

Flint Hills Wildland Fire Update

April 21, 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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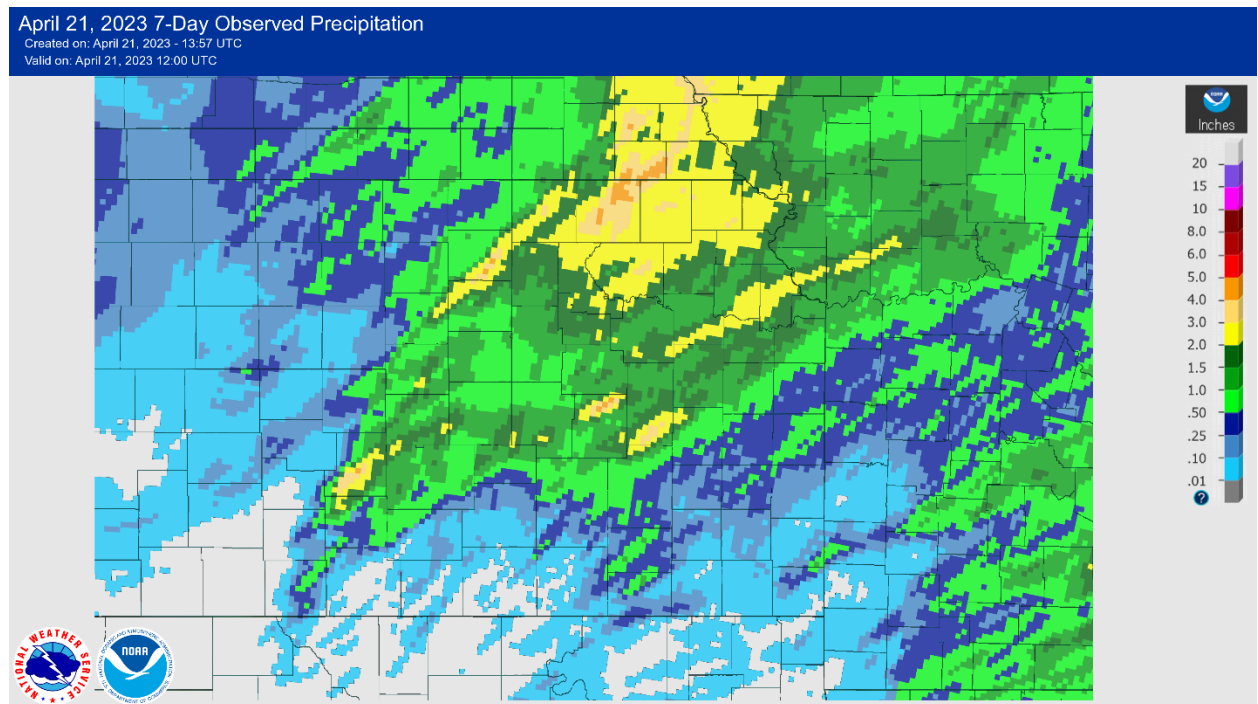
This website was developed as part of the development of the Kansas Flint Hills Smoke Management Plan. Kansas State University hosts the webpage and it includes important information for ranchers and others who might be interested in the Flint Hills. It provides training, regulations, policies, publications, 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

Gusty south winds last Friday (April 14) pushed temperatures well into the 80s for much of the Flint Hills ahead of a storm system which brought thunderstorms to some areas Friday evening and overnight. A cold front moved across the area for Saturday (April 15) with widespread rainfall for at least the central and northern Flint Hills. Northwest winds and cooler temperatures were observed on Sunday (April 16) behind this cold front. Occasionally gusty south winds and warmer temperatures returned for Monday (April 17) with similar conditions on Tuesday (April 18) and into Wednesday (April 19). Another storm system brought severe weather to parts of the Flint Hills by Wednesday evening with the Kansas Mesonet station near Elmdale recording a 69-mph wind gust alongside other severe weather reports. Northwest winds and cooler temperatures occurred on Thursday (April 20) behind another cold front.

Precipitation

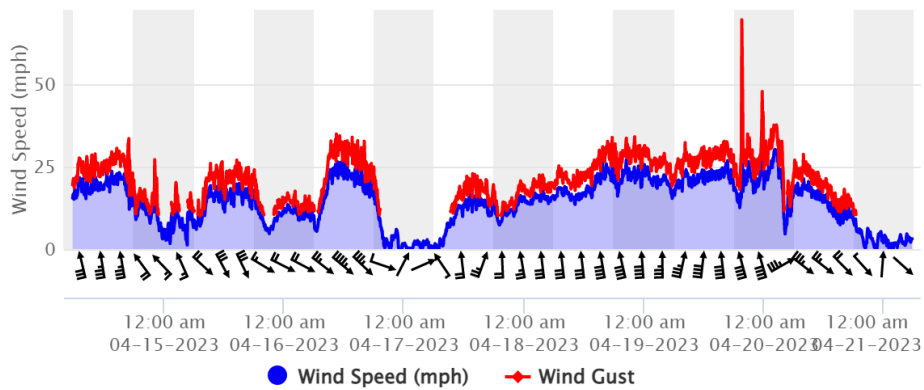
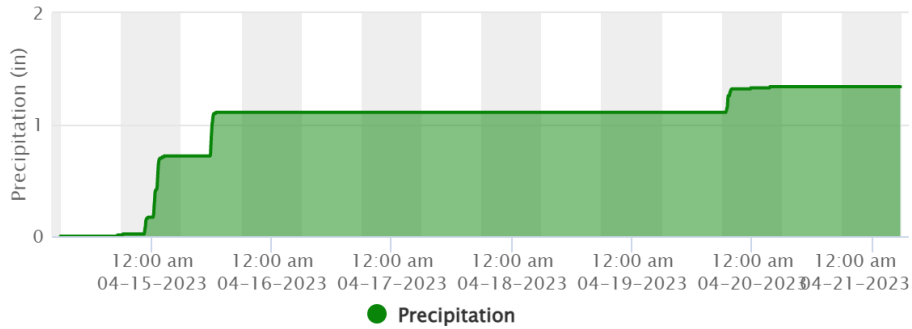
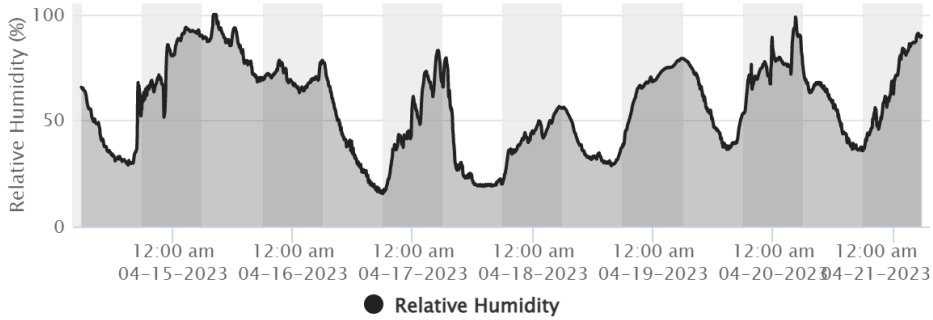
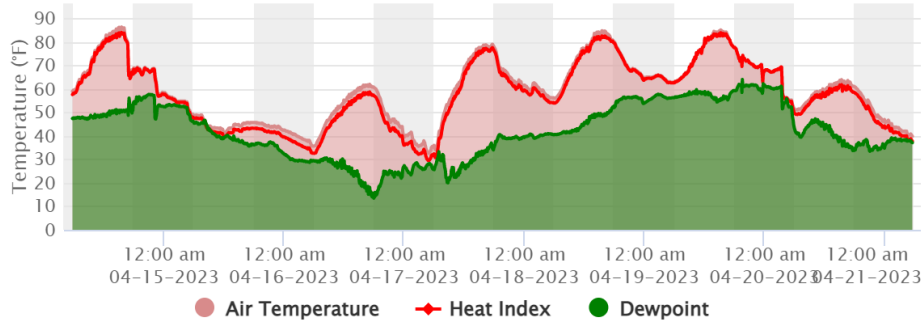


NOAA/NWS Observed Total Precipitation for April 14-21, 2023.

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Meteogram for Elmdale 1SE



7-day (April 14-21, 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 14-20, 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 $\mu\text{g}/\text{m}^3$.

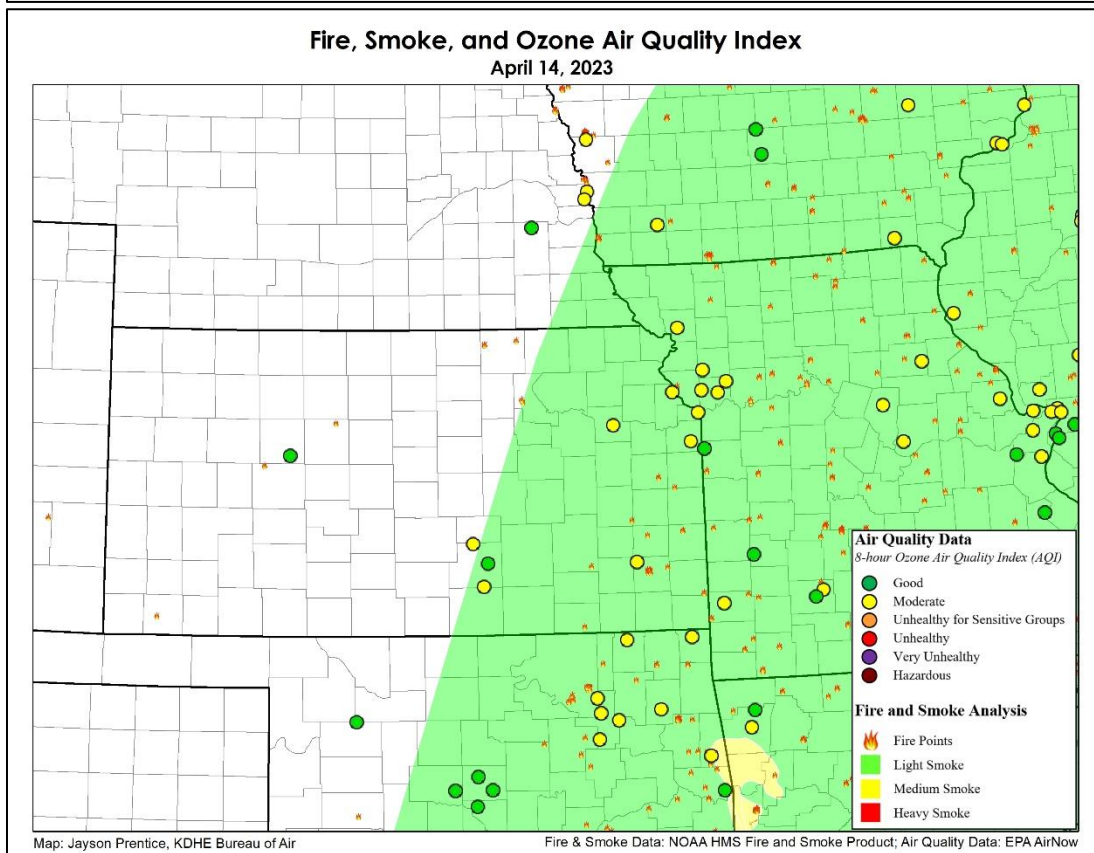
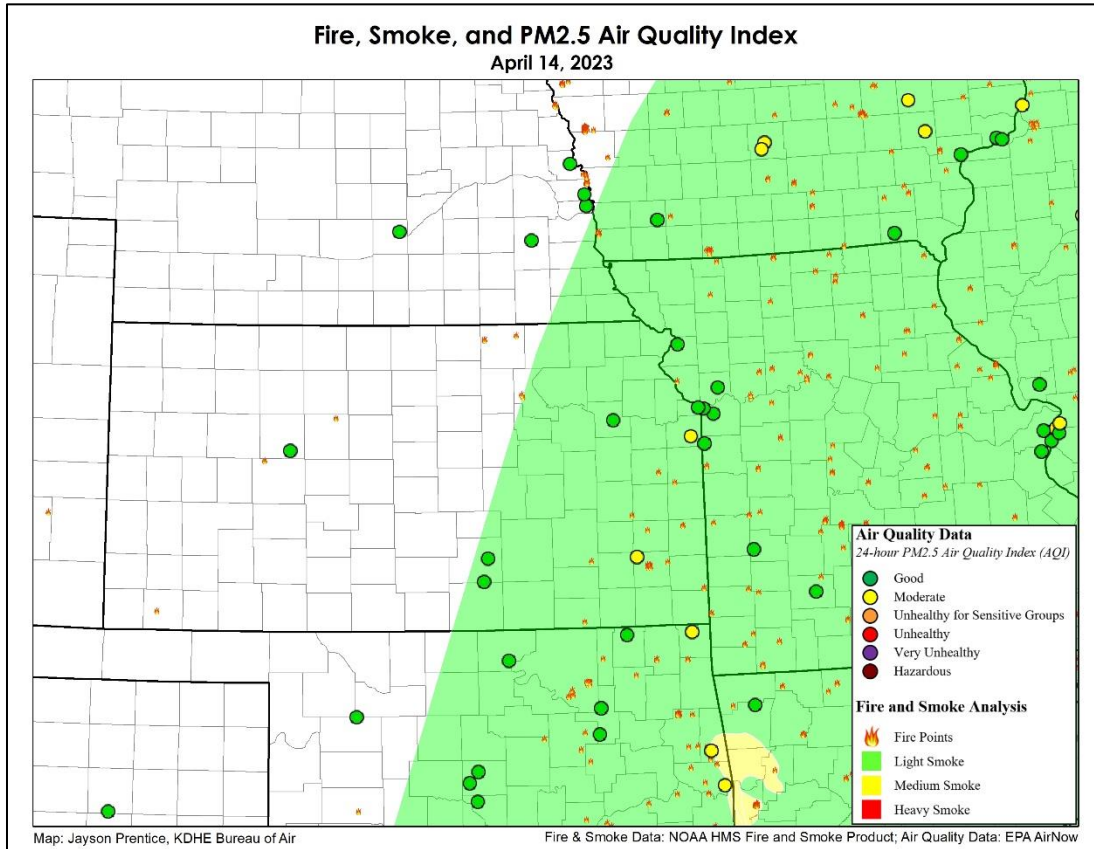
Gusty south winds ahead of a storm system with showers and thunderstorms limited fire activity last Friday (April 14) with lingering smoke from the prior day(s) leading to some Moderate AQI for both particulate matter and ozone across the region. Behind a cold front some brisk northwest winds cleared the air for Saturday (April 15) across the region with minimal fire activity occurring. A few fires were noted on Sunday (April 16) but any impacts were primarily localized.

Light winds returned to the region on Monday (April 17) alongside warmer temperatures and clear skies which prompted significant prescribed fire activity within the central and northern Flint Hills. Some fire activity continued into Tuesday (April 18) as winds began to increase; Numerous wildfire reports were also received with fire escapes and rekindles. Areas of smoke impacts were observed with Moderate AQI overall at regulatory monitors with some localized worse conditions; A combination of smoke and regional pollutants led to elevated ozone across the region on Monday and Tuesday.

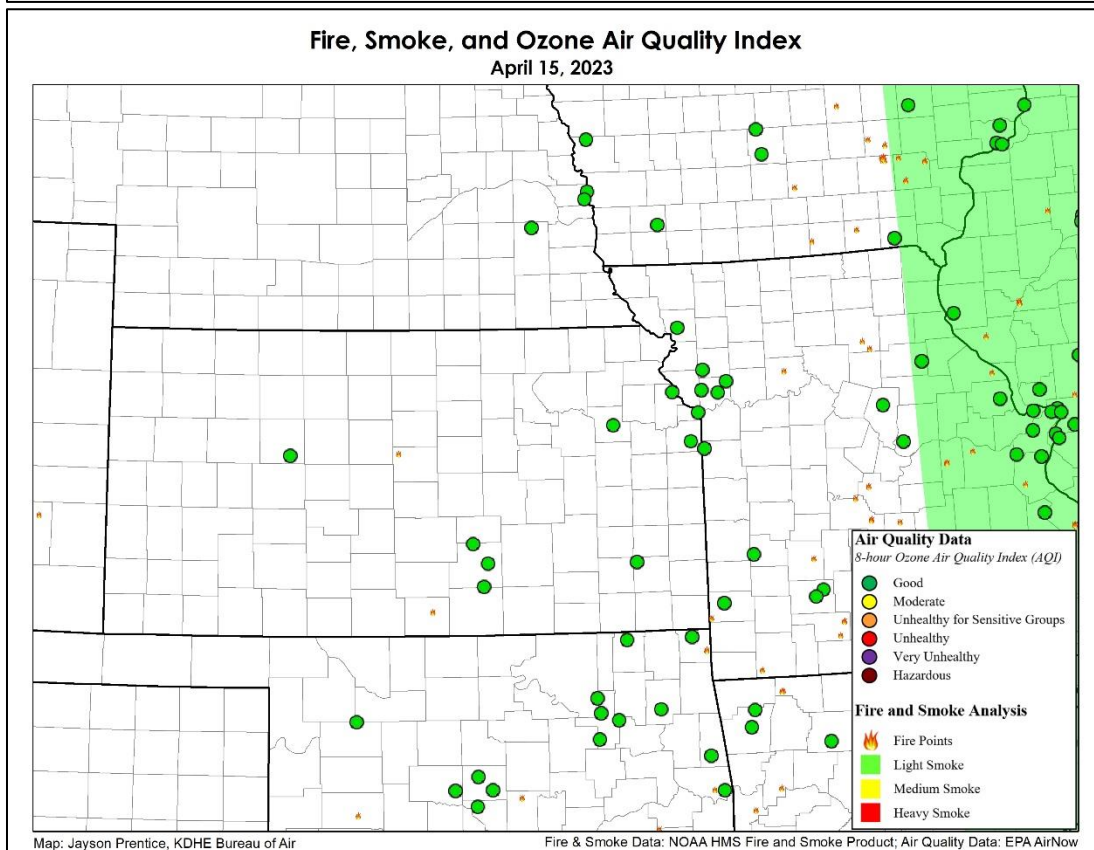
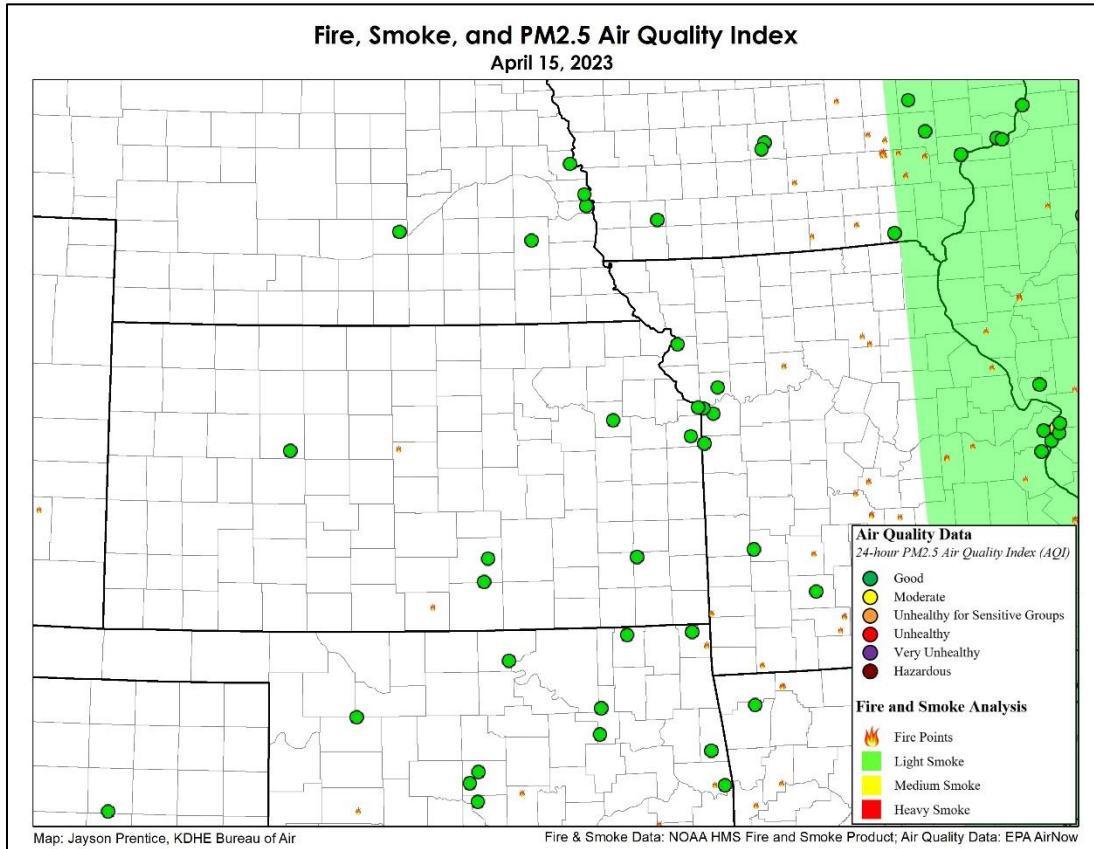
Strong south winds and additional thunderstorm chances limited prescribed fires on Wednesday (April 19) across the region. A brisk northwest wind moved in for Thursday (April 20) but a few prescribed fires were still observed with any smoke impacts remaining localized.

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.

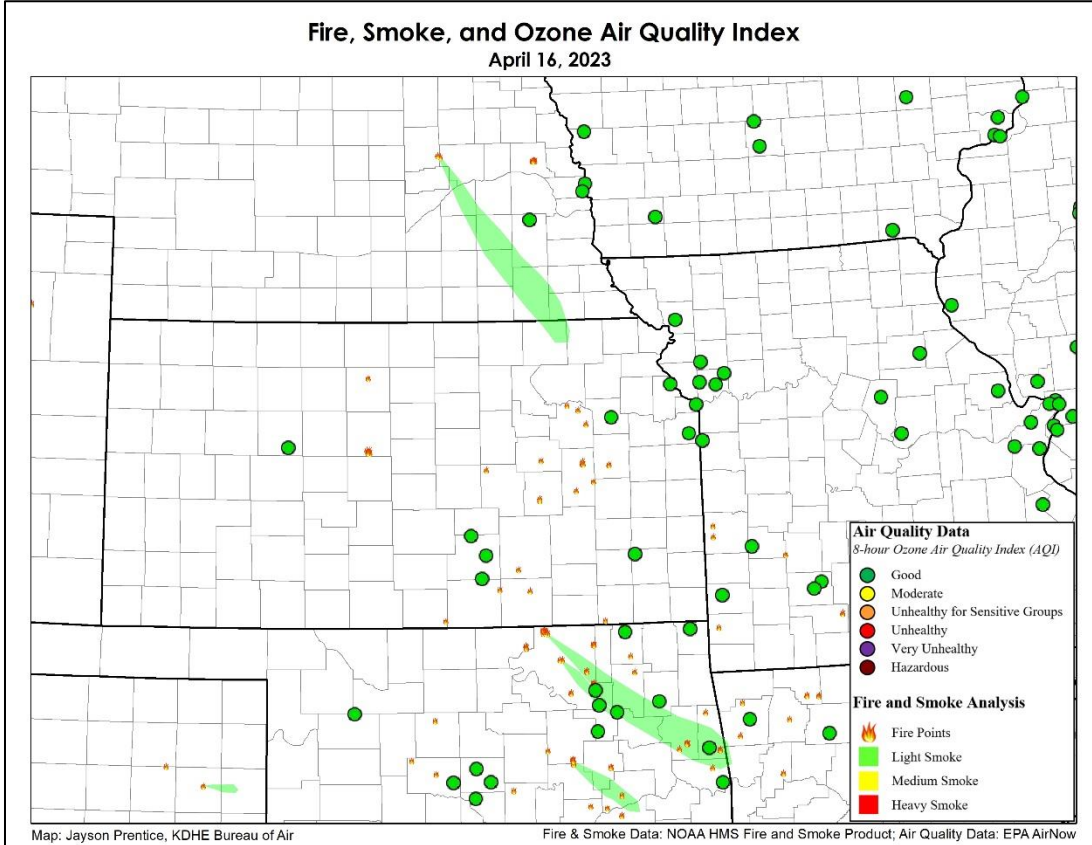
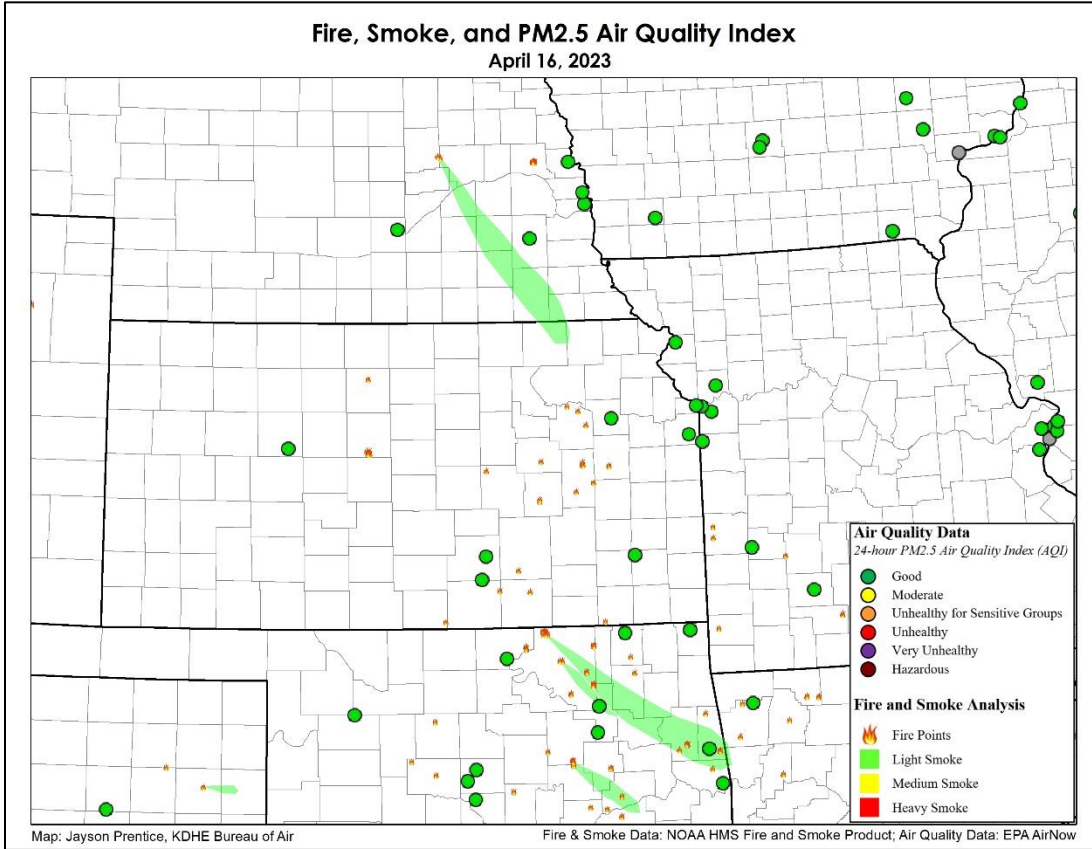
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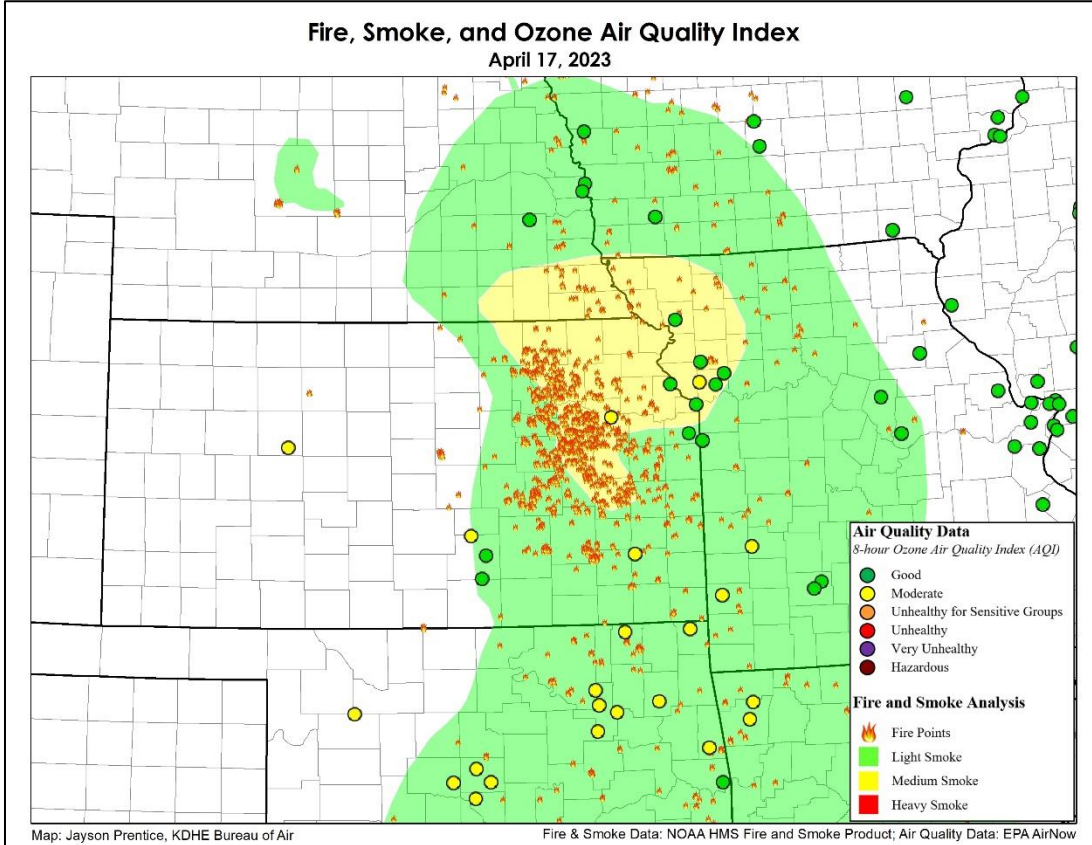
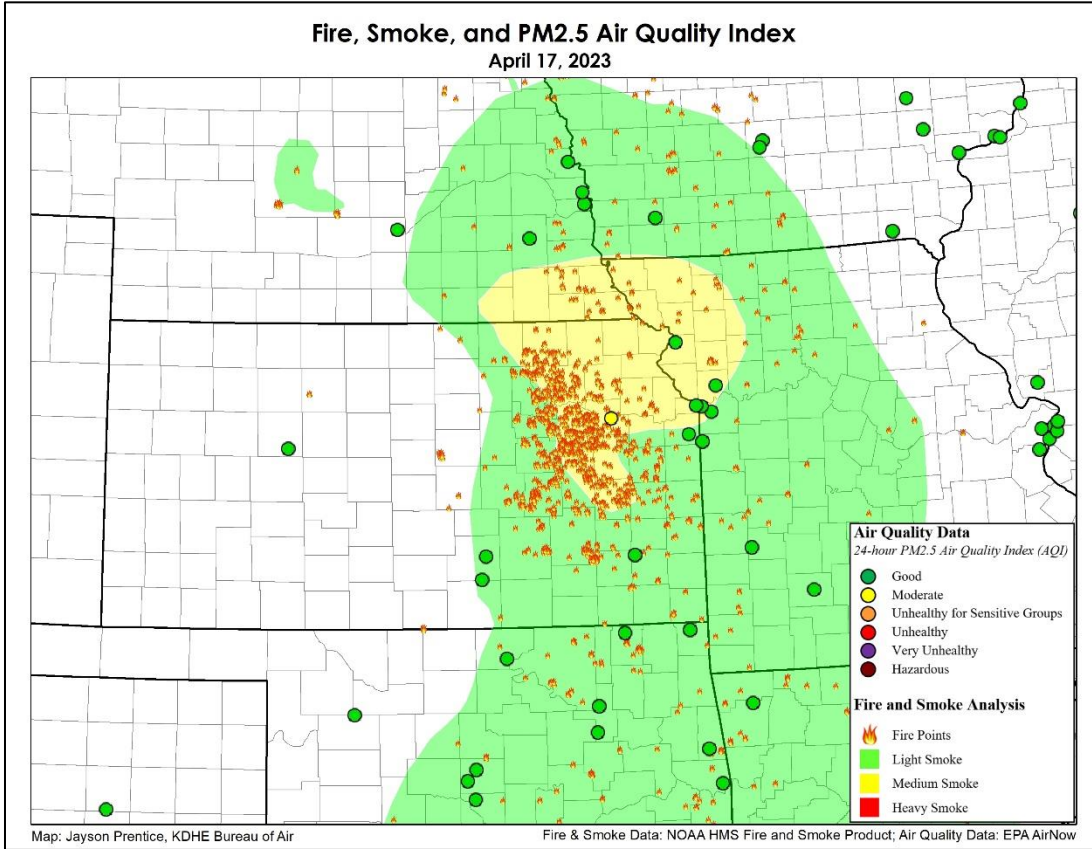
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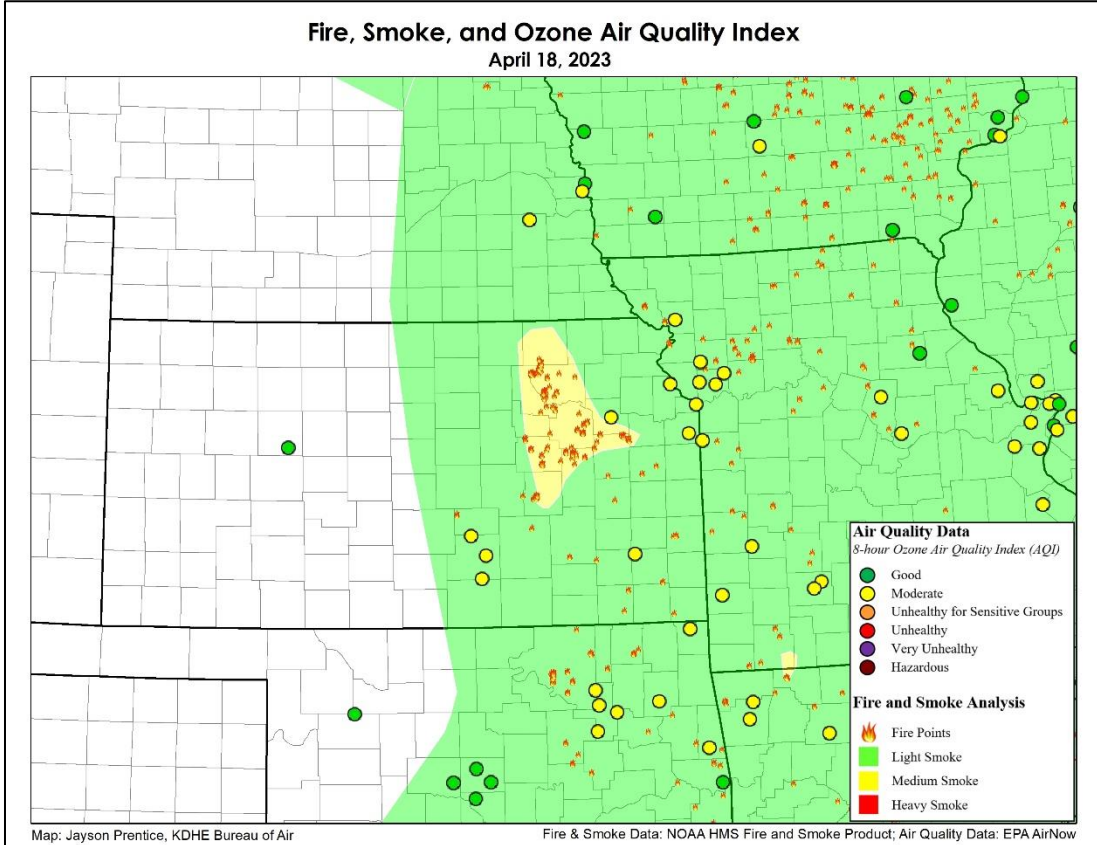
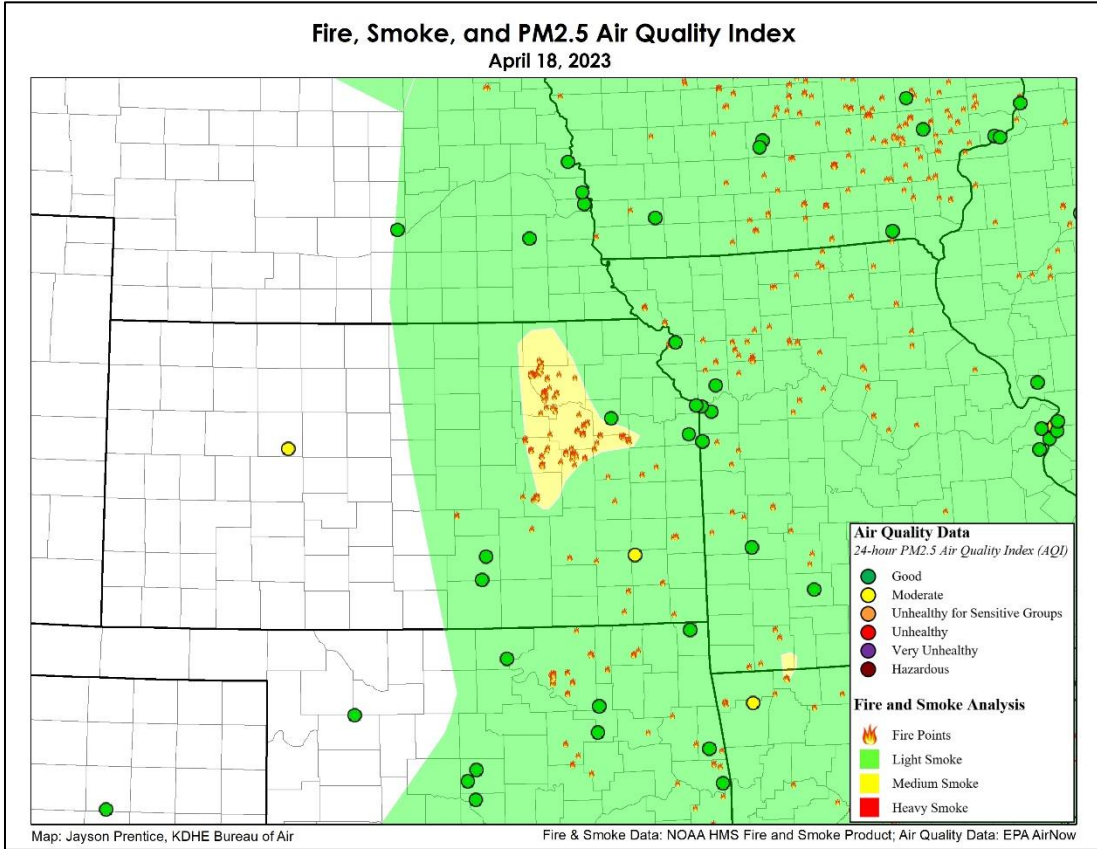
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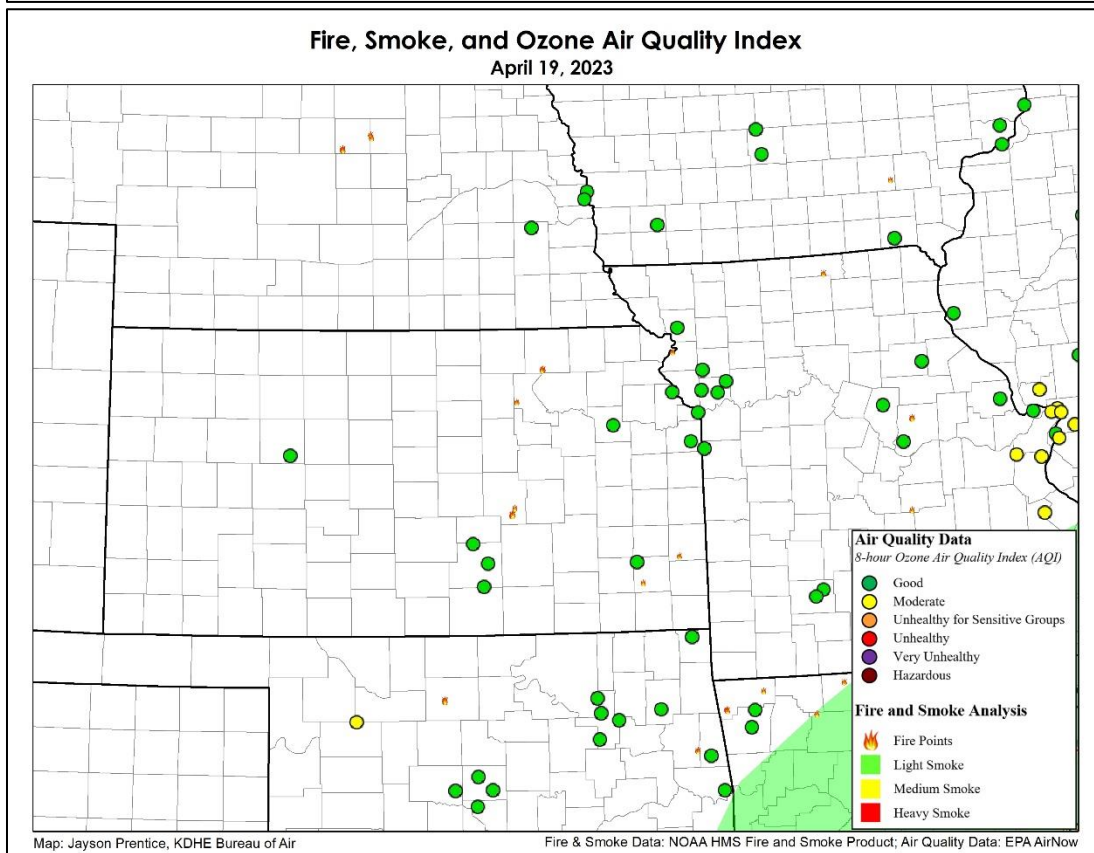
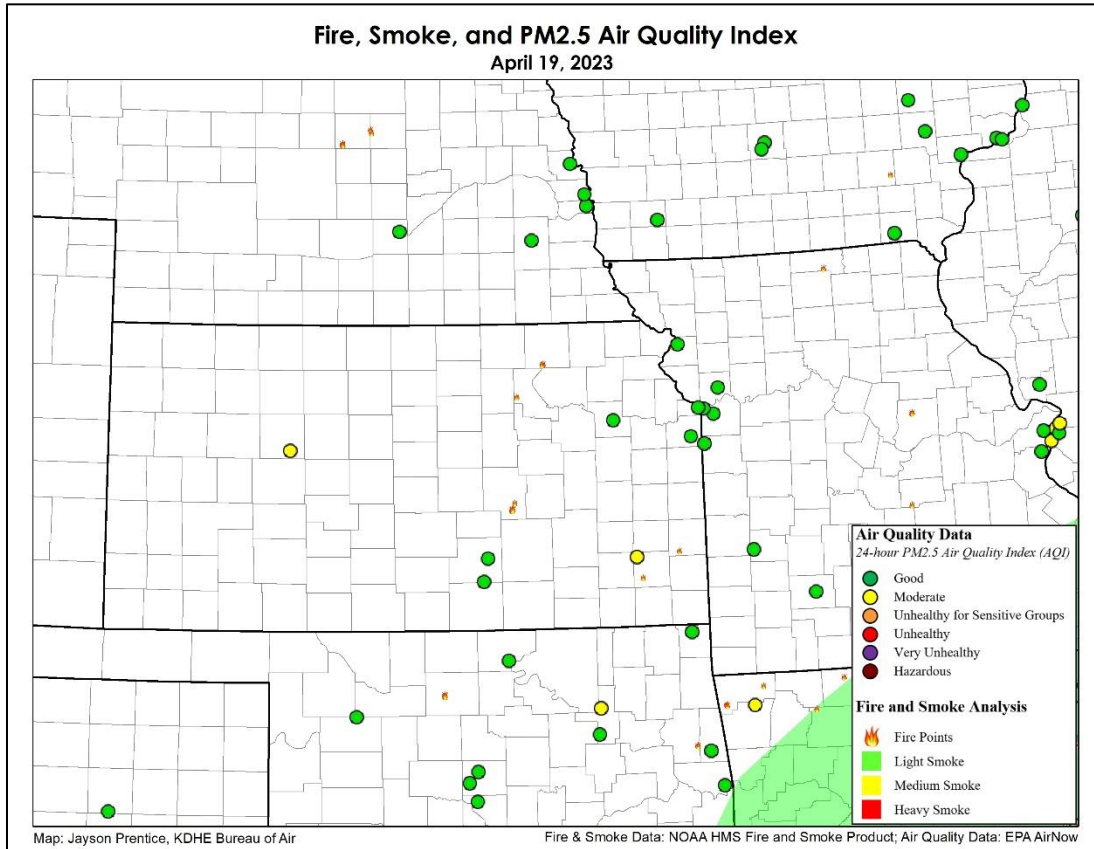
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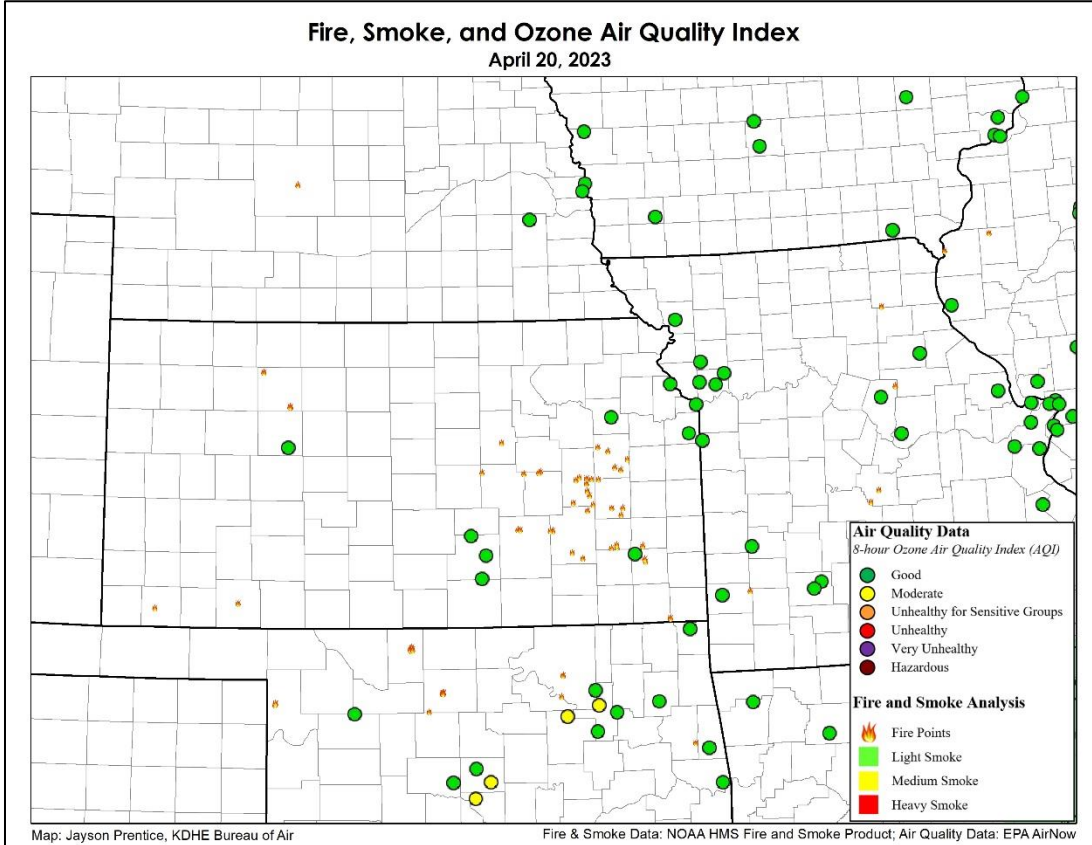
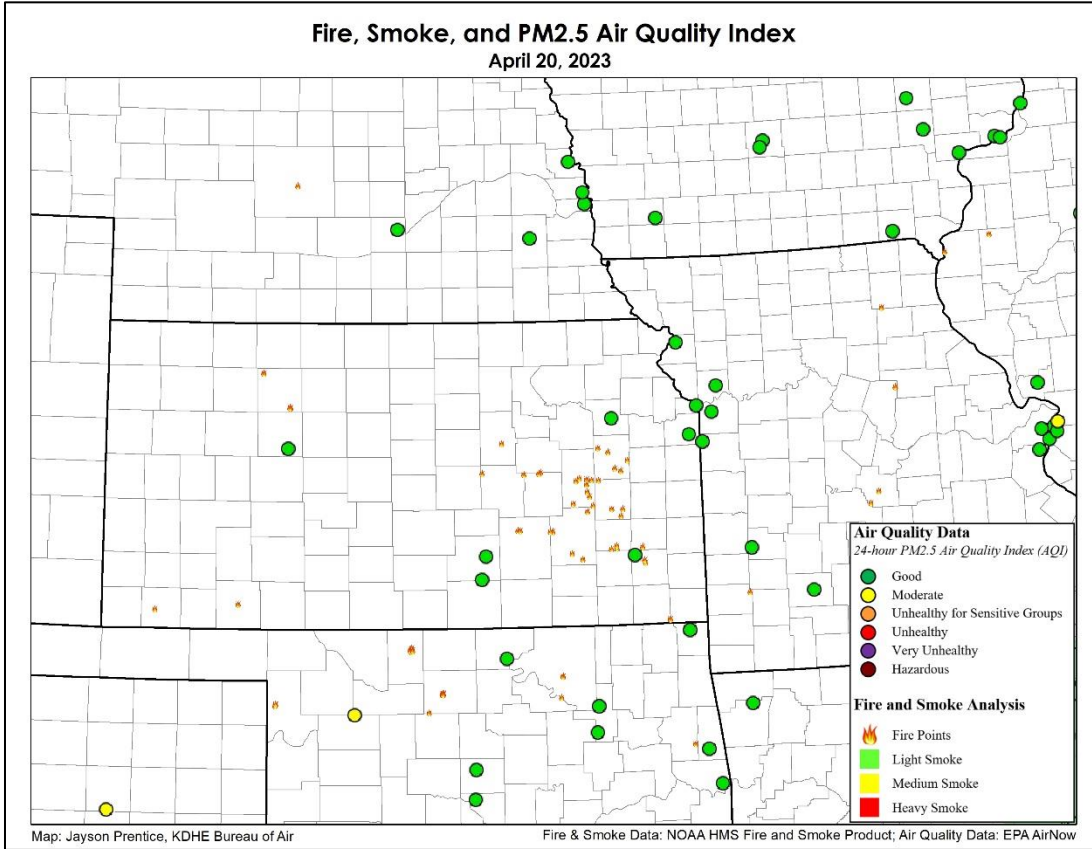
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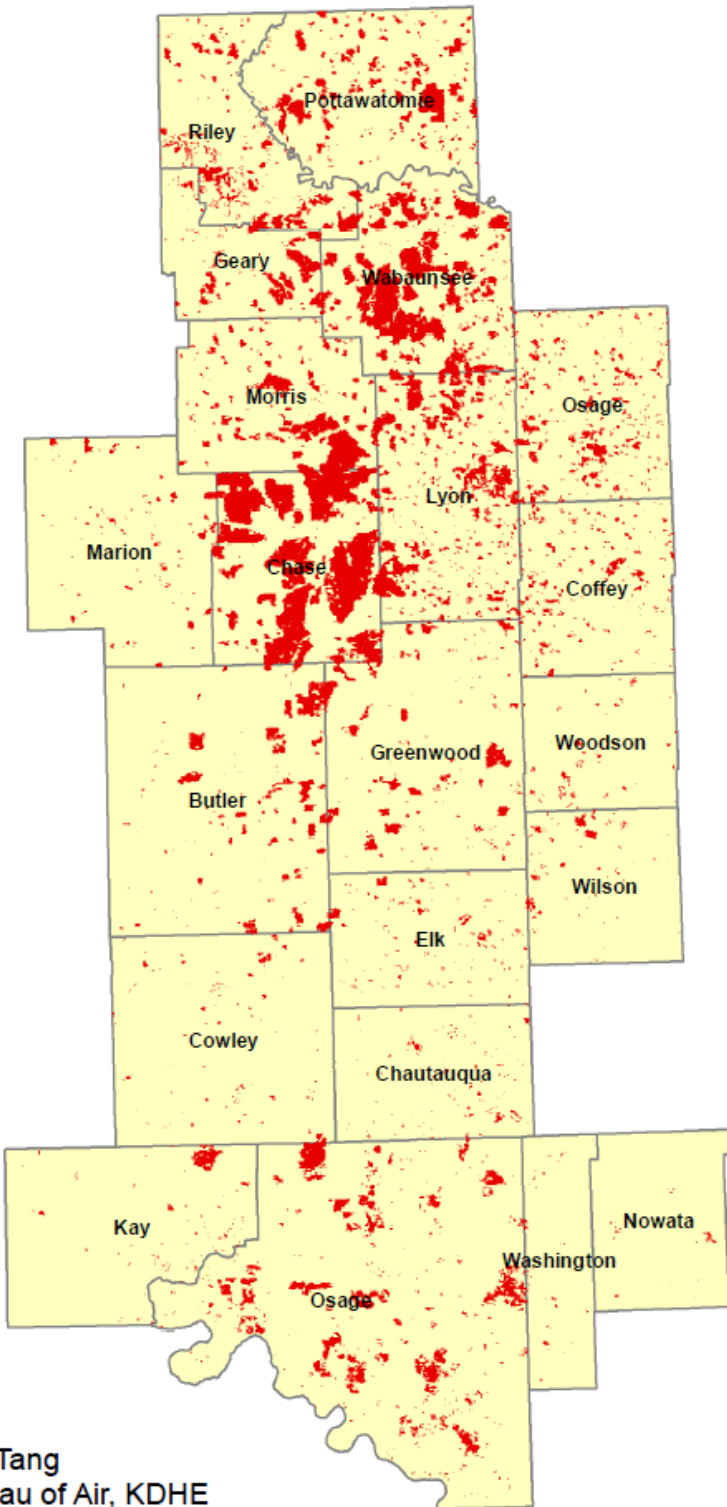


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Flint Hills Acreage Burned (February 3 – April 12, 2023)



Yao Tang
Bureau of Air, KDHE

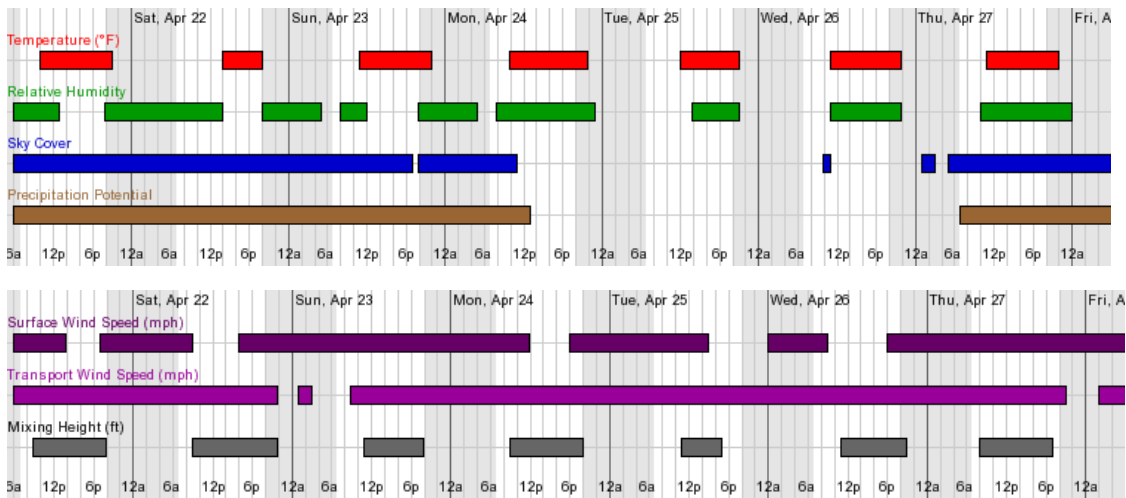
| <u>Counties</u> | <u>Acres Burned</u> | |
|---|---------------------|---|
| Butler | 45,221 | |
| Chase | 215,835 | |
| Chautauqua | 5,684 | |
| Coffey | 20,556 | * |
| Cowley | 6,935 | |
| Elk | 10,440 | |
| Geary | 29,066 | |
| Greenwood | 37,808 | |
| Lyon | 91,693 | |
| Marion | 13,097 | |
| Morris | 62,627 | |
| Osage (KS) | 36,835 | * |
| Pottawatomie | 59,693 | |
| Riley | 45,607 | |
| Wabaunsee | 140,420 | |
| Wilson | 7,475 | * |
| Woodson | 4,788 | * |
| Nowata (OK) | 1,251 | * |
| Osage (OK) | 99,926 | |
| Washington (OK) | 1,637 | |
| Kay (OK) | 9,591 | |
| | | |
| Total | 946,185 | |
| * Denotes county was partly or completely covered by clouds during latest analysis. | | |



Upcoming Look at Fires and Smoke

Breezy winds are expected during the afternoon hours on Friday and Saturday and will combine with relative humidity values dropping below 30 percent to bring elevated fire danger to much of the region. Winds subside on Sunday as they switch to the south, but drier air remains in place with relative humidity forecast to drop near 20 percent – look for potential elevated fire danger to continue. The next storm system arrives on Monday and will bring periods of rain showers or thunderstorms to the region from Monday afternoon through Wednesday night with periods of breezy conditions continuing too. Conditions for prescribed fire improve on Thursday with mild temperatures, reasonable winds, and clearer skies but significant green-up is underway especially with recent precipitation and more precipitation forecast for parts of the Flint Hills.

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 April 21, 2023.

For more information, contact:

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