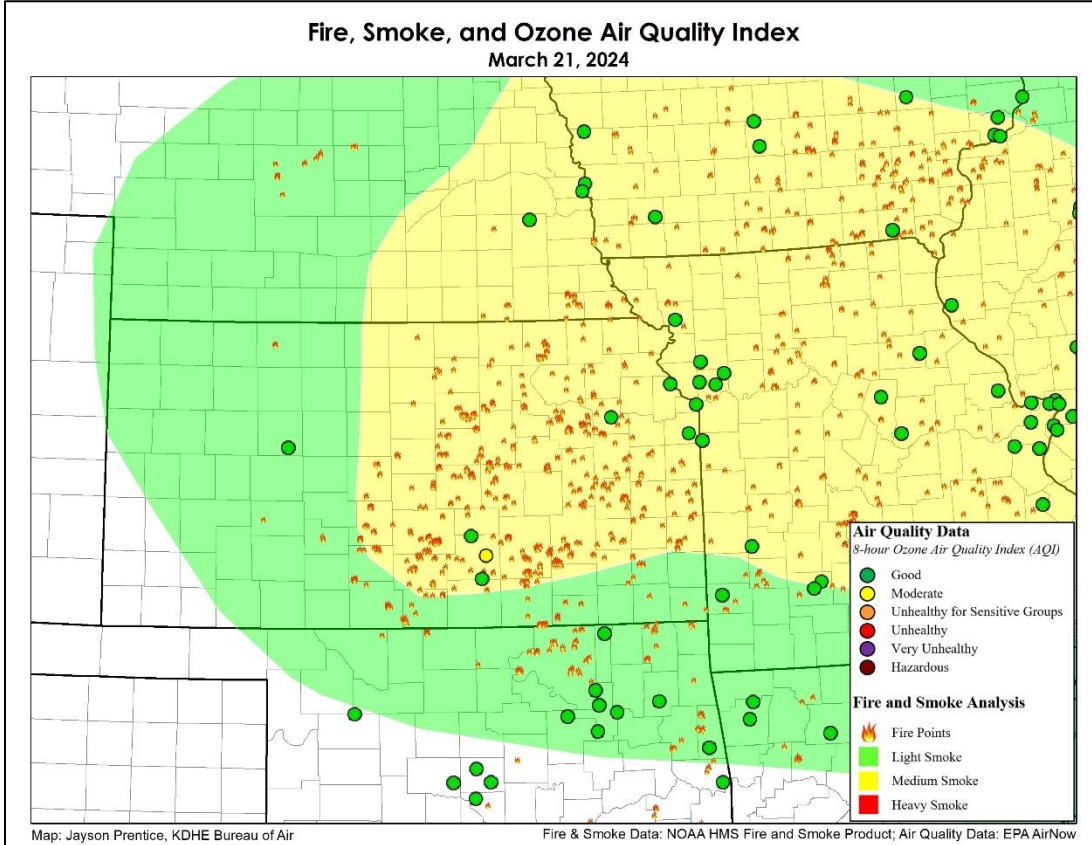
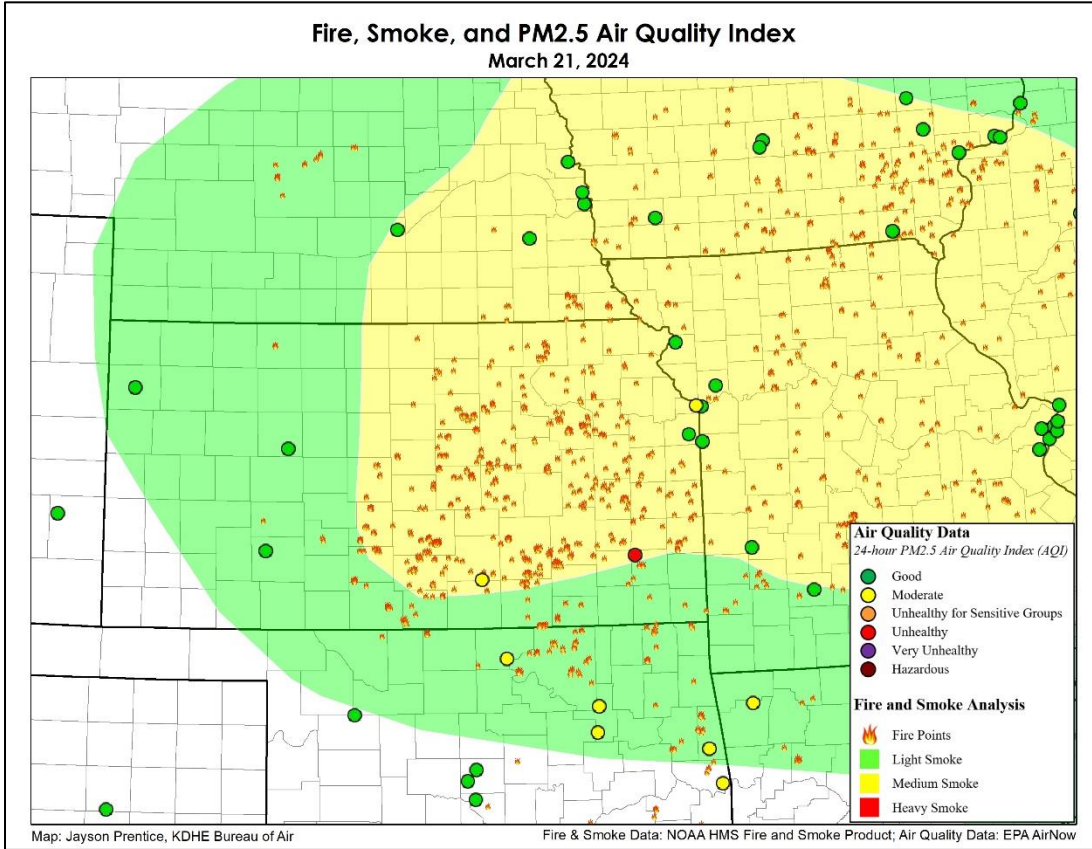
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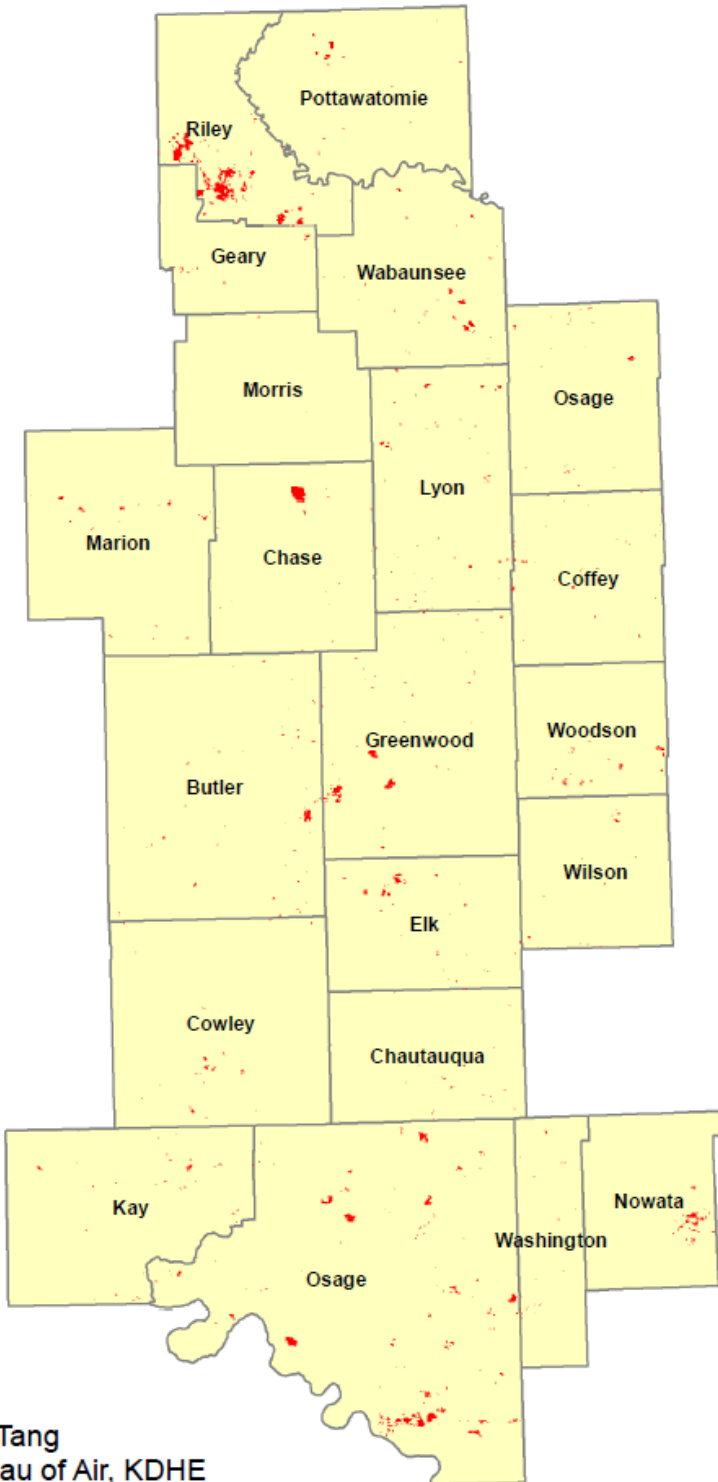


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Flint Hills Acreage Burned (February 14 – March 15, 2024)



Yao Tang
Bureau of Air, KDHE

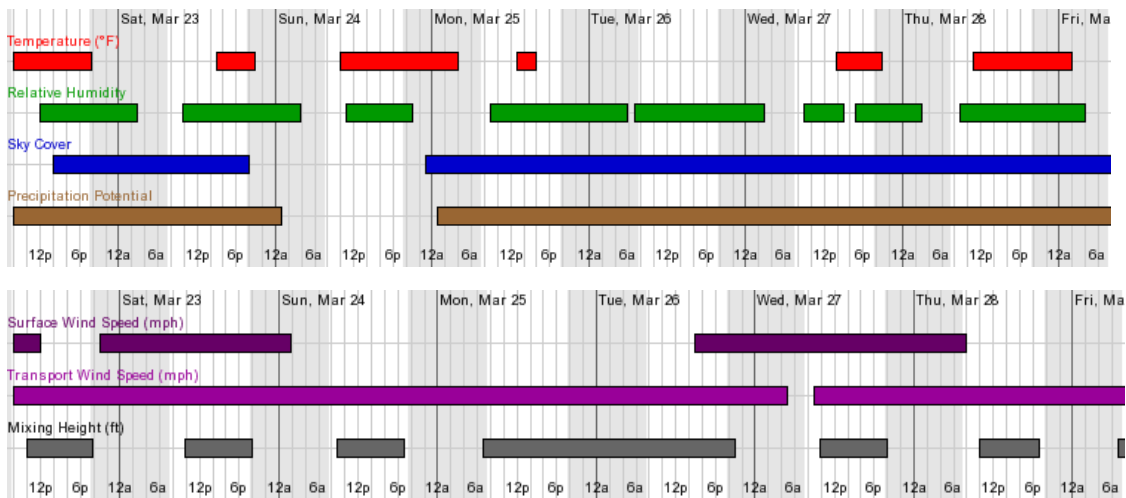
<u>Counties</u>	<u>Acres Burned</u>	
Butler	2,301	
Chase	2,826	
Chautauqua	386	*
Coffey	988	
Cowley	1,050	*
Elk	2,116	*
Geary	479	
Greenwood	4,124	*
Lyon	1,992	
Marion	1,189	
Morris	108	
Osage (KS)	772	
Pottawatomie	1,158	
Riley	13,946	
Wabaunsee	2,085	
Wilson	510	
Woodson	1,328	*
Nowata (OK)	2,131	
Osage (OK)	13,653	*
Washington (OK)	432	
Kay (OK)	1,266	
Total	54,840	
* Denotes county was partly or completely covered by clouds during latest analysis.		



Upcoming Look at Fires and Smoke

A cold front moving across the region today will bring gusty northwest winds for the daytime hours. Temperatures will be on the cooler side on Saturday ahead of another approaching storm system which will bring showers and possibly thunderstorms to the area on Sunday. Breezy conditions are expected Sunday into Tuesday with below normal temperatures. Look for winds to become southerly by mid-week as temperatures begin to warm back up with low relative humidity on Wednesday and then breezy conditions on Thursday. Another storm system looks to move into the region by the end of next week. Overall, ideal weather conditions for prescribed burning are limited in the next seven days.

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 22, 2024.

For more information, contact:

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