

Flint Hills Wildland Fire Update

April 1, 2022

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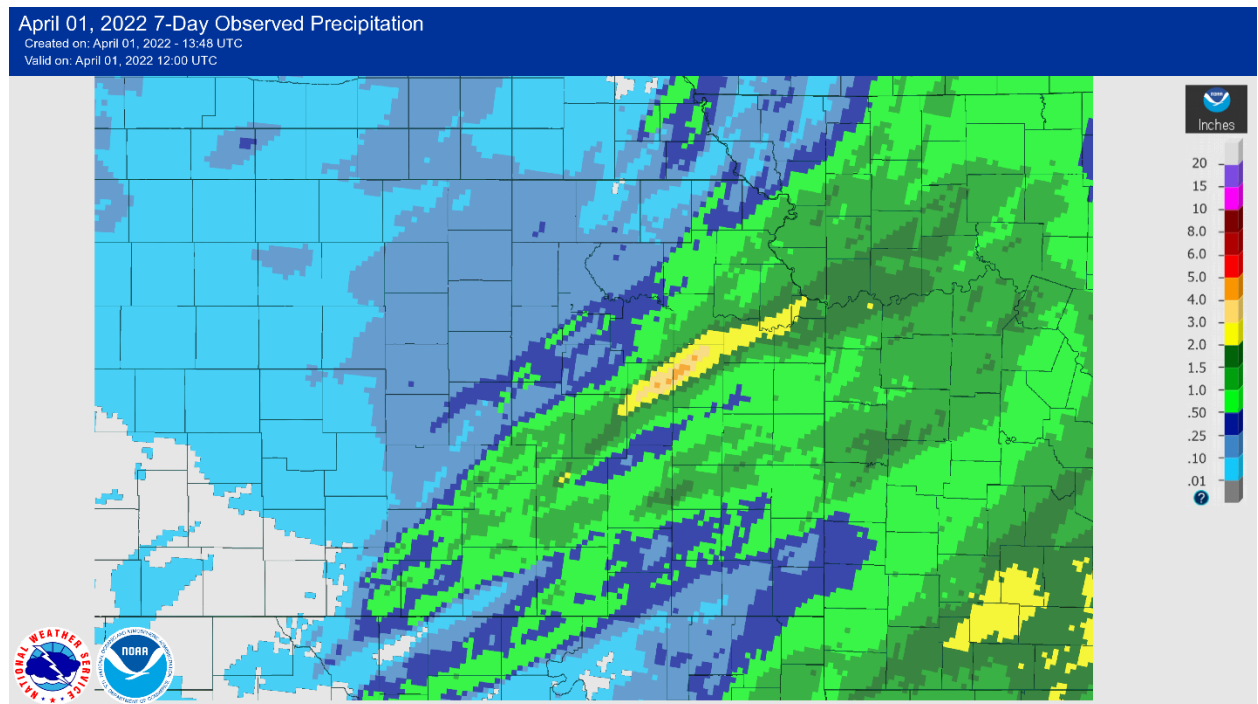
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications,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

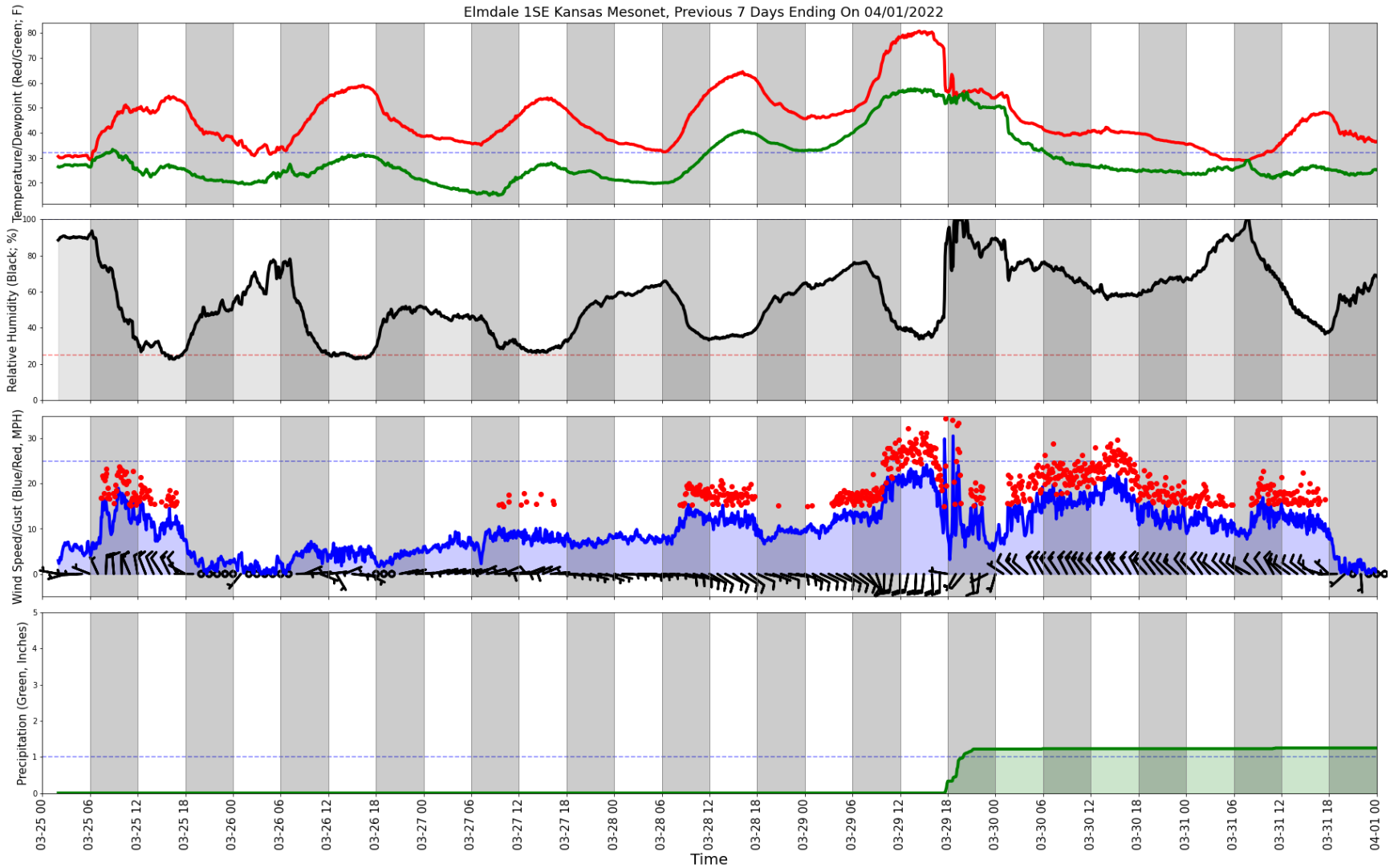
Dry, cool, and breezy conditions were observed last Friday (March 25) with strong northwest winds, especially for the northern Flint Hills. Sunny skies persisted throughout the weekend (March 26-27) with temperatures seasonably cool and reasonable winds with only a few gusts of 15-25 mph by late Sunday. A bit warmer for Monday (March 28) as winds become southeast and became a bit gustier with persistent 25-35 mph gusts across the region. Dangerous fire weather conditions took hold on Tuesday (March 29) ahead of a storm system with winds gusting 30-45 mph. A round of thunderstorms moved through much of the Flint Hills by late Tuesday which brought most of the precipitation from the last week shown below. Much cooler with a strong northwest wind on Wednesday (March 30) with the cool temperatures and northwest winds continuing for most of Thursday (March 31) with even some light snow for some of the Flint Hills Thursday morning.

Precipitation



NOAA/NWS Observed Total Precipitation for Mar. 25-31, 2022.

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7-day (Mar. 25-31, 2022) Observed Weather from 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 25-31, 2022 there was **one** air quality exceedances of the National Ambient Air Quality Standards (NAAQS) that were potentially influenced by prescribed fire within the Flint Hills region.

Ozone: Preliminary data indicates one exceedances of the NAAQS daily 8-hour average maximum of 70 ppb. On Monday, March 28 the ozone monitor in Wichita, KS (74 ppb) exceeded the NAAQS.

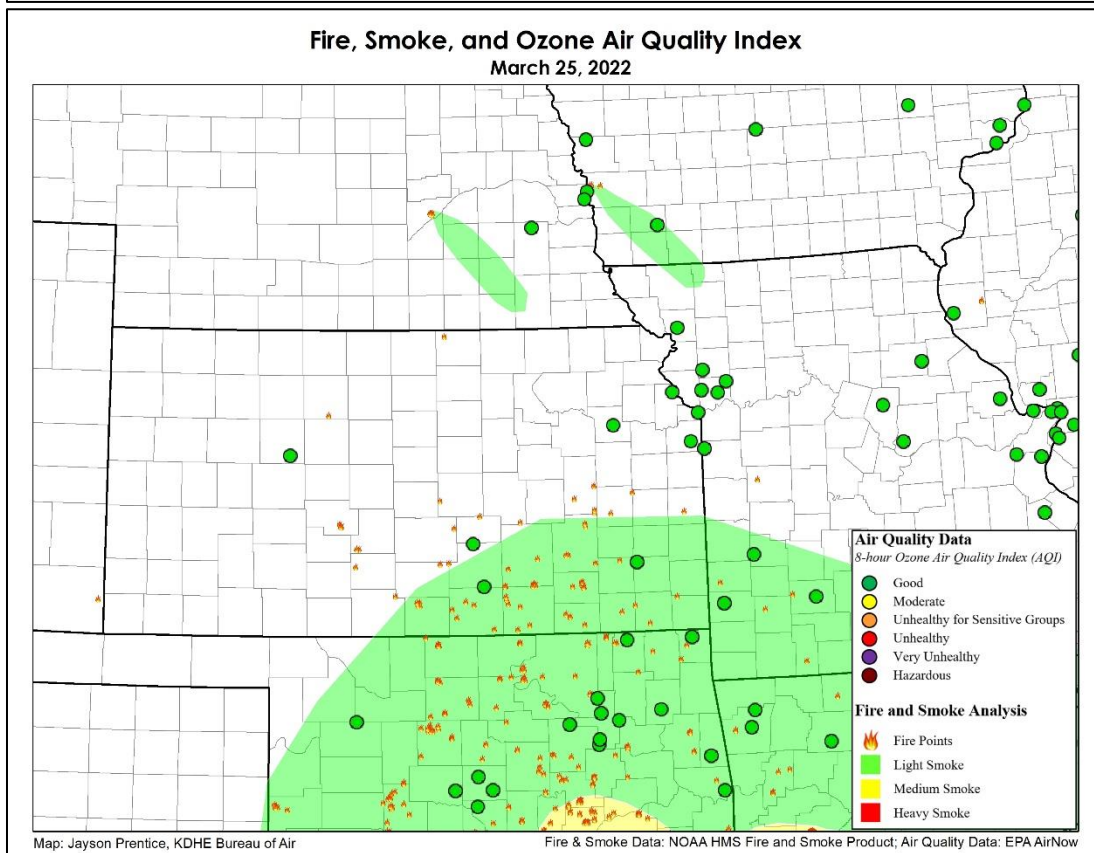
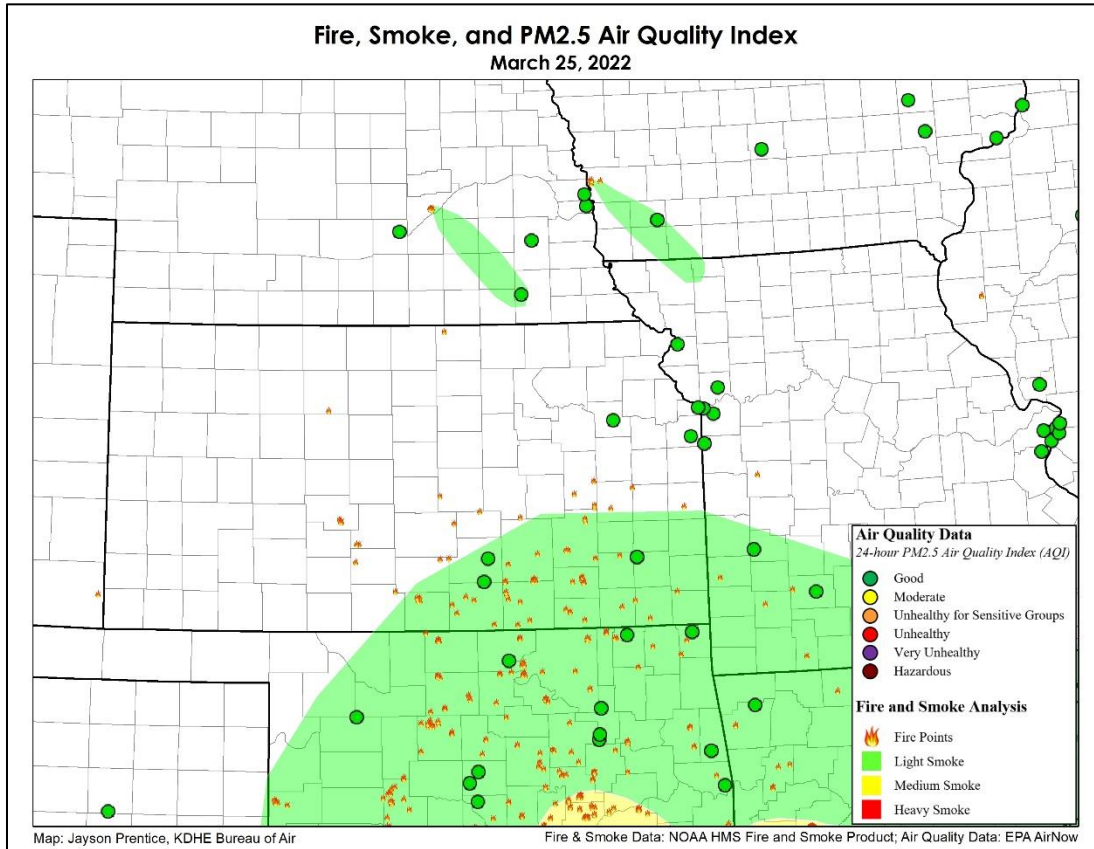
PM_{2.5}: Preliminary data indicates no exceedances of the NAAQS daily 24-hour average maximum of 35 $\mu\text{g}/\text{m}^3$.

Strong northwest winds on Friday (March 25) alongside recent precipitation limited prescribed fire to only the southern extents of the Flint Hills and further southward. With light winds and otherwise reasonable conditions there was extensive prescribed fire use on Saturday (March 26) and Sunday (March 27) for the Flint Hills region. Very good mixing and transport winds were suitable to avoid any air quality exceedances at the regulatory monitors despite heavy smoke in some locations. At least light smoke was observed (aloft or otherwise) for most of the region. Winds become southeast on Monday (March 28) and increased throughout the afternoon, but remnant smoke and additional prescribed burning in addition to the sunny skies and warm temperatures led to the lone air quality exceedance in Wichita, KS where the 8-hour ozone average was 74 ppb.

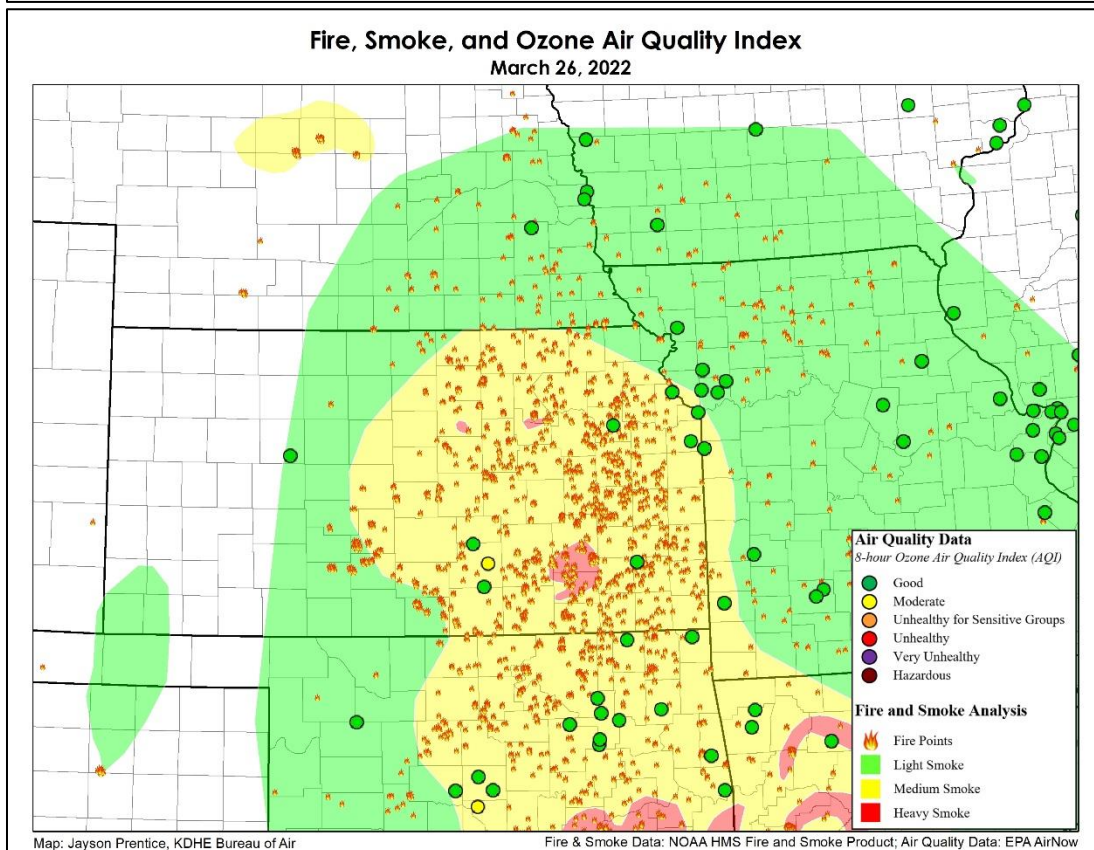
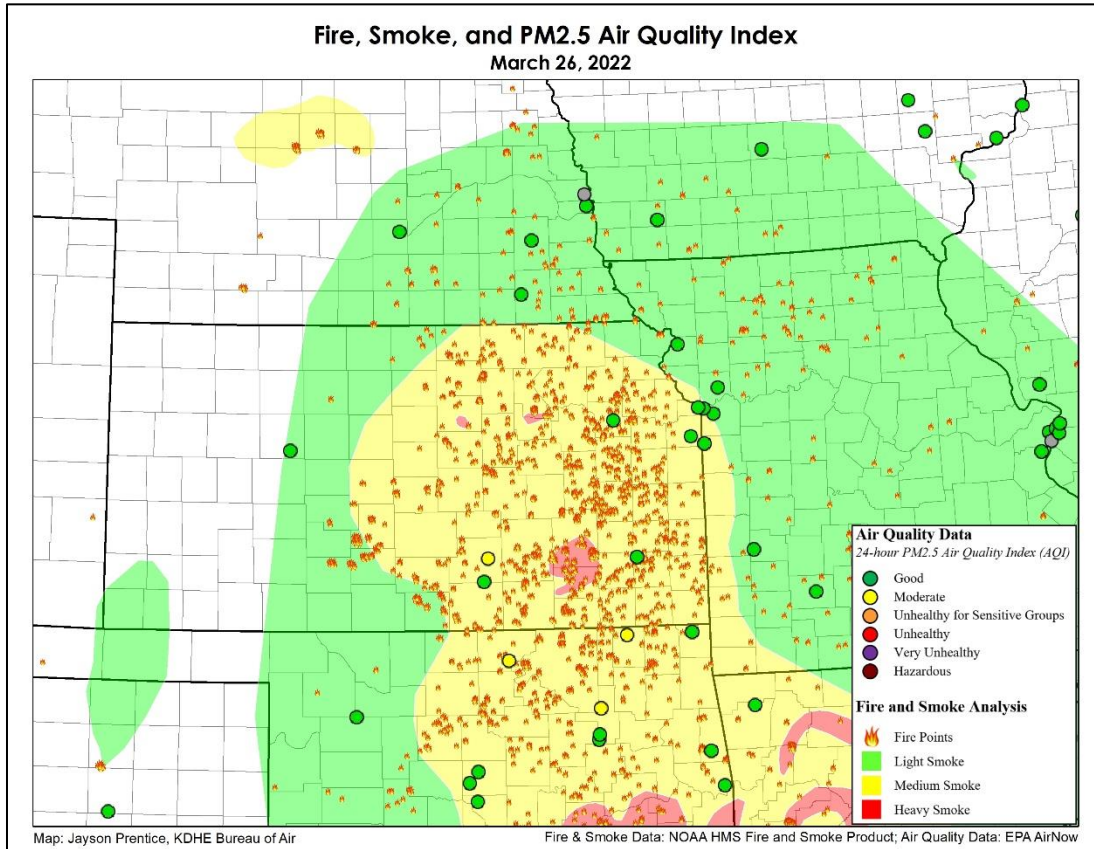
While there were a handful of prescribed fires early on Tuesday (March 29) several larger wildfires were observed west of the Flint Hills which transported smoke to the north and east. Cooler temperatures and the prior evening rainfall led to limited prescribed fire use on Wednesday (March 30) with a handful of the wildfires continuing west of the Flint Hills. Despite the cooler temperatures there were a handful of prescribed fires on Thursday (March 31) in the region.

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.

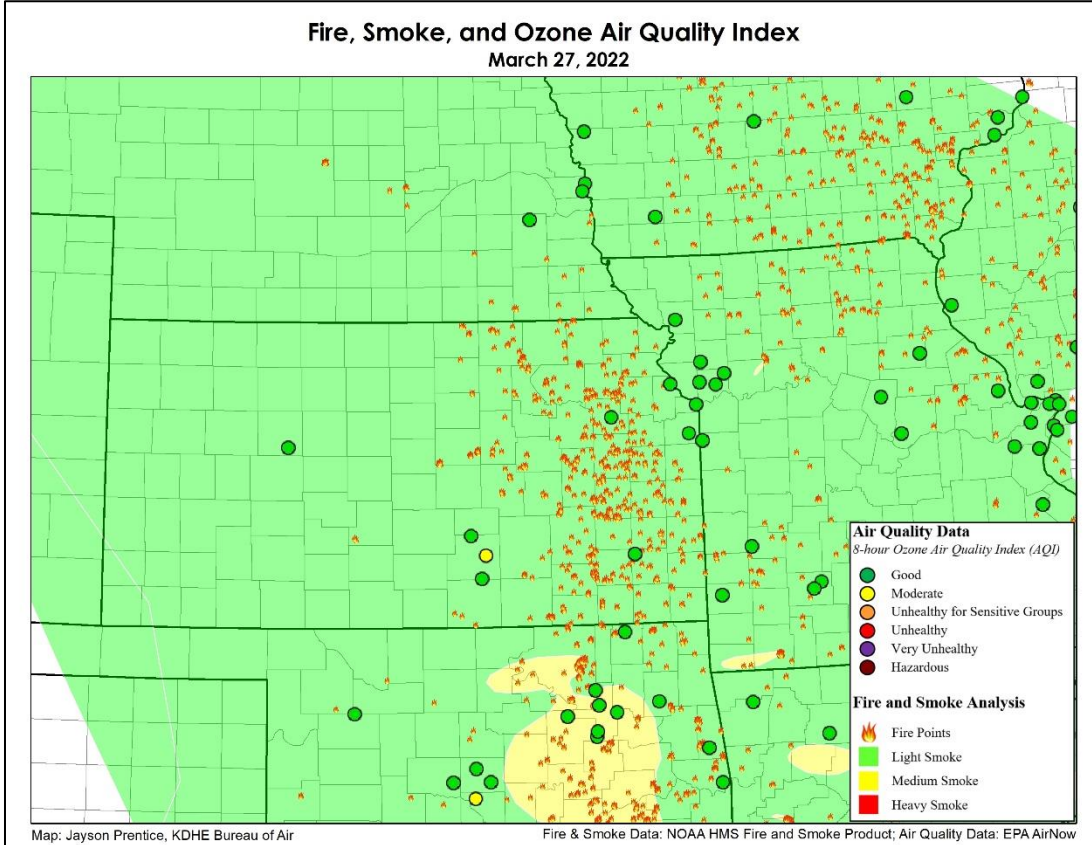
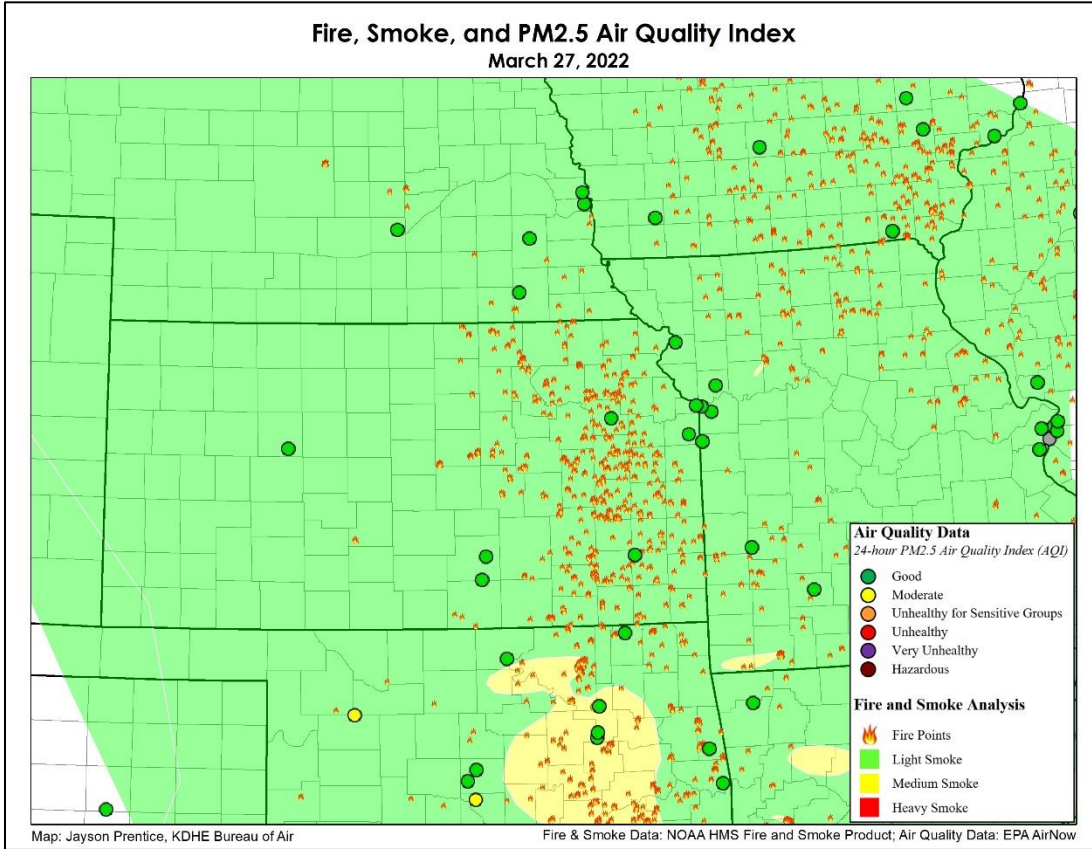
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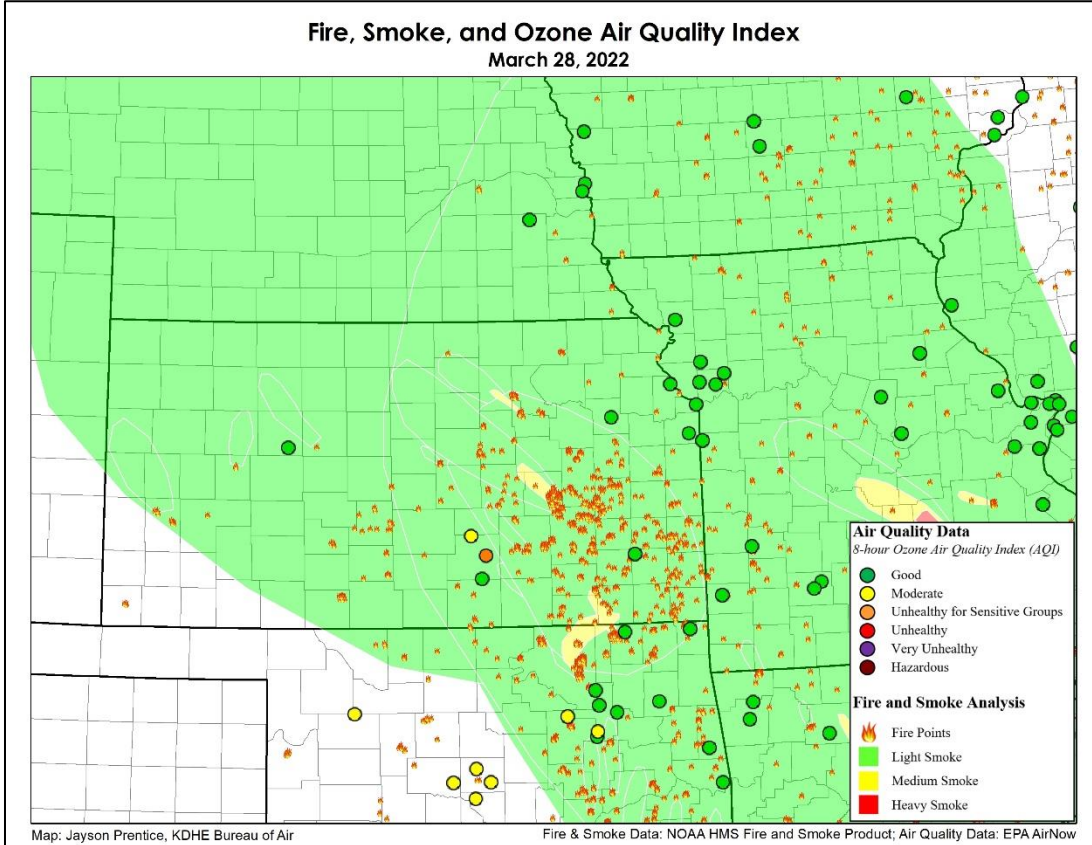
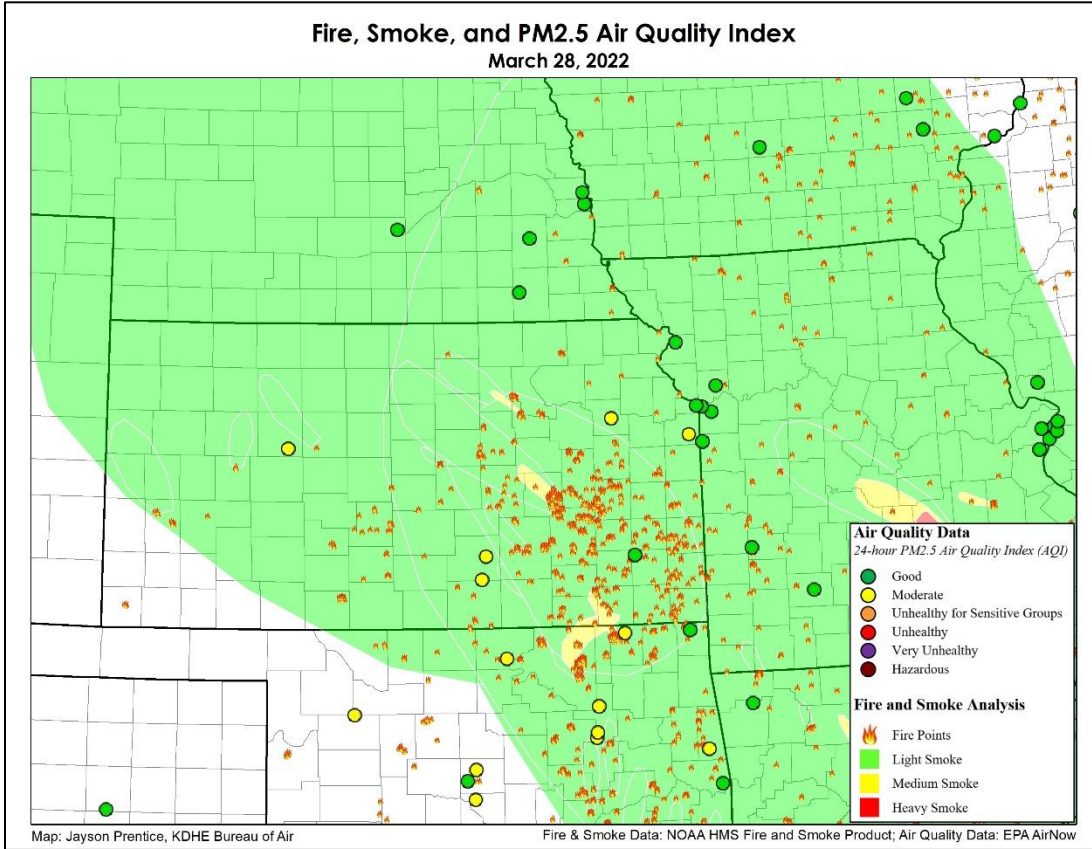
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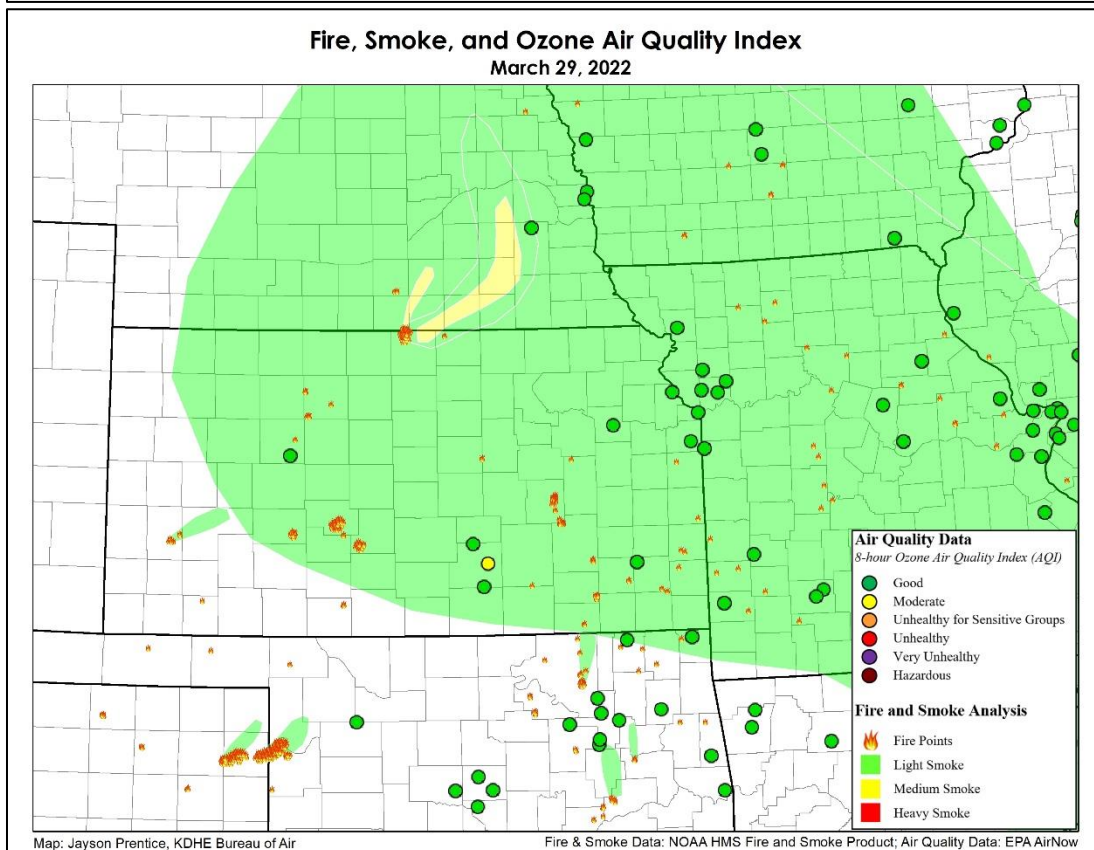
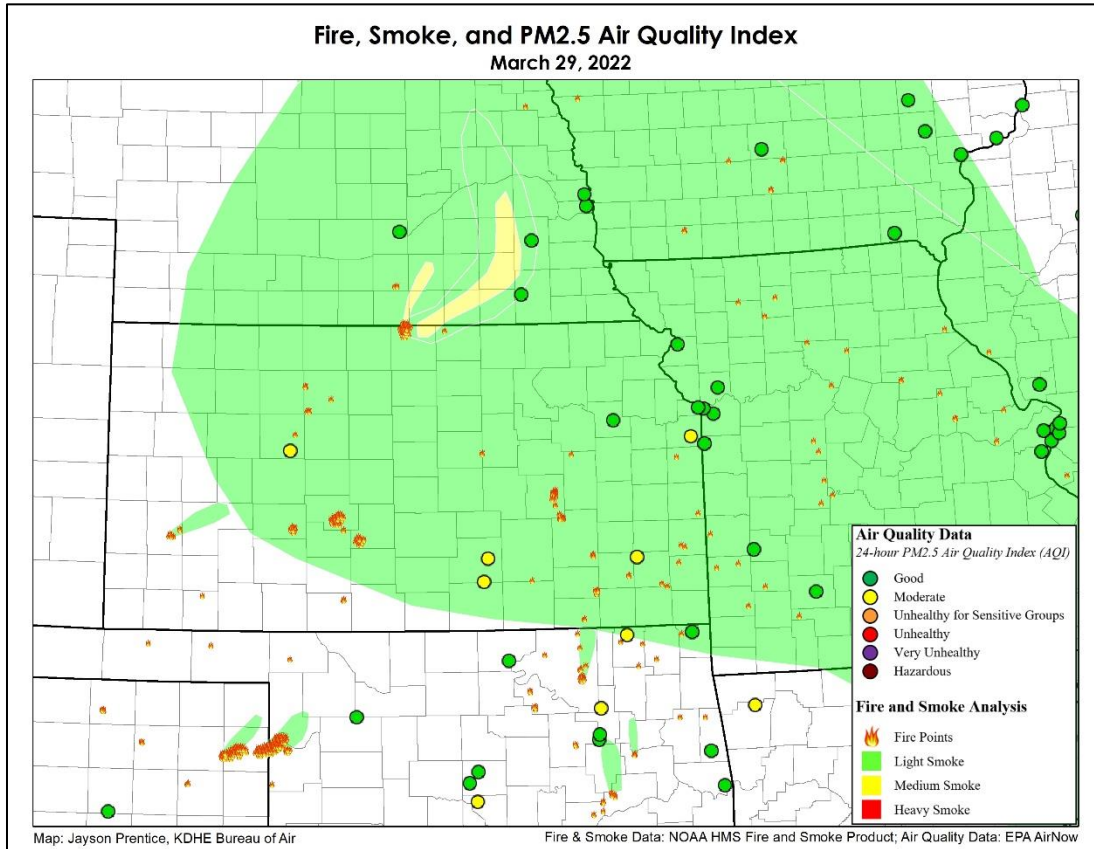
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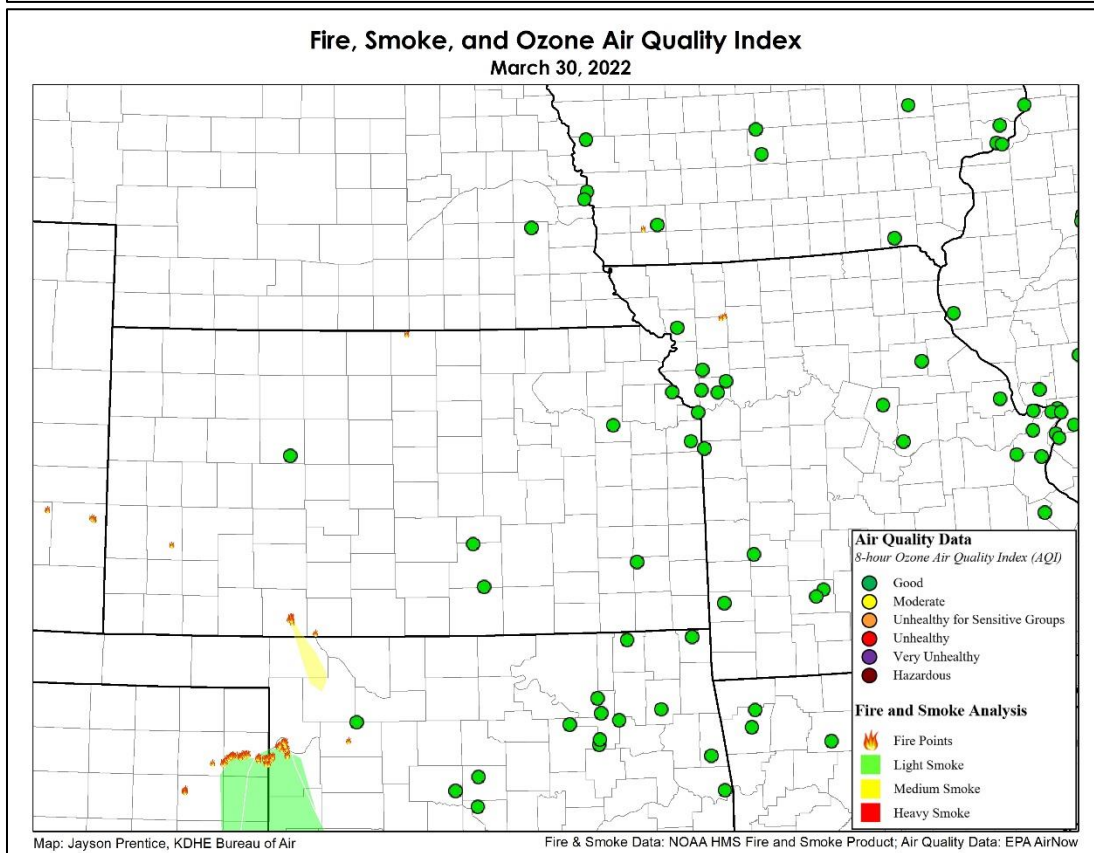
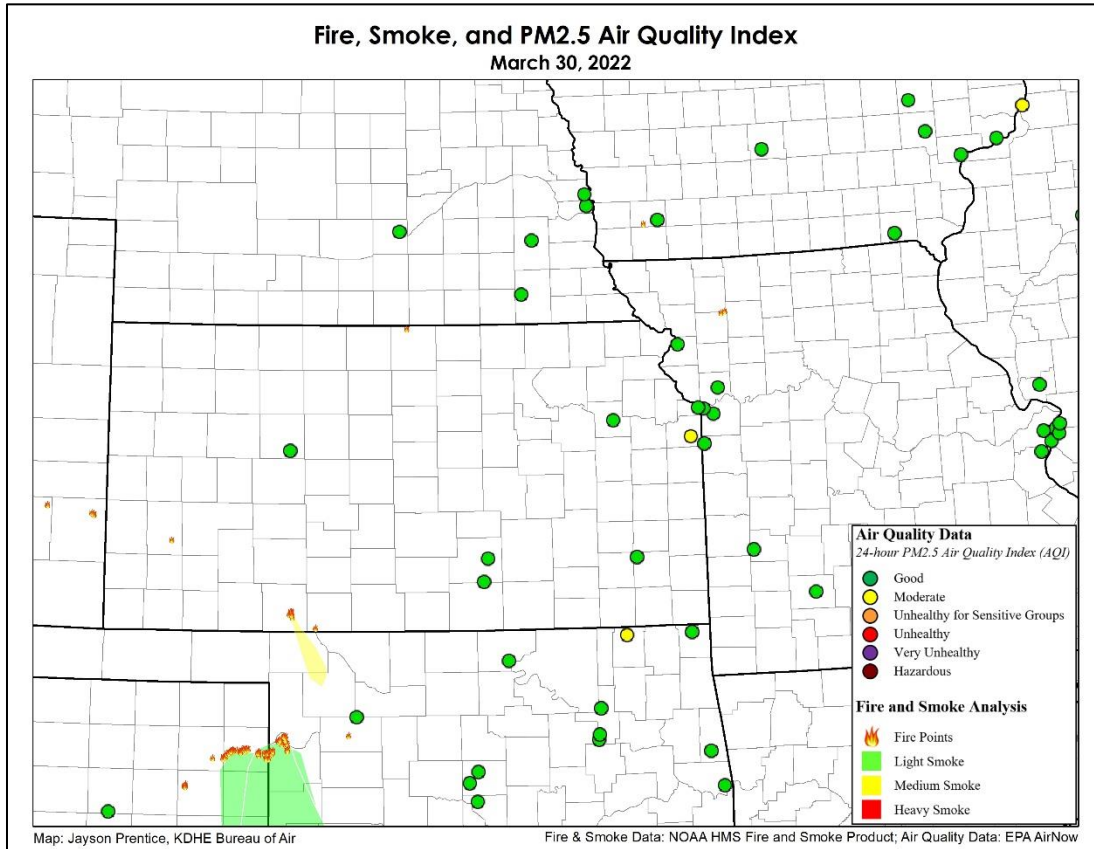
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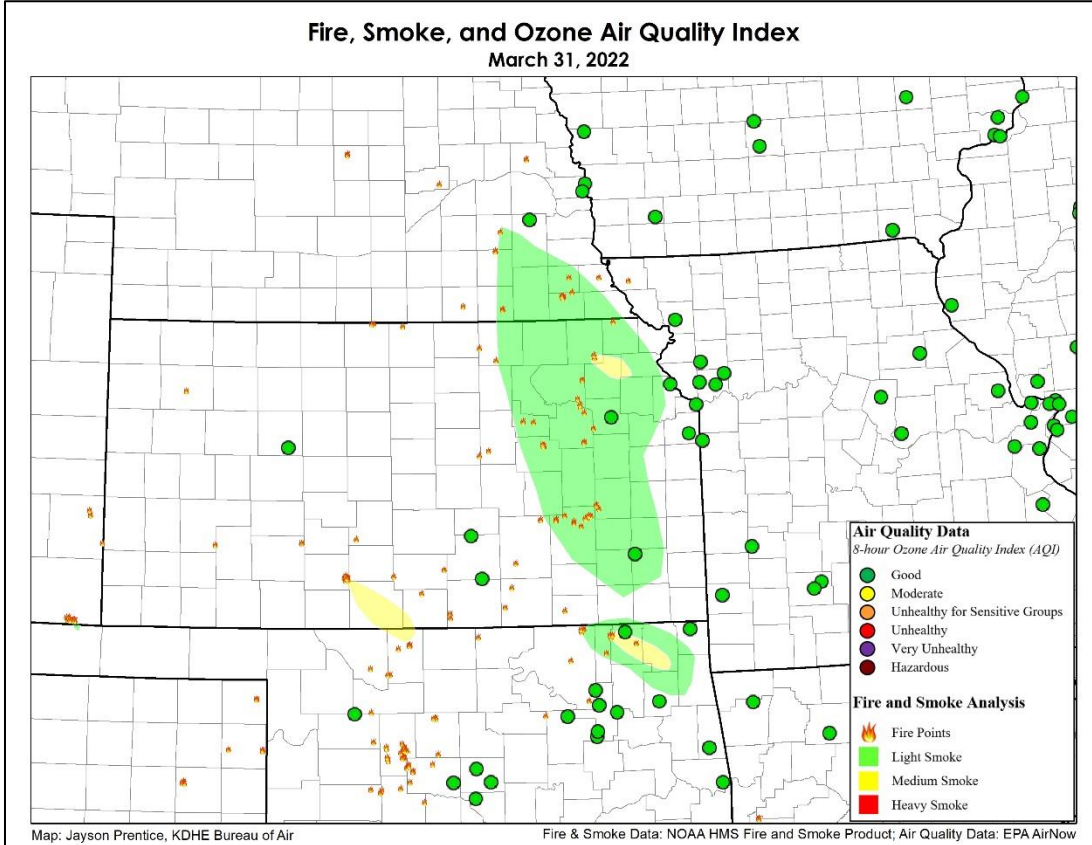
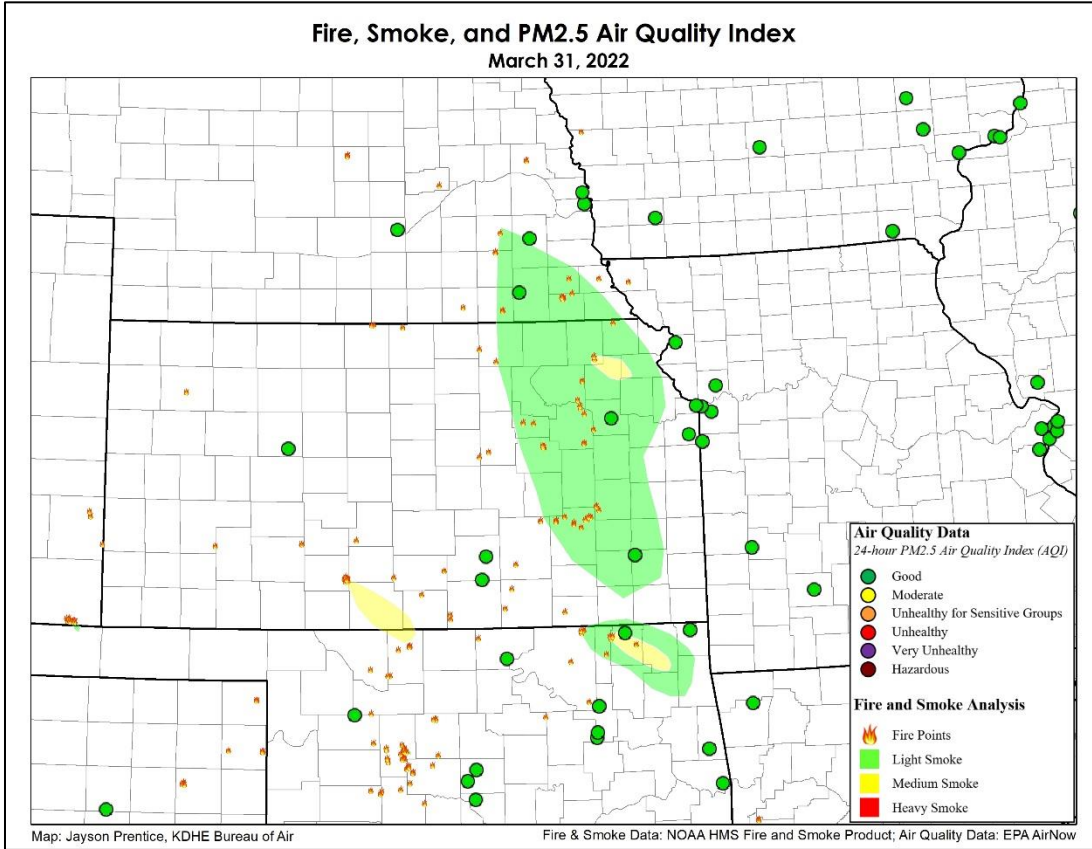
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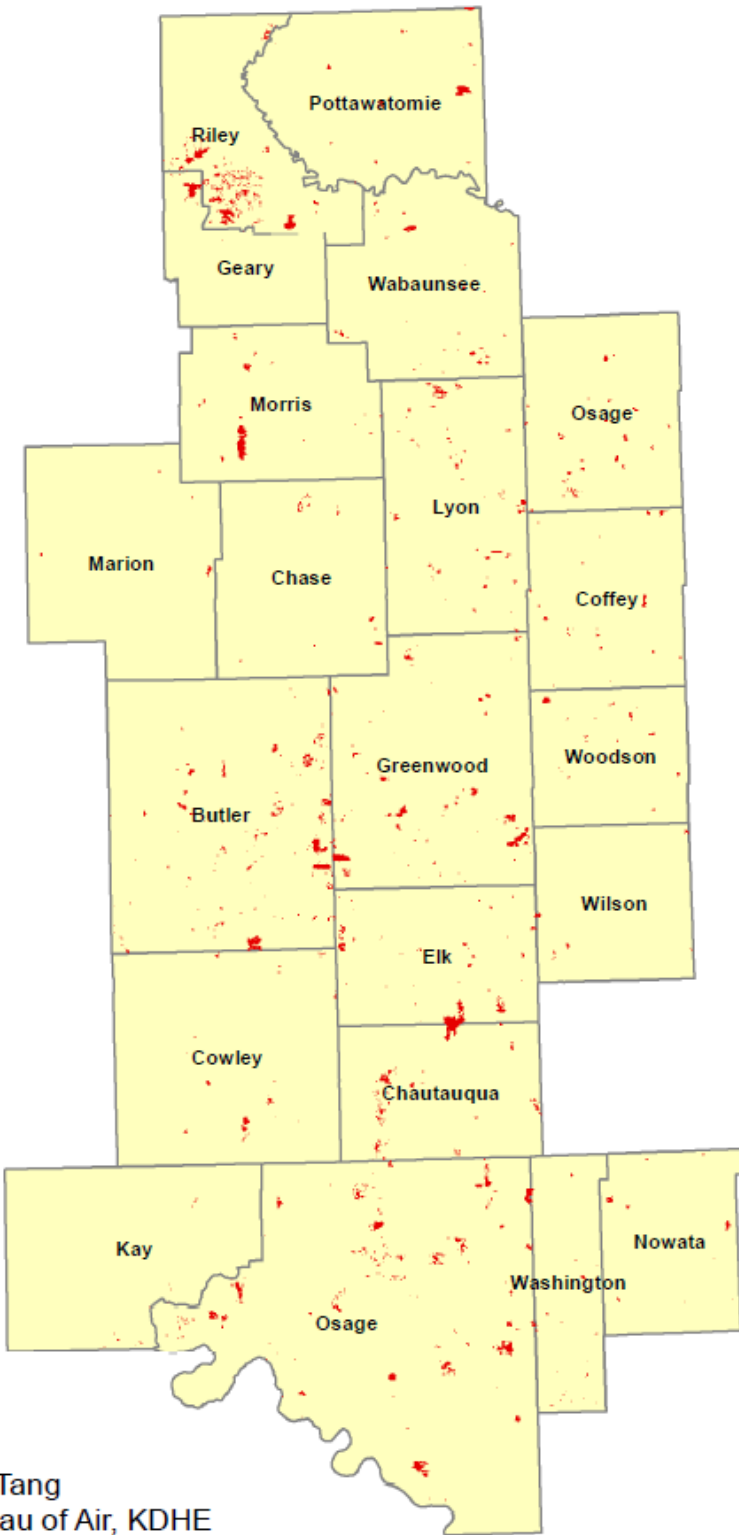


Flint Hills Wildland Fire Update





Flint Hills Acreage Burned (Feb. 14 – Mar. 26, 2022)



Yao Tang
Bureau of Air, KDHE

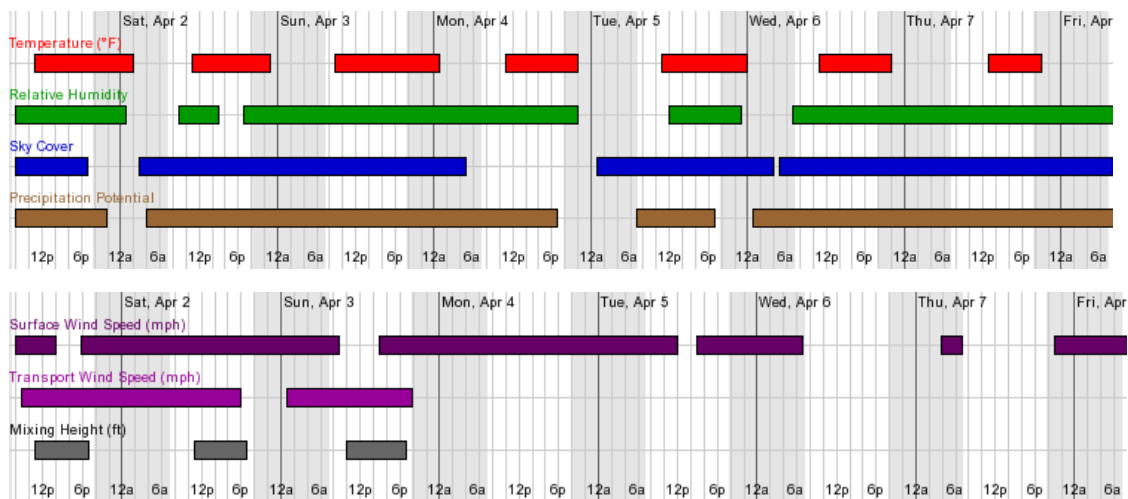
<u>Counties</u>	<u>Acres Burned</u>	
Butler	13,405	
Chase	1,251	
Chautauqua	6,549	
Coffey	1,792	*
Cowley	2,193	
Elk	6,410	
Geary	2,116	
Greenwood	9,776	
Lyon	5,421	
Marion	618	
Morris	4,803	
Osage (KS)	3,043	*
Pottawatomie	2,656	*
Riley	12,726	*
Wabaunsee	2,656	
Wilson	741	
Woodson	1,699	
Nowata (OK)	1,313	
Osage (OK)	19,908	
Washington (OK)	1,143	
Kay (OK)	309	
Total	100,528	
* Denotes county was partly or completely covered by clouds during latest analysis.		



Upcoming Look at Fires and Smoke

Breezy conditions are expected today (Friday, April 1) which brings in the warmer temperatures compared to recent days. A chance for light precipitation overnight. The winds subside a bit for Saturday (April 2) but relative humidity values are expected to drop below 30 percent during the afternoon hours. Breezy conditions return for Sunday (April 3) alongside what is likely the warmest day of the next week. Cloud cover and the chance for more rain moves in on Monday (April 4). Breezy conditions and yet another change of rain exists on Tuesday (April 5) before conditions become a bit cooler and breezy for both Wednesday (April 6) and Thursday (April 7).

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 for that hour. Note: Forecast for mixing height and transport winds are only issued for the next 72 hours. Forecast valid: 8am April 1, 2022.

For more information, contact:

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