

Flint Hills Wildland Fire Update

April 14, 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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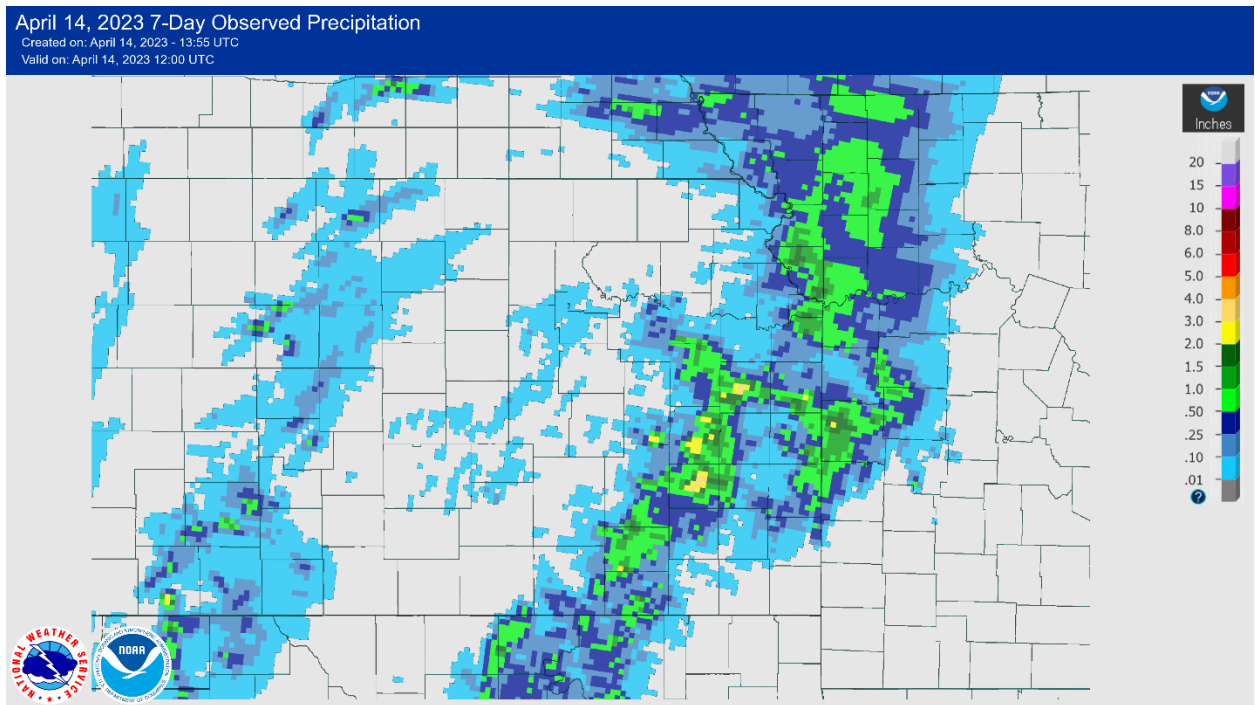
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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 slowly warmed throughout the past week with highs beginning in the 60s for many last Friday (April 7) and eventually reaching into the 80s for highs by Thursday (April 13). Warming temperatures were aided by a persistent southerly wind for each day with the exception of Monday (April 10) where a disturbance moving through created some variable winds and was also the cause for the only precipitation of the past week with showers and thunderstorms for parts of eastern Kansas into Missouri. Relative humidity has dropped below 30 percent each afternoon with several days dropping to 20 percent or lower. While wind speeds remained reasonable last Friday through Monday (April 7-10) an increase began on Tuesday (April 11) and continued through Thursday (April 13) with gusts surpassing 30 mph and contributing to fire weather concerns.

Precipitation

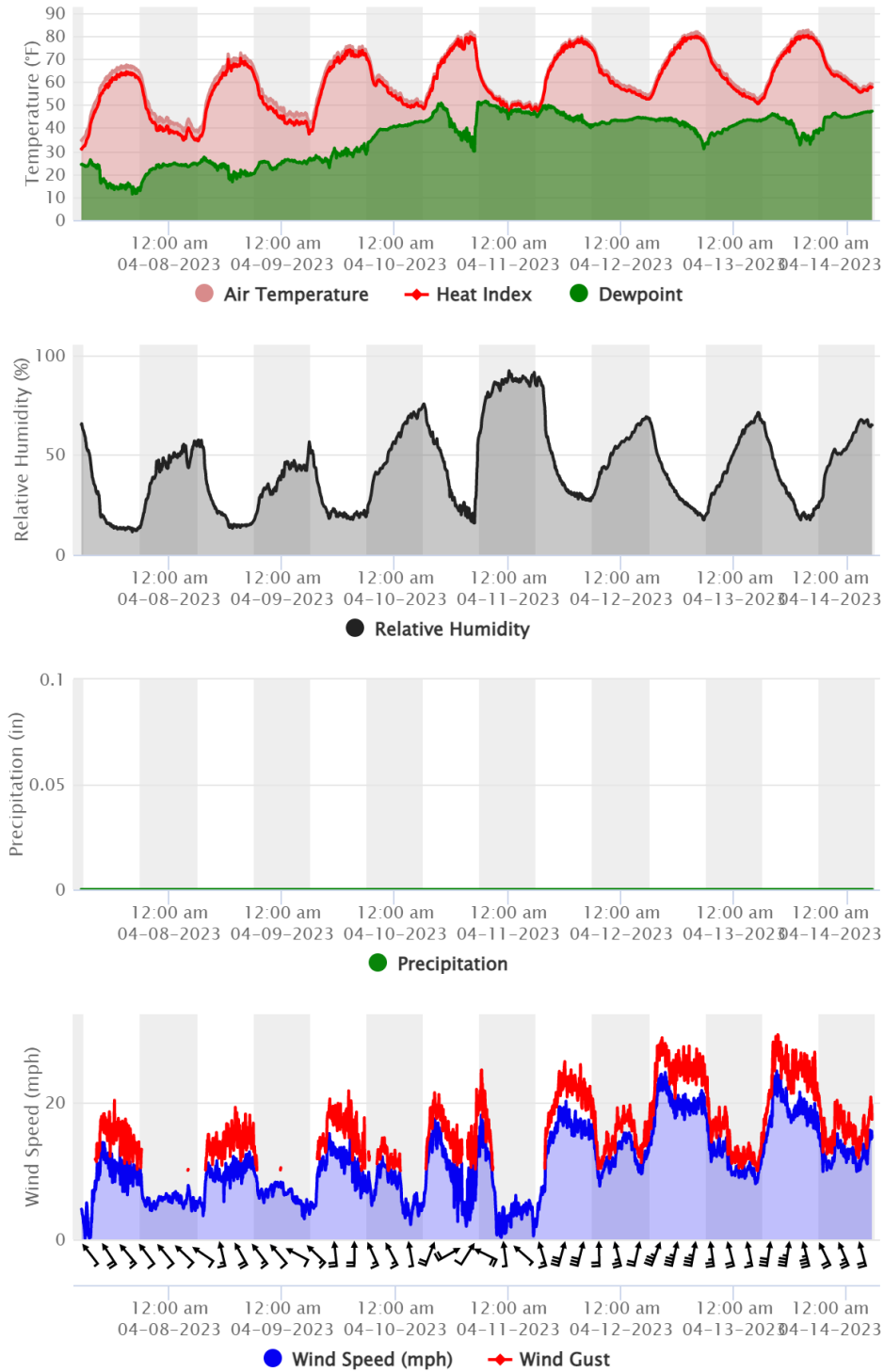


NOAA/NWS Observed Total Precipitation for April 7-14, 2023.

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Meteogram for Elmdale 1SE



7-day (Apr 7-14, 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 April 7-13, 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.

Significant prescribed fire activity occurred within the central and northern Flint Hills on Friday (April 7) and Saturday (April 8) with regional activity also occurring. While there were no exceedances of the National Ambient Air Quality Standards (NAAQS) several locations in eastern Kansas and eastern Nebraska saw short-term Air Quality Index (AQI) in the Unhealthy for Sensitive Groups to Unhealthy category. Prescribed fire activity decreased for Sunday (April 9) but lingering smoke continued to lead to Moderate AQI across the region. Prescribed fire activity was abundant within the northern Flint Hills and the region again on Monday (April 10) which again contributed to widespread Moderate AQI and some short-term higher impacts.

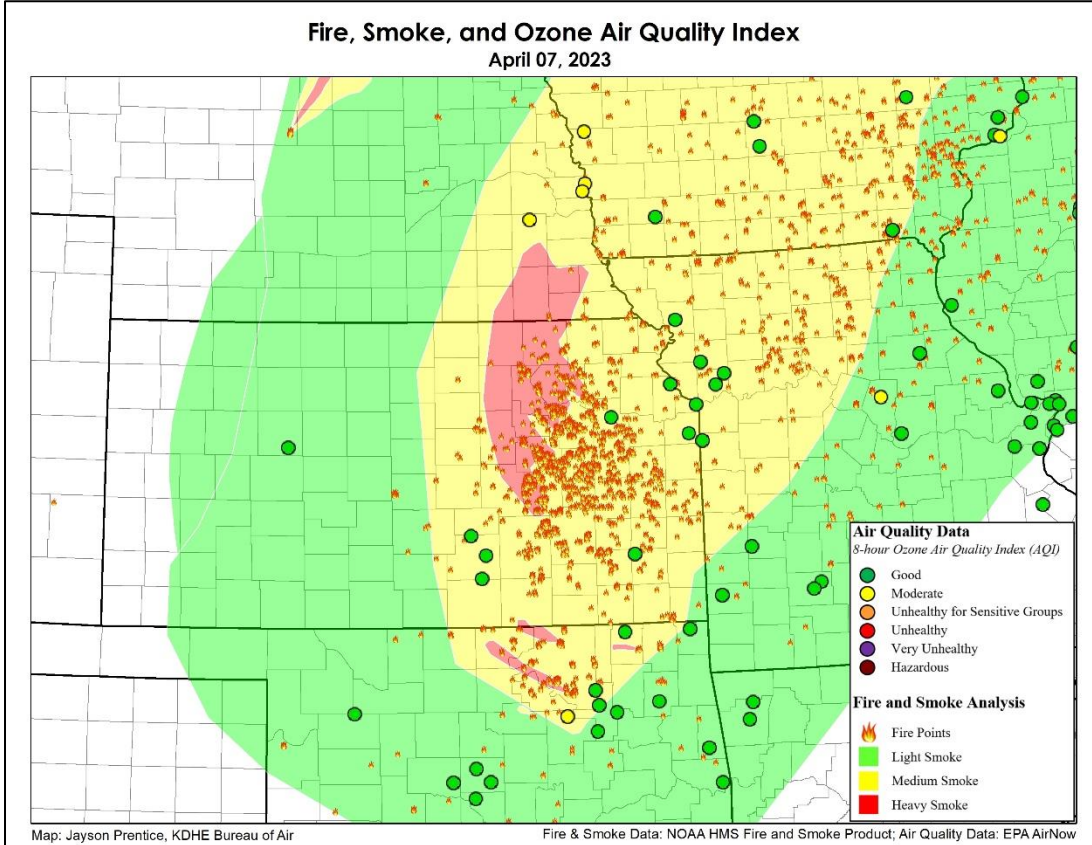
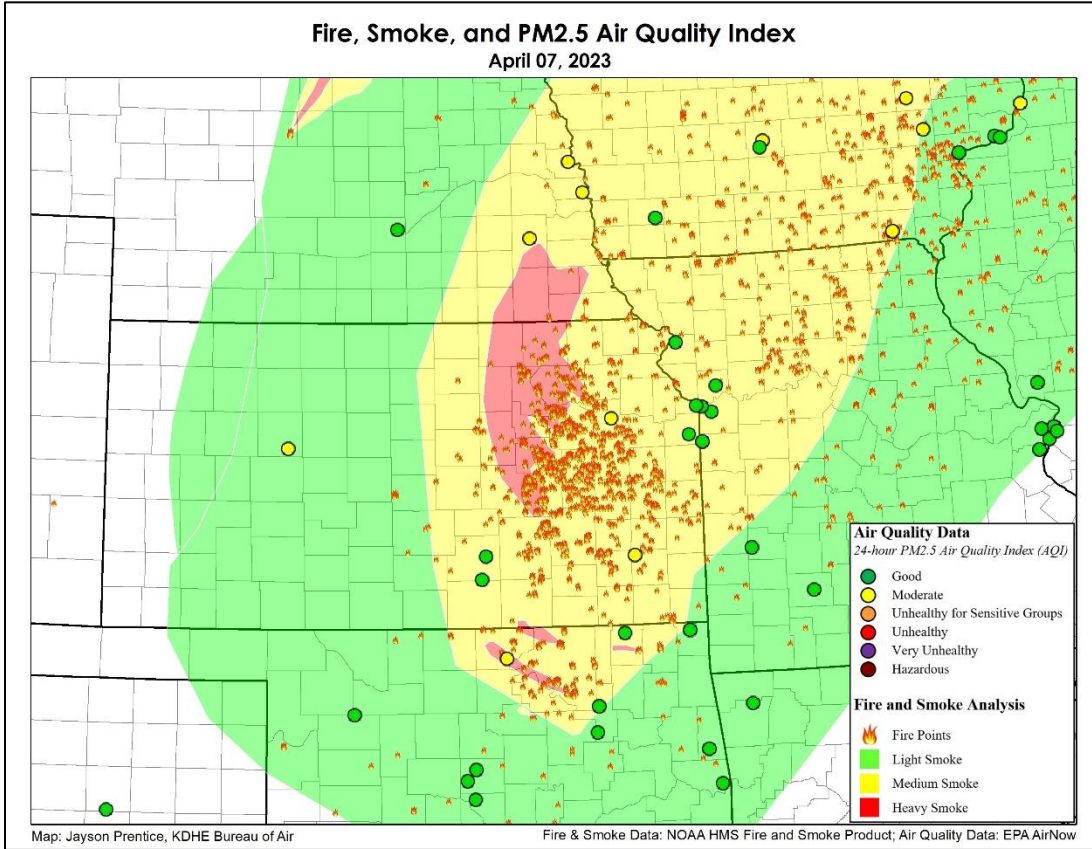
Winds began to increase on Tuesday (April 11) which started to limit prescribed fire activity as many counties began to restrict or prohibit prescribed fires. This trend continued for Wednesday and Thursday (April 12-13) with Red Flag Warnings for many counties' indicative of dangerous fire weather conditions. Air quality has remained Moderate for many areas with wildfire smoke and transport of smoke from further south and other regional pollutants.

It's important to note that several wildfires have been occurring throughout the week in Oklahoma, Kansas, and Nebraska that required state resources due to their size, complexity, and longevity.

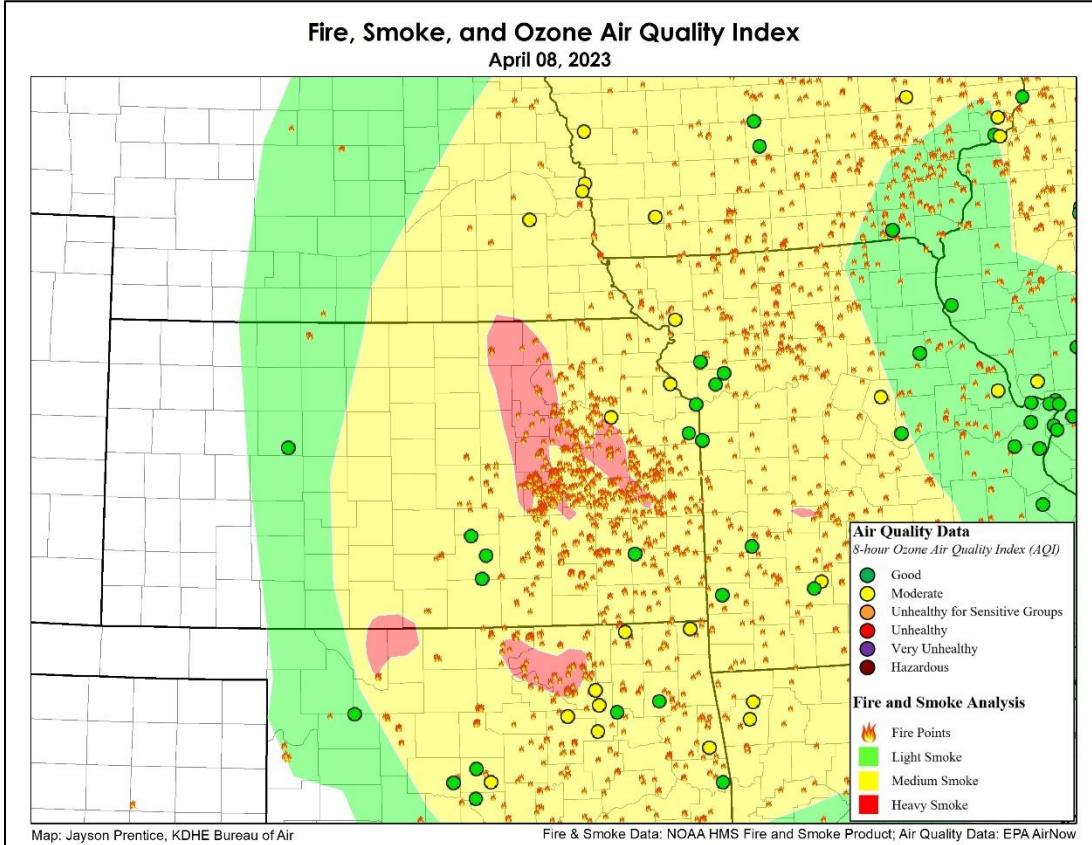
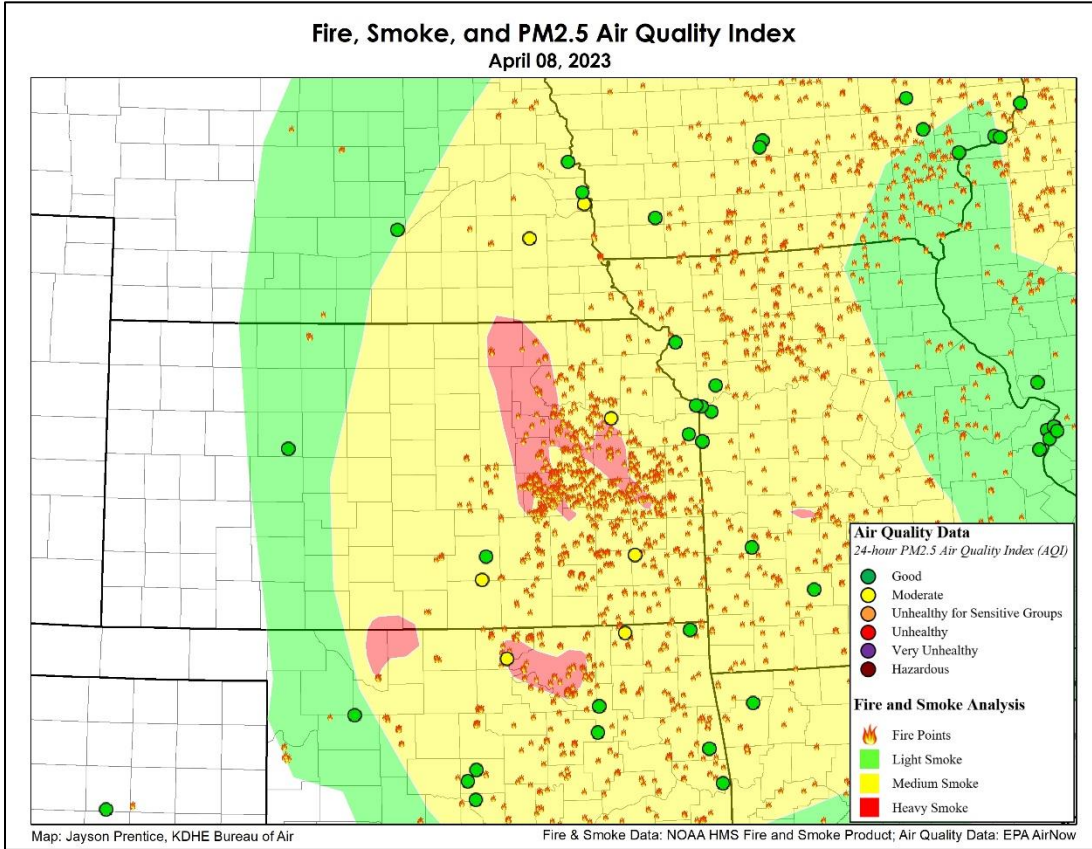
One exceedance of the 24-hour PM_{2.5} standard was observed on Wednesday (April 12) in northeast Oklahoma; However, this was caused by (wildfire) smoke in east-central Oklahoma and was not influenced by the Flint Hills.

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.

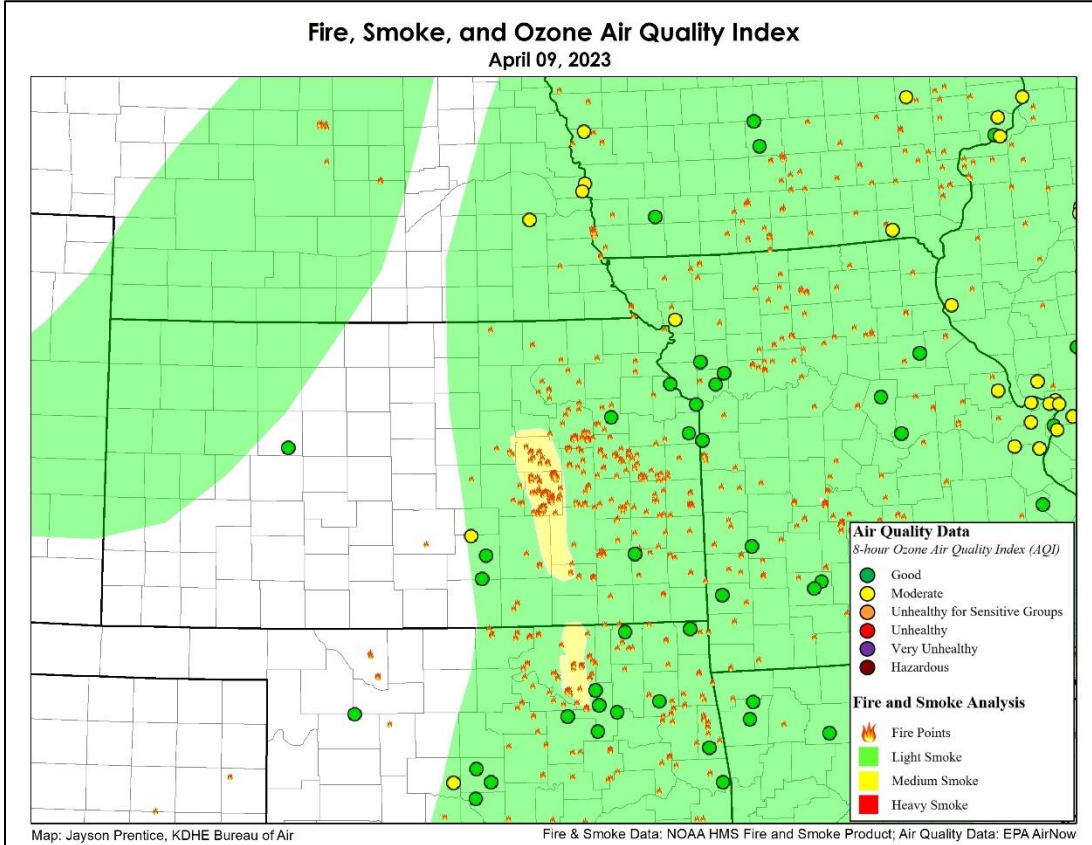
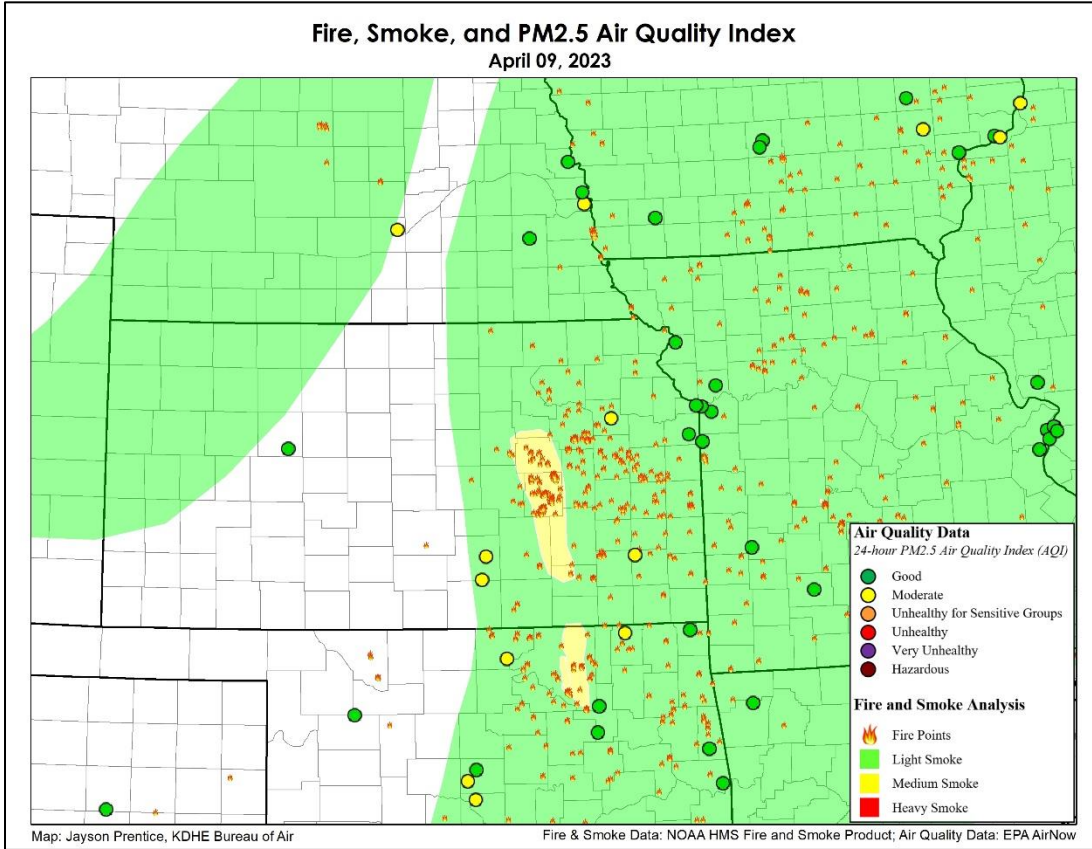
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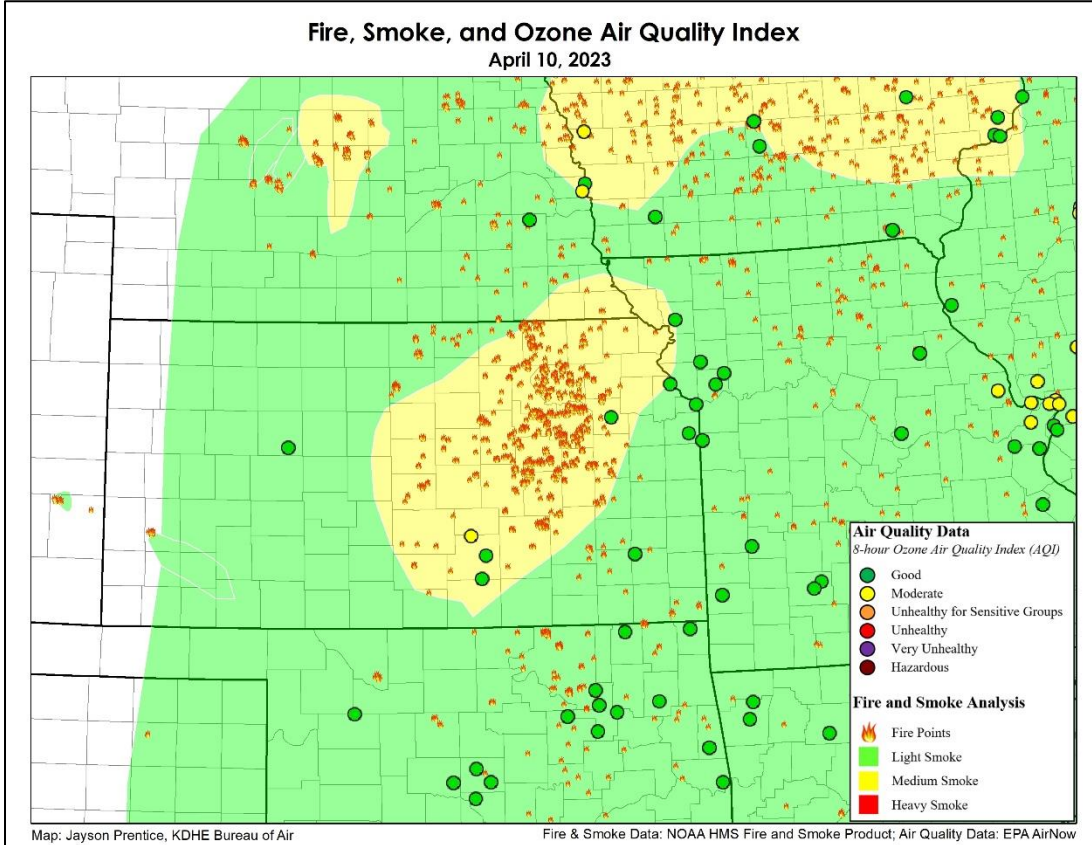
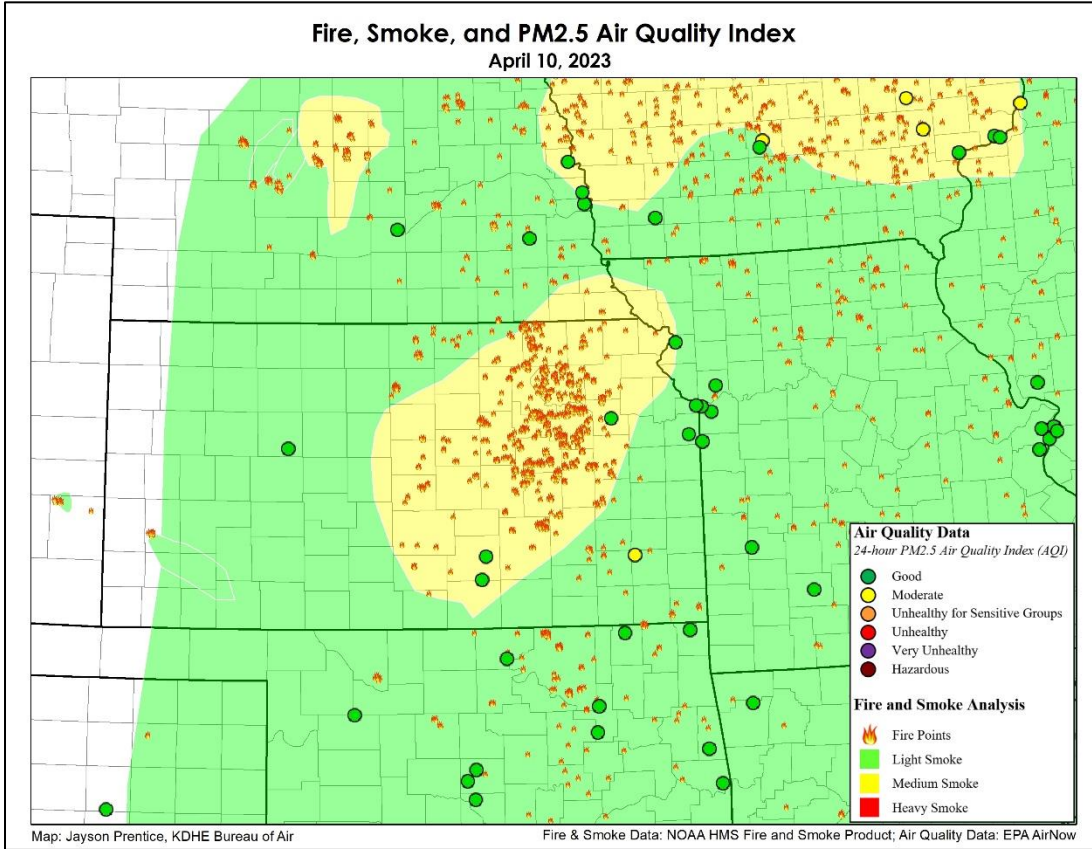
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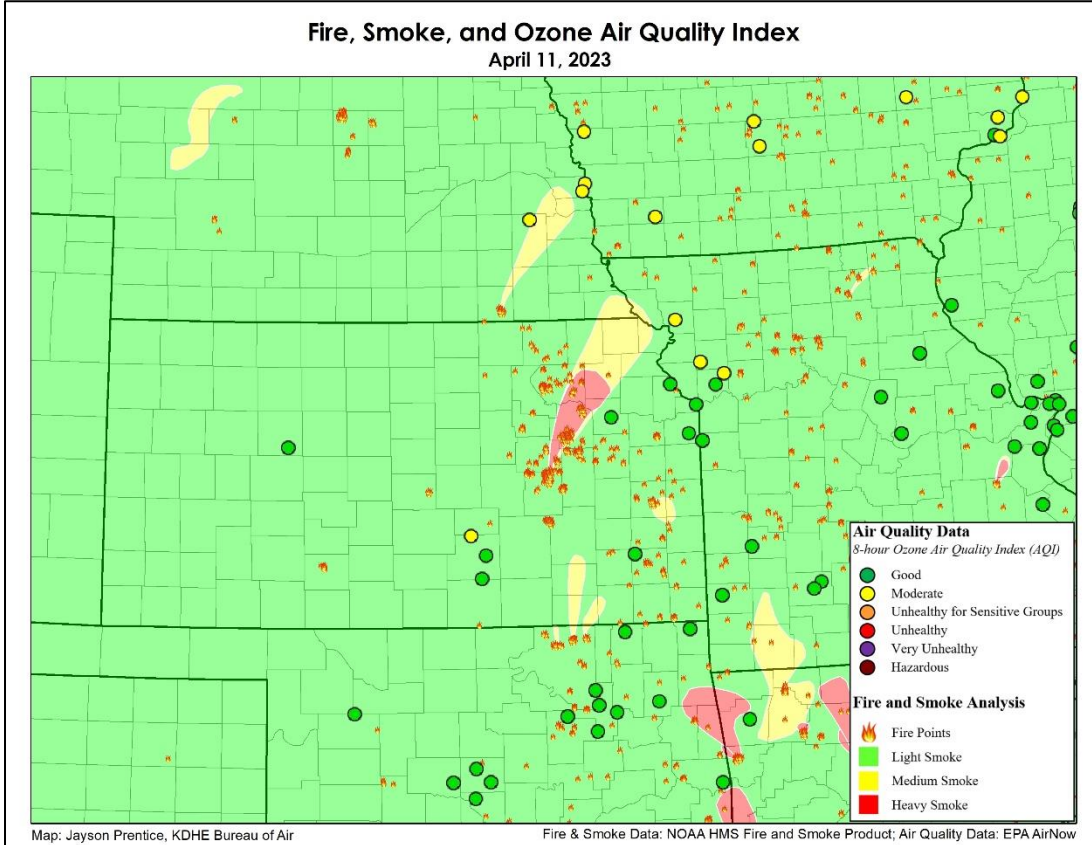
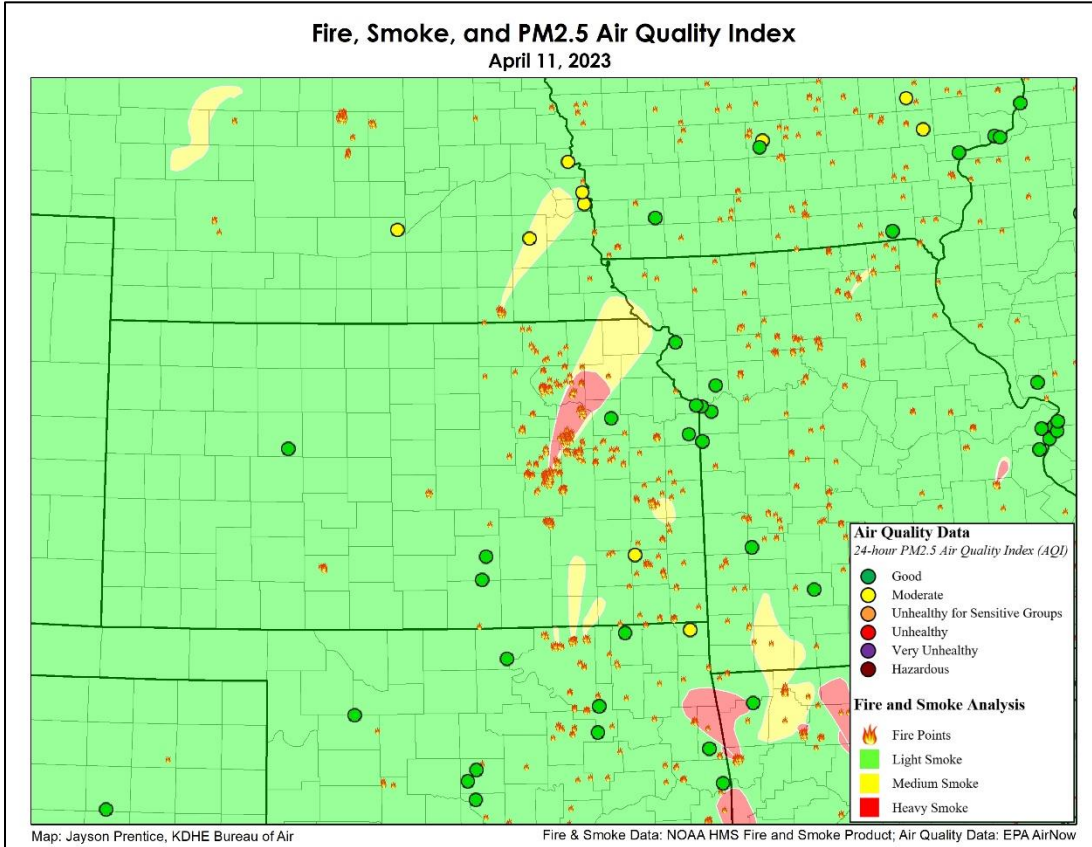
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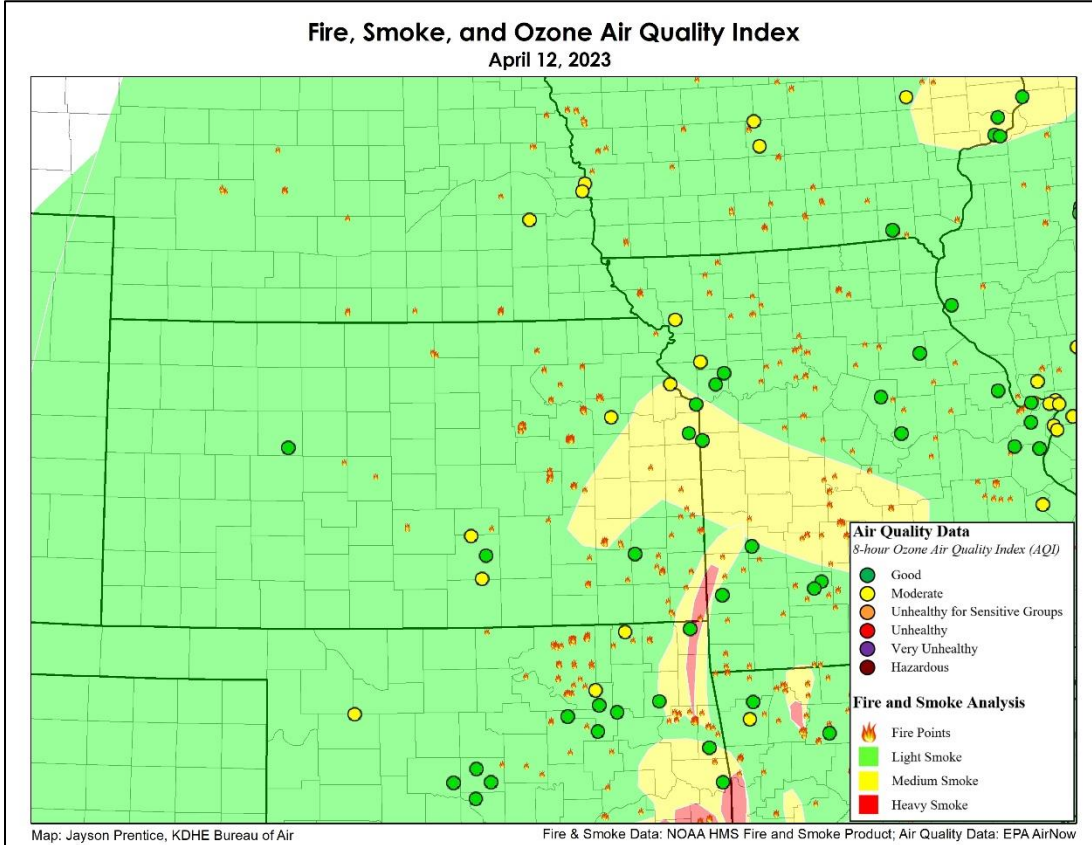
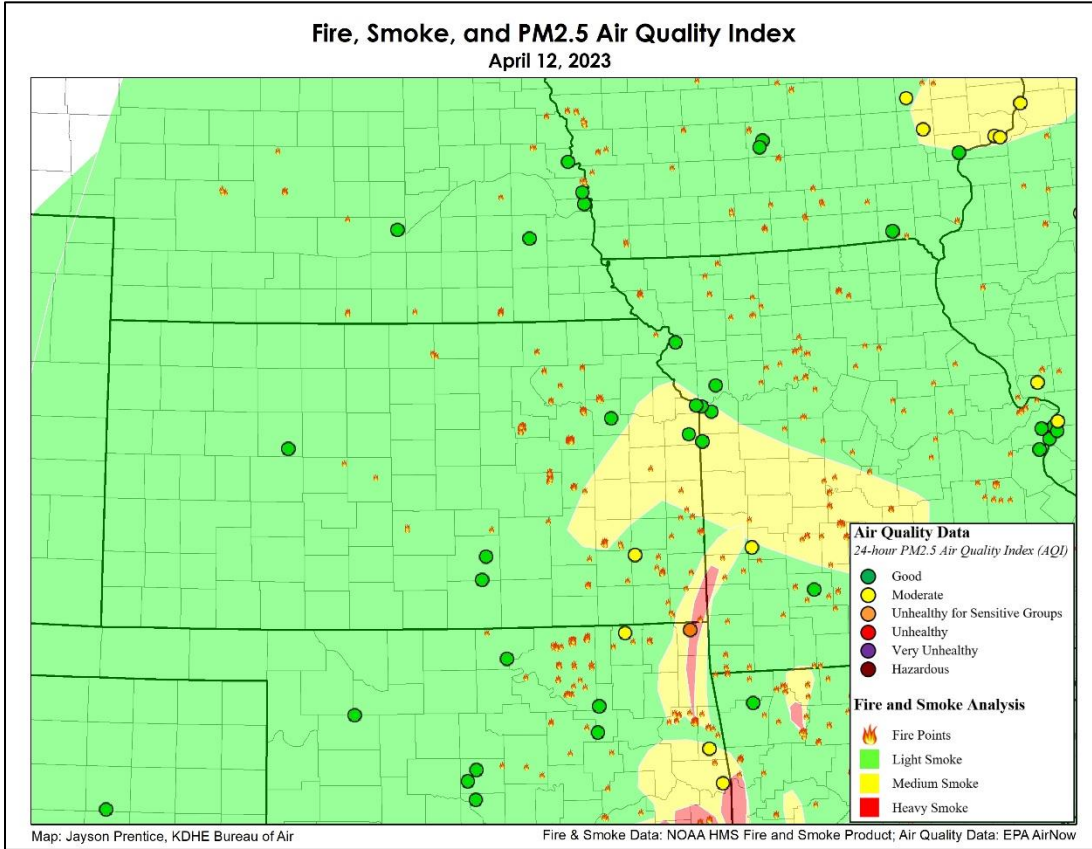
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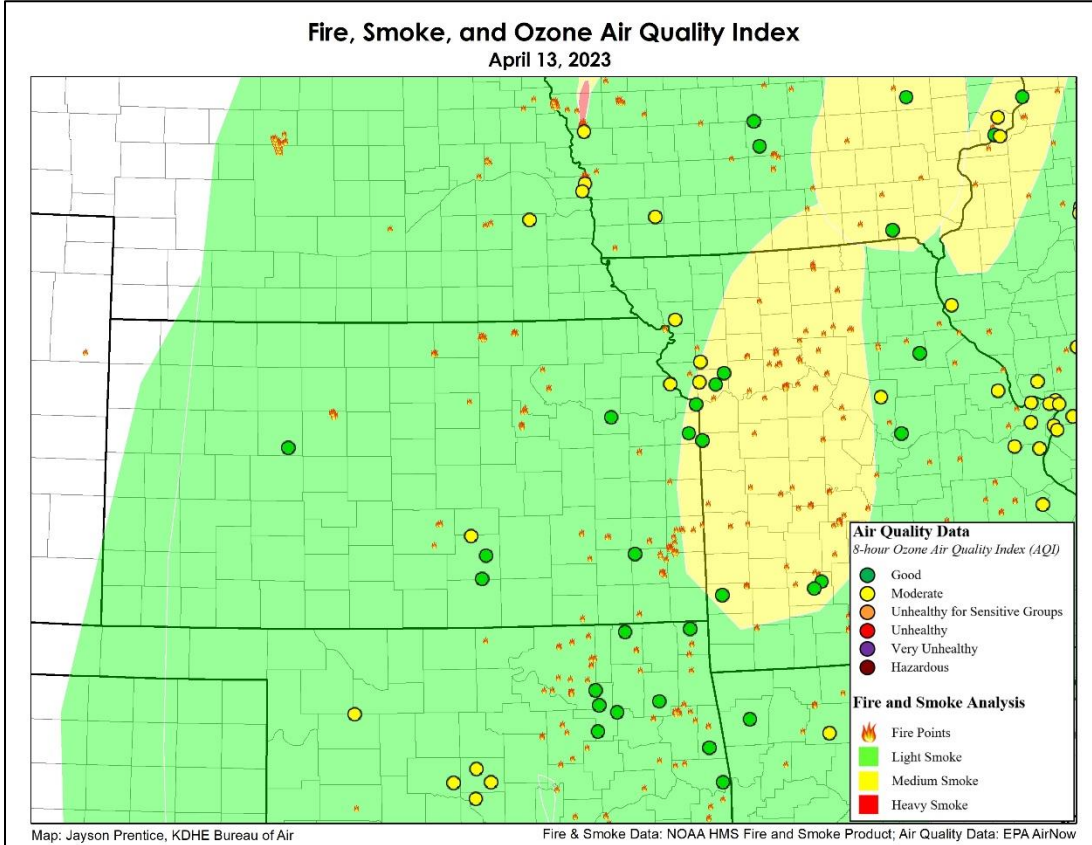
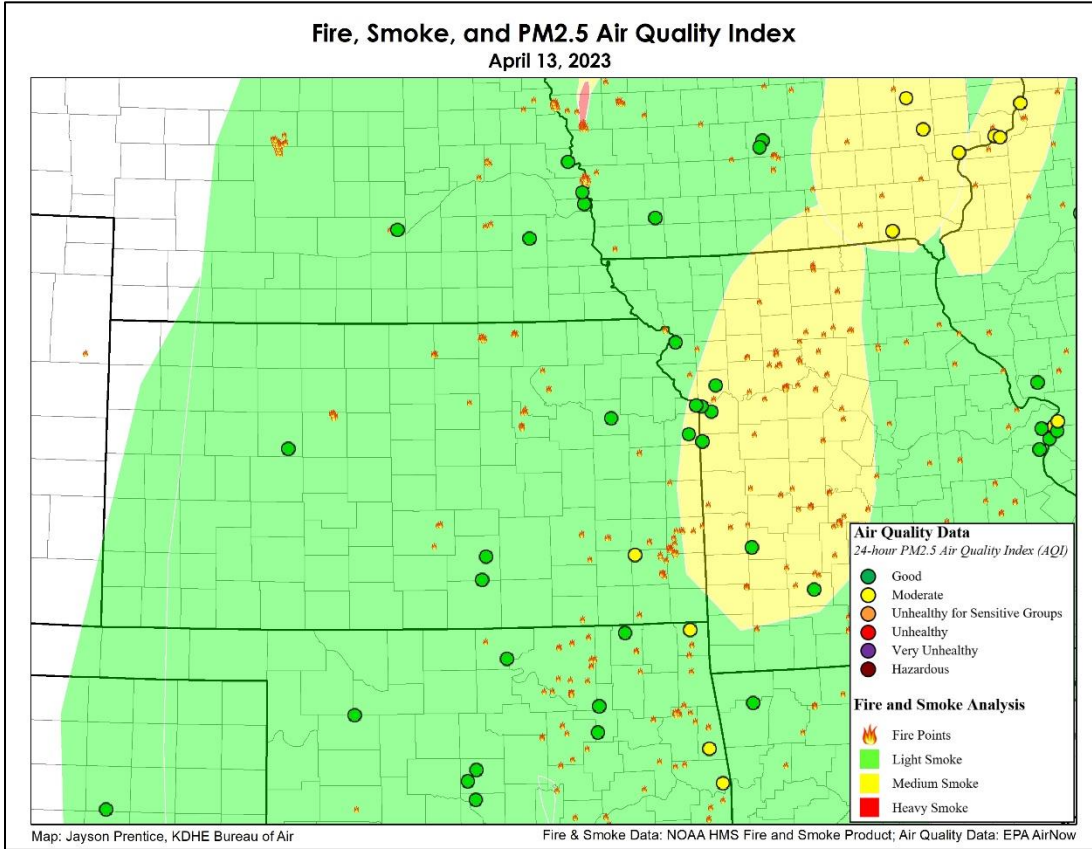
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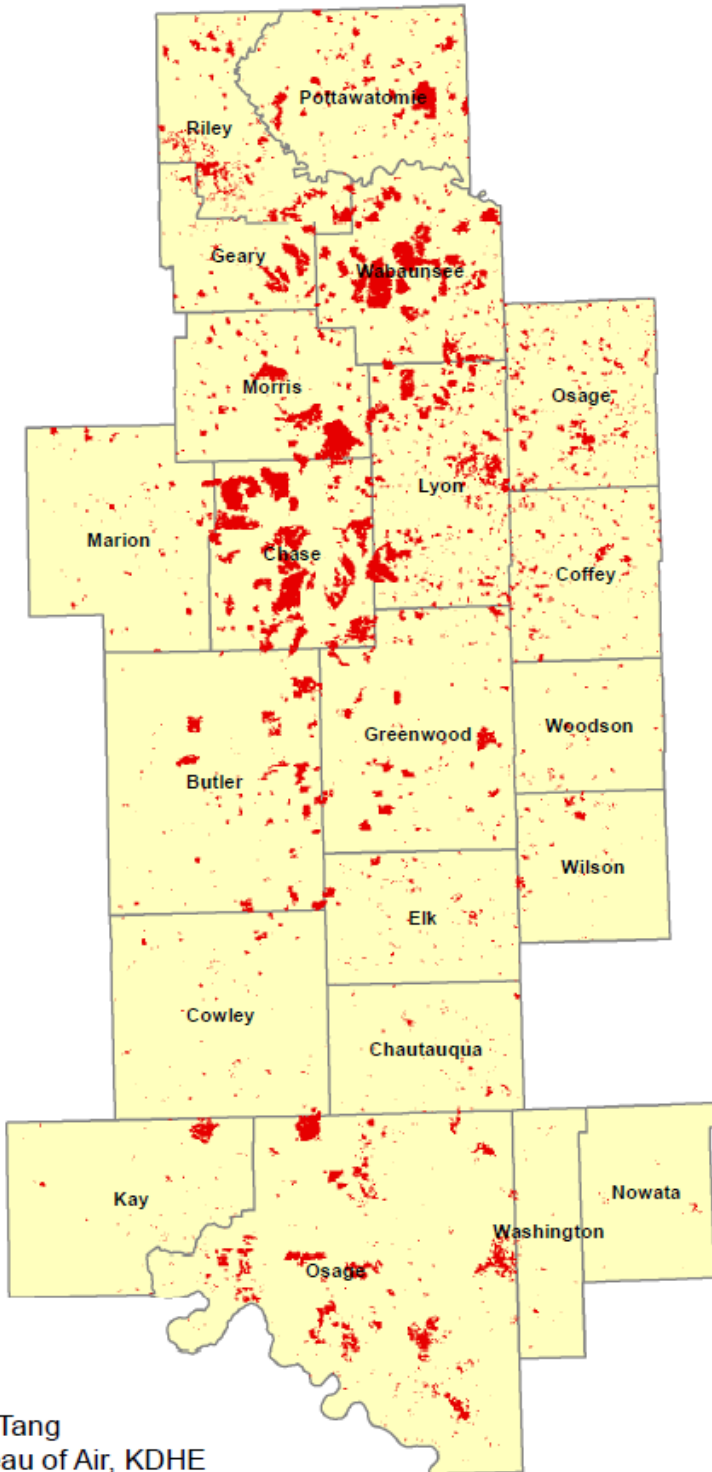


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Flint Hills Acreage Burned (February 3 – April 8, 2023)



Yao Tang
Bureau of Air, KDHE

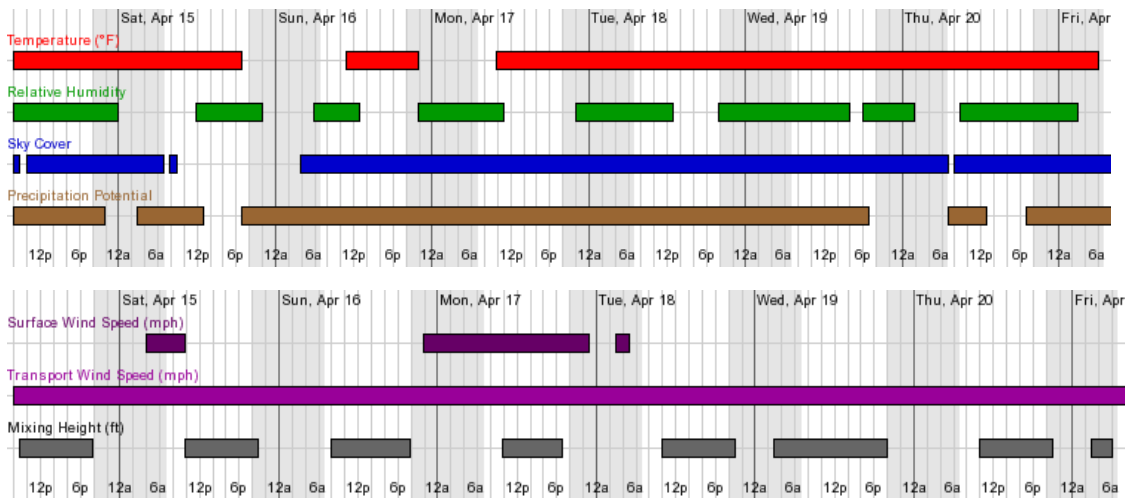
<u>Counties</u>	<u>Acres Burned</u>	
Butler	36,526	
Chase	123,694	
Chautauqua	4,355	
Coffey	16,803	
Cowley	6,255	
Elk	8,433	
Geary	20,680	
Greenwood	30,070	
Lyon	70,936	
Marion	10,781	
Morris	47,538	
Osage (KS)	29,128	
Pottawatomie	36,572	
Riley	37,746	
Wabaunsee	90,813	
Wilson	6,131	
Woodson	3,382	
Nowata (OK)	896	
Osage (OK)	82,813	
Washington (OK)	1,282	
Kay (OK)	8,047	
Total	672,881	
* Denotes county was partly or completely covered by clouds during latest analysis.		



Upcoming Look at Fires and Smoke

Breezy conditions are expected for much of the upcoming week with gusts frequently exceeding 25 mph and some afternoons forecast to have greater than 35 mph gusts. The only full day without potentially breezy conditions is Monday (April 17) however even without the winds the relative humidity is expected to drop below 20 percent for much of the Flint Hills which will continue to lead to dangerous fire weather conditions. Similar relative humidity concerns are forecast for Sunday (April 16) and Tuesday (April 18) leading to increased fire danger. Chances for showers and thunderstorms exists Friday (April 14), Saturday (April 15), Wednesday (April 19) and Thursday (April 20). Overall, it appears there are minimal opportunities for prescribed fire with the current forecast.

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: 8am April 14, 2023.

For more information, contact:

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