

SUPPORTING MATERIALS DEMONSTRATING
ENHANCED PM_{2.5} CONCENTRATIONS IN THE
CHICAGO AREA RESULTING FROM CANADIAN
WILDFIRE INFLUENCE IN 2023-2025

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Executive Summary

Based on the results of this analysis and the widespread impact of wildfire and prescribed fire smoke on monitors throughout the Chicago metro area, including areas within the Core Based Statistical Area (CBSA) and the broader regional airshed, it is recommended that regulatory agencies give full and consistent consideration to the treatment of affected PM_{2.5} data under the Exceptional Events Rule. The evidence developed and presented here for the 2023, 2024, and 2025 wildfire and prescribed fire smoke episodes demonstrates that transported smoke significantly elevated monitored concentrations across large portions of the region beyond what would reasonably be expected in the absence of wildfire conditions. These impacts were neither isolated nor localized but instead represented widespread regional air quality disturbances affecting both attainment and nonattainment areas alike.

Accordingly, each date and monitor identified as having experienced wildfire or prescribed fire smoke impacts during these periods, where PM_{2.5} concentrations were demonstrably enhanced by smoke intrusion, should be flagged as influenced by exceptional events and the associated concentration values removed from the regulatory record used in design value calculations and attainment determinations. Importantly, the concept of “regulatory significance” should not be narrowly interpreted solely through the lens of whether the exclusion changes an attainment or nonattainment designation. Rather, any concentration demonstrably influenced by wildfire or prescribed fire smoke should be considered appropriate for exclusion regardless of the ultimate attainment outcome. Failure to recognize and remove these influenced concentrations risks embedding atypical and non-representative conditions into long-term regulatory datasets that support multiple Clean Air Act programs.

The significance of this issue is illustrated clearly by regulating monitor 170313103 (Illinois EPA Trailer) in Cook County, Illinois. Analysis indicates that this monitor experienced measurable enhancement on multiple dates from both wildfire and prescribed fire smoke intrusion during the 2023-2025 period. While the monitor’s current annual design value remains above the annual PM_{2.5} National Ambient Air Quality Standard (NAAQS) at 9.8 µg/m³, removal of all identified Tier 1 dates would reduce the annual design value sufficiently to bring the monitor into attainment (at 8.9 µg/m³) with the current annual PM_{2.5} NAAQS. Figure ES-1 below shows these dates using EPA’s PM_{2.5} Tiering Tool¹ while Table ES-1 provides the recalculated annual mean and design values absent these Tier 1 dates.

In fact, for all monitors analyzed in this report, removal of Tier 1 dates alone from the annual mean and resulting 3-year design value calculations bring all Chicago metro monitors below the level of the 2024 annual PM_{2.5} NAAQS. These values for all monitors are presented in Table ES-1.

¹ <https://www.epa.gov/air-quality-analysis/pm25-tiering-tool-exceptional-events-analysis>

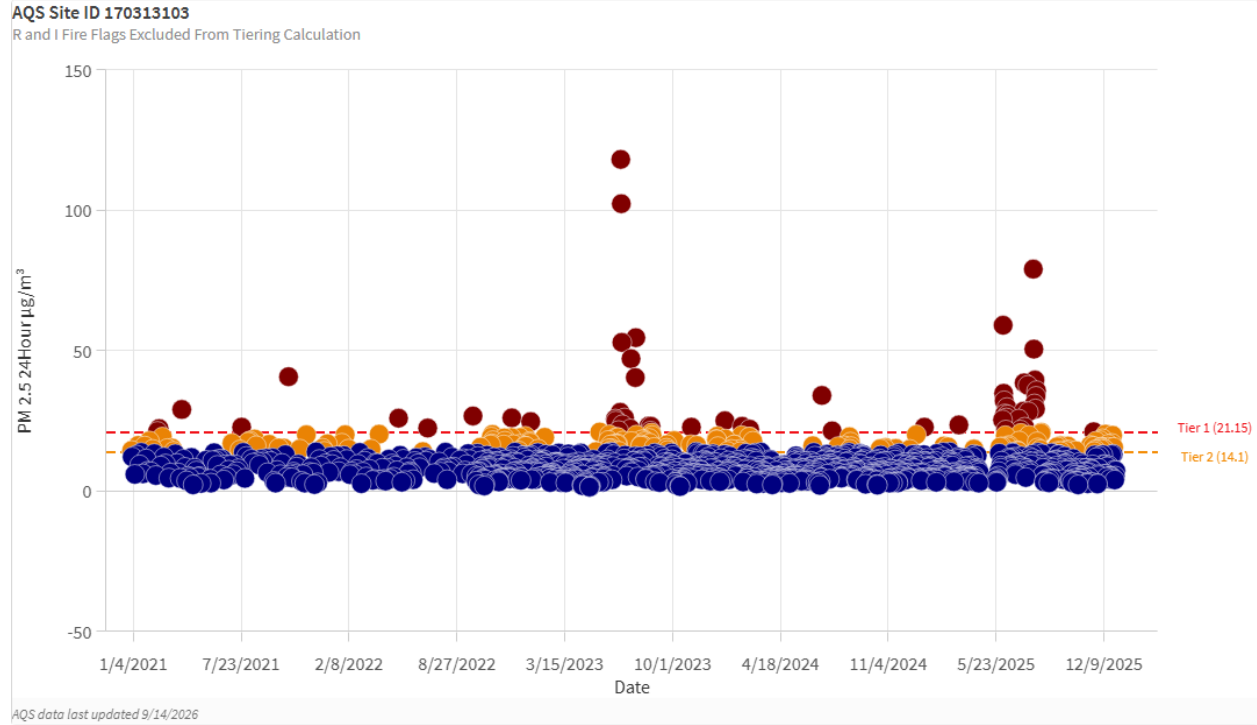


Figure ES-1. EPA's PM_{2.5} Tiering Tool results for monitor 170313103.

Table ES-1. Unadjusted and adjusted Chicago area PM_{2.5} monitor annual mean and design values.

County	Site ID	Local Site Name	2023-2025 Annual DV (ug/m3)	Excluding All Tier 1 Date Concentrations			
				2023 Annual Mean (ug/m3)	2024 Annual Mean (ug/m3)	2025 Annual Mean (ug/m3)	2023-2025 Annual DV (ug/m3)
Cook	170313103	IEPA Trailer	9.8	9.33	8.15	9.24	8.9
Cook	170310057	Spgfld PS	9.5	9.25	7.87	8.81	8.6
Cook	170310119	Kingery	9.4	9.80	7.76	8.48	8.7
Cook	170313301	Graves ES	9.4	10.08	7.62	8.87	8.9
Cook	170316005	Liberty School	9.4	9.63	7.48	8.40	8.5
Cook	170310022	Washington HS	9.3	9.82	7.57	9.01	8.8
Cook	170310052	Mayfair PS	9.2	9.87	7.74	8.60	8.7
DuPage	170434002	City Hall	9.3	9.21	8.13	7.96	8.4
Will	171971002	Pershing School	9.3	9.02	7.84	8.24	8.4

These examples demonstrate the substantial regulatory implications associated with smoke-influenced concentrations and underscores the magnitude of fully evaluating and excluding affected data where supported by technical evidence. The importance of proper data management increases as standards become increasingly stringent and closer to background levels. Beyond attainment determinations alone, retaining these concentrations within the regulatory record could influence future permitting

requirements, transportation conformity analyses, State Implementation Plan obligations, emissions reduction strategies, and broader regulatory planning efforts tied to both PM_{2.5} and ozone programs.

Consideration should also be given to monitors located outside designated counties and CBSAs but within the same regional airshed that experienced impacts from the same smoke plumes during the 2023-2025 episodes. In many cases, smoke transport is regional in scale and crosses jurisdictional and programmatic boundaries. Therefore, states should be encouraged to reference and leverage existing exceptional events demonstrations prepared by neighboring states where proximal monitors were impacted by the same smoke episodes on the same dates. Such coordination would improve consistency, reduce redundant analytical burdens, and better reflect the regional nature of the wildfire and prescribed fire impacts observed during these events.

Finally, consideration should be given to allowing states, including Illinois, flexibility in satisfying the clear causal relationship criterion for wildfire and prescribed fire dates associated with smoke episodes. The collective body of evidence developed here through satellite imagery, air mass trajectory analyses, smoke modeling, surface observations, and widespread concentration enhancements has already demonstrated that Canadian wildfire smoke and domestic prescribed fires significantly impacted PM_{2.5} concentrations across the region.

Given the extensive number of demonstrations currently being prepared nationwide for these episodes, it would be reasonable and appropriate for regulatory agencies to permit states to adopt and reference other state technical analyses and supporting evidence and related demonstrations to satisfy Tier 1 obligations. Such an approach would maintain technical rigor while promoting regulatory consistency and administrative efficiency in addressing these unprecedented regional smoke events.

Background

Between 2023 and 2025, Canadian wildfires repeatedly produced large-scale smoke transport into the United States, with significant impacts on surface air quality across the Upper Midwest and northern United States. The summer of 2023 was particularly exceptional, as Canada experienced its most intense wildfire season on record, with approximately 15 million hectares burned. Smoke from these fires was transported across the Upper Midwest, producing widespread enhancements in surface-level PM_{2.5} and ozone documented by the U.S. air-quality monitoring network. The May–June 2023 events were especially unusual because they occurred early in the traditional wildfire season and produced the highest regional-scale surface ozone levels observed across the northern tier of the United States during May–August. The Upper Midwest median ozone concentration was the highest observed since 1995, while the 90th percentile was the highest since 2002².

The impacts of Canadian wildfire smoke continued in 2024 and 2025, although neither year replicated the unprecedented scale of the 2023 fire season. In 2024, substantial wildfire activity across western, north-central, and central Canada produced repeated smoke transport into the Midwest and eastern United States, including prolonged episodes during August and September. In 2025, significant wildfire

² <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2024GL111481>

activity in Manitoba, Saskatchewan, Alberta, and British Columbia again generated widespread smoke transport into the northern United States. By late May and June, northerly transport carried smoke into the Upper Midwest, with NOAA documenting substantial degradation of surface air quality, including impacts across Minnesota and surrounding states³.

Taken together, the 2023–2025 period demonstrates that Canadian wildfire smoke represents a recurring source of transboundary air pollution during these years. While 2023 remains notable for the unprecedented magnitude of the Canadian fire season and the record-setting regional ozone response, the continued occurrence of significant smoke-transport episodes in 2024 and 2025 highlights the potential for wildfire emissions to influence U.S. surface ozone and PM_{2.5} concentrations across multiple years.

Figure 1 below shows statistics extracted from the Canadian National Fire Database⁴, and shows the extreme acres burned in Canada in 2023 through 2025 compared to the past five decades.

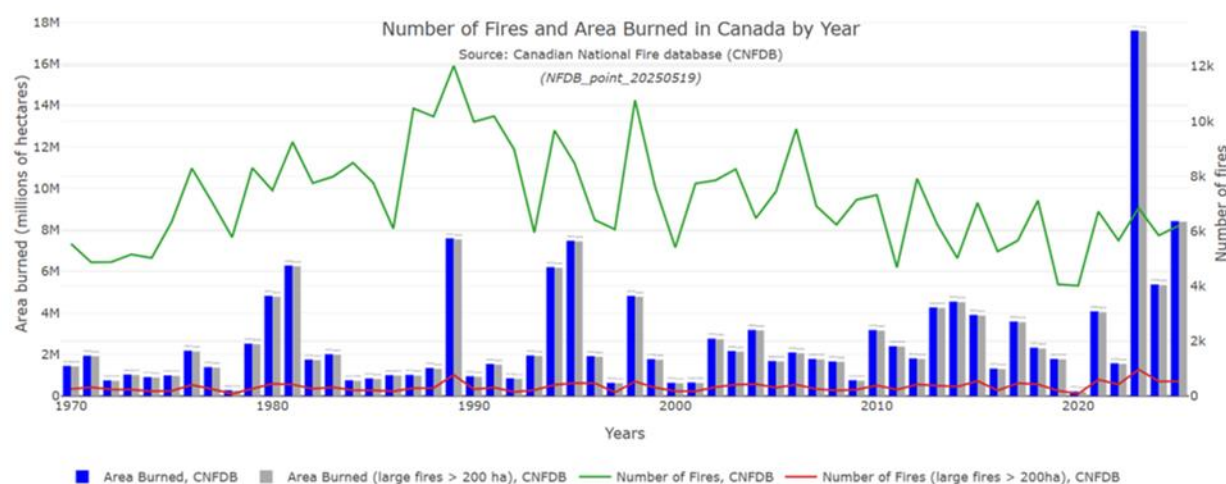


Figure 1. Number of fires and area burned in Canada by year, 1970-2025.

Cumulative smoke data annual statistics are derived by aggregating daily Hazard Mapping System (HMS) smoke polygons into a grid and counting the number of days when individual cells were covered by either light, medium or heavy smoke during the year. Contour lines and labels depicting the number of observed smoke days are used to help with data interpretation. The smoke contour maps for 2023, 2024, and 2025 are presented in Figures 2, 3 and 4 and indicate that much of the eastern U.S. was covered in observed smoke for up to 55% (~ 200 days) in 2023 to approximately 37% (~135 days) in 2025.

³ <https://www.nesdis.noaa.gov/news/wildfire-smoke-and-air-quality>

⁴ <https://cwfis.cfs.nrcan.gc.ca/ha/nfdb>

During the late spring and summer of 2023, the Chicago metro area experienced some of its worst recorded air quality as smoke and unhealthy haze from Canada's wildfires spread southward, as reported by multiple sources at the time.^{5,6,7}

In 2025, Canadian wildfire smoke again contributed to periods of degraded air quality across the Chicago metropolitan area. Smoke transported south from wildfires in Canada produced elevated concentrations of both PM_{2.5} and surface-level ozone, with several episodes resulting in air quality reaching unhealthy levels. Although the impacts were generally more episodic than those experienced during the exceptional 2023 wildfire season, the 2025 events demonstrate that Canadian wildfire smoke remained a significant recurring influence on Chicago-area air quality.^{8,9,10}

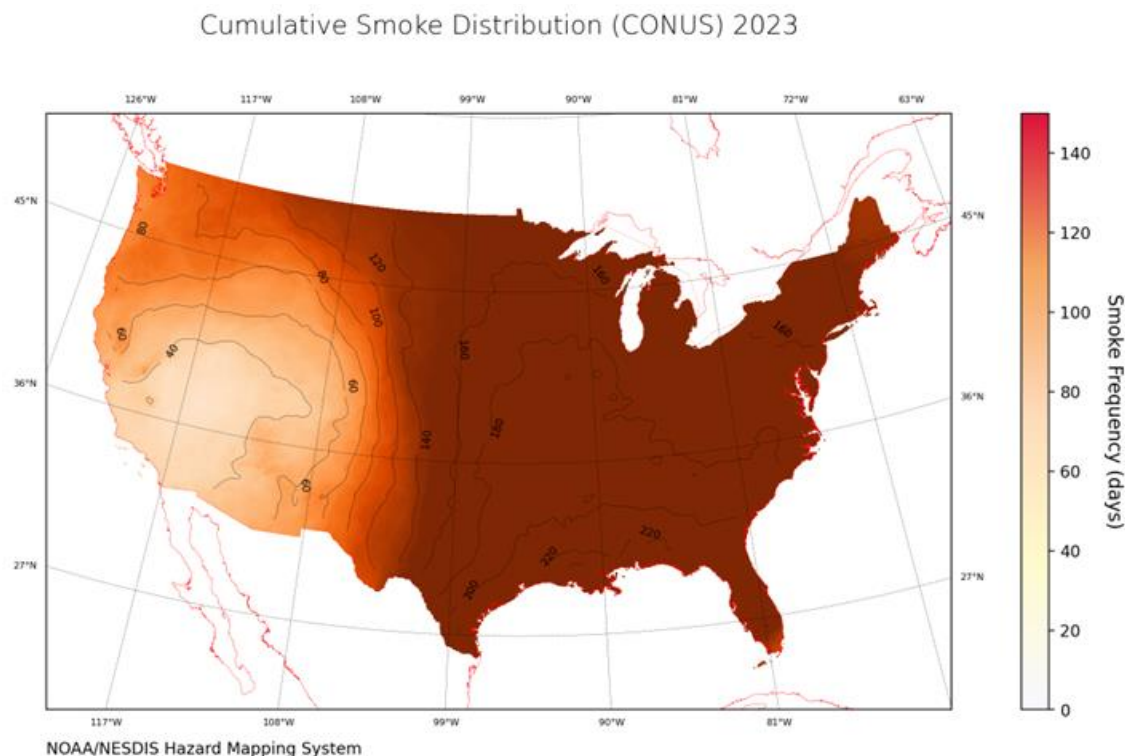


Figure 2. Cumulative smoke distribution observed across the continental U.S. in 2023.

⁵ <https://www.cbsnews.com/news/chicago-worst-air-quality-canadian-wildfire-smoke-june-27-2023/>

⁶ <https://www.cnn.com/2023/06/27/us/canada-wildfire-smoke-great-lakes/index.html>

⁷ <https://www.foxweather.com/weather-news/90-million-in-air-quality-alerts-canada-wildfire-smoke-chicago-to-washington-dc>

⁸ <https://abc7chicago.com/post/canadian-wildfires-2025-smoke-canada-forecast-move-chicago-area-friday-could-leave-smoky-skies-weekend/16598143/>

⁹ <https://abcnews.com/US/flood-threats-us-dangerous-wildfire-smoke-flows-canada/story?id=124270852>

¹⁰ <https://www.npr.org/2025/08/03/g-s1-80826/canada-wildfires-cause-poor-air-quality-in-the-midwest-and-northeast-us>

Cumulative Smoke Distribution (CONUS) 2024

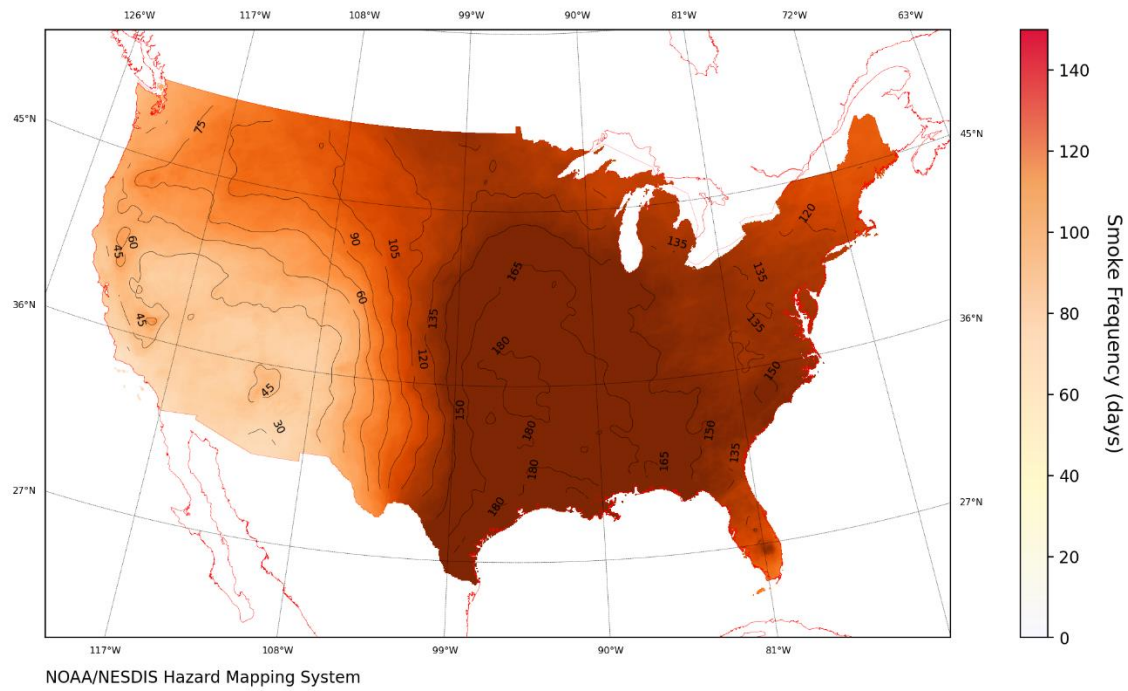


Figure 3. Cumulative smoke distribution observed across the continental U.S. in 2024.

Cumulative Smoke Distribution (CONUS) 2025

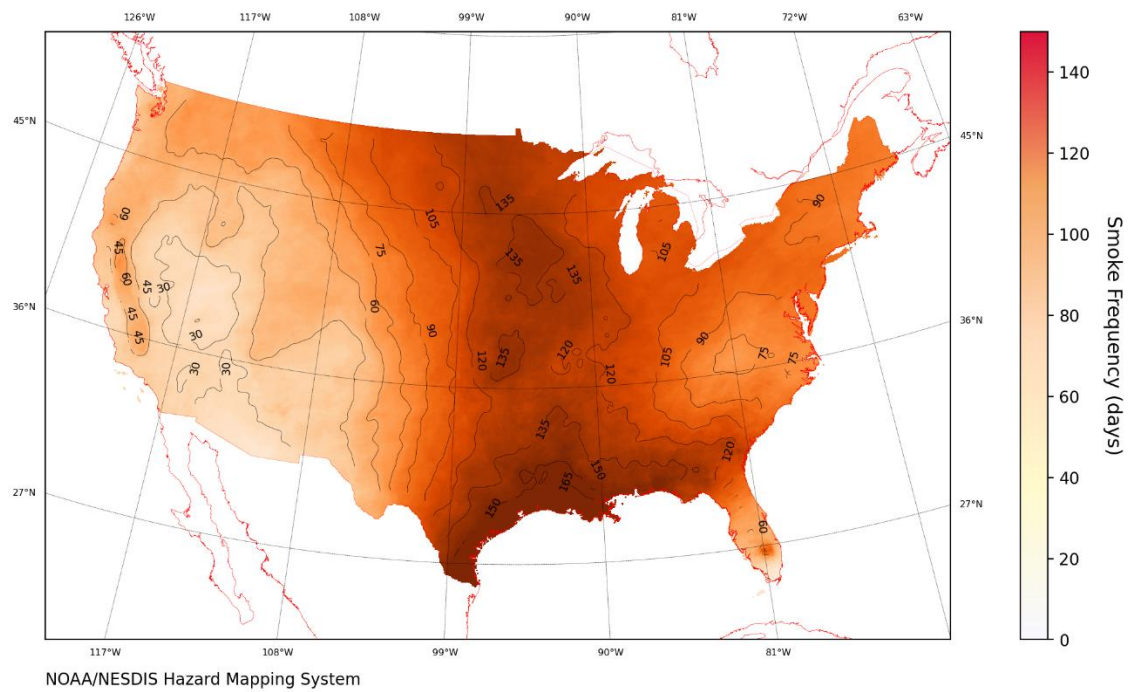


Figure 4. Cumulative smoke distribution observed across the continental U.S. in 2025.

Across all monitors in the Chicago metro area alone, using NOAA’s HMS smoke profile overlay maps, it is estimated that over the full set of PM2.5 observation days (at any monitor) in calendar years 2023 through 2025, 51%, 43%, and 35%, respectively, had smoke observed as present. Table 1 below presents these calculations.

For this estimation, when smoke was identified as overhead for any monitor in the Chicago metro area, an assumption was made that smoke was overhead for all monitors on that date. This method was applied as the HMS and satellite images of the region for any date are a snapshot of a moment when the satellite was overhead (night or day). Since the regional smoke may have moved across the domain just before or after the image was taken, the assumption of “smoke anywhere = smoke everywhere” was applied to all monitors (max distance between any two approximately 65 miles).

Table 1. Number of observation days, HMS smoke days, and percentage of observation days with smoke present at Chicago metro area monitors, 2021-2025.

Year	Observation Days	HMS Smoke Days	% of Observation Days w/ HMS Smoke Present
2021	352	103	29%
2022	365	134	37%
2023	365	185	51%
2024	366	158	43%
2025	365	126	35%

Purpose and Presentation

This document is intended to provide objective, technical, supporting information related to wildfire smoke influence on PM2.5 concentrations observed in the Chicago metro area for purposes of nonattainment designation and design value calculation.

Using protocols established in EPA’s “PM2.5 Wildland Fire Exceptional Events Tiering Document,”¹¹ presented here is supporting information consistent with Tier 1 and Tier 2 approaches to addressing the clear causal relationship element within a wildfire/PM2.5 demonstration.

And while not a formal exceptional events demonstration, information in this document provides the following key findings and evidence supporting the need for and likely result of such a demonstration:

1. Calendar views of the 24-hr PM2.5 concentrations from 2023-2025 for each monitor with color coding to identify Tier 1, Tier 2, and exceedance dates.

¹¹ <https://www.epa.gov/system/files/documents/2024-04/final-pm-fire-tiering-4-30-24.pdf>

2. Plots of the 24-hour PM_{2.5} concentrations at the affected monitors for 2023-2025 using EPA's Tiering Tool.
3. Monitor-level time series plots covering 12 months overlaying all 5 years of data plotted to identify monitored concentrations that are unusually high for a time of year, and/or that coincide with wildfire smoke events.
4. Tables listing monitor, dates, 24-hr PM_{2.5} concentrations and Tier 1 or Tier 2 designation.
5. PM_{2.5} speciated data (organic carbon and potassium ion) and carbon monoxide (CO) concentration comparisons showing elevated wildfire attributable concentrations.
6. HYSPLIT back trajectories, using EPA tools, with smoke/fire overlays for each monitor and episode date.
7. Textual meteorological episode overviews of each analyzed episode with associated MODIS real color satellite imagery.

Several analytical methods were used to develop evidence that many of the 24-hour PM_{2.5} concentrations recorded during 2023, 2024, and 2025 calendar years meet the rules for data exclusion as an Exceptional Event. In summary, satellite images and data, screening tools, and speciated PM_{2.5} data were used to assess whether conditions were favorable for transport of smoke from the Canadian wildfires to monitors that influenced concentrations. The data also showed that the transported smoke enhanced PM_{2.5} concentrations and degraded air quality in the Chicago metro area, as well as in many regional areas in the Midwestern U.S. Data presented here are related to select PM_{2.5} monitors in the Chicago metro area as shown in Table 2.

Table 2. Annual mean concentrations and 3-year design values (µg/m³) at monitors in the Chicago metro area, 2023-2025.

State	County	Site ID	Local Site Name	Annual Mean (µg/m ³)			2023-2025 Annual Design Value (µg/m ³)
				2023	2024	2025	
Illinois	Cook	170310022	Washington HS	10.28	7.57	10.13	9.3
Illinois	Cook	170310052	Mayfair Pump Station	10.02	7.73	9.97	9.2
Illinois	Cook	170310057	Springfield Pump Station	10.48	7.87	10.12	9.5
Illinois	Cook	170310119	Kingery Near Road #1	11.18	7.76	9.31	9.4
Illinois	Cook	170313103	IEPA Trailer	10.37	8.22	10.71	9.8
Illinois	Cook	170313301	Graves ES	10.37	7.62	10.07	9.4
Illinois	Cook	170316005	Liberty School	11.06	7.48	9.75	9.4
Illinois	DuPage	170434002	City Hall	10.66	8.13	9.09	9.3
Illinois	Will	171971002	Pershing School	10.82	7.83	9.13	9.3

Recent PM2.5 Trends in Chicago (2023-2025)

Across the Chicago metro area, 24-hour PM2.5 concentrations fluctuated from 2023 through 2025 rather than following a steady year-by-year decline. Most days were relatively lower, but occasional pollution episodes produced noticeable spikes. Monitoring data show daily readings varied by monitoring site and date, so conditions were not uniform across the region.

The broader pattern is consistent with recent national PM2.5 trends: concentrations have improved over the long term, but short-term levels can still rise during events such as wildfire smoke. These episodic peaks mean the three-year period is best described as variable, with cleaner stretches interrupted by higher-pollution days.

This is evident in Figures 3 through 5 below, showing the daily PM2.5 and ozone air quality index (AQI) days at monitors in years 2023, 2024, and 2025, respectively, in the Chicago metro area. As is demonstrated in these Figures, 2023 and 2025 were exceptional in the recent historical record with a significant number of days in the “Unhealthy for Sensitive Groups”, “Unhealthy”, or “Very Unhealthy” ranges¹².

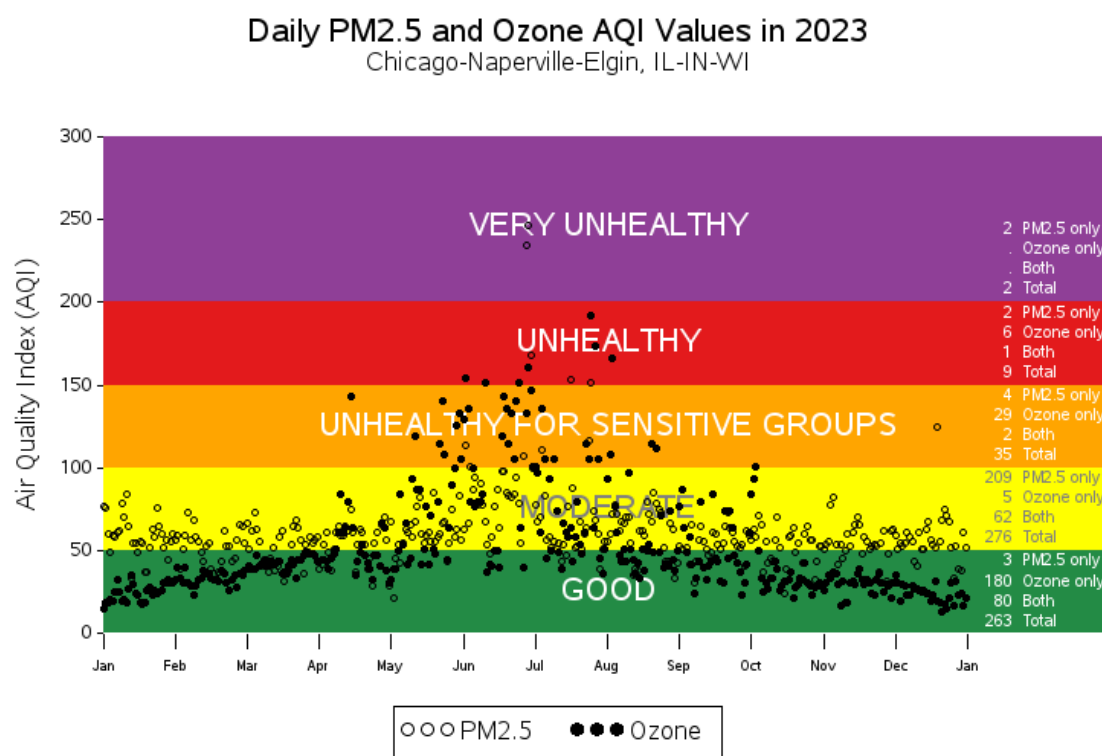


Figure 5. Daily PM2.5 and ozone AQI in the Chicago metro area, 2023.

¹² The AQI values in **Error! Reference source not found.** through 5 represent the highest observed monitor concentration in the Chicago metro area on each date.

Daily PM2.5 and Ozone AQI Values in 2024 Chicago-Naperville-Elgin, IL-IN-WI

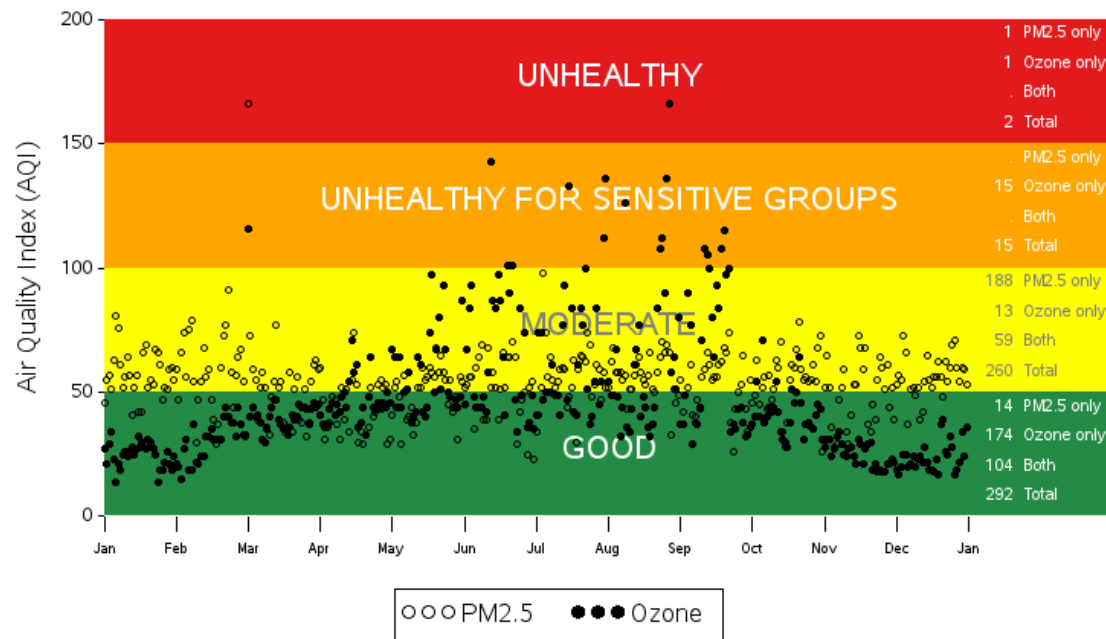


Figure 6. Daily PM2.5 and ozone AQI in the Chicago metro area, 2024.

Daily PM2.5 and Ozone AQI Values in 2025 Chicago-Naperville-Elgin, IL-IN-WI

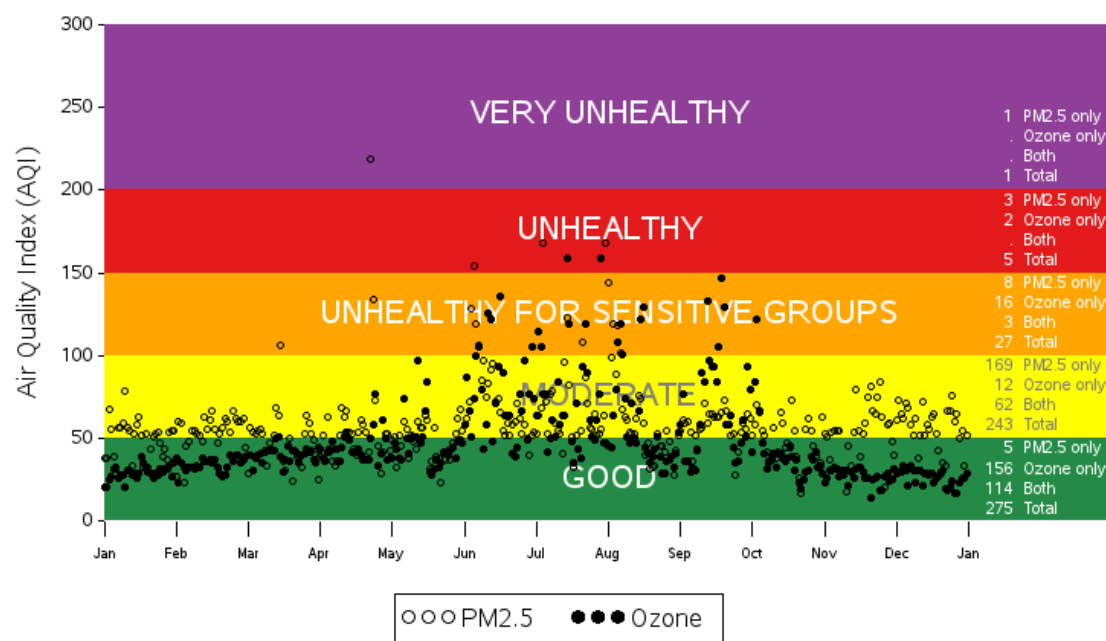


Figure 7. Daily PM2.5 and ozone AQI in the Chicago metro area, 2025.

However, at each of the regulatory monitors in the area, exceptionally high observations of 24-hour PM_{2.5} in 2023, associated with the wildfire enhancements to PM_{2.5} concentrations, resulted in annual mean values trending away from the decreases observed over the last decade. Elevated concentrations in 2023 and 2025 produced design value increases at more than half of the monitors in this study.

These elevated annual mean concentrations can be seen in Figure 8. Note that future design values inclusive of the annual mean values from 2023 through 2025 will be influenced by the excessively high observations that have been enhanced by the Canadian wildfire smoke in these years. This can already be seen in 2023-2025 three-year design values, even though 2024 values were significantly lower than those in 2023 and 2025.

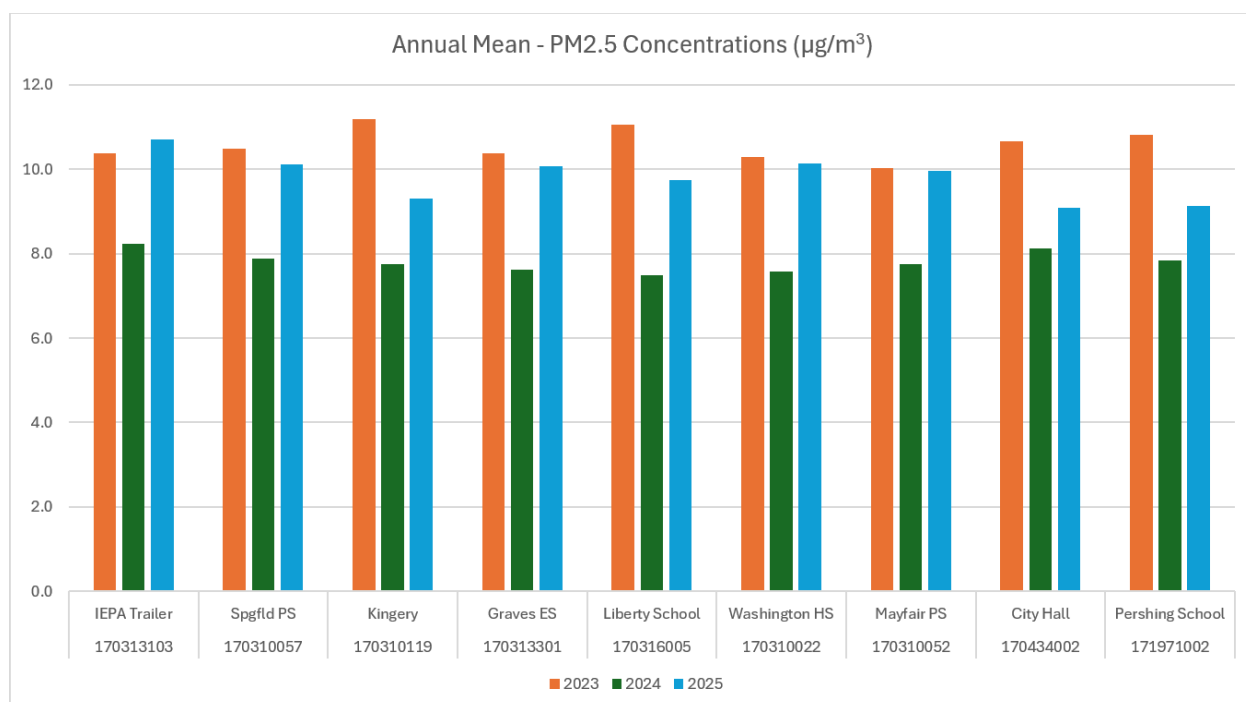


Figure 8. Annual mean PM_{2.5} concentration trends at monitors in the Chicago metro area.

The significantly exceptional PM_{2.5} episodes in 2023 and 2025 are easily seen when daily AQI values are plotted for Chicago during these years. In the 2023 row presented in Figure 9, May through September are shown to have many more “Unhealthy for Sensitive Group” and “Unhealthy” AQI days than any other months in the three-year period. These high AQI values will be shown to correlate with dates when Canadian wildfire smoke was present in and around the Chicago region, enhancing the observed concentrations at multiple monitors.

PM2.5 Daily AQI Values, 2023 to 2025

Chicago-Naperville-Elgin, IL-IN-WI

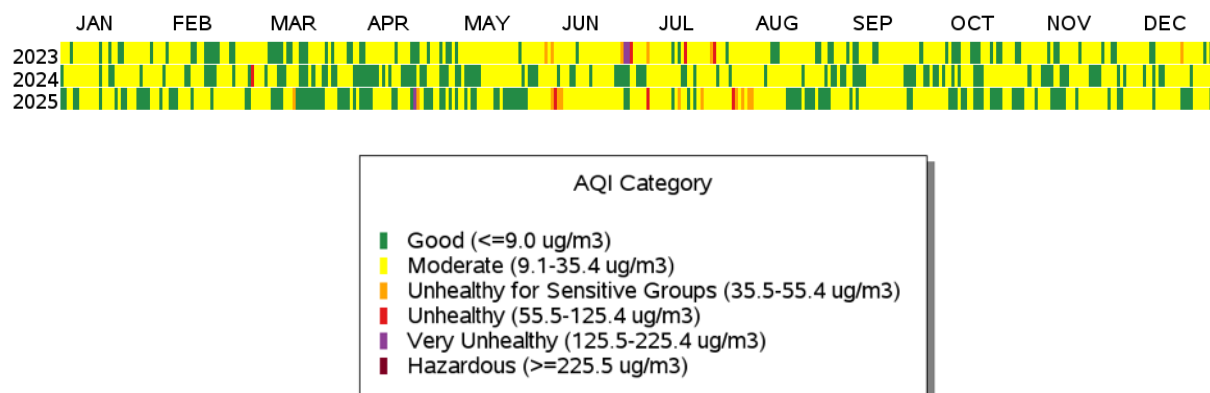


Figure 9. PM2.5 daily AQI values for Chicago, 2023-2025.

A recent study¹³ using observed concentrations and site-specific residuals (observed minus predicted 24-hour concentrations) from a Generalized Additive Model (GAM) indicates a calculated enhancement in PM2.5 concentrations across all U.S. states during May–September for 2018–2023, with large influences in 2023 due to Canadian fires. In 2023, wildfire smoke enhanced (increased) PM2.5 concentrations on average by 11.7 $\mu\text{g}/\text{m}^3$ in the central U.S. on days when smoke was present. This is shown in Figure 10 below.

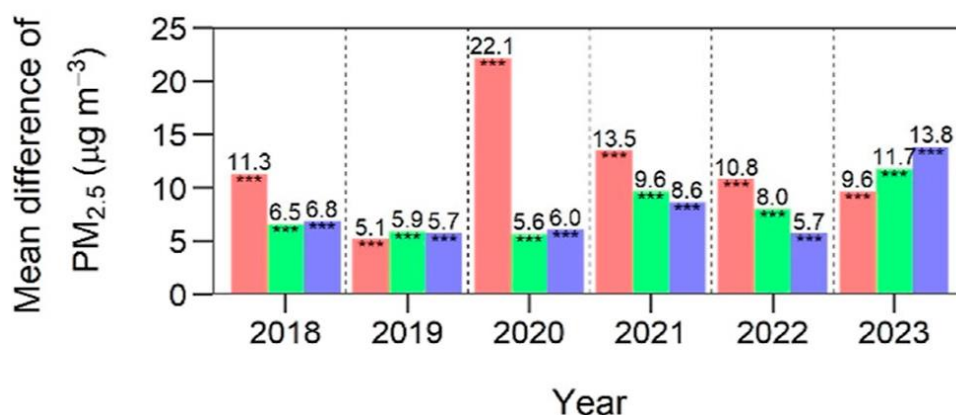


Figure 10. Mean difference between smoke and nonsmoke days (i.e., mean of smoke days – mean of nonsmoke days) for PM2.5 ($\mu\text{g}/\text{m}^3$) across the Western (red), Central (green), and Eastern (blue) US over the years 2018 to 2023.

¹³ Environ. Sci. Technol. 2024, 58, 33, 14764–14774

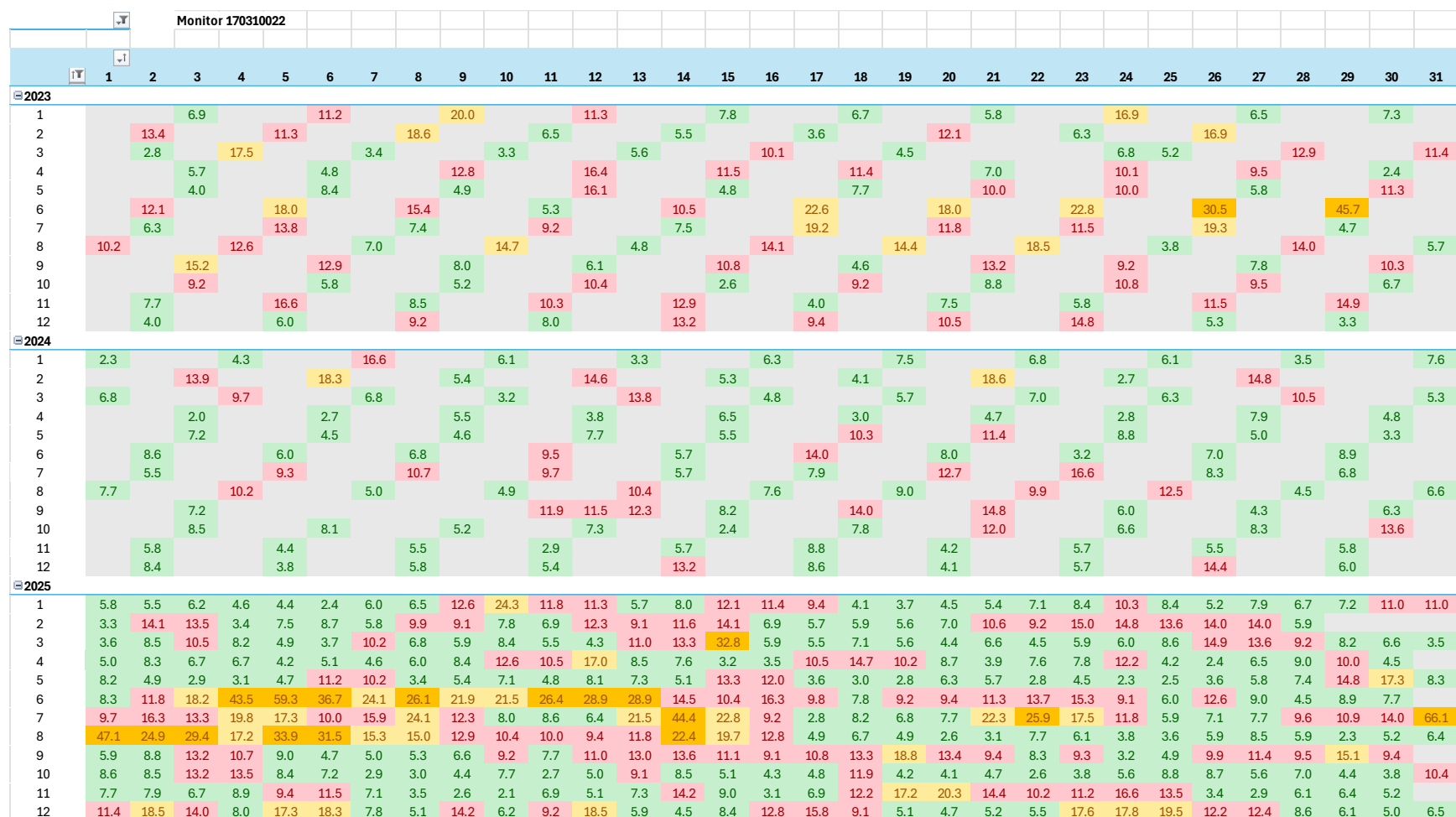
On a monitor-by-monitor basis, it can also be seen that PM_{2.5} concentrations from multiple dates across 2023 and 2025 were influenced by Canadian wildfire smoke as it entered the Chicago airshed.

Figure 11 through Figure 19 below present the 24-hour PM_{2.5} observations at Chicago metro monitors for the period of 2023-2025. Each daily value is color coded to represent concentration thresholds, exceedances of NAAQS levels, and exceedances of Tier 1 or Tier 2 thresholds as defined by EPA¹⁴. This is an easy way to compare dates and to find trends and episodes that may be significantly different than historical averages.

In each figure, green cells represent 24-hour PM_{2.5} concentrations below 9.0 ug/m³, red cells indicate concentrations greater than 9.0 ug/m³, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date and typically are reflective of monitors, especially in 2023 and 2024, that operated on a one-in-three or one-in-six-day schedule until 2025 when they changed to a daily schedule of operation.

What is initially noticeable is the fact that each of these monitors has multiple dates and observations that exceed the Tier 1 threshold in multiple years (orange cells). It is also notable that these dates are typically spread throughout the late spring and summer (May through September), concurrent with known episodes of Canadian wildfire smoke intrusion.

¹⁴ <https://www.epa.gov/system/files/documents/2024-04/final-pm-fire-tiering-4-30-24.pdf>



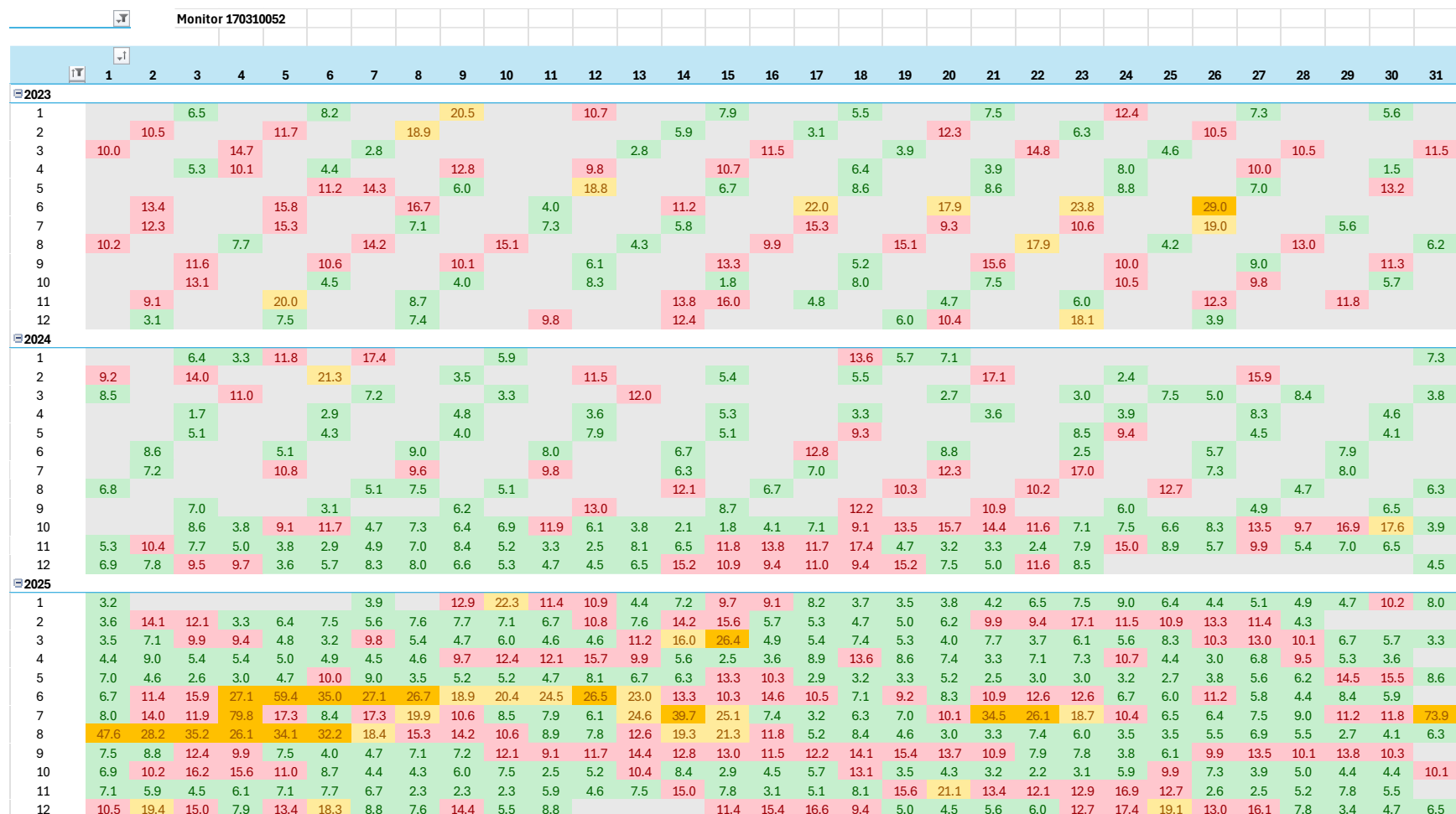
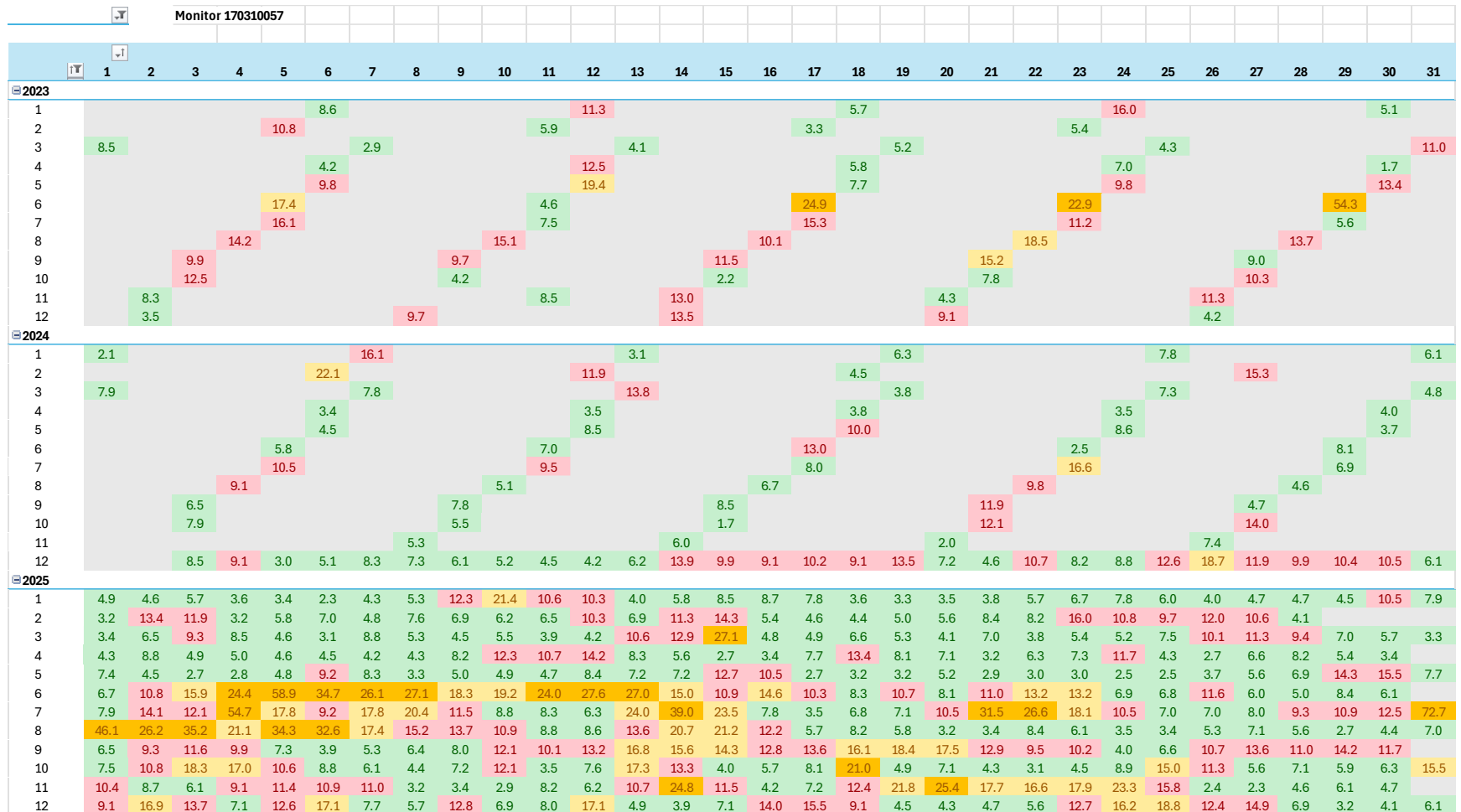


Figure 12. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the Mayfair Pump Station monitor (170310052). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.



Monitor 170310119																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2023																															
1	20.8	20.2	9.9	6.6	10.5	10.8	10.4	11.7	16.4	14.8	23.4	12.4	3.7	9.1	9.0	7.2	10.1	8.7	4.6	4.6	7.3	10.9	11.0	14.5	13.9	12.0	6.6	9.4	6.7	7.4	9.9
2	9.1	11.4	5.3	6.9	10.2	17.4	10.6	13.6	9.0	10.6	5.2	6.5	5.8	6.2	5.7	4.1	4.8	5.3	5.0	12.4	7.1	7.1	6.3	5.1	9.9	13.9	11.5	9.0			
3	14.3	4.2	11.8	18.8	12.3	10.2	4.5	3.8	5.1	5.1	4.2	7.0	5.5	5.7	8.3	11.7	3.4	3.8	4.7	8.8	10.9	16.8	9.3	9.4	4.2	9.2	6.1	9.5	8.8	8.6	10.4
4	4.9	5.6	5.7	12.2	7.8	4.7	5.8	12.5	14.3	11.2	9.3	9.8	9.2	15.5	10.7	3.1	2.4	7.7	11.0	9.3	4.2	3.2	3.7	9.2	11.7	4.2	11.3	13.3	10.2	2.0	
5	1.6	2.9	6.8	8.4	5.0	7.9	12.6	10.1	6.4	11.1	11.3	17.2	21.0	8.9	7.1	10.3	4.4	7.5	23.6	9.5	8.6	10.4	11.4	12.2	5.6	7.1	6.4	7.8	10.4	14.9	7.5
6	9.9	15.4	16.1	19.6	19.5	28.6	21.4	25.2	19.9	14.9	6.8	6.9	11.2	14.2	18.4	12.2	30.3	29.8	23.6	20.5	21.5	21.8	24.4	17.9	8.8	34.8	135.4	117.6	50.9	25.4	
7	19.4	7.0	13.2	17.8	10.2	11.2	11.5	6.8	8.1	7.5	9.0	5.9	8.5	7.4	17.7	54.7	26.3	8.4	8.8	10.9	7.8	12.3	12.8	32.2	53.1	19.9	14.0	11.1	4.9	6.7	8.5
8	10.1	12.8	14.1	15.7	19.5	9.9	7.3	15.5	17.4	16.1	10.6	4.7	4.4	5.1	13.3	13.6	12.2	22.7	19.4	14.4	23.2	19.7	18.4	17.1	5.7	5.3	6.6	16.4	13.3	3.1	5.4
9	6.1	7.9	8.6	8.4	5.8	14.2	3.1	5.3	10.2	12.0	9.3	7.0	6.8	7.3	8.6	10.6	8.2	6.1	7.8	10.7	14.6	11.4	10.4	10.3	7.6	6.2	8.5	5.7	11.6	11.6	
10	10.2	13.5	8.5	16.9	15.6	4.2	2.9	4.0	4.8	5.5	9.3	9.7	7.0	2.9	2.6	5.4	9.7	10.2	14.1	6.7	7.3	4.1	4.8	10.5	11.6	9.5	9.3	3.5	6.2	6.2	7.1
11	7.3	7.3	7.3	16.4	18.9	9.1	4.9	9.6	7.6	6.1	11.7	7.1	9.0	12.9	15.3	13.2	5.2	11.1	9.7	6.6	8.2	8.0	6.8	3.4	7.7	12.6	4.4	5.8	9.8	12.4	
12	12.0	6.1	5.8	6.1	8.9	11.0	9.7	8.8	4.7	3.8	7.8	5.8	6.5	10.8	9.6	10.5	7.8	3.8	5.0	8.7	15.4	17.7	17.3	16.0	6.4	4.4	6.9	3.8	5.2	10.5	5.5
2024																															
1	4.0	7.5	9.5	5.8	10.7	20.5	16.4	10.5	6.0	6.5	13.1	8.7	4.9	9.8	10.5	7.5	7.3	15.4	6.0	6.7	10.5	8.1	14.1	10.8	9.5	5.2	5.8	4.5	9.2	10.7	6.8
2	9.4	5.8	13.3	15.6	4.8	16.8	19.0	8.8	3.8	5.9	9.0	10.7	8.1	8.3	5.0	4.9	4.4	5.1	7.9	14.3	17.9	24.1	7.2	2.9	9.3	13.3	16.3	3.8	5.1		
3	6.6	17.7	10.5	9.8	2.8	4.0	6.5	6.2	3.8	3.5	5.7	8.9	18.1	8.3	5.7	5.0	2.4	3.1	5.4	3.4	6.2	7.3	3.6	4.8	6.4	4.1	4.6	8.7	8.1	10.2	8.3
4	13.4	7.0	2.7	3.0	2.8	4.5	3.9	5.8	3.9	6.4	5.5	5.3	4.4	8.9	7.7	8.4	4.3	3.8	3.8	2.6	5.7	7.1	6.1	3.5	7.6	6.9	7.9	9.5	5.0	4.2	
5	7.3	7.8	8.2	7.0	3.3	6.9	5.4	4.1	5.2	5.7	6.0	7.1	8.1	11.5	6.4	9.8	13.1	10.5	5.9	7.5	11.1	6.0	12.3	7.5	4.7	6.2	3.7	4.0	3.9	4.7	6.6
6	7.3	7.6	8.5	7.9	5.1	4.0	5.3	5.5	4.8	3.4	6.1	5.9	8.6	5.6	4.6	8.3	14.3	6.2	11.5	10.6	15.6	9.4	3.5	5.2	5.4	5.6	2.7	7.3	7.0	1.7	
7	4.8	4.2	4.6	16.4	6.8	10.1	10.9	9.6	7.3	7.5	11.3	11.4	10.8	5.5	6.4	7.1	9.4	4.2	10.4	14.7	13.4	10.7	14.8	12.8	6.2	8.6	9.8	9.2	6.5	7.3	6.4
8	5.4	11.4	16.6	10.2	10.4	8.8	6.0	9.0	4.5	4.7	5.0	10.9	13.3	14.4	9.7	6.7	6.6	8.8	10.1	5.1	6.1	8.0	10.8	13.8	11.2	11.6	10.9	4.2	8.3	5.2	4.9
9	6.4	4.1	4.8	6.2	9.0	3.6	2.9	5.0	5.1	5.3	7.2	10.3	10.5	7.4	7.9	10.5	11.1	13.7	11.5	16.9	12.5	4.8	3.2	6.1	6.0	8.5	5.0	4.8	4.3	6.8	
10	6.1	6.3	9.6	5.4	7.6	8.6	5.6	9.0	5.4	6.0	10.0	8.7	4.6	2.5	2.9	3.8	5.1	7.7	10.8	14.1	15.2	10.2	9.3	5.4	7.8	5.6	10.1	7.5	13.8	14.6	3.8
11	4.8	9.4	6.2	6.0	4.7	4.1	5.9	7.5	7.9	4.6	3.3	3.2	6.5	6.5	10.9	9.1	11.1	16.1	4.7	3.3	3.4	3.1	6.6	10.9	7.7	6.0	9.2	5.4	7.1	6.3	
12	6.2	9.1	8.7	8.7	5.0	6.4	9.2	6.2	7.2	4.8	5.6	5.2	7.6	13.1	7.2	7.8	8.8	9.4	12.8	7.2	6.0	10.6	7.0	8.1	12.9	16.6	9.9	8.5	8.3	7.7	4.9
2025																															
1	4.6	4.6	6.5	5.1	4.2	2.9	6.2	6.8	11.8	23.5	10.8	10.7	4.5	9.0	12.8	9.7	7.8	3.8	3.7	5.3	7.9	9.2	8.4	10.9	6.6	4.5	5.5	5.1	4.1	9.9	9.3
2	3.0	11.2	10.7	3.3	6.8	7.8	5.5	8.8	8.4	7.4	6.9	12.8	10.7	12.5	12.2	6.7	5.6	6.0	5.3	6.8	9.8	9.2	13.8	11.0	11.8	11.2	12.2	5.1			
3	3.7	6.0	8.2	8.9	4.4	4.8	8.4	6.2	4.5	5.3	4.4	4.7	15.2	11.4	27.2	4.9	4.7	6.2	7.3	4.4	5.6	4.3	5.2	4.3	7.2	12.7	10.1	8.0	8.8	6.3	4.0
4	4.5	7.8	6.0	10.1	4.3	4.5	3.9	4.6	6.5	12.4	9.3	12.2	7.4	6.4	3.2	5.4	9.6	13.4	11.8	7.2	3.9	6.0	6.3	9.6	4.7	2.3	5.1	7.6	5.9	5.9	
5	7.5	6.9	3.1	3.1	7.5	10.1	9.1	3.7	5.7	5.2	6.2	11.0	7.7	10.4	12.8	9.5	3.0	4.1	4.4	6.3	6.5	3.2	5.7	3.9	4.4	4.8	6.5	8.1	13.3	15.1	9.2
6	8.8	10.4	15.6	29.2	53.9	35.3	24.7	24.0	18.7	16.9	21.3	26.6	26.6	16.4	11.1	14.9	7.1	6.4	6.8	7.0	9.0	11.5	11.8	8.2	6.1	7.8	5.5	5.8	6.3	4.8	
7	7.5	12.4	11.1	14.1	13.3	7.3	15.3	18.7	8.6	8.6	6.5	4.2	19.5	33.7	15.3	6.4	3.2	6.8	5.5	5.8	18.5	22.0	13.7	8.8	5.3	6.1	6.7	8.3	9.2	13.6	57.0
8	45.0	24.5	27.1	15.1	28.3	24.4	11.6	11.8	10.1	8.4	8.0	8.7	12.5	19.8	16.8	10.2	5.0	5.9	4.9	3.2	4.5	6.5	5.3	3.7	3.6	5.6	6.9	6.2	3.6	5.0	7.9
9	8.2	8.8	10.7	11.0	8.1	3.7	5.2	5.9	5.6	9.3	10.6	11.0	12.2	12.5	12.1	10.6	12.5	13.1	14.9	13.6	10.1	7.6	8.2	3.4	5.6	8.4	9.5	11.0	14.0	12.7	
10	7.2	8.2	11.1	11.6	8.0	6.8	3.7	3.9	3.6	6.9	3.3	5.6	9.7	9.8	7.1	4.1	4.7	11.2	3.4	3.6	3.5	2.1	3.4	5.5	8.1	8.1	4.6	5.1	4.8	4.4	8.8
11	7.5	7.0	4.5	6.1	8.5	7.4	6.7	4.5	2.5	2.3	5.8	4.6	5.9	12.6	8.3	3.1	7.4	12.6	17.7	20.1	14.7	10.2	15.3	17.0	12.9	2.6	2.7	13.3	6.8	4.9	
12	14.6	18.1	14.7	9.1	16.3	16.5	9.7	6.5	12.8	5.9	7.9	16.6	6.8	6.2	9.0	11.8	12.6	10.0	5.7	4.4	4.7	5.0	13.4	14.4	18.4	11.4	12.1	9.0	3.6	5.8	7.5

Figure 14. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the Kingery Near Road #1 monitor (170310119). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

Monitor 170313103																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2023																															
1	19.6	16.0	6.6	6.8	11.1	7.5	8.9	12.4	17.7	17.2	24.8	12.8	4.2	7.9	8.3	6.6	9.2	6.9	4.8	4.2	7.2	11.1	9.3	13.7	15.0	10.6	6.5	7.9	5.2	10.3	11.3
2	10.4	10.5	5.3	6.8	11.1	19.2	9.5	13.1	8.6	5.9	5.1	5.8	5.7	6.3	4.4	3.1	4.5	5.4	5.1	12.9	6.3	6.4	5.7	4.1	10.2	10.1	10.4	7.2			
3	9.9	4.8	10.0	13.6	10.2	9.3	3.8	3.1	3.5	3.8	4.1	7.9	4.6	5.1	9.2	9.6	3.0	3.2	3.8	7.9	12.2	13.3	9.7	6.2	4.0	6.9	5.8	8.8	7.3	10.0	7.9
4	4.3	5.2	4.8	7.5	6.5	4.2	4.1	8.7	13.1	10.4	7.8	9.1	8.2	13.6	9.2	2.3	2.0	5.8	7.7	7.8	3.8	2.8	3.3	8.0	8.1	3.9	10.5	9.6	9.1	1.5	
5	1.6	1.9	4.6	7.8	4.7	7.2	11.3	5.8	4.6	8.0	9.5	14.1	8.9	5.6	6.0	8.7	3.2	7.2	21.1	6.2	7.2	9.0	9.8	8.2	3.2	4.4	4.9	5.2	6.8	8.9	9.4
6	13.6	10.2	11.2	18.1	15.1	20.1	14.2	16.5	15.2	13.9	4.1	5.6	8.8	13.0	16.8	10.1	25.7	25.0	19.2	16.6	16.9	19.1	21.6	14.2	8.0	28.1	118.2	102.4	53.0	23.7	
7	17.9	9.6	11.5	26.1	12.8	8.1	7.8	5.4			7.8		8.5	6.7	22.2	47.2	17.7	6.6	8.1	10.6	7.8	10.8	12.4	40.5	54.7	20.0	12.4	10.1	5.1	7.2	8.6
8	10.7	12.3	16.1	16.6	18.3	11.3	8.6	16.1	18.3	17.6	10.5	4.3	4.6	5.2	12.7	11.4	11.4	23.2	18.8	17.1	21.4	23.1	20.7	19.8	5.7	5.1	5.5	15.6	13.6	3.4	5.6
9	7.0		8.9		6.8	13.0	3.1	6.2	8.5	12.4	8.8	6.3	6.3	5.7	10.1	11.4	7.3	5.9	7.9	15.3	16.6	14.5	10.2	10.0	7.8	6.3	8.5	4.3	13.6	11.2	
10	9.5	12.7	9.2	18.0	7.0	3.1	2.3	3.1	3.3	4.0	8.2	5.9	4.8	1.9	1.7	3.5	8.2	7.1	10.4	3.8	6.4	4.6	4.3	10.0	9.9	7.7	10.0	3.0	5.0	5.8	6.1
11	6.6	8.2	10.0	16.6	22.8	7.8	4.3	8.2	6.2	6.4	8.7	7.4	6.6	14.0	16.3	13.4	5.2	10.5	8.8	6.1	6.0	7.6	7.3	4.1	8.7	13.3	4.2	5.9	11.1	13.2	
12	10.6	4.8	6.0	5.6	10.4	12.1	10.0	9.2	4.5	3.6	8.0	6.2	5.7	12.7	13.3	10.4	8.1	4.0	5.0	10.2	18.4	18.3	19.6	15.9	7.1	4.6	7.1	3.4	4.7	11.6	5.8
2024																															
1	4.0	8.9	9.6	6.3	13.0	25.1	18.6	13.0	6.8	7.6	14.2	10.8	4.1	9.1	12.5	7.0	7.5	14.9	6.8	8.7	10.0	8.8	16.5	16.5	8.6	5.5	6.2	5.5	10.1	11.0	7.9
2	9.6	5.6	14.9	14.1	5.5	19.8	23.1	9.1	3.3	6.1	7.5	11.4	7.9	13.5	5.6	4.6	4.5	5.3	11.0	19.3	22.1	19.3	8.8	3.7	11.8	13.2	17.8	3.8	4.9		
3	7.4	13.6	11.4	10.7	2.6	3.3	8.2	7.1	3.7	3.3	6.3	9.0	13.9	7.1	7.5	5.8	2.8	3.4	5.6	3.5	6.7	9.0	4.4	5.3	8.4	4.1	4.6	8.3	5.7	11.3	4.8
4	10.9	4.1	2.3	2.7	3.1	3.8	4.7	5.1	4.1	7.2	5.4	3.9	5.2	8.9	5.4	8.5	4.3	4.6	3.7	3.0	5.2	8.9	6.0	4.1	9.4	8.4	8.4	7.3	4.4	3.8	
5	4.6	6.7	4.6	6.2	2.8	5.2	5.1	4.3	4.0	4.5	5.5	7.5	8.0	10.8	5.8	10.0	12.6	11.9	5.3	7.7	11.3	5.2	10.6	8.4	4.4	5.9	3.6	4.0	4.0	3.9	8.2
6	8.1	7.4	10.5	9.7	4.3	3.6	5.0	7.8	3.6	4.0	5.8	8.6	10.7	6.6	5.6	9.0	16.2	7.3	13.8	10.0	12.5	9.0	3.1	6.4	7.1	5.5	2.9	8.1	7.9	2.1	
7	3.5	4.9	4.7	34.1	10.9	8.3	12.5	9.4	8.3	9.3	11.3	11.8	13.2	6.1	8.0		9.0	4.3	9.8	10.7	11.0	9.6	21.5	8.9	6.7	8.1	12.3	10.8	7.1	8.0	8.3
8	6.6	12.8	15.9	10.5	11.9	5.2	6.4	8.6	4.7	5.0	4.9	7.4	12.5	16.2	11.5	7.8	6.1	10.3	13.2	5.4	6.3	10.7	13.8	19.4	14.9	17.5	15.9	4.9	7.7	5.4	5.7
9	8.6	7.1	6.7	8.2	12.0	4.2	4.0	6.8	7.3	7.3	9.8	13.5	13.2	10.8	9.5	10.7	12.7	12.5	13.0	11.3	7.6	5.2	2.5	4.8	5.1	8.5	4.3	4.3	3.9	5.9	
10	5.1	6.8	8.7	4.3	7.9	10.5	6.0	6.6	5.9	6.2	11.1	5.4	3.7	2.4	2.2	4.0	7.1	8.1	11.5	15.1	12.8	10.2	6.9	7.3	6.2	6.4	10.6	8.5	15.1	15.6	3.5
11	5.7	10.6	6.7	4.3	3.3	2.9	4.6	7.0	7.8	4.5	3.3	3.0	7.8	6.2	12.1	12.9	11.1	15.2	4.6	3.1	3.5	3.0	7.4	13.6	9.3	5.5	9.7	5.1	6.8	6.2	
12	6.7	8.0	9.3	10.1	3.9	6.3	9.2	7.6	6.3	5.0	4.7	4.4	6.6	14.9	10.3	8.7	10.4	9.1	13.0	8.2	5.7	11.3	8.0	10.0	13.1	20.1	12.3	8.9	11.8	10.4	6.5
2025																															
1	4.7	4.5	6.4	3.8	4.2	3.8	6.2	6.7	13.0	22.8	10.7	10.5	4.9	10.0	11.7	8.9	8.3	4.1	3.9	4.5	4.9	8.6	8.8	10.2	7.1	4.4	5.6	4.9	4.4	10.7	7.1
2	3.2	13.4	11.7	4.0	6.6	7.4	5.8	8.2	8.1	7.5	7.5	12.2	7.4	13.9	16.1	5.5	5.1	5.3	5.5	6.3	9.1	9.1	15.8	11.2	10.2	14.0	10.8	4.2			
3	3.6	6.5	9.0	9.8	6.7	3.4	10.2	5.5	4.7	5.9	3.7	4.1	11.4	12.1	23.6	4.8	4.8	7.2	5.2	4.3	6.8	4.0	5.5	5.2	7.7	11.8	11.0	8.7	6.7	5.8	3.4
4	4.8	8.9	4.8	4.9	4.7	5.2	4.3	5.0	9.1	12.2	13.1	15.0	7.8	5.3	3.2	4.3	7.2	12.8	8.1	7.5	2.9	6.6									
5																						3.5	4.7	3.2	3.5	3.9	5.4	7.0	13.5	15.7	9.0
6	8.2	10.7	15.8	25.4	59.1	34.9	32.2	27.5	19.8	21.8	26.1	29.8	27.2	15.8	11.8	16.3	11.4	9.2	9.0	8.5	11.8	13.8	13.6	7.8	8.6	12.1	6.4	5.9	9.7	6.7	
7	10.2	14.4	14.1	25.7	17.9	9.0	21.8	20.6	12.5	10.1	8.3	6.7	28.5	38.6	22.8	8.3	4.9	8.0	7.1	10.8	37.7	28.3	19.9	12.2	7.3	6.2	9.4	10.4	11.7	13.1	79.1
8	50.6	31.1	39.6	29.3	33.8	35.8	17.6	15.4	13.8	10.9	10.4	9.4	14.8	20.6	21.0	13.3	5.6	8.2	5.7	3.3	3.6	9.2	6.0	3.5	4.3	6.6	8.4	6.5	3.0	4.1	6.1
9	7.2	10.4	13.6	10.6	8.2	4.2	4.4	6.1	6.8	11.0	8.9	11.2	15.8	14.2	13.1	13.0	13.0	16.0	16.3	14.1	10.7	8.3	9.2	4.2	7.5	9.6	12.4	9.8	14.3	11.0	
10	7.4	9.6	16.1	14.7	10.4	8.0	4.0	3.7	5.9	7.4	3.0	6.4	11.6	8.0	3.5	4.6	5.7	14.4	3.5	4.6	3.4	2.3	3.5	6.6	10.3	8.2	4.5	5.3	4.3	5.2	9.6
11	6.8	5.8	4.6	6.9	8.1	8.1	6.6	2.8	2.7	3.3	6.7	4.9	8.2	16.3	7.8	3.2	7.5	9.4	16.0	21.2	14.1	12.9	14.7	17.8	12.0	2.7	2.6	5.9	8.2	5.5	
12	12.5	18.0	15.7	14.9	15.5	18.7	13.0	9.5	15.0	6.0	9.4	20.3	6.1	5.0	8.7	15.7	16.7	9.1	5.1	4.3	5.2	5.3	13.0	17.0	19.9	13.2	15.6	7.5	4.0	5.4	7.3

Figure 15. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the IEPA Trailer monitor (170313103). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

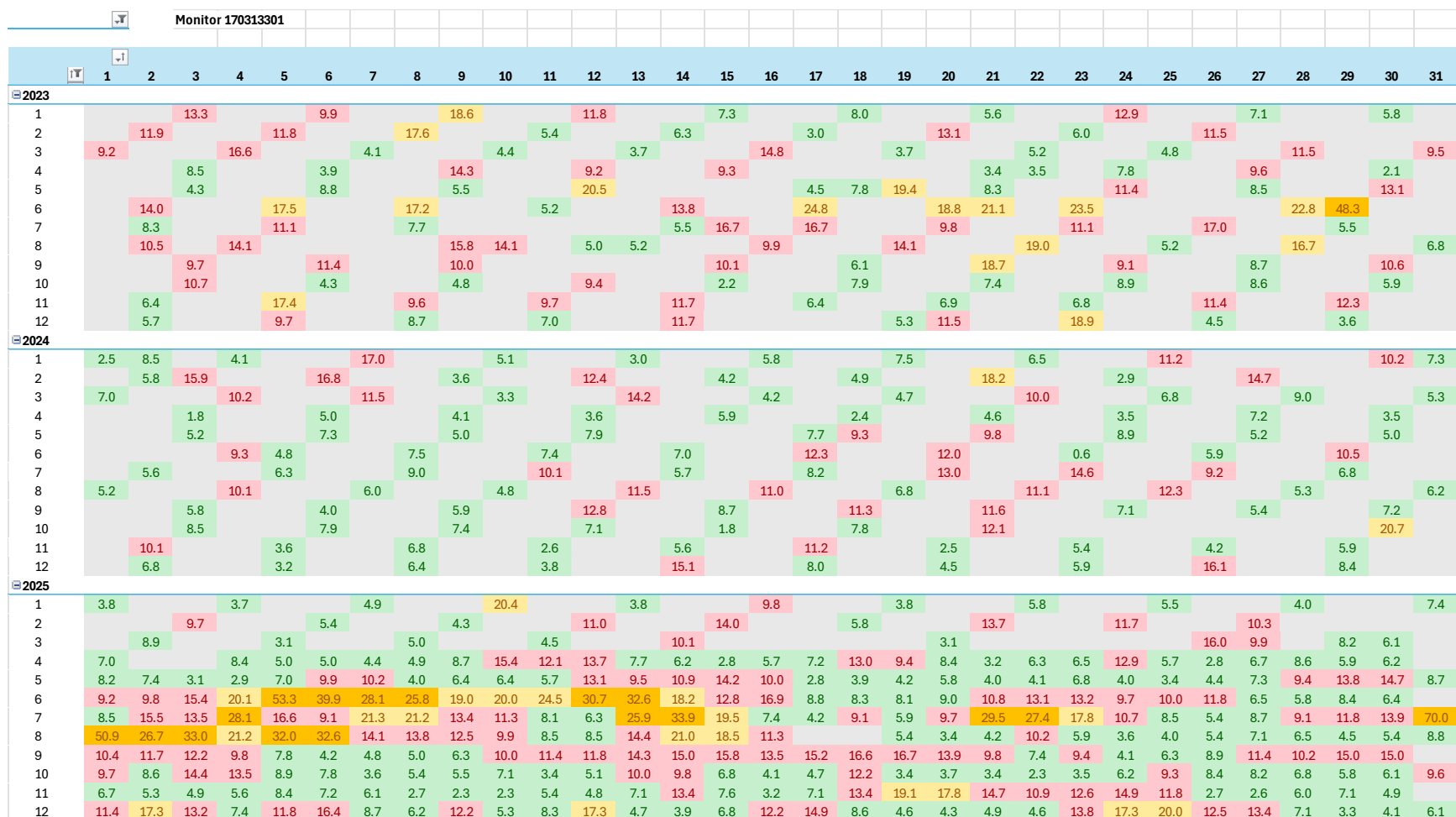


Figure 16. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the Graves ES monitor (170313301). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

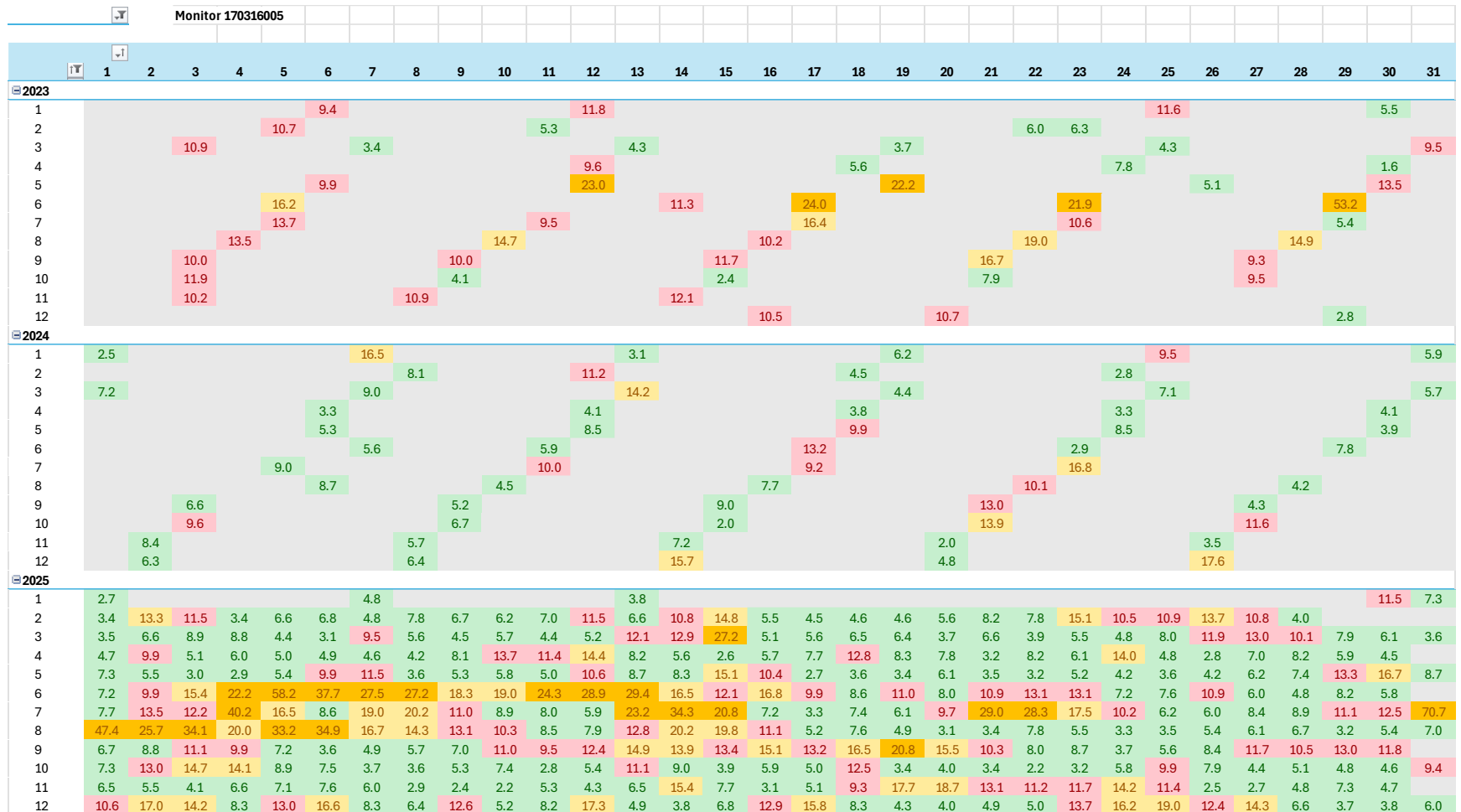


Figure 17. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the Liberty School monitor (170316005). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

Monitor 170434002																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
2023																																	
1	17.6	16.9	9.0	5.9	10.1	7.9	12.6	10.9	16.9	14.6	19.2	15.0	3.5	7.3	8.0	6.0	9.7	9.1	4.2	4.2	6.7	8.2	8.7	12.2	11.1	9.7	5.7	8.6	4.7	4.5	7.3		
2	7.9	10.7	3.8	5.9	9.1	17.3	9.1	9.8	8.1	9.3	4.8	5.9	5.0	5.7	4.2	3.3	3.3	4.4	4.9	10.4	6.4	6.8	6.6	6.7	9.3	12.7	10.9	8.7					
3	10.7	7.5	10.8	15.8	11.6	9.8	4.3	4.9	4.9	4.3	7.0	7.8	4.2	4.9	10.5	10.2	3.2	3.5	4.1	8.4	11.3	15.0	14.0	8.5	3.9	8.8	6.5	8.2	8.4	9.9	8.7		
4	4.9	5.9	4.6	10.5	7.3	4.4	7.7	12.9	13.3	10.3	9.0	9.7	13.4	13.6	10.0	2.6	2.1	5.3	9.9	8.1	3.7	3.0	3.7	7.6	10.8	6.1	11.7	13.1	9.1	1.7			
5	1.1	2.0	4.3	7.9	5.5	8.5	12.9	9.2	6.2	7.6	10.4	16.1	14.5	7.8	6.8	8.6	4.1	7.6	21.6	8.5	9.7	10.2	10.6	12.0	4.4	6.5	7.7	7.4	9.2	11.8	9.0		
6	11.5	14.5	13.2	26.0	17.6	25.4	15.7	23.6	15.6	16.9	6.0	5.9	9.5	21.5	26.9	14.5	33.0	29.6	25.2	20.7	21.9	22.4	29.6	22.3	8.9	35.8	157.2	151.0	65.4	27.5			
7	16.5	9.9	13.8	22.6	14.8	10.3	10.7	6.7	8.2	7.8	9.9	4.8	5.2																				
8	9.5	10.8	10.4	16.7	18.0	11.9	8.3	14.4	14.5	13.3	8.6	4.2	5.2	3.8	12.3	8.8	10.4	21.5	17.3	16.6	22.3	21.2	18.8	18.2	8.7	5.6	6.0	14.7	13.3	3.6	6.2		
9	5.3	6.5	8.4	8.9	6.0	12.6	2.5	6.0	10.4	10.6	6.8	6.0	6.5	6.0	7.1	10.6	7.2	6.6	6.6	13.6	15.5	15.0	13.2	10.5	7.7	7.3	9.2	5.8	10.2	10.4			
10	9.9	11.3	8.4	19.1	7.7	3.6	2.5	4.3	4.2	5.0	8.3	9.3	8.0	2.2	1.8	4.8	7.1	7.5	10.1	5.1	8.1	3.9	4.5	10.3	10.5	8.6	9.9	4.1	6.6	6.4	6.8		
11	6.1	7.2	9.4	19.3	23.1	7.4	6.9	8.0	6.1	6.1	10.5	8.2	8.2	10.2	13.4	13.4	7.3	11.2	11.8	9.3	6.1	8.0	7.5	4.2	11.0	12.6	3.6	5.8	10.5	13.0			
12	12.8	9.2	4.7	4.8	9.2	12.0	9.3	8.7	4.4	3.8	7.4	5.3	4.8	10.8	12.2	8.7	8.0	3.8	4.3	11.5	15.6	15.5	14.1	13.9	4.9	5.2	8.8	3.4	4.1	10.6	4.7		
2024																																	
1	3.4	7.9	8.8	5.0	11.7	22.2	17.0	12.6	5.5	6.8	12.8	9.9	3.6	6.0	6.5	3.7	4.2	10.4	5.5	6.2	7.8	6.5	10.9	16.3	8.9	6.4	9.0	5.5	9.1	10.6	7.1		
2	10.0	6.8	15.6	14.8	9.4	15.6	21.0	9.2	3.2	6.1	9.1	11.3	8.5	9.6	5.0	4.9	4.8	6.2	8.1	17.4	21.5	16.5	9.0	3.3	12.2	12.6	16.4	3.8	4.8				
3	7.6	13.0	11.9	11.2	3.6	4.8	9.8	7.5	4.2	3.2	6.4	8.8	15.9	6.6	7.7	5.9	2.7	3.3	5.6	3.8	8.4	9.8	7.0	5.9	7.8	4.3	4.9	8.8	11.1	10.7	7.4		
4	12.2	5.7	1.4	2.2	4.8	7.0	4.5	5.4	3.8	7.4	5.3	3.6	5.5	8.5	7.3	8.7	4.1	5.8	4.0	3.2	5.7	8.9	6.2	5.9	10.4	8.1	8.3	8.6	4.3	3.6			
5	4.5	6.9	5.7	6.8	5.0	7.8	4.8	4.3	4.4	4.9	5.8	8.5	7.0	13.9	9.6	9.1	11.2	10.7	7.6	7.3	12.1	5.3	10.8	8.3	5.1	5.8	3.5	3.6	4.9	5.4	7.0		
6	6.6	8.7	9.6	9.3	4.2	4.2	5.6	6.4	4.2	4.9	6.0	6.2	9.6	6.4	6.2	9.0	14.6	7.3	12.8	13.4	13.3	10.0	3.3	5.1	6.0	5.0	4.5	7.2	7.7	3.4			
7	5.3	4.9	4.8	12.7	7.6	5.6	12.6	8.6	8.1	9.5	12.7	13.9	12.5	6.2	7.2	8.2	9.4	5.4	8.2	10.3	11.0	12.1	17.0	14.6	8.7	9.0	12.0	11.6	6.8	8.2	7.7		
8	6.1	12.1	16.3	10.6	12.9	7.8	7.6	8.7	5.6	5.7	8.1	13.1	14.4	10.8	7.4	6.2	10.8	15.3	6.7	6.5	7.9	10.9	15.7	14.7	16.0	14.1	4.6	9.2	5.3	5.2			
9	10.1	7.6	5.4	5.9	8.3	4.2	5.2	6.0	4.7	5.9	6.9	11.4	14.4	11.3	9.3	11.3	12.2	13.0	12.4	8.6	8.4	5.6	3.3	4.9	5.5	6.2	4.7	5.2	5.1	7.3			
10	5.5	5.5	8.9	5.0	9.3	10.2	4.2	8.3	7.4	5.5	15.3	7.8	3.8	2.2	2.2	3.7	5.9	9.7	12.0	15.7	13.4	10.7	6.4	5.7	6.2	9.1	11.7	9.5	16.2	15.4	3.1		
11	4.9	12.6	7.0	4.1	3.0	2.4	4.6	8.5	10.2	4.2	3.5	5.2	6.9	4.9	13.1	13.4	11.2	14.1	4.0	2.9	3.0	2.3	7.3	12.5	8.5	5.1	10.1	5.6	7.7	6.3			
12	6.5	8.0	8.9	8.9	3.2	5.2	7.4	7.1	6.2	4.6	4.3	3.8	9.4	16.0	8.6	7.9	10.2	8.3	10.3	7.4	5.3	11.6	7.5	13.9	18.8	16.9	9.1	9.1	12.6	10.0	5.9		
2025																																	
1	4.7	4.8	5.1	4.1	4.3	2.8	4.9	5.4	12.6	20.5	9.0	10.1	3.6	5.7	9.0	8.6	7.6	3.3	3.5	3.5	4.1	5.3	6.7	7.5	5.5	3.7	4.6	4.3	3.6	8.1	8.4		
2	4.8	14.1	11.7	3.7	8.2	6.8	4.7	9.0	6.9	6.5	8.4	12.8	7.0	10.2	16.4	5.4	4.7	5.1	4.6	5.8	9.4	8.7	14.5	10.5	7.0	12.5	10.8	3.8					
3	3.9	6.4	8.8	10.3	4.2	3.0	9.0	7.3	4.6	5.6	4.3	9.9	15.9	12.4	22.6	5.0	4.2	6.3	7.3	2.9	5.3	6.1	6.0	4.6	6.2	15.5	11.1	7.6	8.5	5.3	3.3		
4	6.5	7.8	4.9	7.1	4.3	5.3	5.1	5.2	9.6	15.9	13.0	11.2	7.9	5.5	2.6	5.7	7.5	13.1	7.8	10.7	2.9	5.3	5.1	9.1	5.7	4.0	5.5	8.3	5.4	5.6			
5	8.3	8.9	3.2	3.5	6.0	8.1	7.3	3.7	5.6	6.3	7.9	10.4	9.4	11.0	14.0	8.2	2.7	4.9	3.6	6.1	3.1	3.8	7.3	6.6	6.2	5.6	6.9	7.9	10.0	11.4	11.2		
6	10.0	10.3	14.2	14.6	51.1	35.6	32.7	23.5	18.4	19.2	24.2	28.6	29.2	18.9	14.8	15.7	8.3	6.5	8.0	7.6	10.8	12.6	11.7	7.4	8.0	10.4	5.0	5.4	9.0	6.0			
7	8.3	13.1	10.1	17.7	17.1	7.8	22.8	18.6	11.2	10.2	7.4	6.6	27.0	30.1	16.1	6.0	4.4	3.9	5.4	7.5	27.9	26.1	17.1	8.6	6.6	4.2	8.0	8.7	8.7	10.9	65.2		
8	48.4	28.0	32.2	23.4	26.0	25.7	13.2	13.3	11.9	9.5	7.2	7.2	12.2	17.8	16.9	9.0	6.2	6.7	4.3	3.2	3.9	6.0	4.9	3.1	2.9	4.4	5.0	5.6	4.6	6.5	7.9		
9	7.8	6.7	9.7	10.3	6.5	3.3	4.3	4.8	5.5	7.6	10.1	9.9	13.5	16.4	12.4	11.8	12.9	13.3	12.2	9.4	9.3	6.8	7.0	4.0	5.4	7.4	10.2	11.1	11.1	10.9			
10	8.4	7.8	12.4	12.4	7.2	7.0	3.0	4.1	4.2	5.3	4.7	5.3	7.3	7.2	3.9	3.8	4.9	10.9	2.9	3.0	2.7	1.6	2.6	6.0	8.7	8.7	5.7	6.6	3.9	4.8	7.1		
11	6.1	5.0	3.9	4.8	5.9	5.6	5.0	4.5	2.0	1.6	4.5	3.7	6.5	11.1	6.3	2.7	6.5	11.7	14.8	17.6	12.8	9.3	10.8	14.0	7.8	2.0	2.6	6.3	5.9	4.2			
12	11.4	13.6	12.5	6.7	12.3	13.5	8.3	4.4	10.8	4.4	7.2	15.3	4.0	3.6	5.9	11.3	12.2	7.2	3.7	3.7	4.0	4.2	11.4	15.1	20.2	10.7	12.2	4.1	2.9	3.1	5.3		

Figure 18. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the City Hall monitor (170434002). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

Monitor 171971002																															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2023																															
1	17.6	17.3	5.7	5.8	9.8	8.3	12.1	9.1	15.4	14.0	17.8	13.8	3.6	6.5	7.3	5.0	9.3	9.4	3.8	4.2	5.6	7.6	8.7	11.4	10.0	8.3	5.1	7.6	5.4	4.2	5.8
2	6.6	9.7	3.2	5.4	7.8	16.5	8.8	9.9	6.4	10.4	4.7	5.5	4.8	5.2	4.3	3.9	3.0	4.2	4.6	10.0	5.2	6.9	6.3	4.8	8.4	12.3	10.5	7.8			
3	10.6	6.5	10.9	14.4	9.3	9.1	4.5	2.9	4.5	5.5	5.0	6.4	4.0	4.5	9.1	9.7	3.1	3.1	4.1	8.3	12.5	12.9	11.9	9.4	3.8	7.9	6.6	7.1	8.0	7.6	8.2
4	4.3	5.8	3.9	9.4		6.4	3.8	6.2	13.0	11.0	10.3	9.6	9.5	9.3	10.7	8.9	2.4	2.3	7.3	8.8	7.5	3.9	2.9	3.5	7.1	11.5	4.8	8.7	12.9	9.8	1.9
5					5.7	8.0	10.2	9.9	5.5	7.5	9.1	13.0	17.3	8.0	7.6	8.8	4.2	7.6	20.3	9.3	7.3	9.1	10.6	13.8	5.0	6.5	5.9	6.7	9.1	10.8	7.8
6	11.2	12.8	13.6	23.1	17.8	25.8	17.8	25.3	14.7	17.2	7.0	6.1	8.9	19.9	24.1	14.1	30.8	29.6	25.8	21.7	21.4	22.1	31.2	22.8	8.5	33.4	144.8	169.3	59.1	26.3	
7	15.3	8.0	15.3	19.0	12.5	9.4	11.2	6.5	7.7	8.0	9.4	5.1	5.5	6.1	20.8	56.8	25.9	6.9	7.7	10.9	8.1	10.3	12.6	36.3	46.5	19.7	11.3	12.8	5.4	7.0	7.8
8	9.0	10.8	12.4	16.9	17.6	11.5	8.7	16.3	17.0	12.7	10.1	5.1	4.2	4.0	13.9	11.7	11.4	20.8	17.4	16.9	26.5	21.7	21.1	19.4	8.6	6.0	5.7	14.0	14.5	3.6	5.2
9	5.0	6.8	8.3	8.2	5.5	13.9	3.0	5.1	8.8	10.1	6.6	6.0	6.1	5.6	7.2	9.3	5.7	6.0	5.6	10.9	13.8	11.1	9.2	8.8	6.0	5.3	7.2	5.9	8.1	8.5	
10	8.5	10.1	7.4	17.7	10.1	4.0	2.7	4.5	4.4	5.7	10.5	10.3	6.4	2.3	1.8	5.2	10.0	8.1	11.8	6.2	7.3	4.1	6.1	12.6	10.3	7.9	8.9	4.0	5.7	5.5	5.8
11	5.9	6.9	7.5	23.5	23.3	7.7	5.7	8.4	6.3	5.4	8.8	6.9	6.5	11.5	12.4	11.1	6.7	10.3	10.7	7.8	7.1	8.5	8.3	3.8	10.0	12.6	3.7	7.1	10.4	11.1	
12	10.7	7.1	5.1	4.0	8.4	11.6	10.1	9.3	4.5	4.2	7.4	5.7	7.5	12.1	10.0	8.8	9.2	3.5	4.4	8.6	13.1	13.9	11.1	14.7	5.2	4.4	7.9	3.8	3.7	9.8	4.5
2024																															
1	3.3	7.6	8.3	4.5	9.9	18.4	14.9	9.8	4.7	6.4	11.9	7.2	3.7	5.3	5.3	3.4	4.1	9.3	5.0	6.0	7.0	5.6	9.9	8.9	9.6	6.9	9.8	4.8	9.5	11.0	8.1
2	10.6	5.3	13.1	13.4	8.6	16.2	18.3	7.2	2.8	4.7	6.9	9.0	6.4	6.9	4.2	4.0	4.1	4.6	7.6	17.1	22.5	18.3	12.6	8.0	12.1	13.2	15.7	3.4	4.9		
3	7.0	13.8	10.9	9.9	3.5	4.2	6.8	4.8																				8.4	10.7	10.4	8.9
4	12.5	6.9	1.2	2.0	3.5	4.7	3.5	5.2	3.2	6.7	4.9	3.1	5.0	8.0	6.8	8.2	3.6	4.8	3.4	2.9	4.9	7.6	5.8	4.7	8.9	7.2	7.6	8.8	3.9	3.4	
5	4.8	7.7	4.9	6.2	3.4	6.8	4.7	3.4	4.1	5.1	5.1	6.9	7.2	13.4	9.4	8.8	12.7	9.5	6.1	7.4	12.4	4.7	9.8	7.4	4.2	4.9	2.9	2.8	4.1	4.1	6.6
6	6.2	7.9	8.5	8.8	4.3	3.8	4.9	6.8	4.0	3.9	5.7	6.6	10.4	5.6	5.6	9.1	15.2	6.9	13.5	16.3	14.0	10.5	3.0	5.0	5.0	4.2	3.5	7.7	7.2	2.9	
7	3.6	4.1	3.8	11.6	4.4	6.4	11.0	8.6	7.3	9.2	12.7	13.7	11.8	5.6	8.2		9.8	5.2	8.9	12.2	11.4	14.8	16.2	14.9	7.4	8.4	12.2	10.0	6.1	7.3	6.6
8	5.1	9.6	15.3	10.8	11.5	7.6	6.4	7.7	4.6	4.5	4.5	12.3	13.4	14.0	9.1	7.5	5.8	9.6	14.5	6.8	6.7	8.0	10.2	15.4	13.5	15.7	13.1	4.5	7.8	4.8	4.6
9	8.9	6.0	4.9	6.0	9.0	4.8	6.0	5.4	4.9	5.2	7.0	10.1	11.1	8.1	8.1	9.4	11.7	13.3	11.3	9.2	8.8	4.3	3.1	6.6	6.5	6.3	4.9	5.2	4.9	7.9	
10	5.1	6.3	8.8	5.6	8.8	9.0	5.0	7.9	8.4	5.8	12.8	9.1	4.4	2.3	2.3	4.0	6.3	6.0	10.0	13.5	15.3	10.3	9.3	6.0	6.7	8.4	8.9	8.0	14.7	15.7	3.1
11	7.3	12.0	6.9	4.1	3.4	2.5	4.7	8.5	11.0	3.9	3.5	4.6	7.4	5.6	13.8	13.4	11.0	14.1	4.4	2.6	2.9	2.0	6.8	11.5	8.0	5.4	10.0	5.9	7.4	5.8	
12	5.5	7.7	8.4	8.8	3.1	5.7	8.0	6.2	6.4	4.7	4.6	3.5	7.2	13.9	8.2	8.0	9.5	8.3	9.5	7.4	5.3	10.9	7.4	12.2	18.0	15.3	9.3	10.5	10.0	8.6	5.2
2025																															
1	4.8	4.9	5.6	4.4	4.4	3.0	4.9	4.9	13.2	20.0	8.3	9.8	3.9	6.1	10.6	8.6	7.9	3.6	3.4	3.5	4.3	6.0	6.8	8.2	5.9	3.7	5.1	4.3	3.9	9.1	8.0
2	3.6	14.1	11.1	3.7	6.7	7.2	4.7	7.5	7.2	6.5	8.3	12.3	7.3	9.8	15.9	5.7	4.3	4.8	4.4	5.4	8.1	8.6	13.6	10.5	9.1	11.1	9.9	3.8			
3	3.5	5.7	8.3	7.7	3.6	3.2	9.3	7.7	5.3	6.5	5.2	9.3	13.9	13.3	25.5	4.7	4.4	6.0	6.6	3.1	5.7	5.7	5.4	4.4	5.9	11.4	11.9	7.7	8.6	5.5	3.6
4	4.9	7.7	5.8	8.2	4.5	5.1	5.3	4.7	7.4	18.5	13.1	10.5	8.2	6.3	2.9	6.0	7.6	13.6	9.1	8.2	3.1	5.7	5.4	7.9	6.5	3.7	6.7	8.6	5.8	4.9	
5	7.1	9.3	3.2	3.0	7.6	8.5	7.5	4.1	5.6	6.8	6.3	8.5	7.2	10.0		9.9	2.7	4.1	4.0	6.5	5.5	3.1	4.4	3.4	4.5	4.7	6.3	9.4	13.6	11.5	10.9
6	12.6	9.5	15.1	14.3	48.6	42.8	32.8	24.0	19.6	18.4	24.1	29.1	28.2	18.9	13.7	13.6	8.1	5.1	8.4	8.5	11.5	13.4	19.9	10.6	8.0	12.6	8.5	5.6	8.4	5.4	
7	8.0	13.0	12.2	14.9	16.5	8.3	22.2	20.3	10.1	10.3	7.1	5.8	25.5	34.4	18.7	7.3	4.2	4.9	5.1	5.7	21.3	26.9	17.0	9.2	4.9	4.6	7.0	6.4	9.0	11.2	62.5
8	50.2	24.4	26.8	16.4	26.4	23.3	12.2	13.4	11.4	9.1	9.1	7.4	12.3	17.3	21.0	9.9	5.4	7.4	4.4	3.0	3.4	5.8	5.0	3.4	3.2	4.9	6.2	5.7	4.1	5.3	7.3
9	6.5	7.2	9.8	11.7	7.4	3.9	5.4	4.7	5.5	8.4	8.7	9.5	11.3	13.6	10.4	10.0	12.0	12.5	12.6	9.0	7.6	7.1	7.2	3.5	5.7	8.1	10.3	10.7	11.6	13.2	
10	7.1	7.4	12.7	11.9	7.0	7.0	5.7	4.1	3.6	6.2	4.0	4.6	8.5	9.6	6.2	4.2	5.0	10.5	2.9	4.1	2.9	1.4	2.7	5.5	8.3	7.6	4.8	5.0	4.2	4.6	7.7
11	6.6	6.9	4.2	6.8	6.6	6.4	5.2	4.1	2.4	1.8	5.1	3.7	6.0	10.6	6.4	3.1	10.0	11.1	17.6	17.9	14.7	9.4	12.4	13.1	8.9	2.2	3.1	5.4	5.3	5.1	
12	14.7	15.4	12.7	7.5	12.1	13.7	9.8	5.2	11.5	4.7	6.9	15.5	4.0	4.2	7.2	11.3	12.1	7.6	4.0	3.8	3.9	4.3	12.1	16.8	21.5	11.3	12.3	4.9	3.1	3.0	5.4

Figure 19. Calendar view of 24-hour PM2.5 observations from 2023-2025 from the Pershing School monitor (171971002). Green cells represent 24-hour PM2.5 concentrations below 9.0 ug/m3, red cells indicate concentrations greater than 9.0 ug/m3, yellow cells indicate concentrations exceeding Tier 2 thresholds, and orange cells indicate concentrations exceeding Tier 1 thresholds for that monitor. Grey cells indicate no observations were recorded on that date.

Episodes of Interest

In this analysis, episodes of interest were identified using these Tier 1 and Tier 2 thresholds in addition to the qualification that HMS smoke must be present over the monitors on each of the identified days. Using this combination of metrics, Table 3 presents the episodes that were identified and analyzed for each monitor in the study.

Each set of columns represents the episode days selected within each year (2023, 2024, or 2025) with an indicator after the total number of days representing the number of Tier 1 and Tier 2 days within that episode. Additionally, the episodes are color coded to reflect an overlap with already submitted exceptional events demonstration dates from the Indiana Department of Environmental Management (IDEM) for either ozone or PM2.5 on the Indiana side of the Chicago metro area. Green highlighted dates reflect an overlap with IDEM ozone and PM2.5 EE demonstration dates, blue highlighted dates reflect an overlap with IDEM ozone EE demonstration dates, and orange highlighted dates indicate an overlap with IDEM PM2.5 EE demonstration dates.

In all, sixty-nine (69) dates were identified over the three-year period to meet both the EPA Tiering thresholds and the HMS smoke requirement. Of these sixty-nine, thirty-seven (37) were identified as Tier 1 and thirty-two (32) were identified as Tier 2.

Table 3. Selected episode dates investigated in this study at Chicago metro area monitors.

2023	# of Days (T1/T2)	2024	# of Days (T1/T2)	2025	# of Days (T1/T2)
May 19	1 (1/0)	July 4	1 (1/0)	June 4-16	13 (8/5)
June 4-10	7 (3/4)			July 4-8	5 (1/4)
June 14 – July 1	18 (12/6)			July 21-23	3 (2/1)
July 4-5	2 (2/0)			July 31	1 (1/0)
July 16-17	2 (2/0)			Aug 6	1 (1/0)
July 24-25	2 (2/0)				
Aug 4-9	6 (0/6)				
Aug 18-24	7 (1/6)				
Total	45 (23/22)	Total	1 (1/0)	Total	23 (13/10)

Comparison of Fire-Influenced PM_{2.5} Exceedances with Historical Concentrations

U.S. EPA's Exceptional Events Guidance and supplemental materials indicate that a clear causal demonstration should include a comparison of the event-related exceedance with historical concentrations measured at each monitor requested for data exclusion. Examples of supporting documentation include time-series plots overlaying five years of data and five-year percentiles or alternate graphical representation of these data using EPA's Tiering Tool¹⁵.

EPA's tiering approach helps tailor the amount of evidence needed in a wildland-fire PM_{2.5} exceptional-events demonstration. For each monitoring site, EPA sets a threshold using the lower of two statistics from the most recent complete five-year period: the month-specific 98th percentile of daily PM_{2.5} concentrations or the lowest annual 98th percentile. The event-day concentration is then compared with the site's threshold: Tier 1 is at least 1.5 times the threshold, Tier 2 is at least the threshold but less than 1.5 times it, and Tier 3 is below it.

Figure 32 shows the 24-hour PM_{2.5} concentrations for the Washington High School monitor (170310022) using EPA's Tiering Tool with clear indication of Tier 1 and Tier 2 dates represented by the red and yellow dots, respectively. Increased PM_{2.5} above the Tier 1 and Tier 2 thresholds is evident on multiple dates.

PM_{2.5} concentrations were elevated at all sites in the Chicago metro area during these dates (Figure 33 through Figure 52), demonstrating that the region was impacted by area-wide events.

All the reviewed Chicago area monitors recorded multiple 24-hour PM_{2.5} concentrations above their Tier 1 threshold values during the period of 2023 through 2025, indicating rare PM_{2.5} episodes. At all monitors, the observations from many of these days were in the top five days of the five-year period between 2023 and 2025, in many locations they were the single top value.

¹⁵ <https://www.epa.gov/air-quality-analysis/pm25-tiering-tool-exceptional-events-analysis>

AQS Site ID 170310022

R and I Fire Flags Excluded From Tiering Calculation

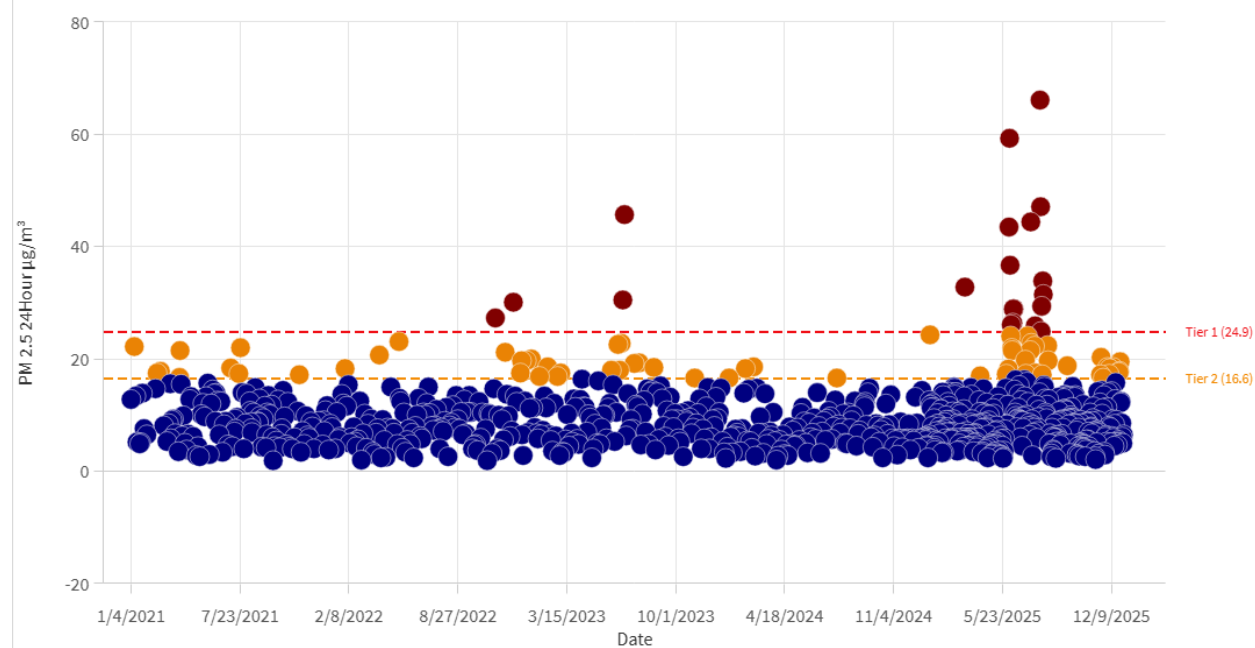


Figure 20. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Washington HS monitor (170310022).

AQS Site ID 170310052

R and I Fire Flags Excluded From Tiering Calculation

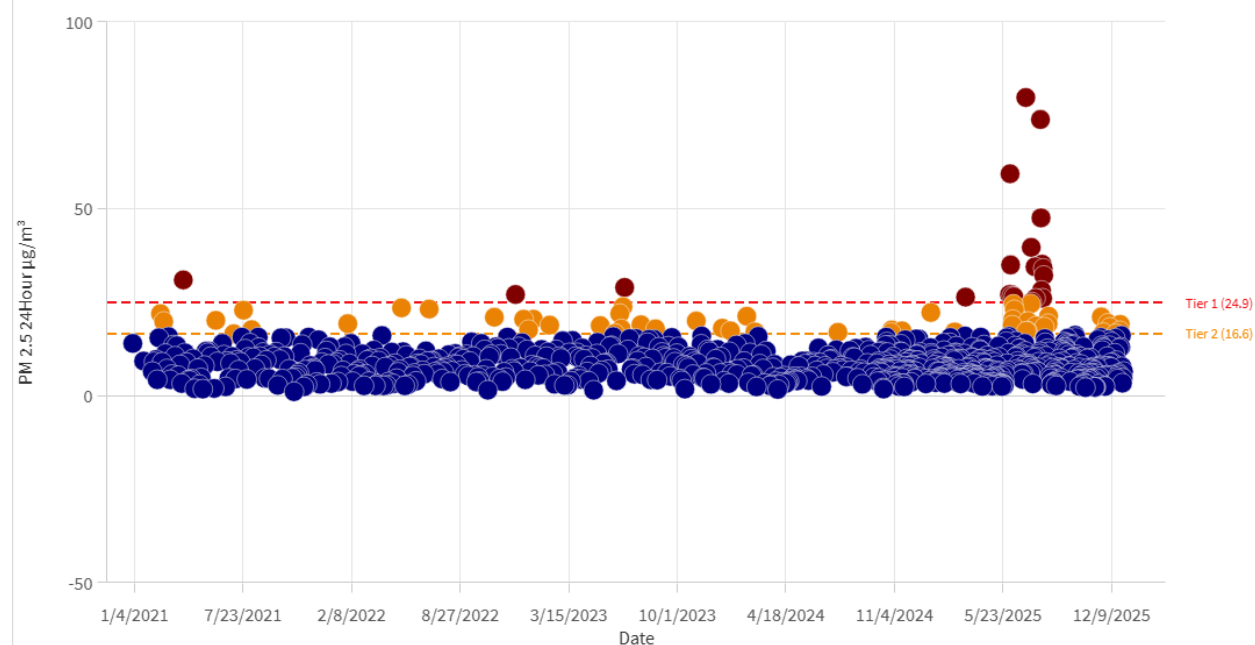
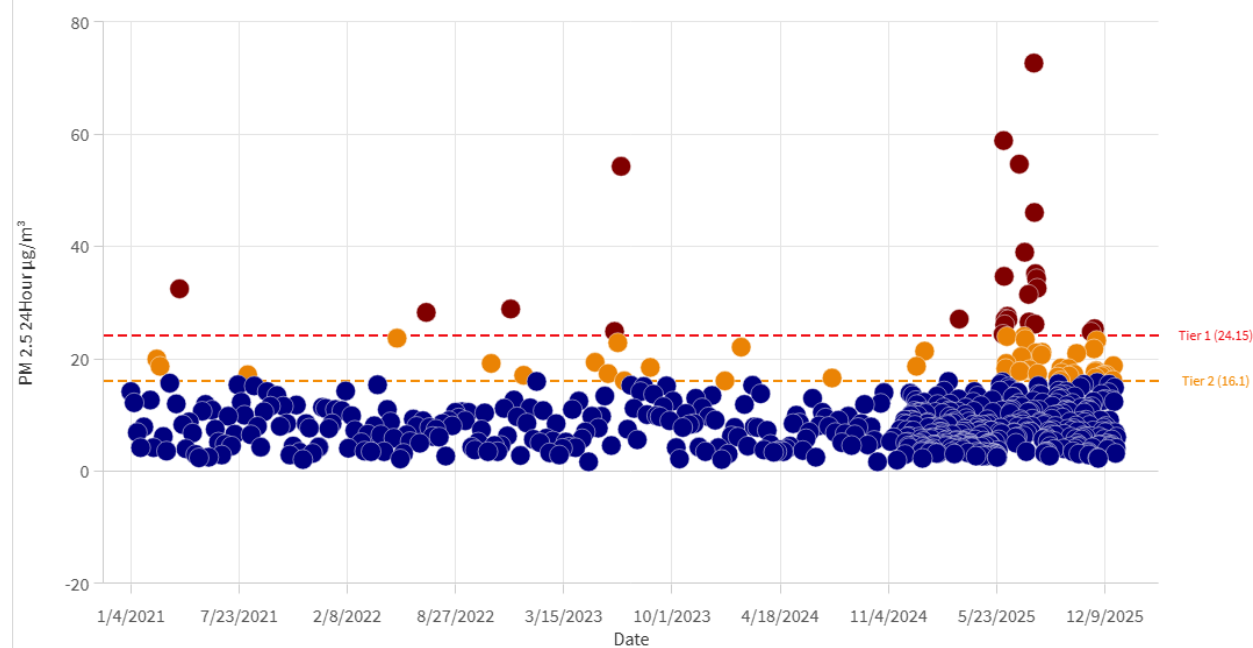


Figure 21. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Mayfair Pump Station monitor (170310052).

AQS Site ID 170310057

R and I Fire Flags Excluded From Tiering Calculation

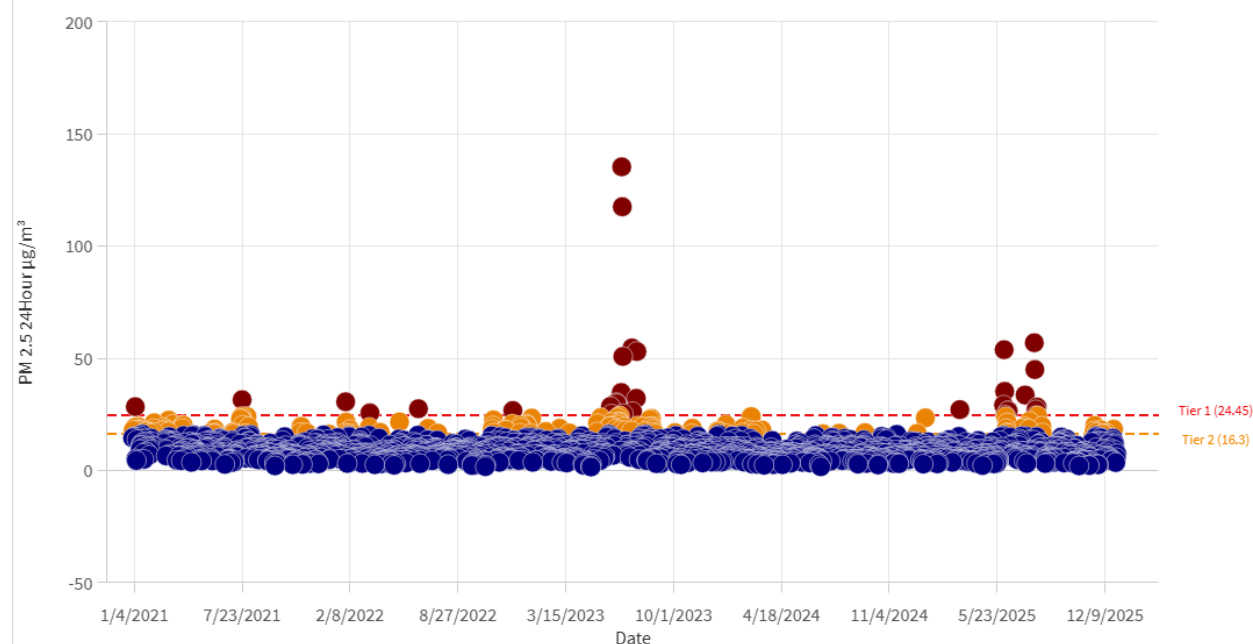


AQS data last updated 6/1/2026

Figure 22. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Springfield Pump Station monitor (170310057).

AQS Site ID 170310119

R and I Fire Flags Excluded From Tiering Calculation



AQS data last updated 6/1/2026

Figure 23. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Kingery Near Road #1 monitor (170310119).

AQS Site ID 170313103

R and I Fire Flags Excluded From Tiering Calculation

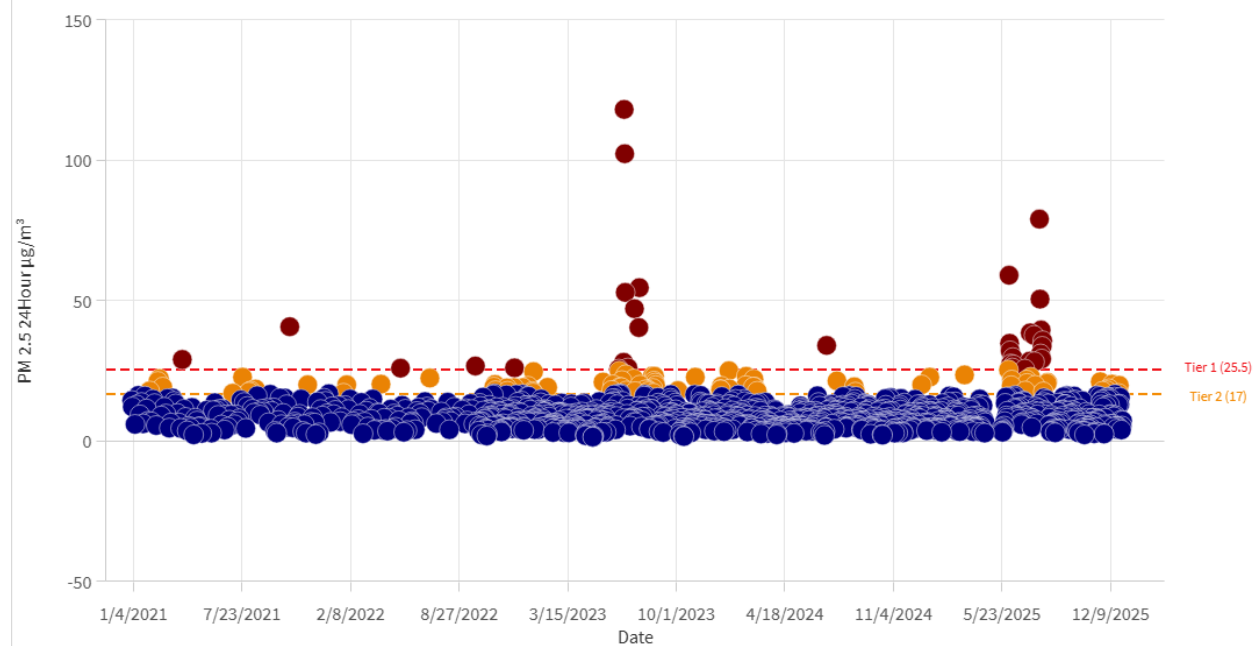


Figure 24. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the IEPA Trailer monitor (170313103).

AQS Site ID 170313301

R and I Fire Flags Excluded From Tiering Calculation

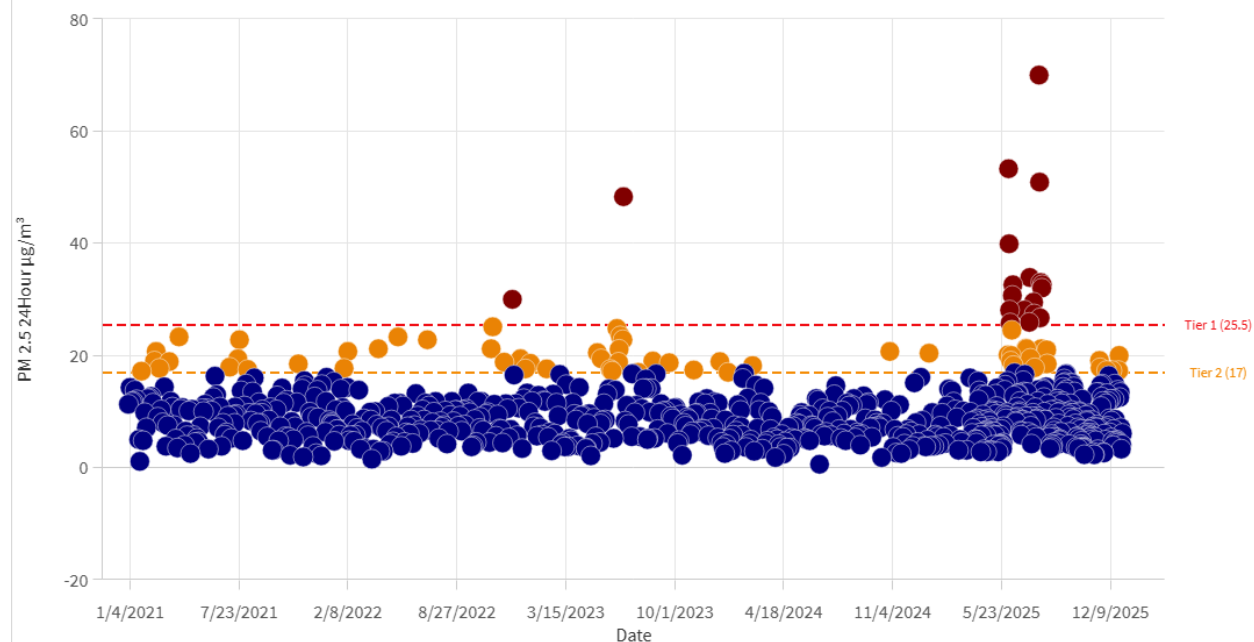


Figure 25. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Graves ES monitor (170313301).

AQS Site ID 170316005

R and I Fire Flags Excluded From Tiering Calculation

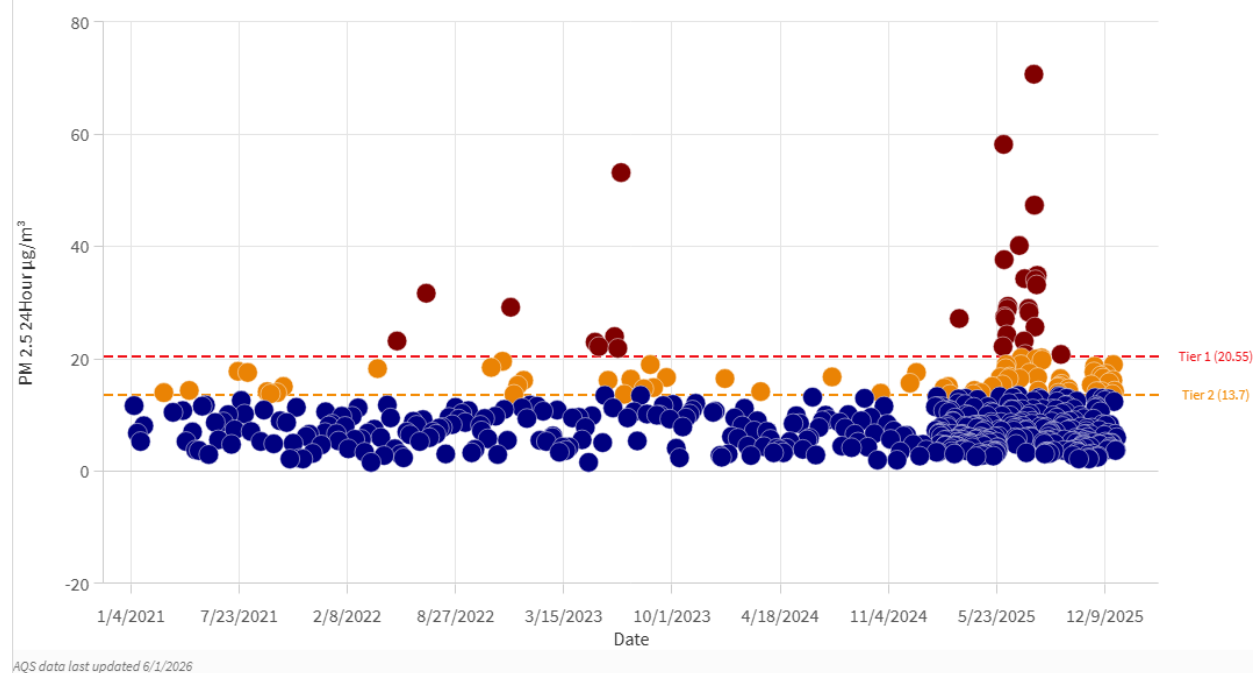


Figure 26. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Liberty School monitor (170316005).

AQS Site ID 171971002

R and I Fire Flags Excluded From Tiering Calculation

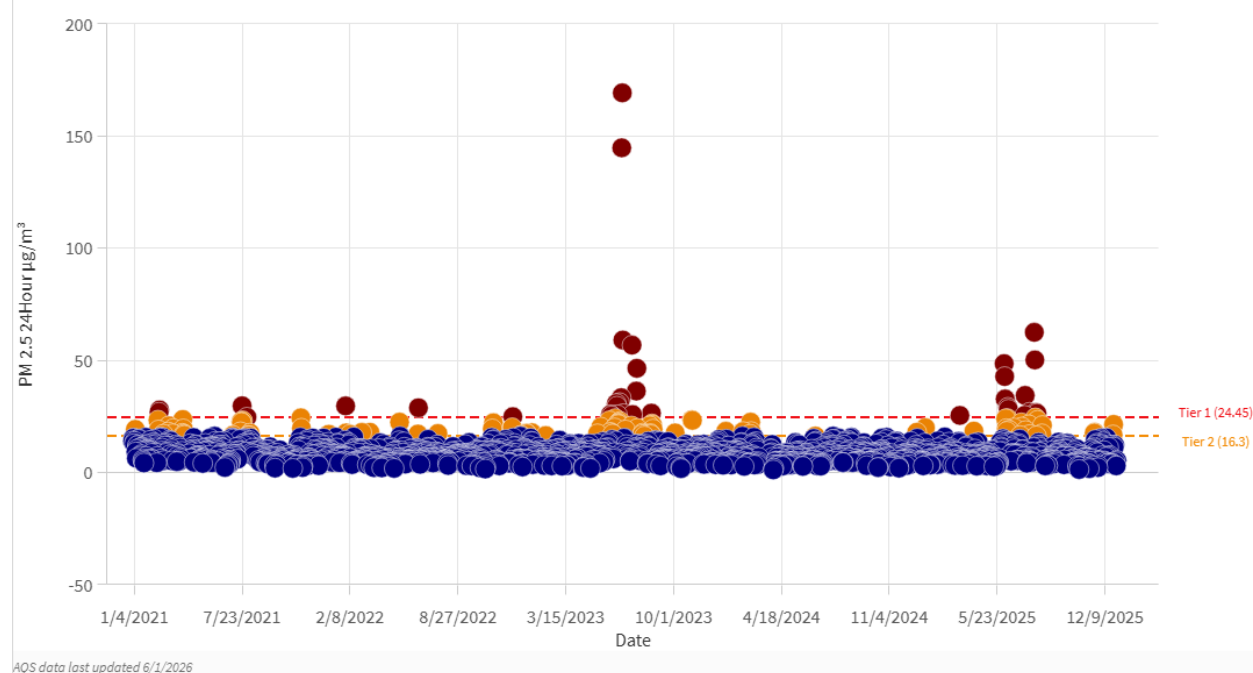


Figure 27. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the City Hall monitor (170434002).

AQS Site ID 170434002

R and I Fire Flags Excluded From Tiering Calculation

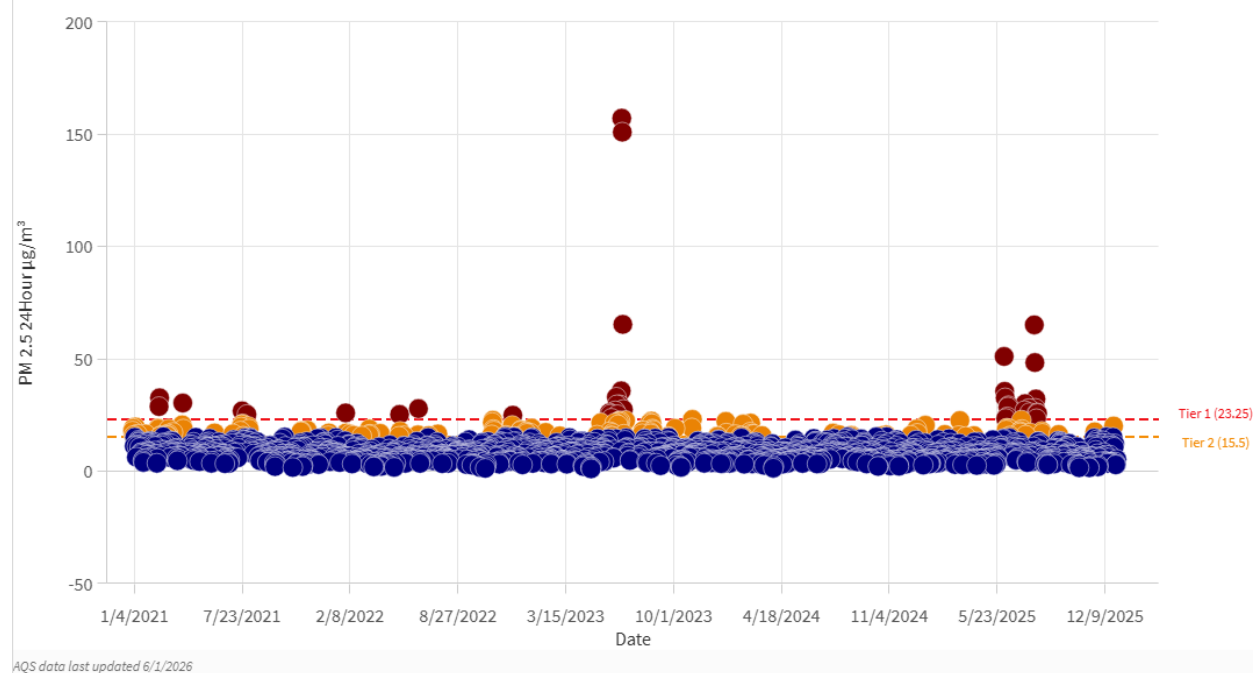


Figure 28. Five-year (2021-2025) time series of 24-hour PM_{2.5} concentrations, Tier 1 and Tier 2 threshold values at the Pershing School monitor (171971002).

The 24-hour PM_{2.5} concentrations measured in 2023 through 2025 at multiple Chicago area monitors were not only the top observations for the year, but also the top observations over the past five years

(2021-2025).

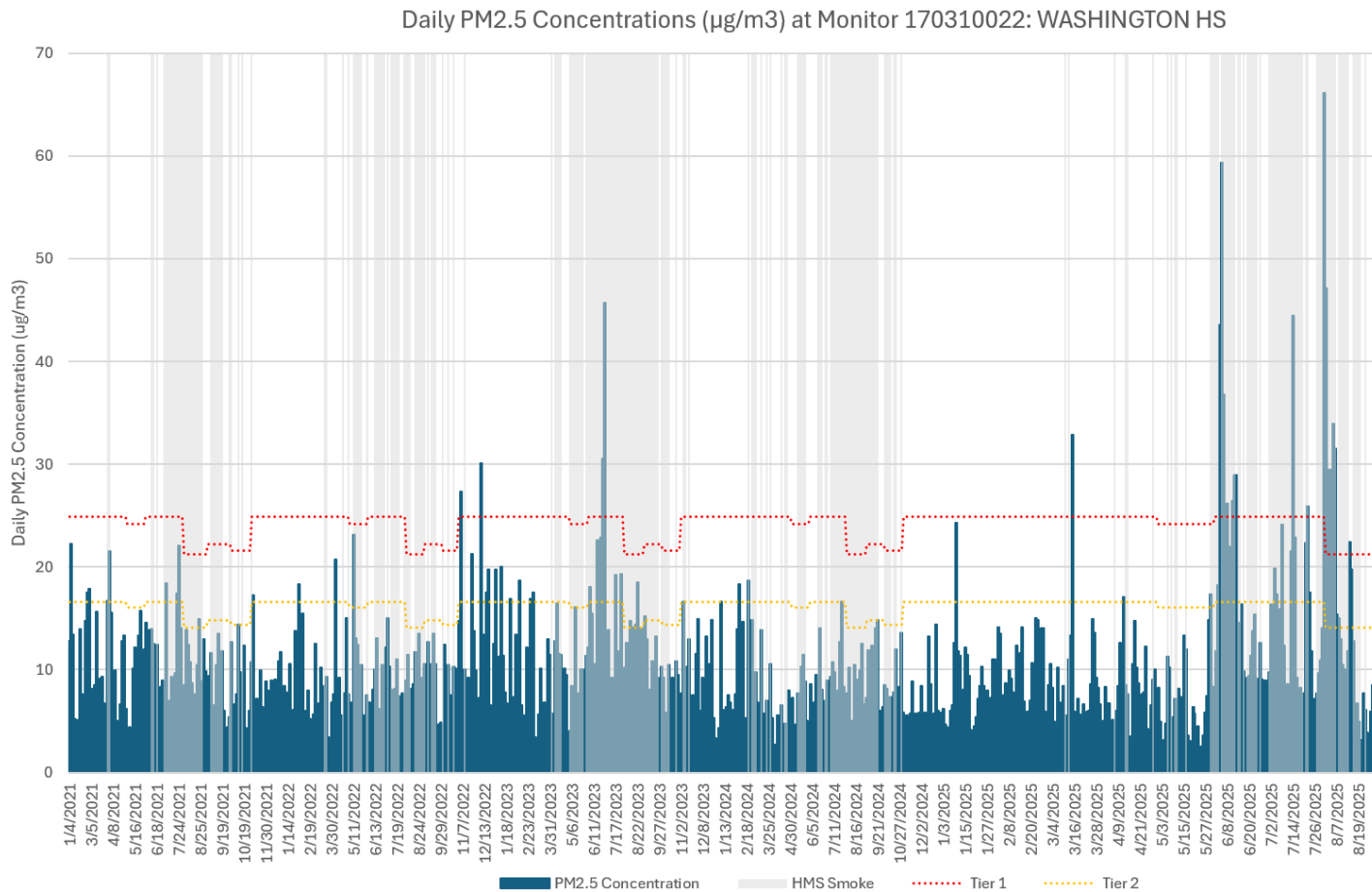


Figure 29 provides historical context of ozone concentrations at the Washington HS monitor (170310022) and presents the concentrations across the past five years with multiple Tier 1 threshold exceedances (red dotted line) standing out in the figures. The blue solid columns represent daily 24-hour PM2.5 concentration observations while the grey background specifies days when NOAA's HMS smoke product indicated smoke was present overhead of the monitor. Figure 29 through **Error! Reference source not found.** clearly demonstrate that 2023 and 2025 included PM2.5 observations that were unusually high across all the studied Chicago monitors.

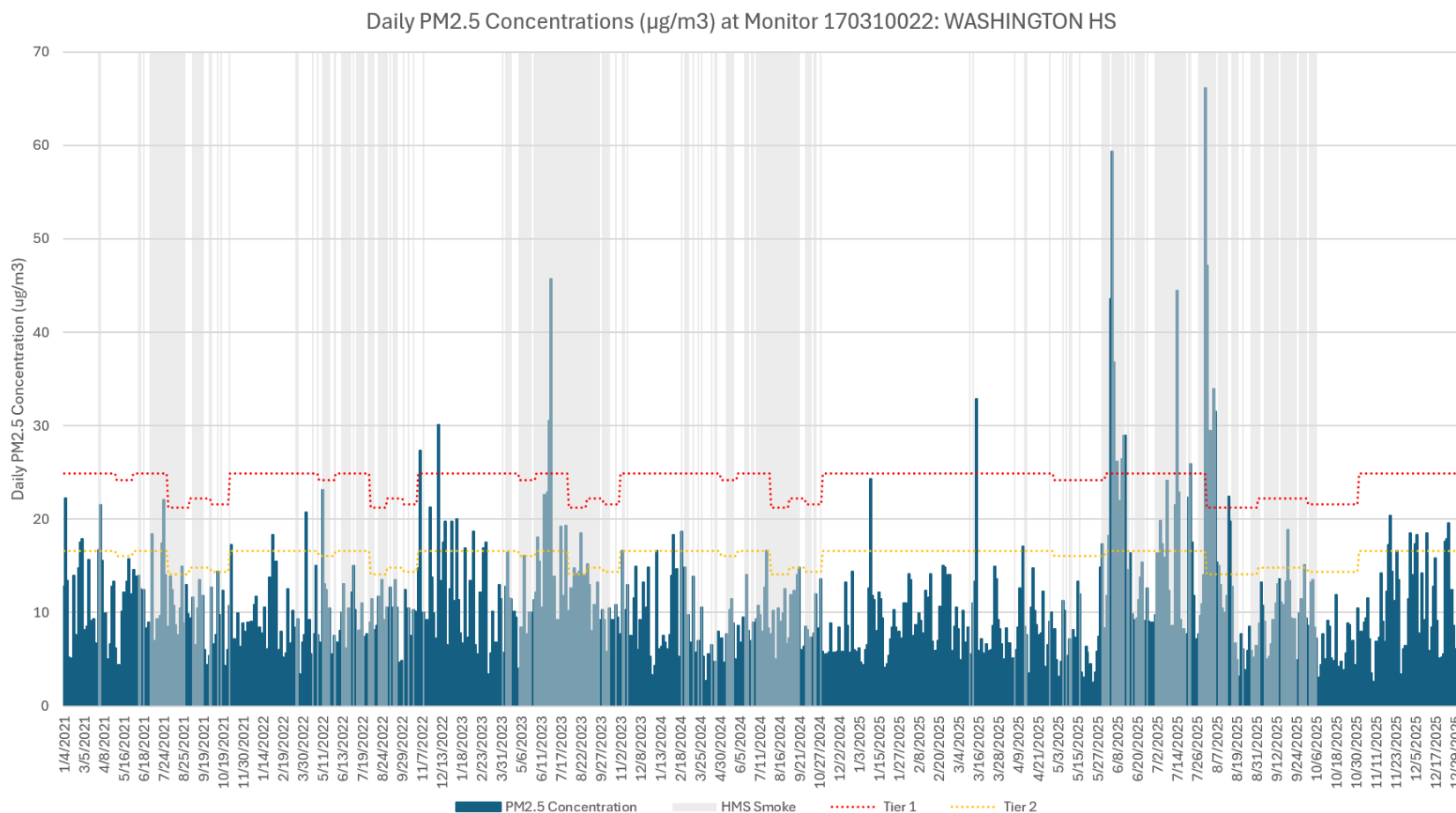


Figure 29. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Washington HS monitor (170310022).

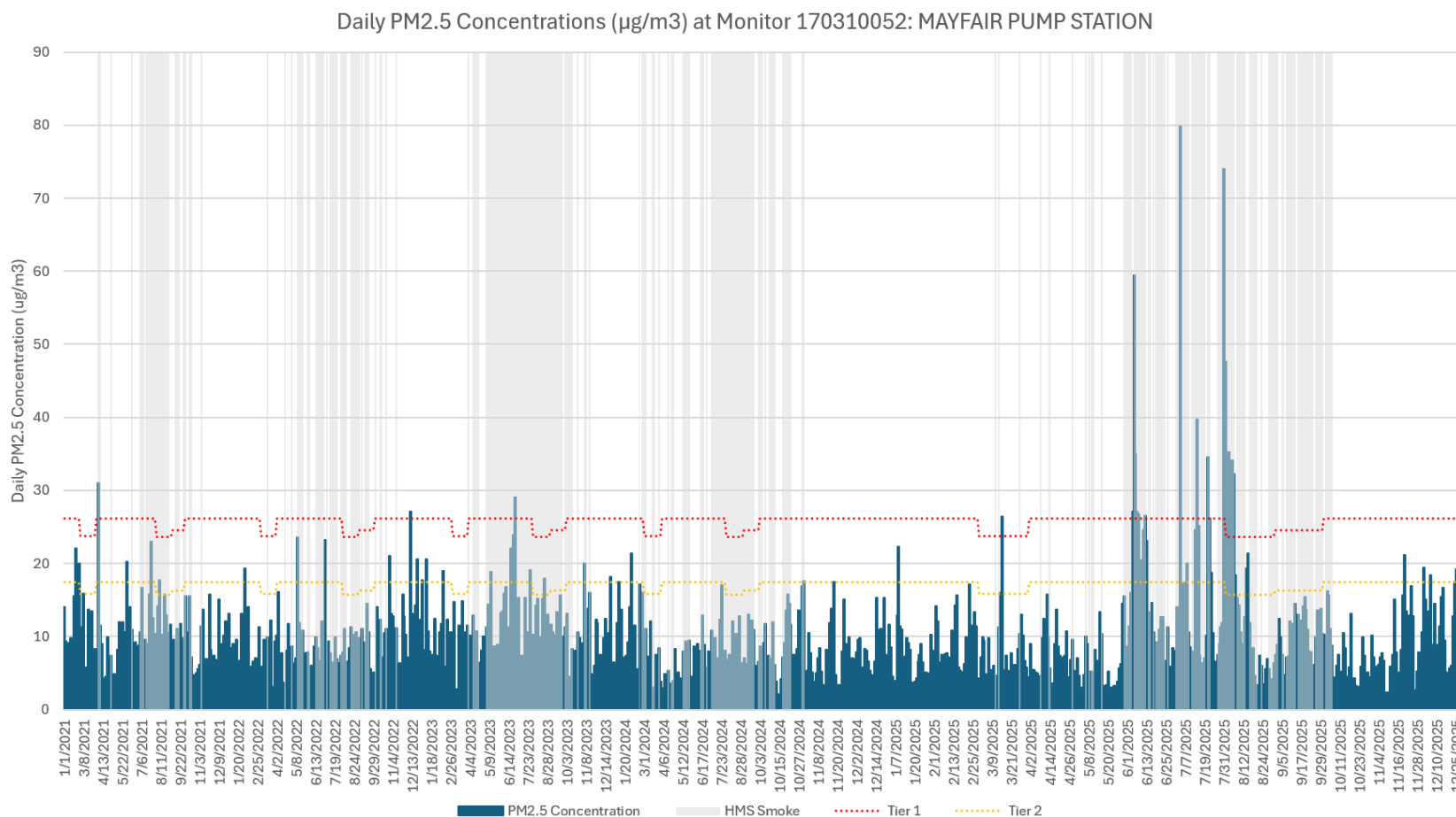


Figure 30. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Mayfair Pump Station monitor (170310052).

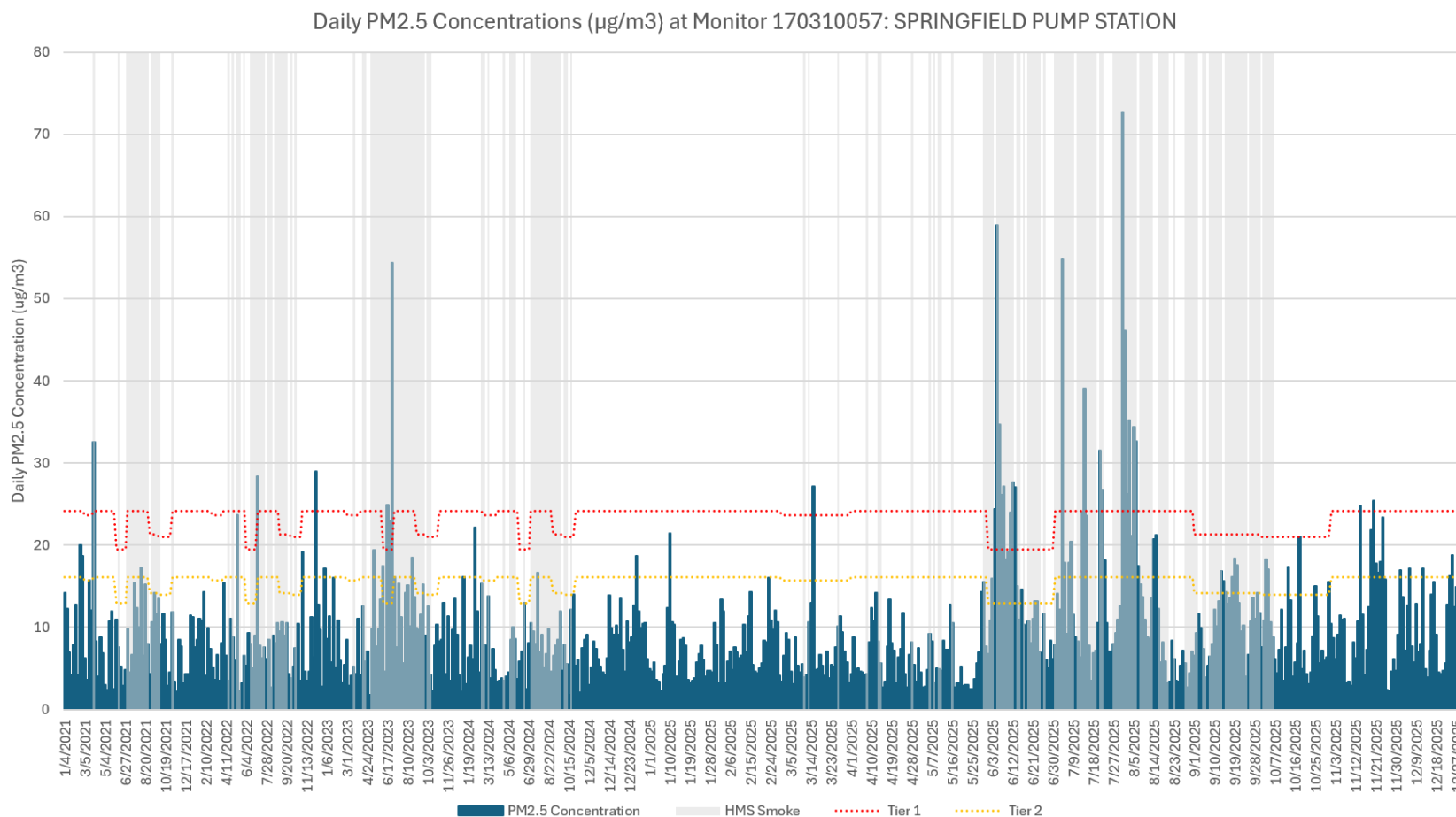


Figure 31. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Springfield Pump Station monitor (170310057).

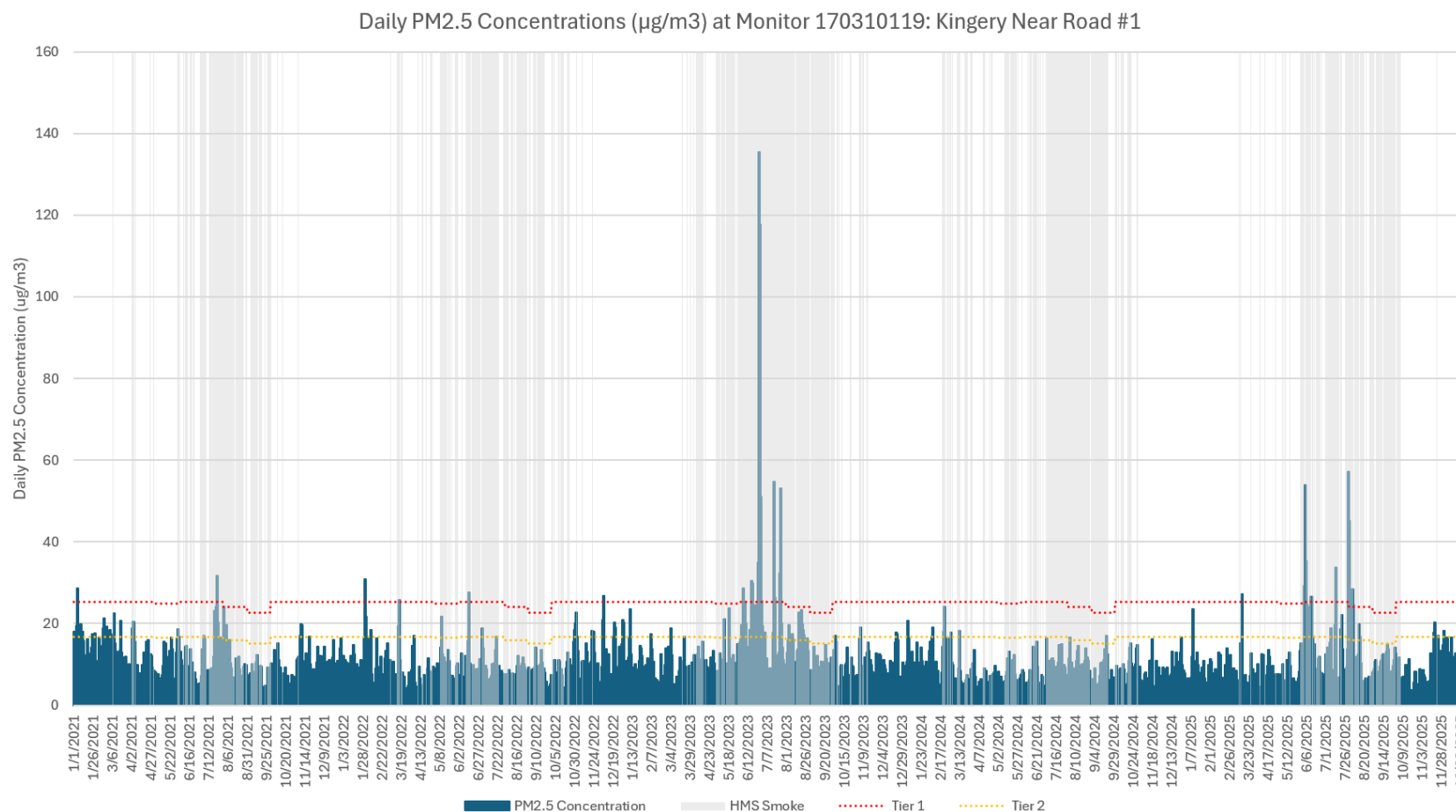


Figure 32. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Kingery Near Road #1 monitor (170310119).

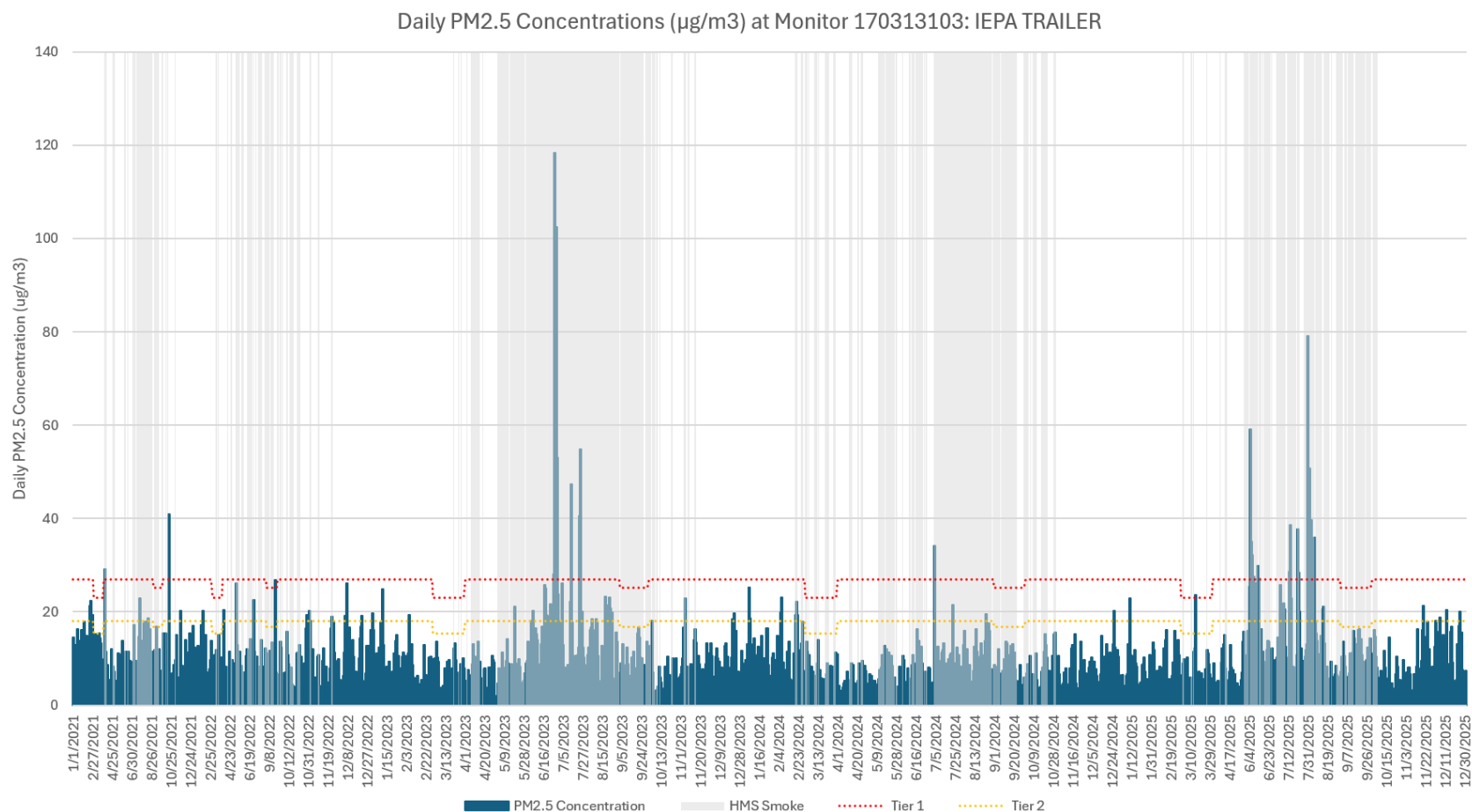


Figure 33. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the IEPA Trailer monitor (170313103).

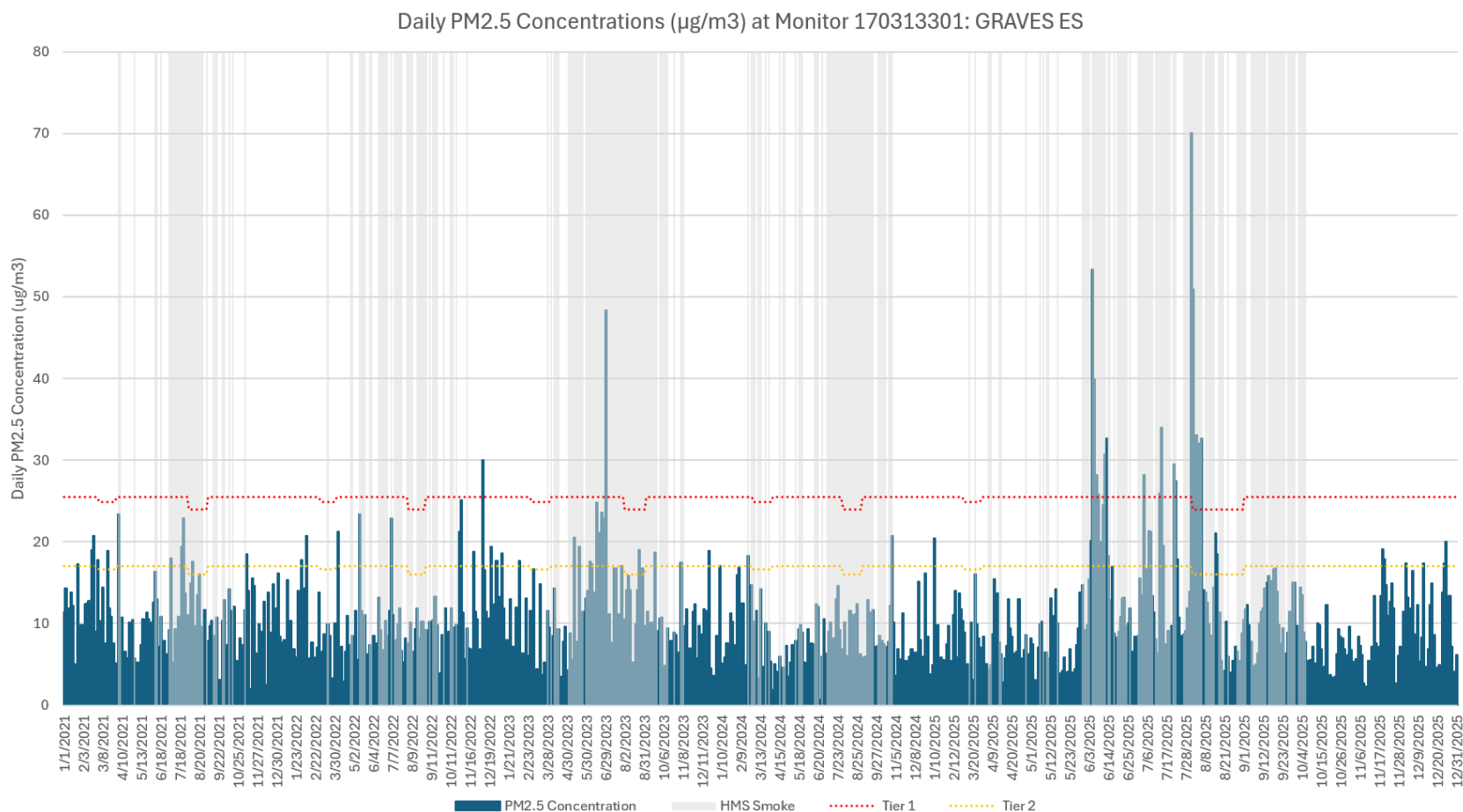


Figure 34. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Graves ES monitor (170313301).

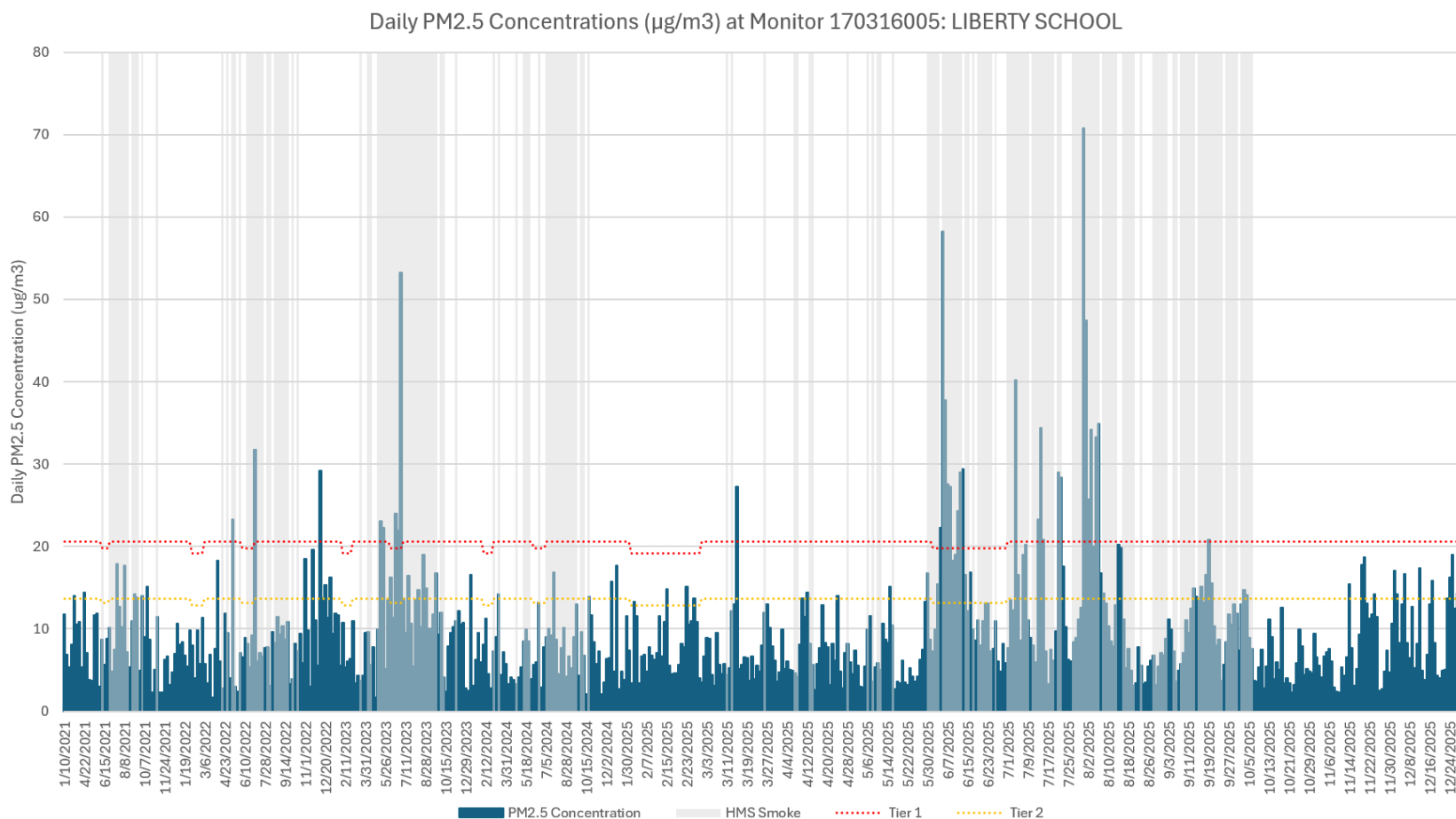


Figure 35. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Liberty School monitor (170316005).

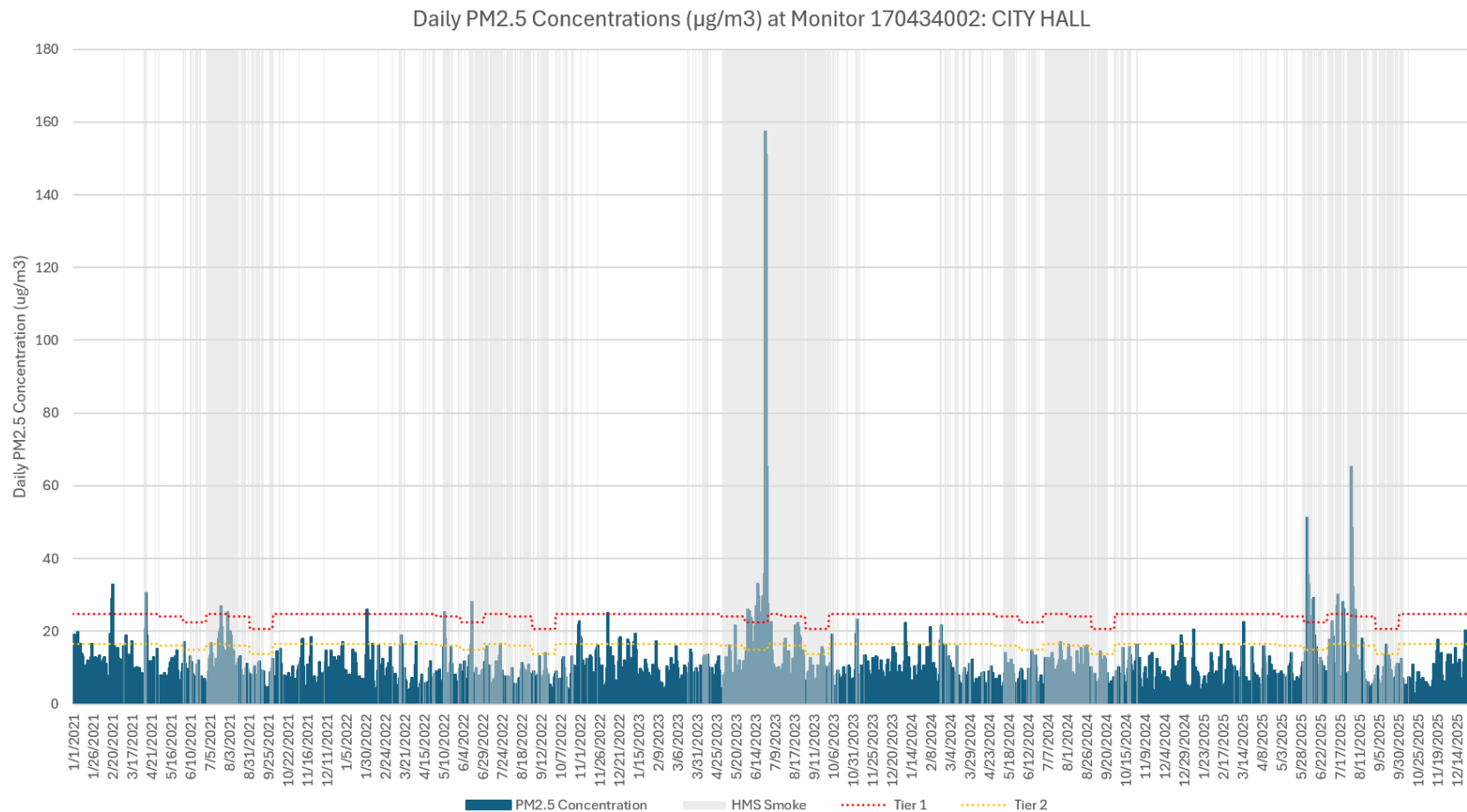


Figure 36. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the City Hall monitor (170434002).

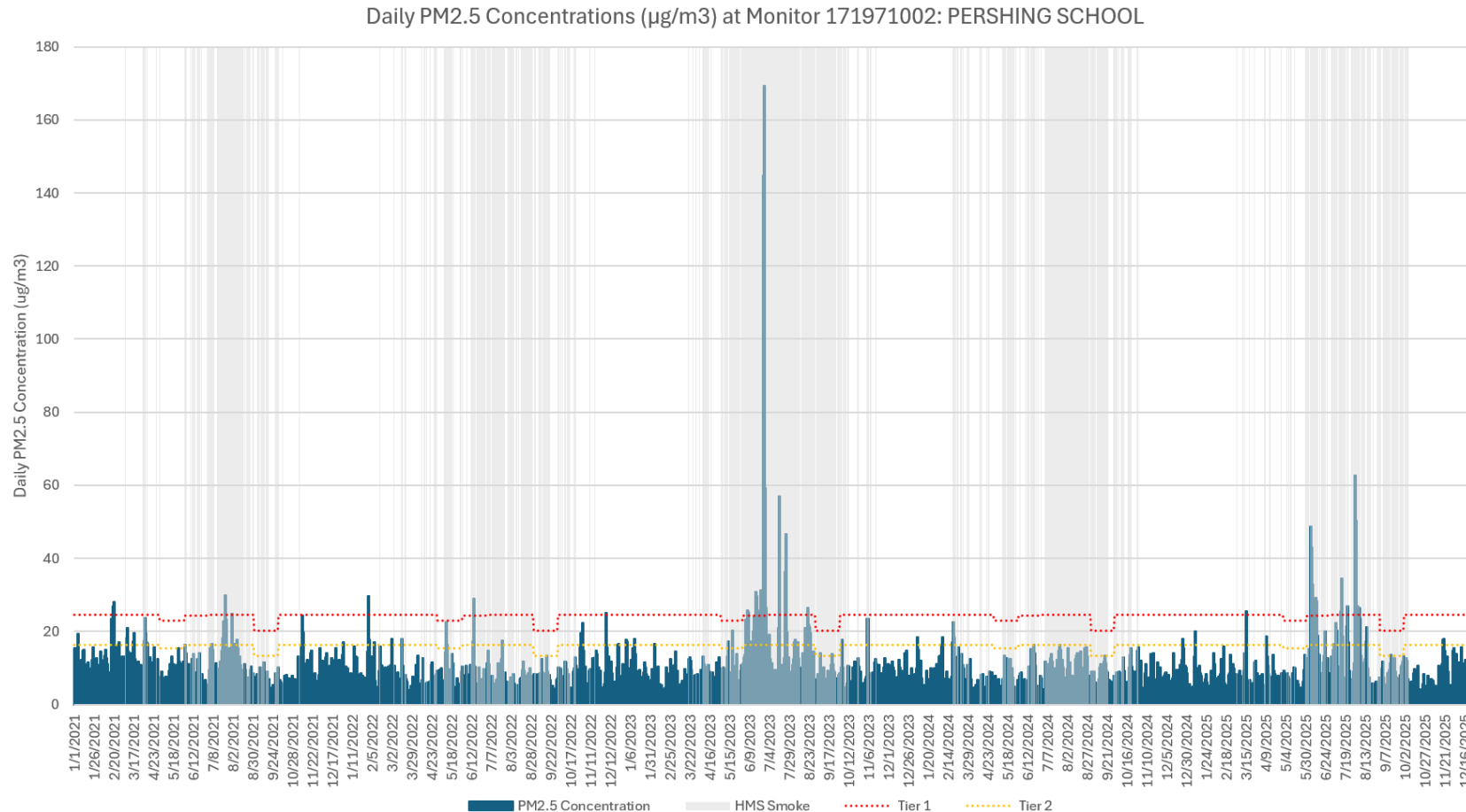


Figure 37. 2021-2025 time series of 24-hour PM2.5 concentrations, Tier 1 and Tier 2 threshold values, and dates with NOAA HMS smoke indications at the Pershing School monitor (171971002).

Figure 38 shows a time-series plot of 24-hour PM2.5 concentrations at the Washington HS monitor (170310022) overlaying PM2.5 monitoring data from 2021 through 2025. The multiple Tier 1 and Tier 2 episodes analyzed in this study are clearly shown in this figure (elevated markers) also indicating that they are among the highest concentrations that have occurred over the past five years. Figure 39 through Figure 46 present comparable data for the remaining monitors analyzed in the area.

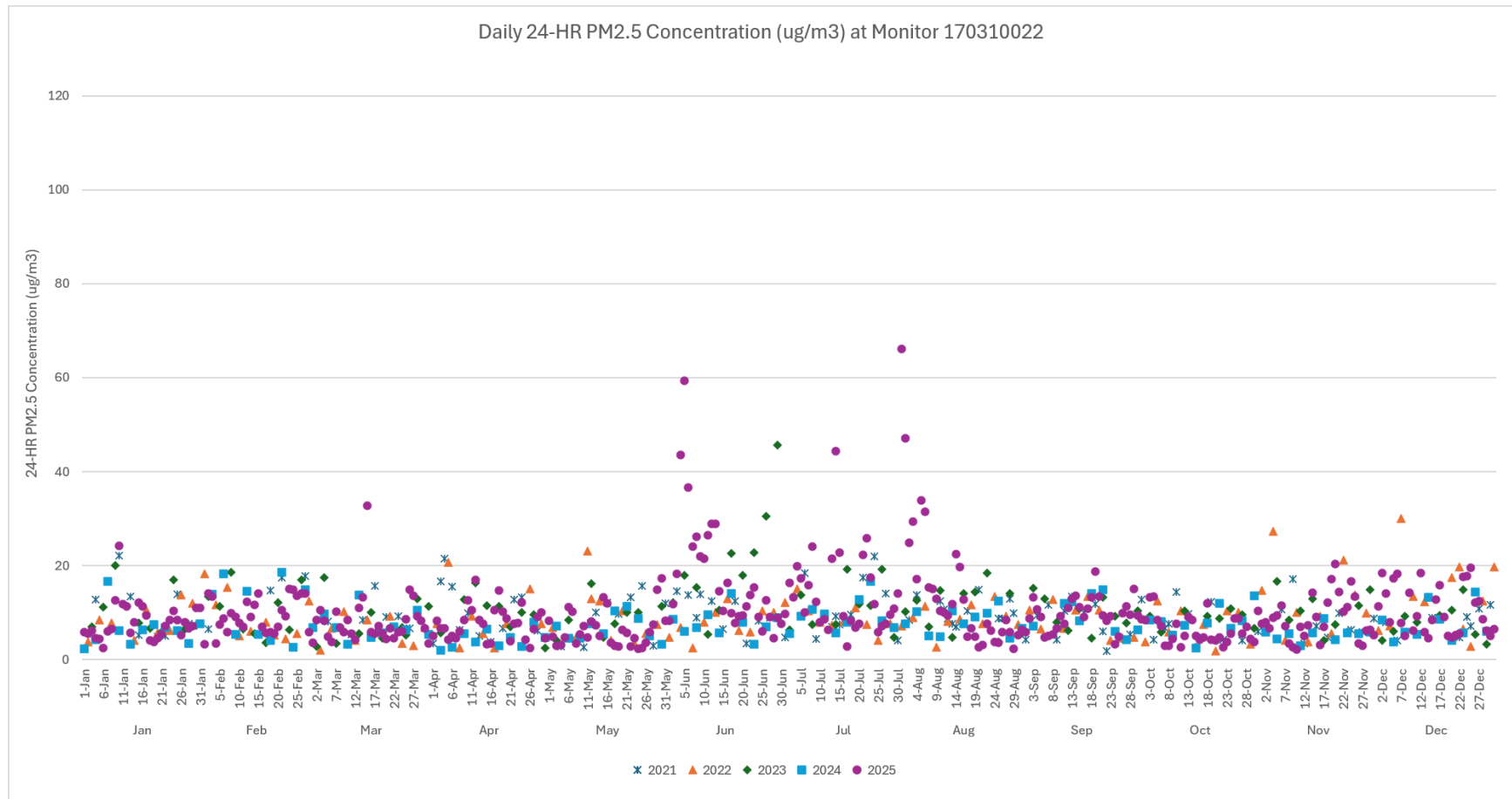


Figure 38. Five-year overlay time series of 24-hour PM2.5 concentrations at the Washington HS monitor (170310022).

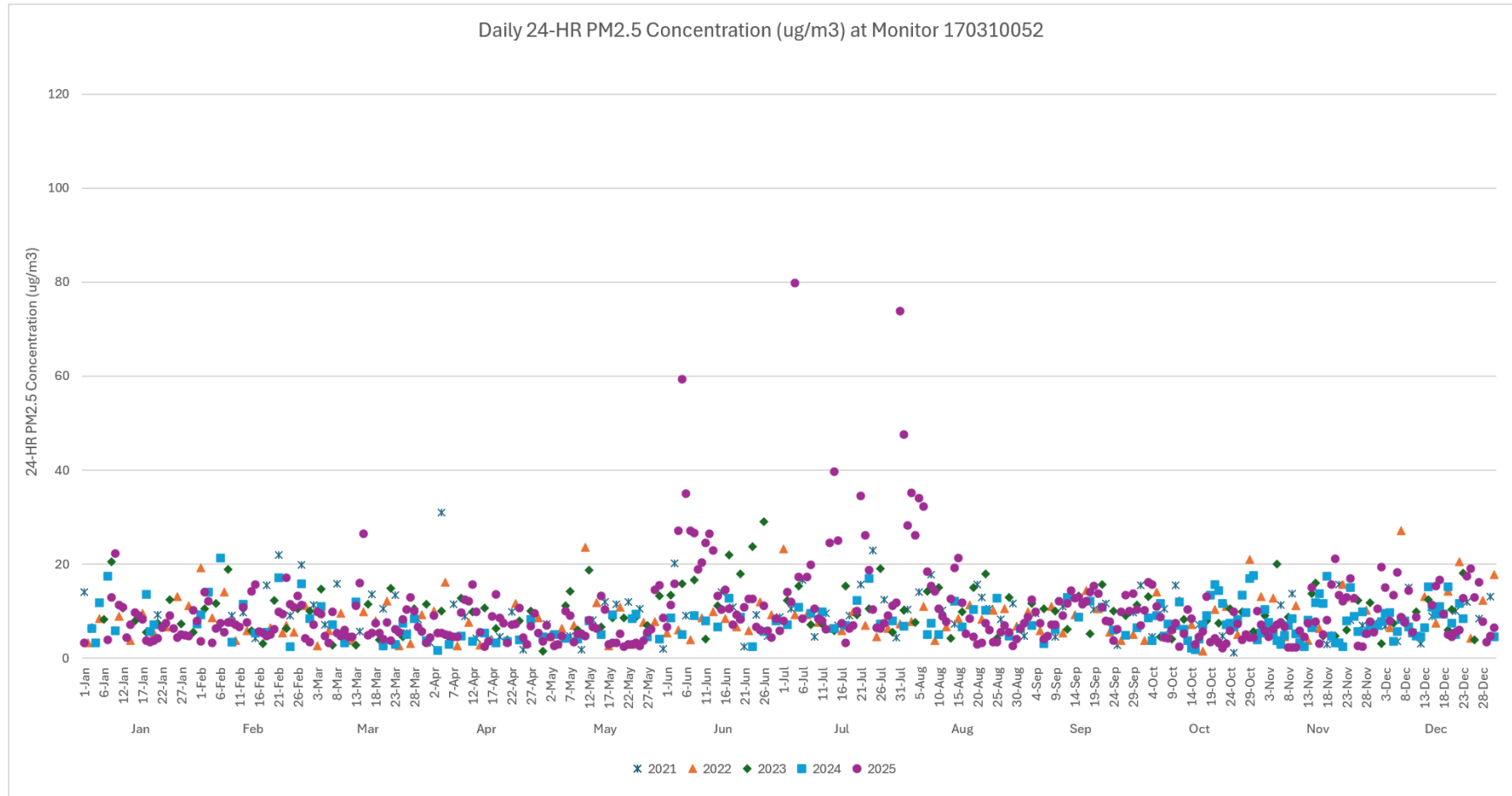


Figure 39. Five-year overlay time series of 24-hour PM2.5 concentrations at the Mayfair Pump Station monitor (170310052).

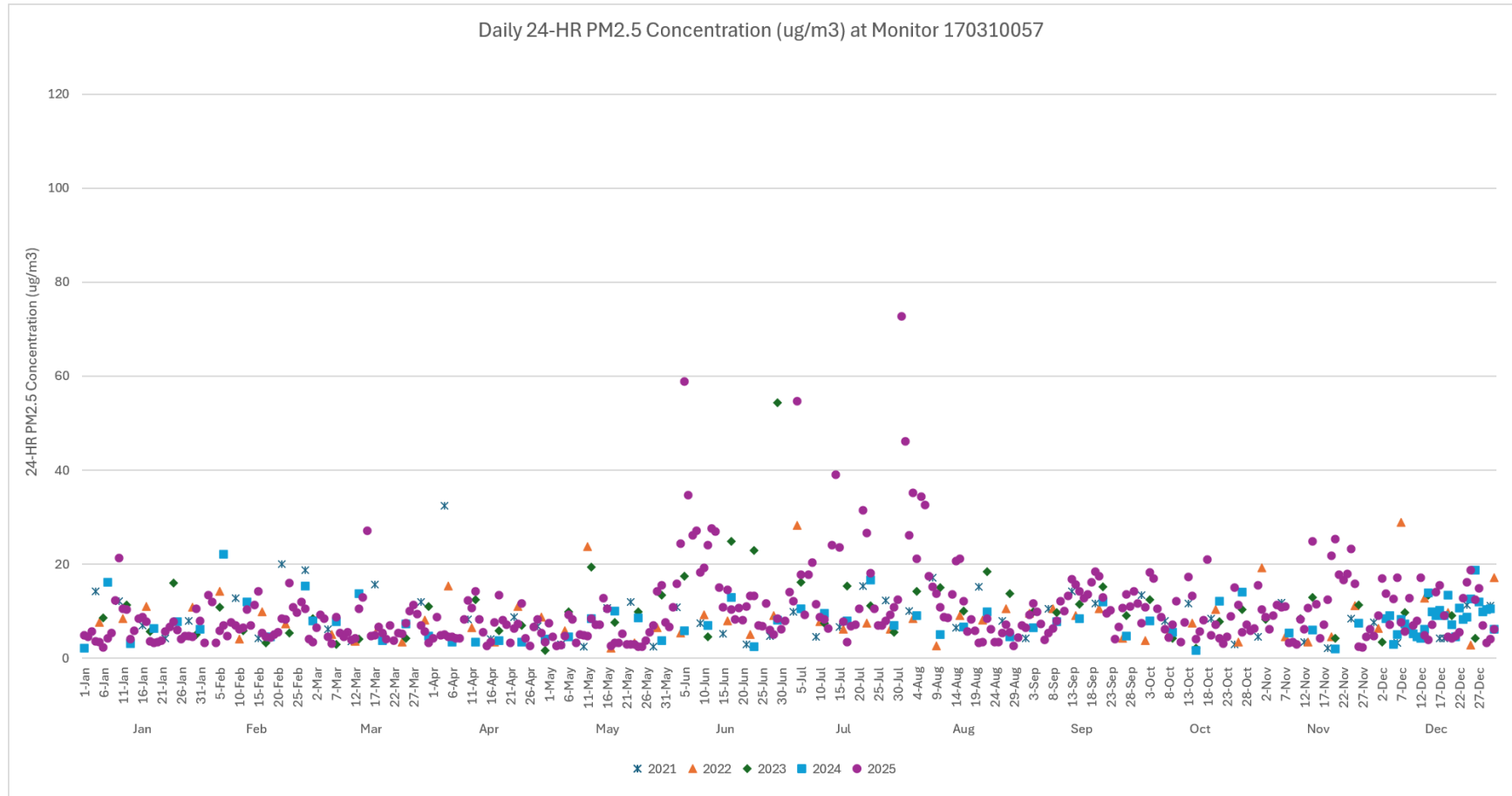


Figure 40. Five-year overlay time series of 24-hour PM2.5 concentrations at the Springfield Pump Station monitor (170310057).

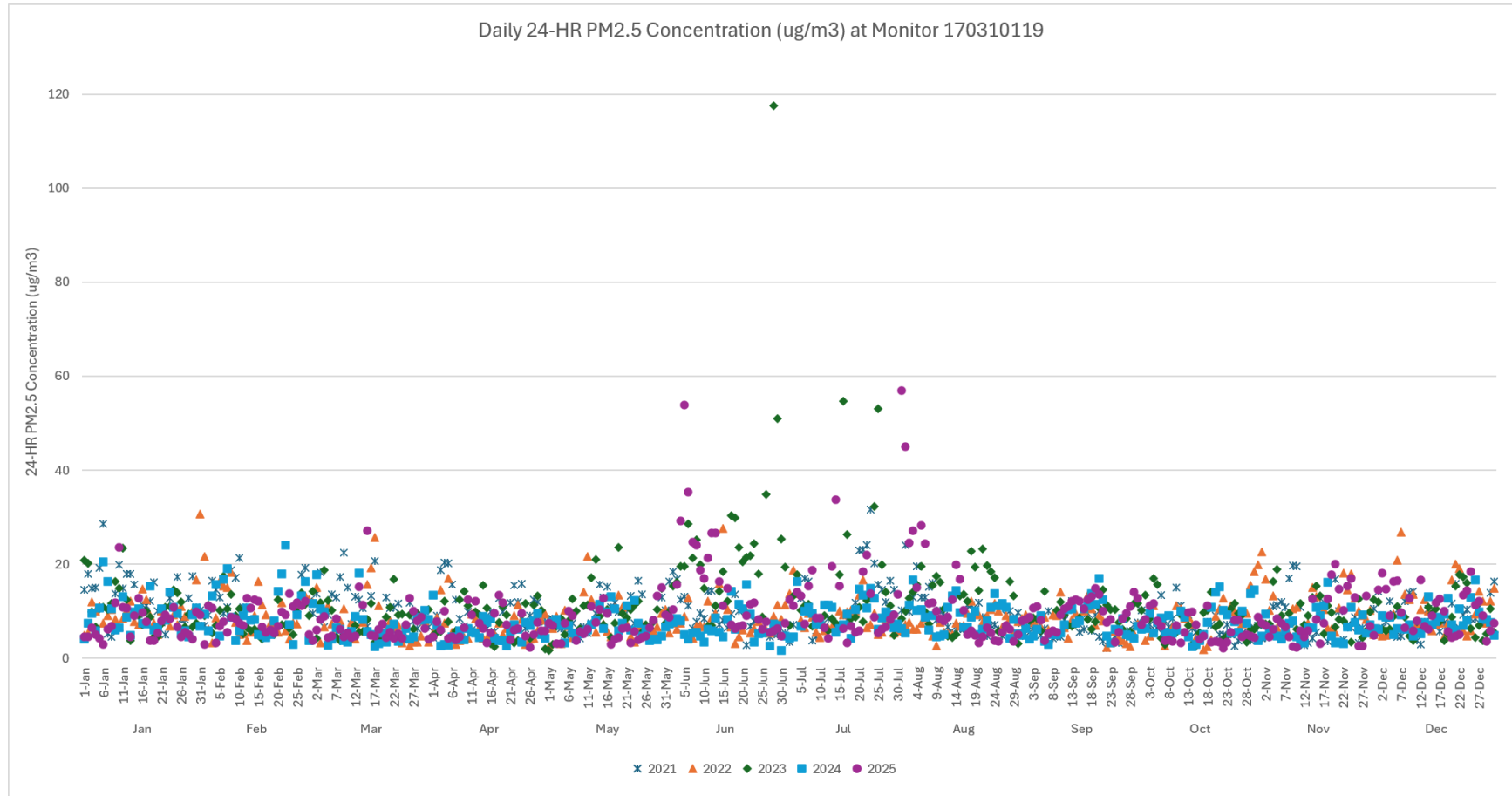


Figure 41. Five-year overlay time series of 24-hour PM2.5 concentrations at the Kingery Near Road #1 monitor (170310119).

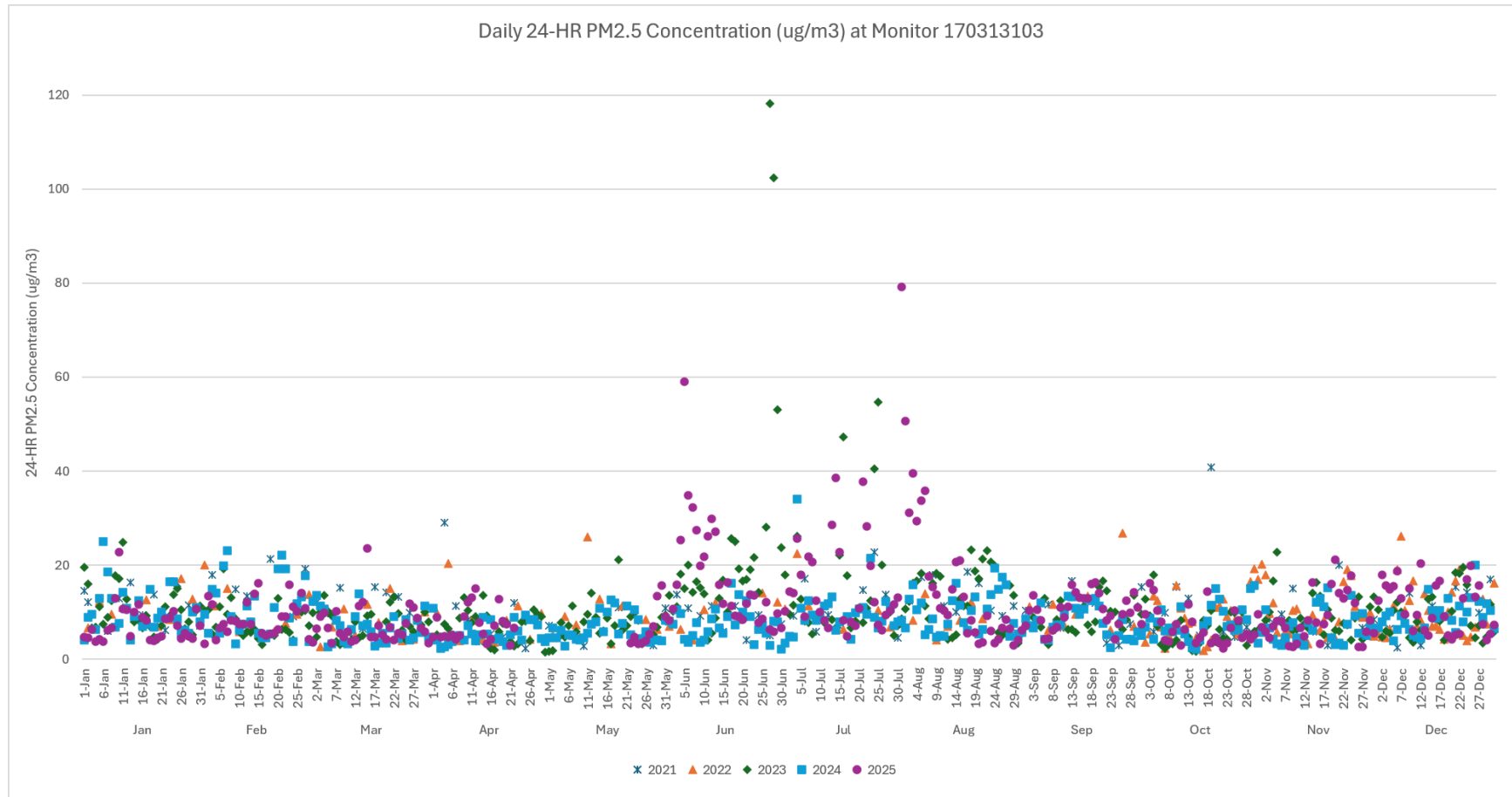


Figure 42. Five-year overlay time series of 24-hour PM2.5 concentrations at the IEPA Trailer monitor (170313103).

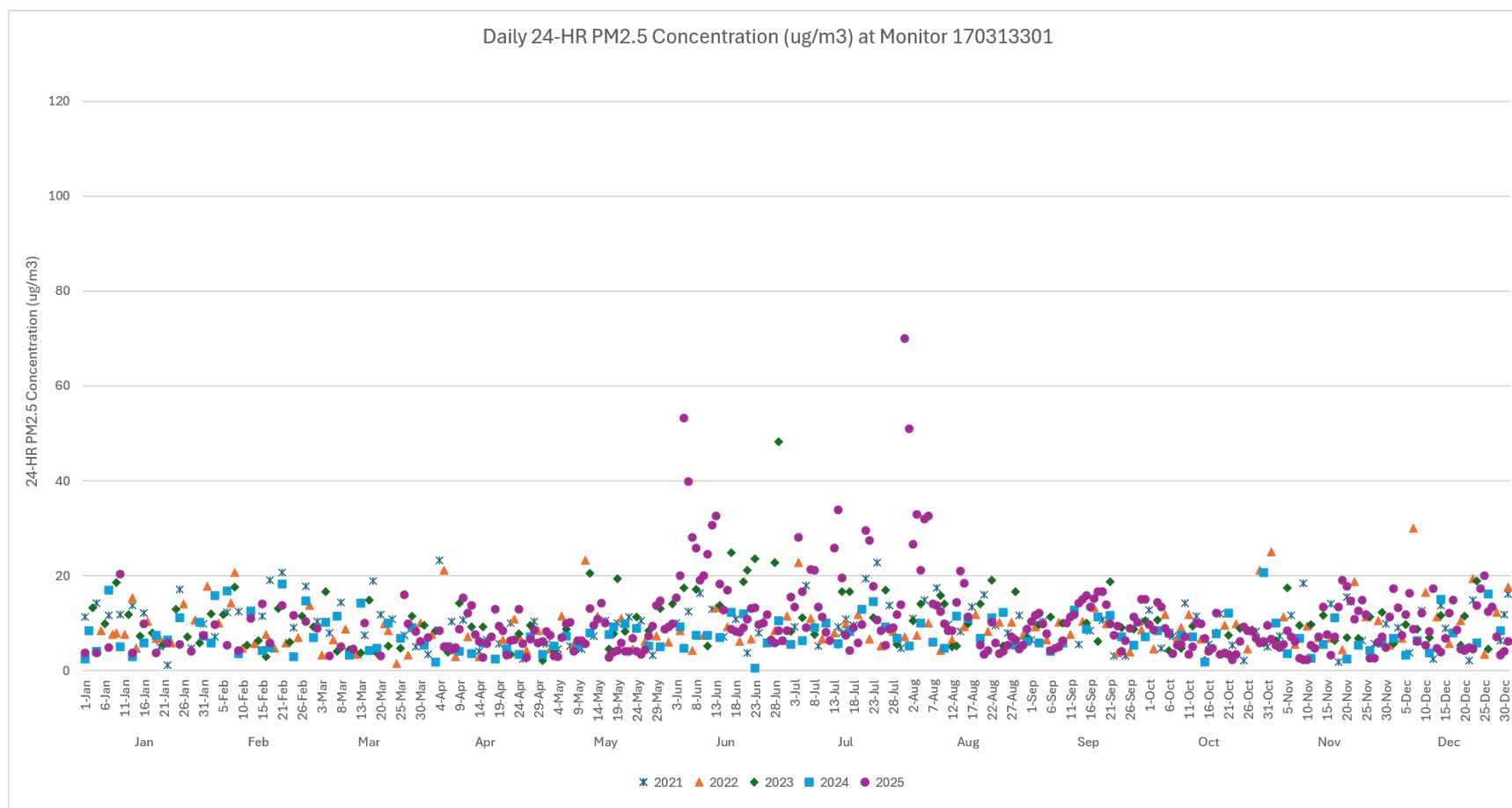


Figure 43. Five-year overlay time series of 24-hour PM2.5 concentrations at the Graves ES monitor (170313301).

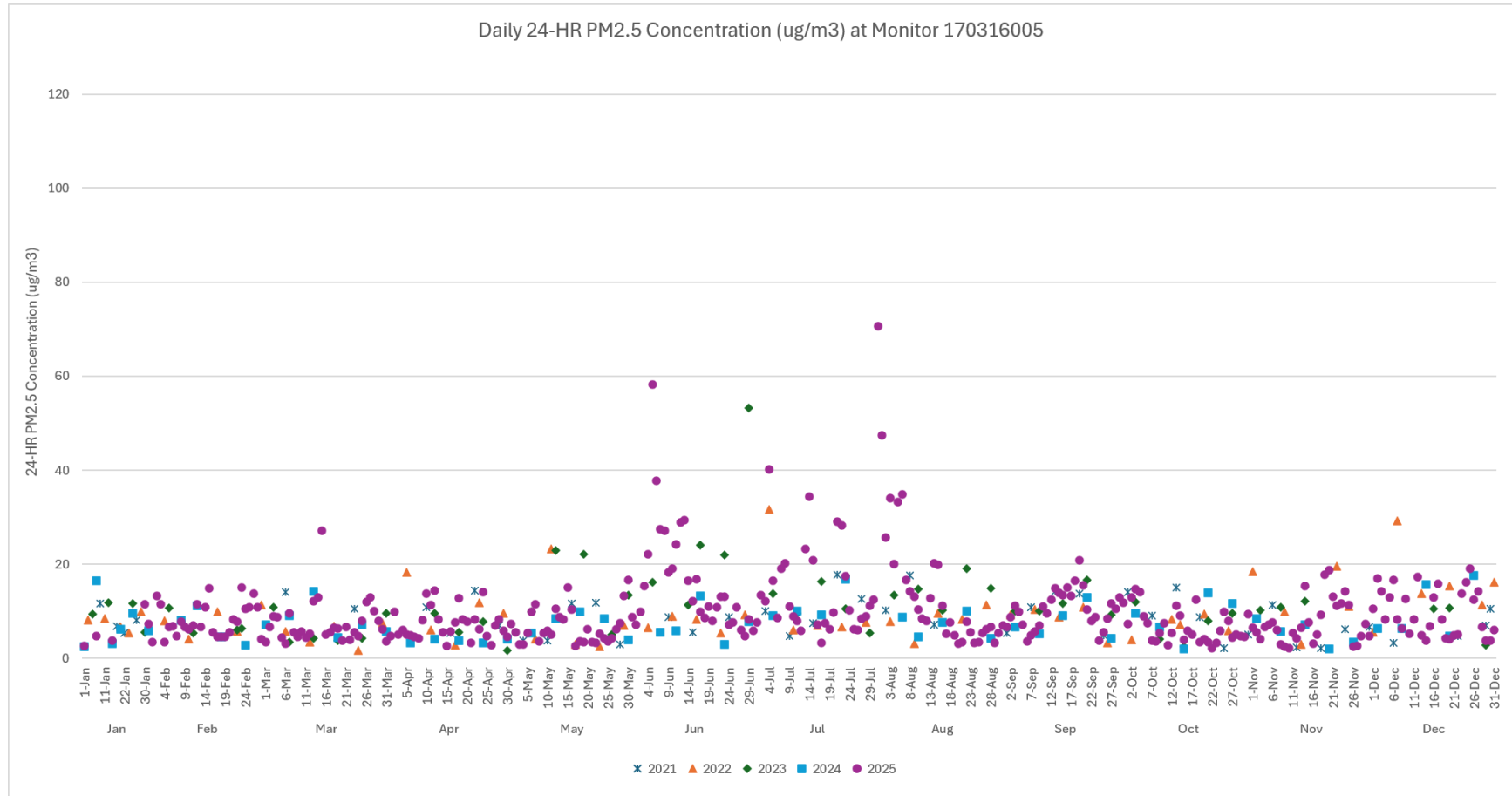


Figure 44. Five-year overlay time series of 24-hour PM2.5 concentrations at the Liberty School monitor (170316005).

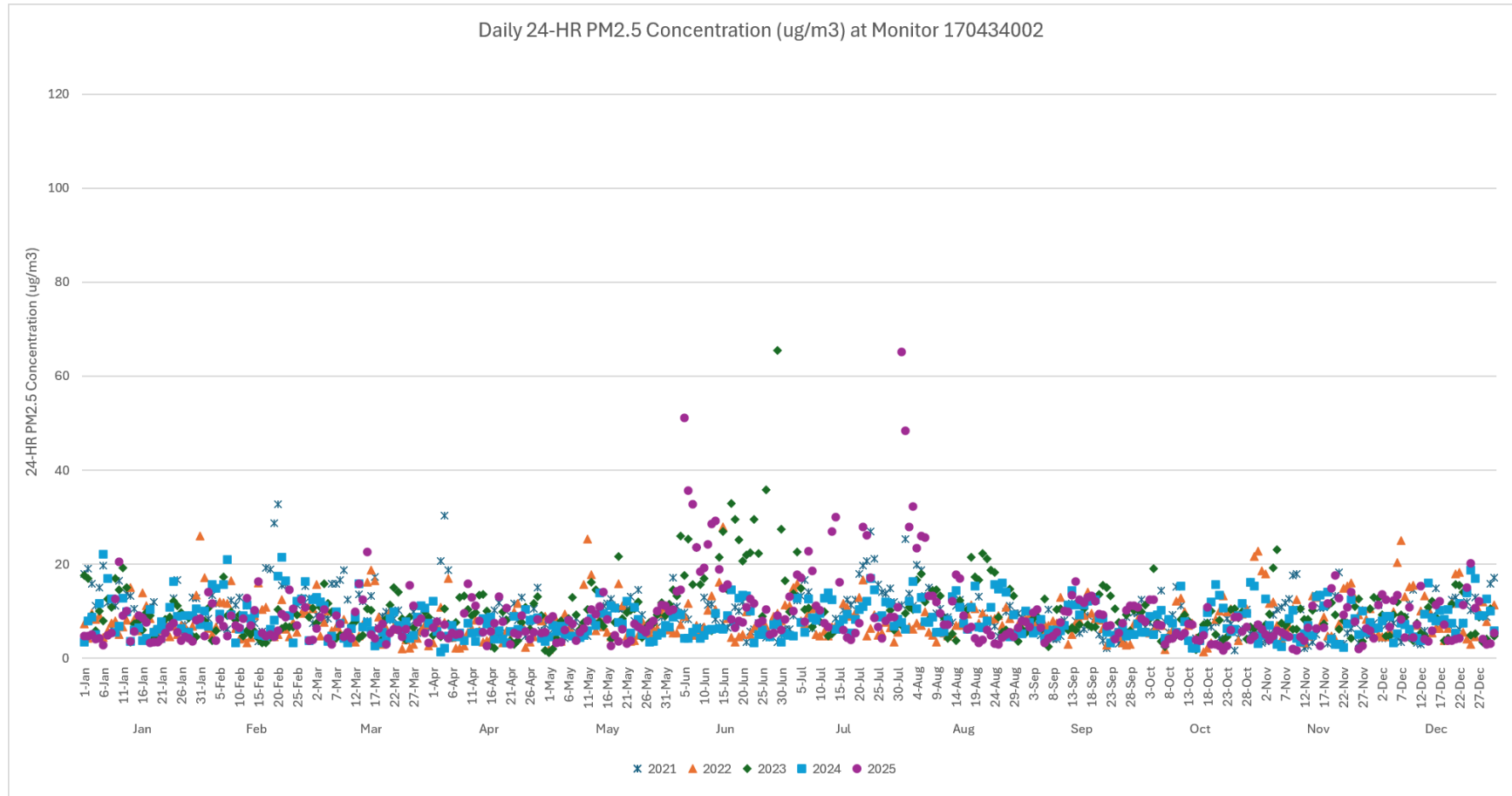


Figure 45. Five-year overlay time series of 24-hour PM2.5 concentrations at the City Hall monitor (170434002).

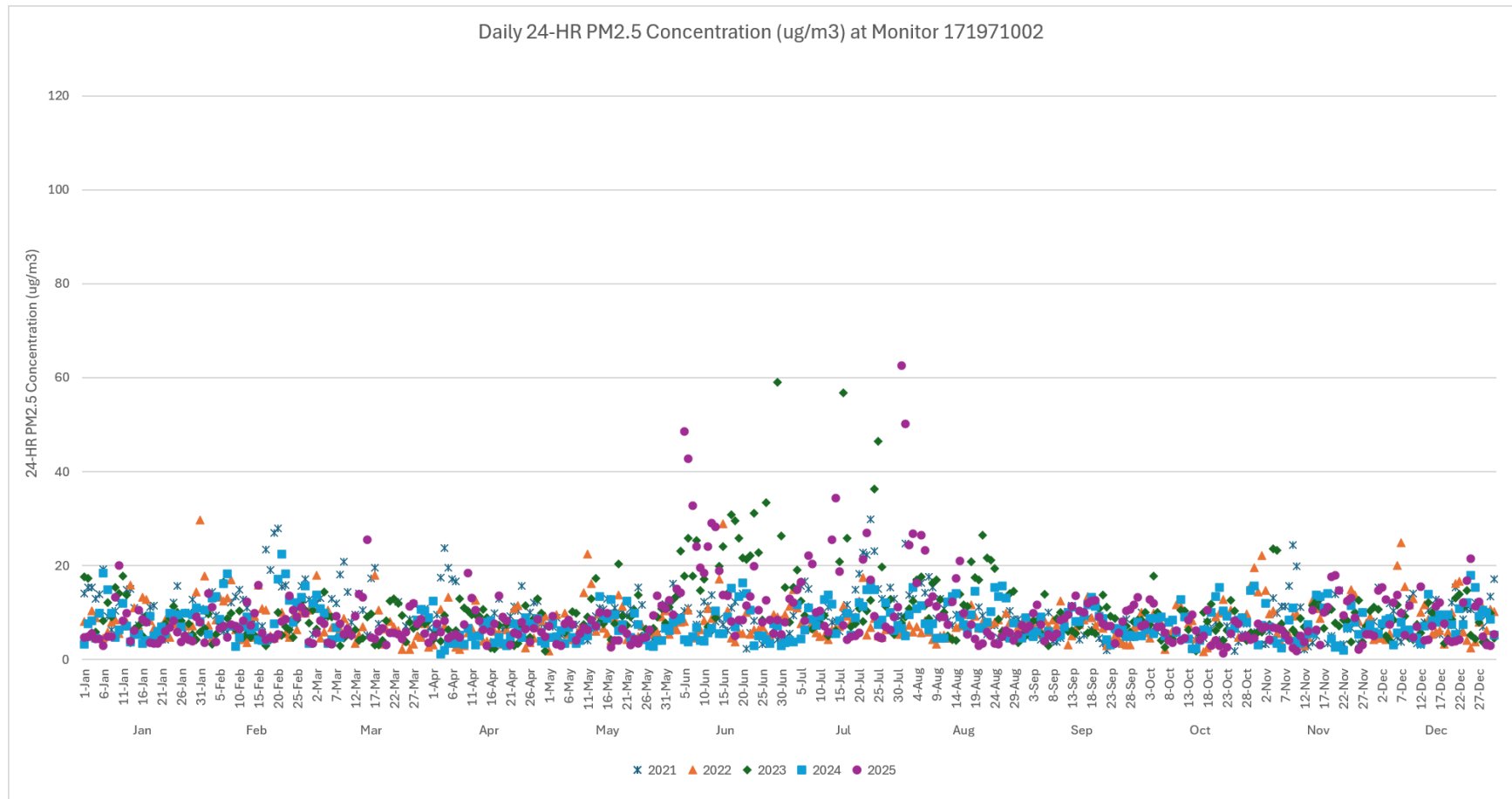


Figure 46. Five-year overlay time series of 24-hour PM2.5 concentrations at the Pershing School monitor (171971002).

Monitor Level Observation Data and Tier Classification

For each monitor and episode month in this analysis, tables have been prepared to present monitor specific date of observation, 24-hour PM2.5 observations, EPA Tier 1 and Tier 2 thresholds, and HMS smoke indicator, and Tier 1 or Tier 2 designation. An example of July 2023 for the IEPA Trailer monitor (170313103) is seen in Table 4 below. Additional monitors and dates can be found in Appendix A of this document.

Table 4. July 2023 monitor-level observation data and Tier classification for IEPA Trailer (170313103).

Monitor	Date	24-hr PM2.5 (ug/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	7/1/2023	17.9	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/2/2023	9.6	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/3/2023	11.5	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/4/2023	26.1	Yes	IEPA TRAILER	Cook	27	18	T2
170313103	7/5/2023	12.8	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/6/2023	8.1	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/7/2023	7.8	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/8/2023	5.4	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/11/2023	7.8	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/13/2023	8.5	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/14/2023	6.7	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/15/2023	22.2	Yes	IEPA TRAILER	Cook	27	18	T2
170313103	7/16/2023	47.2	Yes	IEPA TRAILER	Cook	27	18	T1
170313103	7/17/2023	17.7	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/18/2023	6.6	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/19/2023	8.1	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/20/2023	10.6	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/21/2023	7.8	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/22/2023	10.8	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/23/2023	12.4	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/24/2023	40.5	Yes	IEPA TRAILER	Cook	27	18	T1
170313103	7/25/2023	54.7	Yes	IEPA TRAILER	Cook	27	18	T1
170313103	7/26/2023	20	Yes	IEPA TRAILER	Cook	27	18	T2
170313103	7/27/2023	12.4	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/28/2023	10.1	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/29/2023	5.1	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/30/2023	7.2	Yes	IEPA TRAILER	Cook	27	18	
170313103	7/31/2023	8.6	Yes	IEPA TRAILER	Cook	27	18	

Multi-pollutant and alternate species corroboration

Chicago's monitoring network observes both total PM_{2.5} mass and speciated compounds such as ionic potassium (K⁺) and organic carbon (OC), as well as other pollutants such as uncombusted carbon monoxide (CO) which can act as tracers of wildfire emissions.

The daily OC and K⁺ at the Springfield Pump Station monitor (170310057) and the 1-hr CO at the Kingery Near Road #1 monitor (170310119) in the Chicago area were examined.

OC and K⁺ are the compounds most associated with wildfire emissions, so comparing these chemical compounds against the monitored 24-hour concentrations for these episodes can provide evidence regarding the impact of such emissions. Speciated data (run every 6 days) retrieved from the Springfield Pump Station monitor showed increased concentrations of both species in 2023 and 2025, consistent with the track of the smoke plume analyzed by HMS and observed increases in the PM_{2.5} concentrations. K⁺ acts as a useful tracer of wildfire smoke because there are few anthropogenic sources, and concentrations above background levels are a signature of wildfire emissions.

Particularly in late May leading into early June 2023, the magnitudes of OC and K⁺ were largest at the monitor (except for July 5 observations associated with Independence Day fireworks), demonstrating influence by the wildfire smoke still present in the area. Since the K⁺ and OC are specific wood combustion markers, these speciated PM_{2.5} data provide conclusive evidence that the emissions affecting the airmass in Chicago developed in areas under the heavy influence of wildfire smoke.

Figure 47 and Figure 48 show that K⁺, along with OC, increased around the time of the elevated PM_{2.5} readings measures during the 2023 and 2025 episodes at this monitor, days in which smoke was visibly present over the location, providing further support that this was an event with a clear indicator of wildfire influence. What is also observed in these figures is the buildup of concentrations of these tracers as the Canadian wildfire smoke is persistent over the region for multiple days. In these instances, we see a gradual increase in these tracer species concentrations, the longer the plumes reside over the region.

CO is produced when vegetation burns incompletely, so elevated CO can act as a supporting tracer of the arrival of a wildfire smoke plume. Figure 49 shows the CO increase at the Kingery Near Road #1 monitor during episodes when we also see PM_{2.5} concentrations rise across the region.

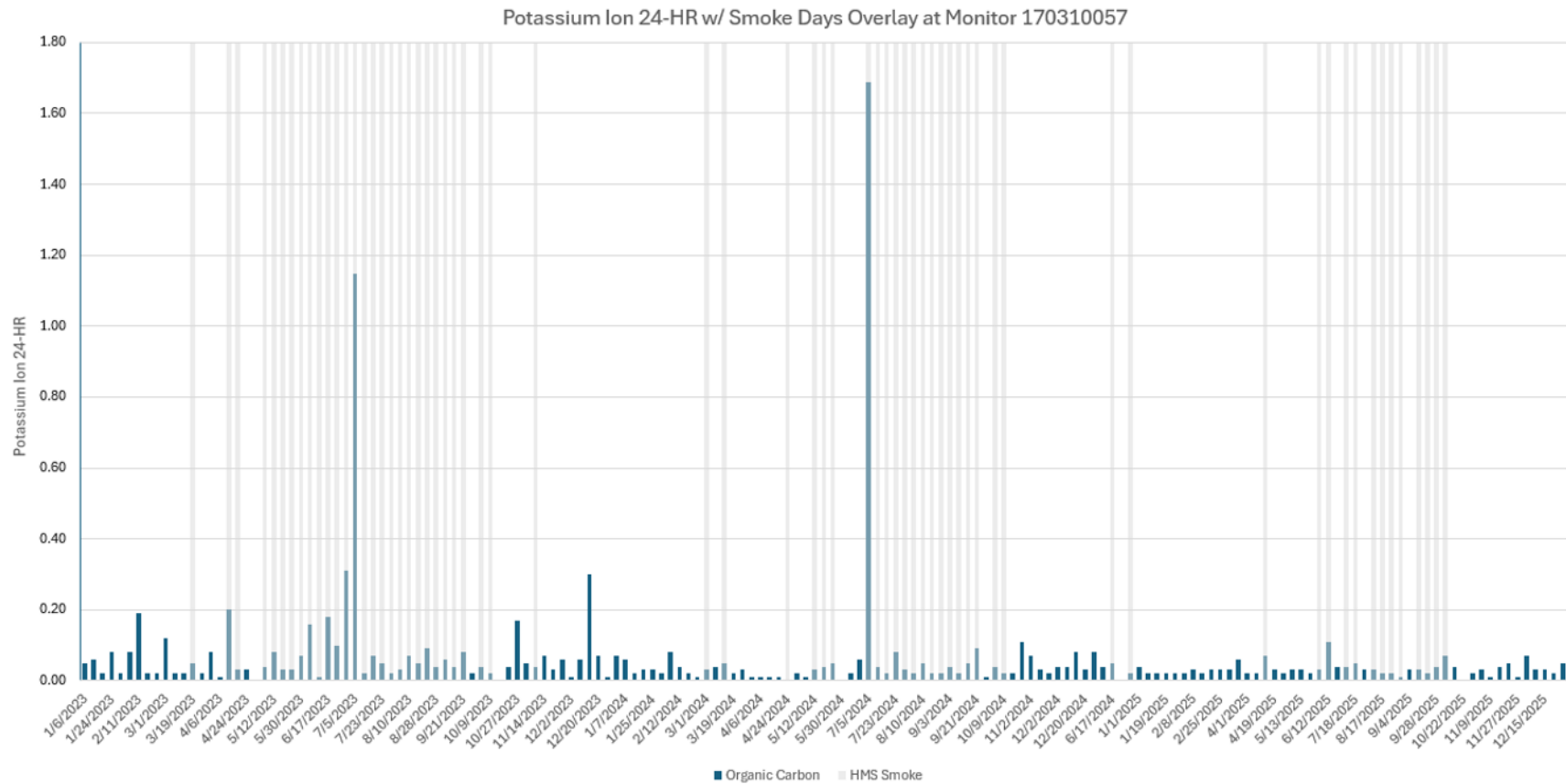


Figure 47. 24-hour potassium ion (K+) concentrations at the Springfield Pump Station monitor (170310057); 2023-2025.

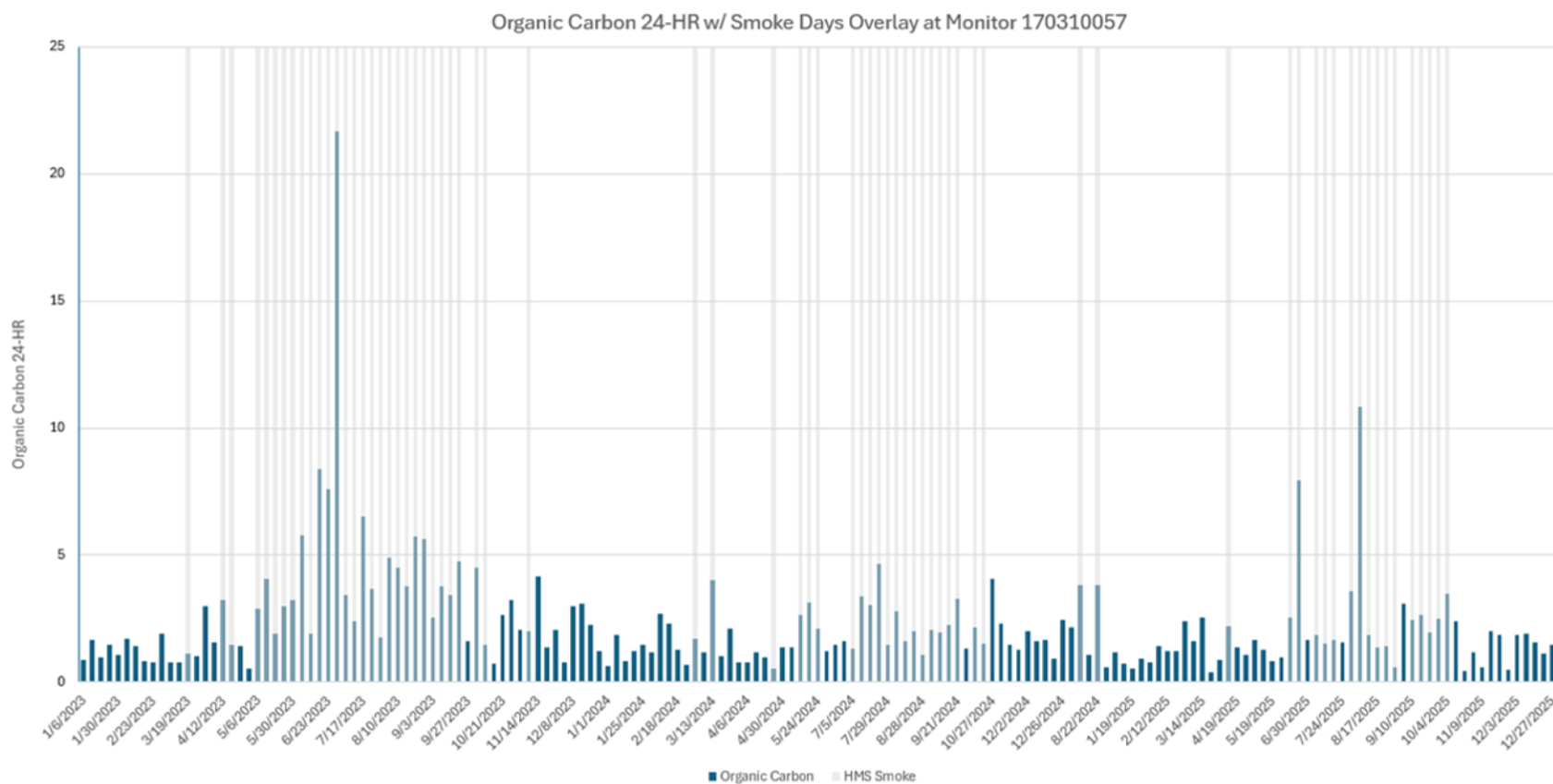


Figure 48. 24-hour organic carbon (OC) concentrations at the Springfield Pump Station monitor (170310057); 2023-2025.

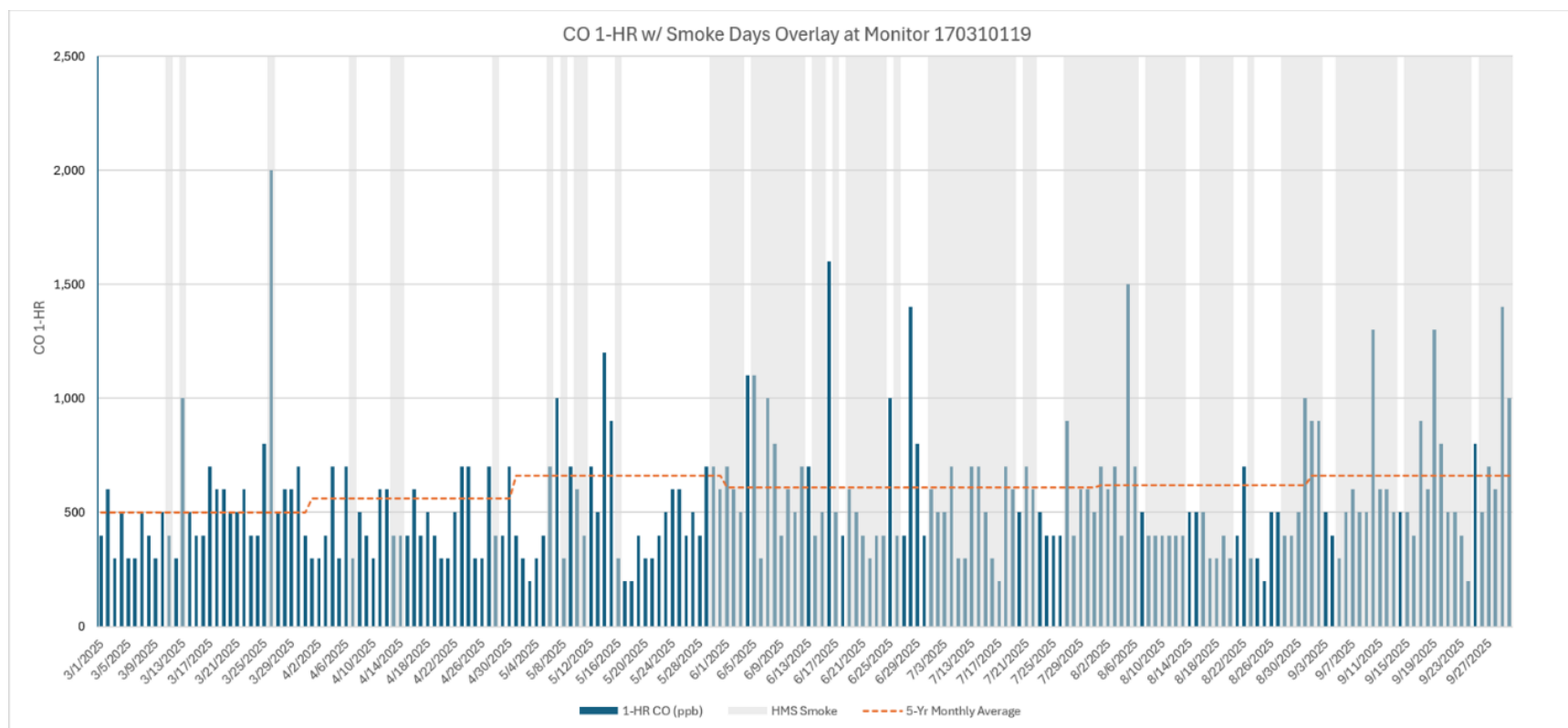


Figure 49. 1-hr CO concentrations at the Kingery Near Road #1 monitor (170310119); 2023-2025.

Evidence of Transport of Fire Emissions from the Fire to the Monitor

HYSPLIT Back Trajectories

HYSPLIT back trajectories were generated using new EPA tools¹⁶ to provide 5-day backward air parcel trajectories from all analyzed monitors for PM_{2.5} for each of the selected episode dates. Each trajectory is checked for spatial overlap with NOAA's HMS smoke polygons to identify when transported smoke may have affected conditions at the monitoring site. An overlapping of the trajectory and smoke plume means the trajectory overlaps a smoke polygon; it does not confirm that the air parcel passed through the plume. Figure 50 shows the backward trajectory from the IEPA Trailer monitor on July 25, 2023 going north through heavy smoke regions in central Canada. Additional HYSPLIT back trajectories for each analyzed episode date are found in Appendix B of this document. As all analyzed monitors are proximally close in the region and have comparable back trajectory paths on each episode date, only trajectories for the regulating monitor, IEPA Trailer (170313103), were generated and presented in this document.

Hysplit Trajectories for Exceptional Events

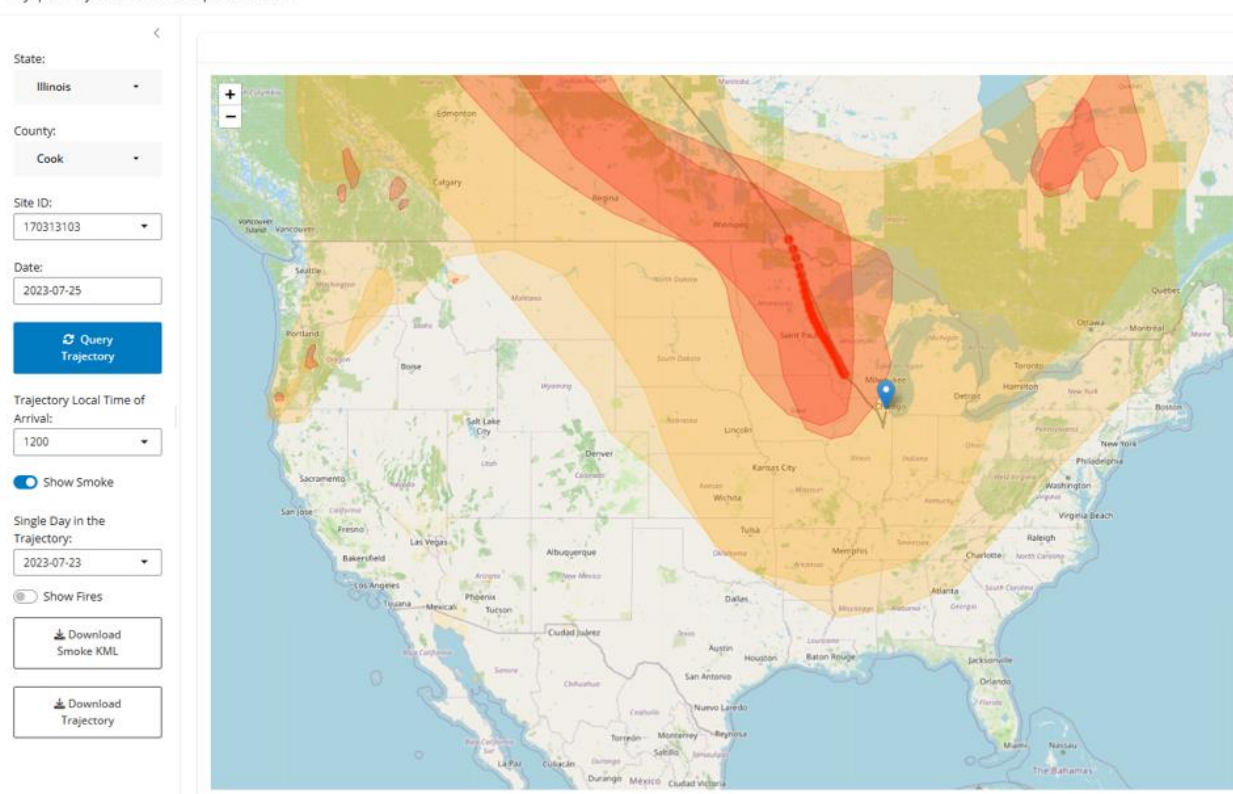


Figure 50. HYSPLIT back trajectory from IEPA Trailer monitor on July 25, 2023.

¹⁶ <https://www.epa.gov/air-quality-analysis/hysplit-exceptional-events>

Meteorological Episode Summaries and Visible Satellite Imagery

Textual meteorological episode summaries and visible satellite imagery from the Moderate Resolution Imaging Spectroradiometer (MODIS) Aqua and Terra satellites plainly describe and show transport of smoke from fires burning in Canada to the midwestern United States, including Chicago, during the select episodes in 2023 through 2025, when PM_{2.5} concentrations were at their highest.

In the example episode below, July 31 – August 6, 2025, the movement of a dense smoke plume south and southeast from Canada is particularly noteworthy as these plumes eventually make their way across the international border and into the Lake Michigan region, enhancing ozone concentrations along its path.

The associated textual episode summary is represented in Figure 51 through Figure 57. Additional textual meteorological episode summaries and MODIS images can be found in Appendices C (episode summaries) and D (MODIS images) of this document.

July 31 – August 6, 2025

During the July 31 through August 6, 2025, period, the synoptic-scale pattern again favored transport of Canadian wildfire smoke into the Great Lakes. An upper-level ridge over the central United States combined with a broad trough over eastern Canada to maintain persistent northwesterly flow from central Canada into the Midwest. Numerous active wildfires across western and central Canada generated extensive smoke plumes that were repeatedly entrained into the prevailing flow.

At the surface, successive Canadian high-pressure systems followed weak frontal passages into the Upper Midwest, maintaining northerly to northeasterly winds across Lake Michigan and northern Illinois. The associated Canadian air masses transported smoke into the Chicago metropolitan area while dry, stable atmospheric conditions limited dispersion and precipitation scavenging. As the surface highs gradually shifted eastward, easterly flow continued to advect smoke into northeastern Illinois before southerly return flow developed ahead of the next frontal system.

The persistence of the upper-level circulation, repeated intrusions of Canadian high pressure, and ongoing wildfire emissions produced several consecutive days of smoke transport into the Chicago metropolitan area. Satellite imagery and regional air quality observations documented widespread smoke across the Great Lakes and Upper Midwest, illustrating the regional extent of the wildfire smoke episode and its influence on air quality throughout northeastern Illinois.

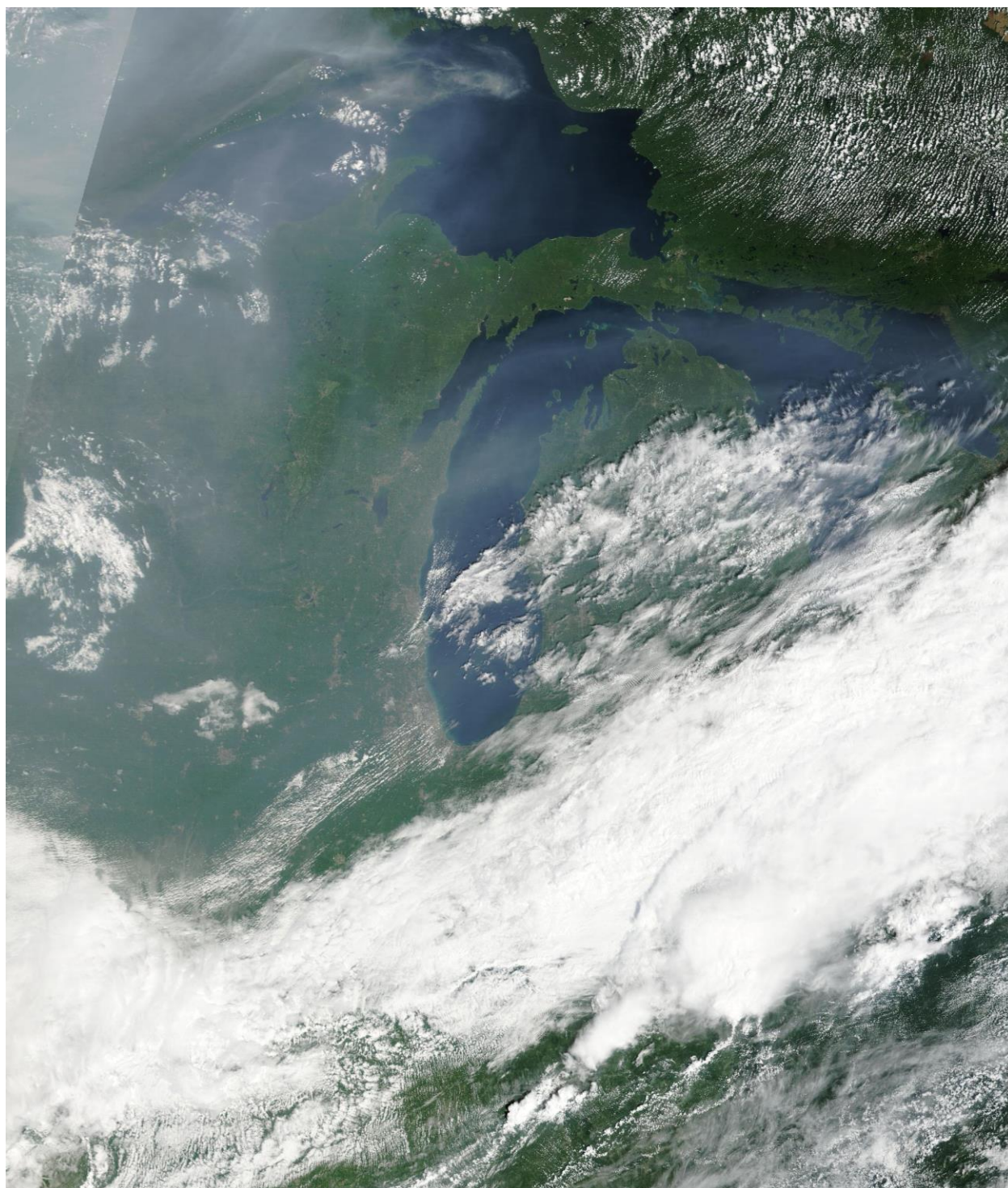


Figure 51. MODIS Terra true color satellite imagery from July 31, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

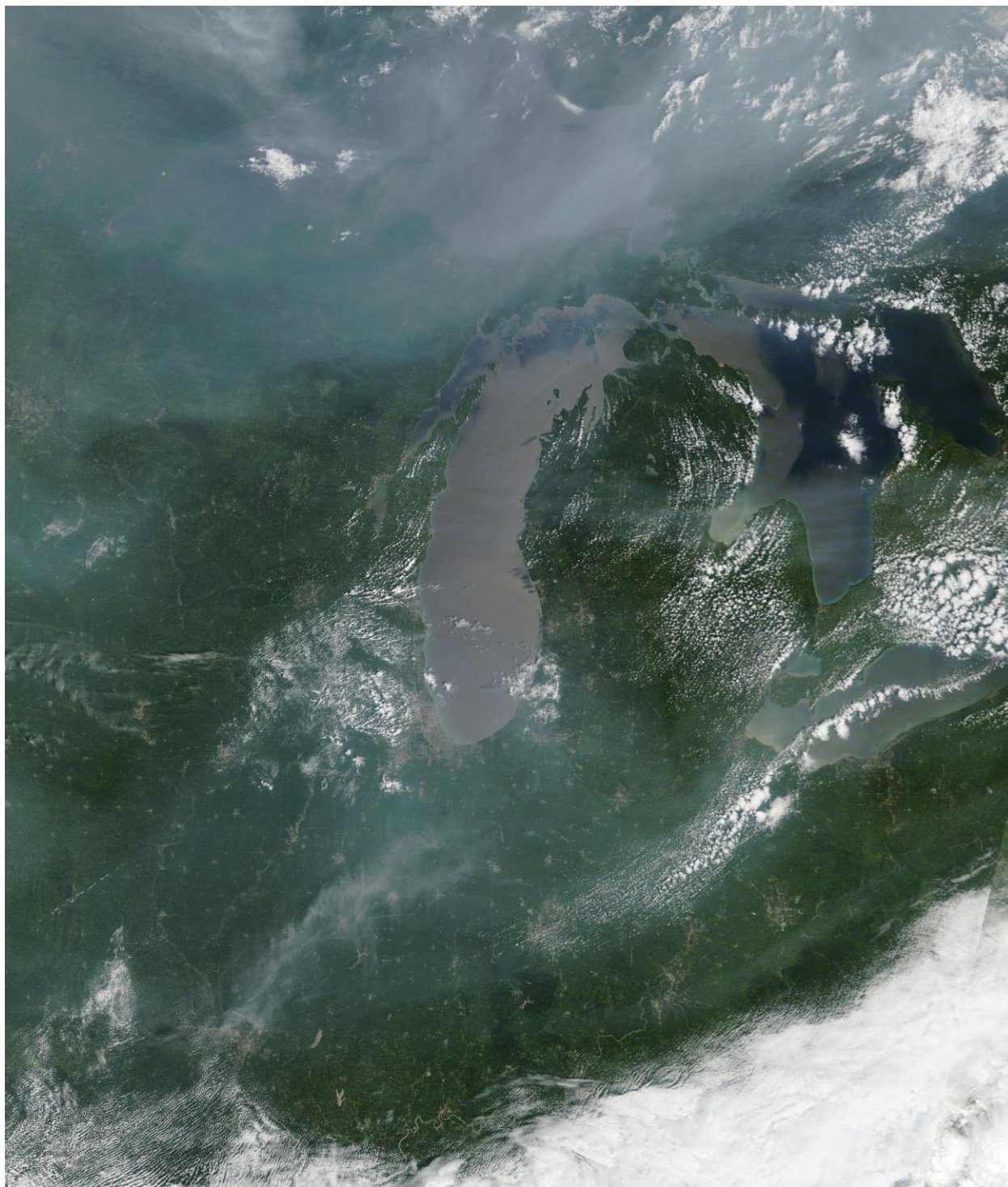


Figure 52. MODIS Terra true color satellite imagery from August 1, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

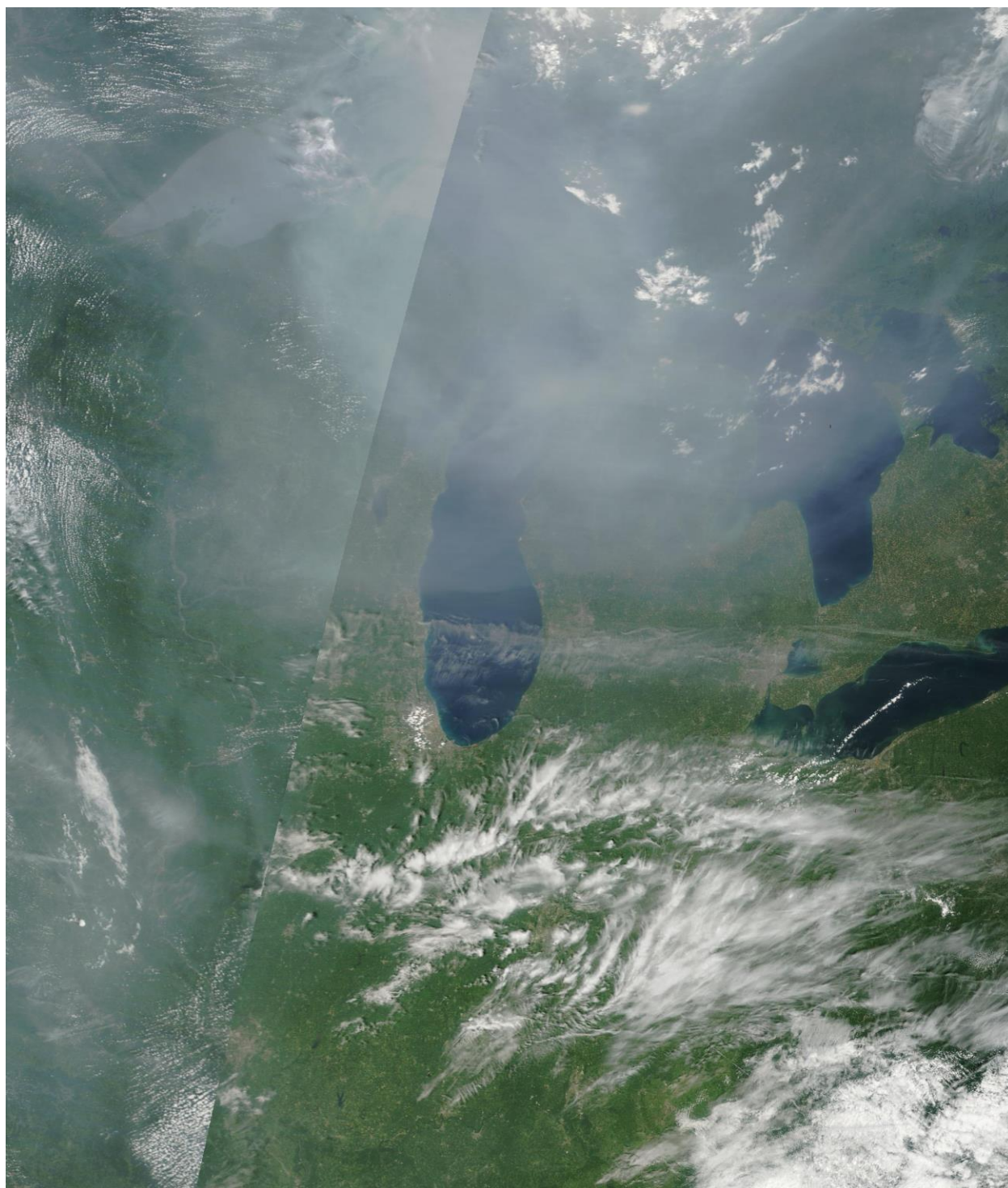


Figure 53. MODIS Terra true color satellite imagery from August 2, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.



Figure 54. MODIS Terra true color satellite imagery from August 3, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

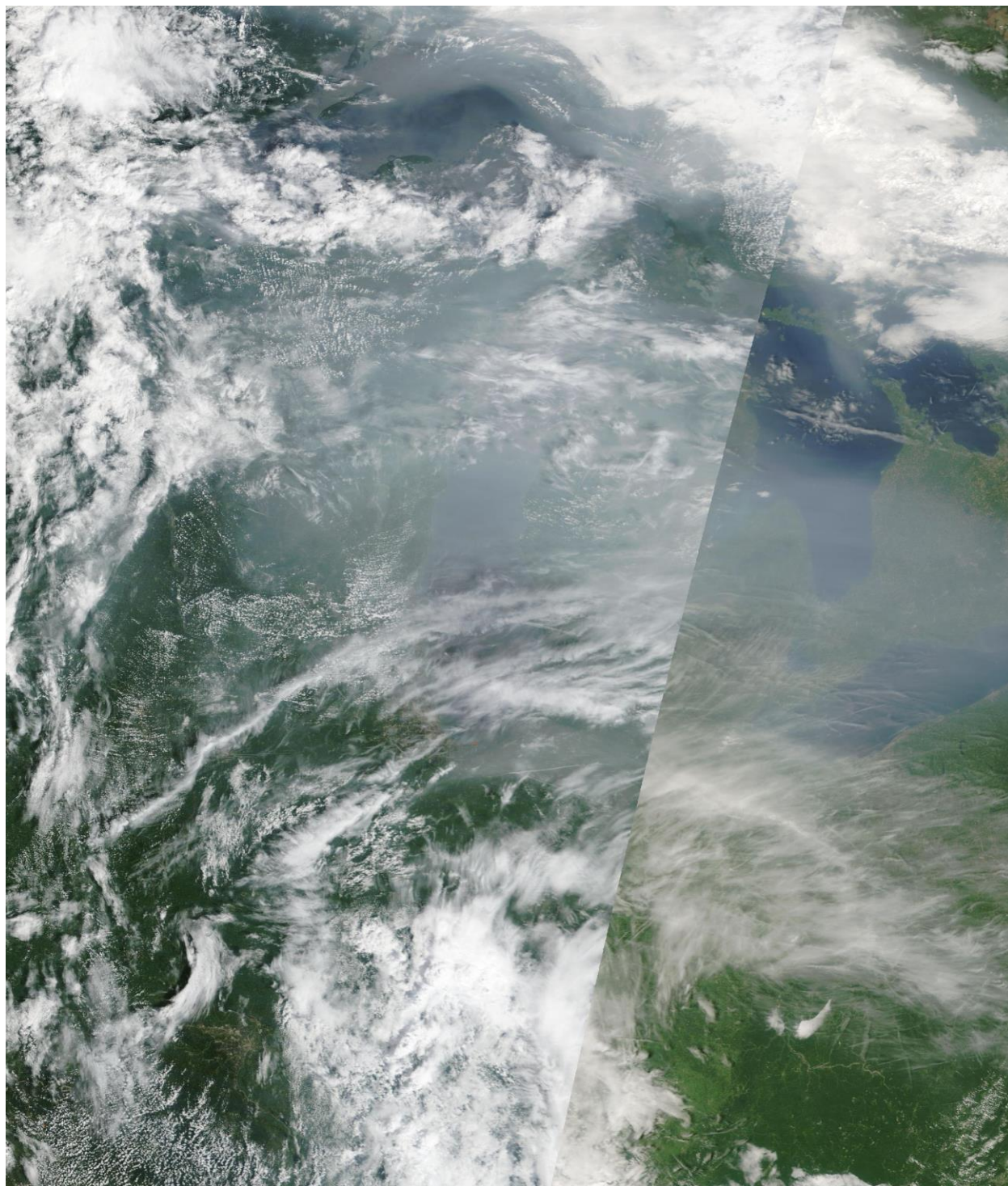


Figure 55. MODIS Terra true color satellite imagery from August 4, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

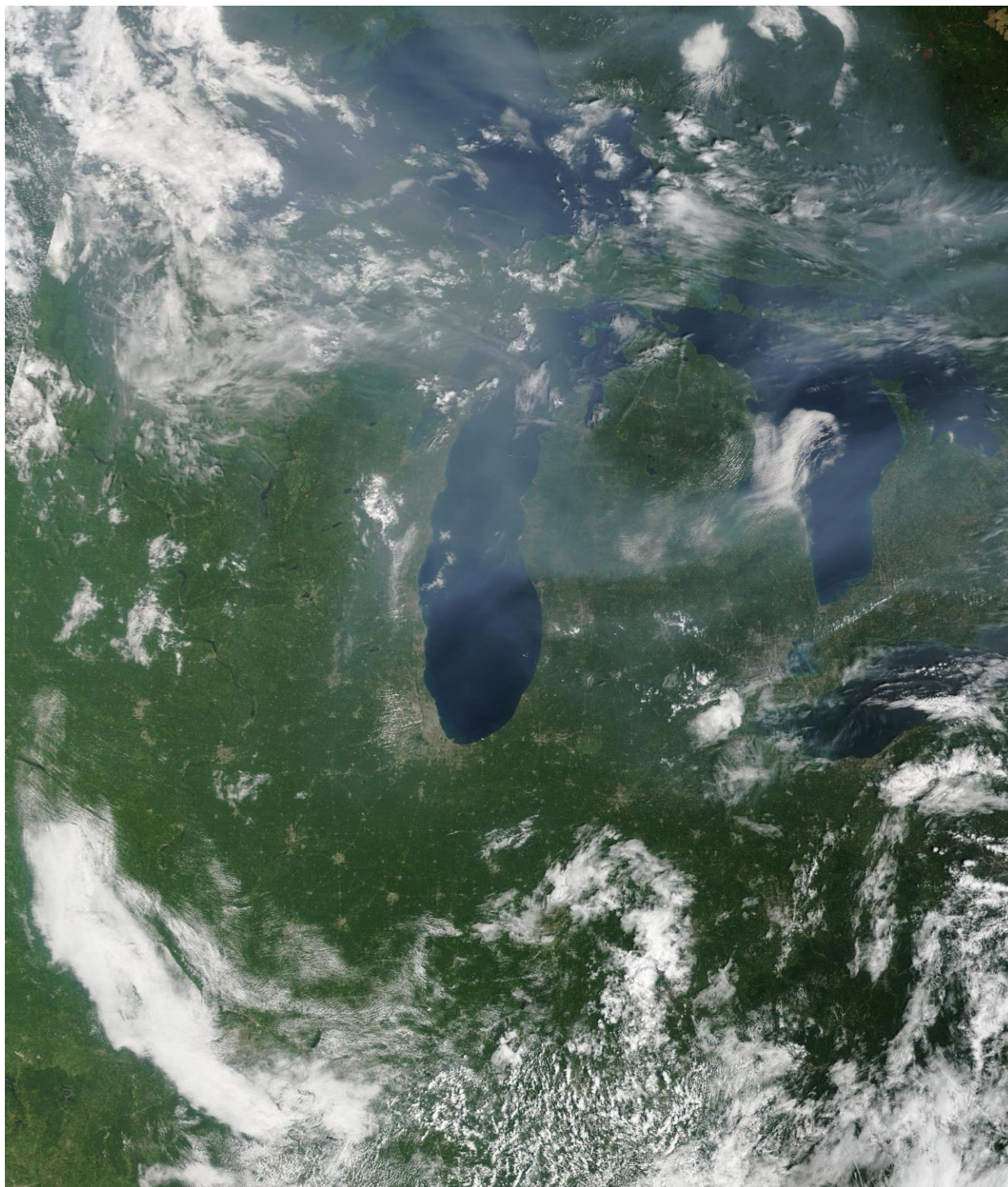


Figure 56. MODIS Terra true color satellite imagery from August 5, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

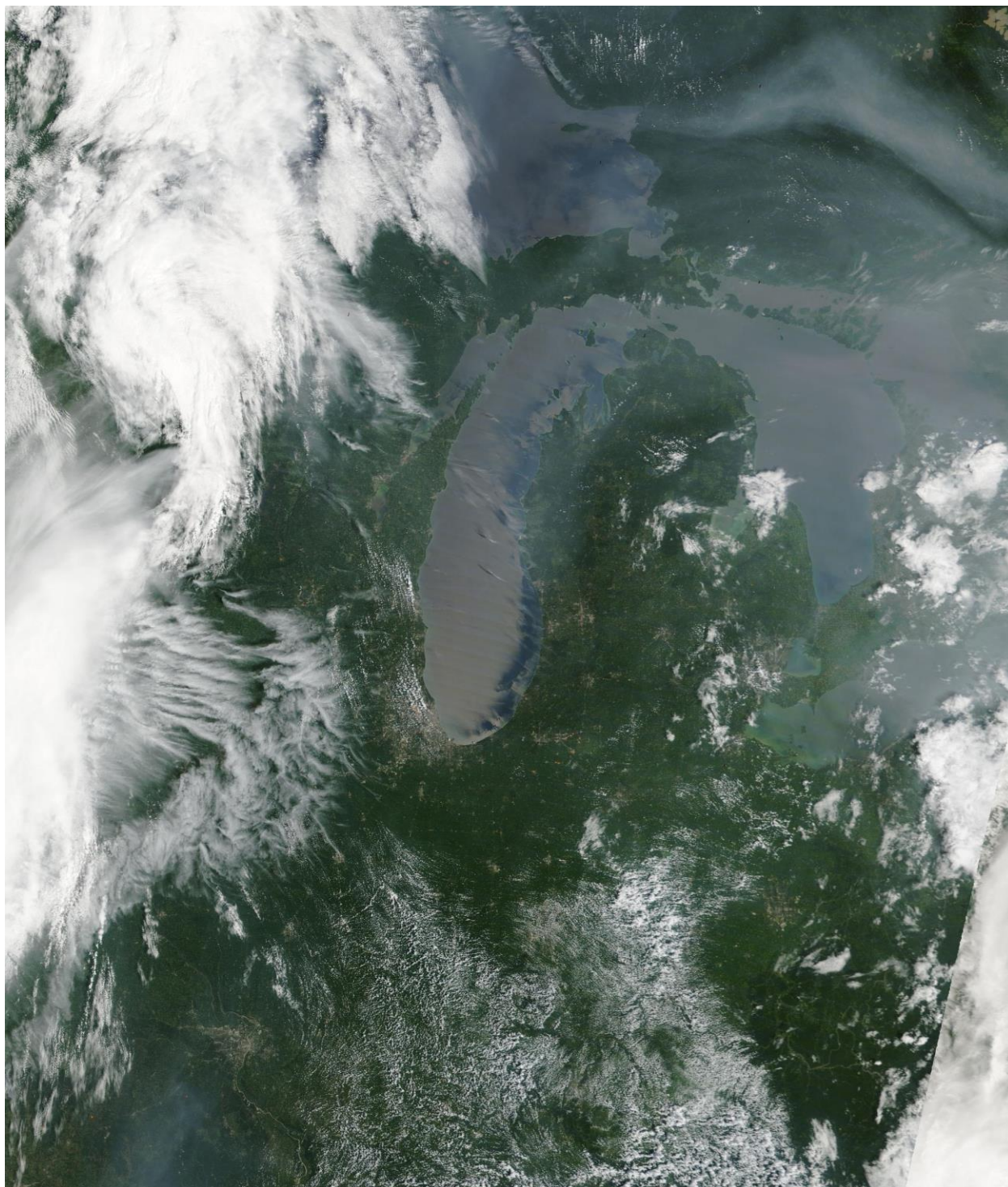


Figure 57. MODIS Terra true color satellite imagery from August 6, 2025, with smoke present over the Lake Michigan and Chicago region. Image source: NASA Worldview.

Results

A substantial number of days in 2023 and 2025 were influenced by Canadian wildfire smoke, elevating PM_{2.5} observations across the Chicago metropolitan area. The smoke's effects extended beyond Chicago, with elevated concentrations also observed in regional areas in and around Lake Michigan.

Using EPA tools, dates were identified when Canadian wildfire smoke affected PM_{2.5} observations. As can be seen in Table 6, when these dates and associated Tier 1 observations were removed from the record and annual design values were recalculated, every analyzed monitor in the Chicago metropolitan area fell below the annual PM_{2.5} standard of 9.0 µg/m³.

Removing Tier 1 concentrations lowered design values by an average of 0.7 µg/m³ across these monitors. When Tier 2 dates were also removed, design values were an average of 1.1 µg/m³ lower than the unadjusted values. These comparisons show that wildfire-affected days contributed meaningfully to the measured design values.

Table 5. Annual unadjusted mean concentrations and 3-year design values (µg/m³) at monitors in the Chicago metro area, 2023-2025.

State	County	Site ID	Local Site Name	Annual Mean (µg/m ³)			2023-2025 Annual Design Value (µg/m ³)
				2023	2024	2025	
Illinois	Cook	170310022	Washington HS	10.28	7.57	10.13	9.3
Illinois	Cook	170310052	Mayfair Pump Station	10.02	7.73	9.97	9.2
Illinois	Cook	170310057	Springfield Pump Station	10.48	7.87	10.12	9.5
Illinois	Cook	170310119	Kingery Near Road #1	11.18	7.76	9.31	9.4
Illinois	Cook	170313103	IEPA Trailer	10.37	8.22	10.71	9.8
Illinois	Cook	170313301	Graves ES	10.37	7.62	10.07	9.4
Illinois	Cook	170316005	Liberty School	11.06	7.48	9.75	9.4
Illinois	DuPage	170434002	City Hall	10.66	8.13	9.09	9.3
Illinois	Will	171971002	Pershing School	10.82	7.83	9.13	9.3

Table 6. Annual mean concentrations and 3-year design values ($\mu\text{g}/\text{m}^3$) at monitors in the Chicago metro area with Tier 1 dates removed, 2023-2025.

State	County	Site ID	Local Site Name	Annual Mean ($\mu\text{g}/\text{m}^3$)			2023-2025 Annual Design Value ($\mu\text{g}/\text{m}^3$)
				2023	2024	2025	
Illinois	Cook	170310022	Washington HS	9.33	8.15	9.24	8.9
Illinois	Cook	170310052	Mayfair Pump Station	9.25	7.87	8.81	8.6
Illinois	Cook	170310057	Springfield Pump Station	9.80	7.76	8.48	8.7
Illinois	Cook	170310119	Kingery Near Road #1	10.08	7.62	8.87	8.9
Illinois	Cook	170313103	IEPA Trailer	9.63	7.48	8.40	8.5
Illinois	Cook	170313301	Graves ES	9.82	7.57	9.01	8.8
Illinois	Cook	170316005	Liberty School	9.87	7.74	8.60	8.7
Illinois	DuPage	170434002	City Hall	9.21	8.13	7.96	8.4
Illinois	Will	171971002	Pershing School	9.02	7.84	8.24	8.4

Table 7. Annual mean concentrations and 3-year design values ($\mu\text{g}/\text{m}^3$) at monitors in the Chicago metro area with Tier 1 and Tier 2 dates removed, 2023-2025.

State	County	Site ID	Local Site Name	Annual Mean ($\mu\text{g}/\text{m}^3$)			2023-2025 Annual Design Value ($\mu\text{g}/\text{m}^3$)
				2023	2024	2025	
Illinois	Cook	170310022	Washington HS	8.69	8.15	8.79	8.5
Illinois	Cook	170310052	Mayfair Pump Station	8.87	7.87	8.46	8.4
Illinois	Cook	170310057	Springfield Pump Station	9.08	7.76	8.16	8.3
Illinois	Cook	170310119	Kingery Near Road #1	9.24	7.62	8.52	8.5
Illinois	Cook	170313103	IEPA Trailer	9.22	7.48	8.13	8.3
Illinois	Cook	170313301	Graves ES	9.24	7.57	8.62	8.5
Illinois	Cook	170316005	Liberty School	9.50	7.74	8.28	8.5
Illinois	DuPage	170434002	City Hall	8.49	8.13	7.64	8.1
Illinois	Will	171971002	Pershing School	8.27	7.84	7.74	8.0

Recommendations

Based on the results of this analysis and the widespread impact of Canadian wildfire smoke on Chicago area monitors both within the metro area and regionwide in Illinois, Indiana, and Wisconsin, the following action is recommended.

1. Each date at each monitor within the Chicago metro identified as Tier 1 and to have been influenced by Canadian wildfire smoke during the 2023-2025 timeframe and found to have enhanced PM_{2.5} concentrations. As a result, should be flagged as influenced by exceptional events, and the associated pollutant concentration values should be removed from the regulatory record used to determine design values and attainment designations.
2. Given the duration and extent of the wildfires, there are numerous Tier 2 days that should also be flagged as influenced. The “regulatory significant” nomenclature typically applied to concurring with exceptional events demonstrations should not be limited to the attainment / nonattainment determination and instead should include any date or concentration that was enhanced by wildfire smoke, regardless of the attainment outcome of the exceptions.
3. Consideration should be given to excluding dates and concentrations at other monitors outside of the Chicago metro area, but in the same regional airshed, that would have also been impacted by Canadian wildfire smoke during the same 2023-2025 episodes. This may include simply referencing other state exceptional events demonstrations when proximal monitors were impacted on the same dates and by the same wildfire plumes. An example application would be excluding dates and concentrations from regional Illinois or Wisconsin monitors near the Chicago metro area consistent with dates and monitors already concurred with by EPA¹⁷ in Indiana’s exceptional events demonstrations.
4. Consideration should be given to states, including Illinois, Indiana, and Wisconsin, to allow limited information necessary to support the clear causal relationship criterion for any wildfire date that fell within the 2023-2025 Canadian wildfire episode. Ample evidence has been provided here and elsewhere to support the fact that smoke from Canadian wildfires in select episodes in 2023, 2024, and 2025 had significant impact on PM_{2.5} observations and enhanced concentrations beyond reasonable and typical conditions. As it is understood that many states are preparing exceptional events demonstrations for monitors and dates affected during the Canadian wildfire episodes of 2023 and 2025, it would be appropriate to allow for information in this document to be adopted to satisfy Tier 1 obligations in those demonstrations.

¹⁷ https://www.in.gov/dA/f244662b4f/pm25_exceptional_events_epa_concurrence_lake_co.pdf

Appendix A

Monitor Level Observation Data and Tier Classification

Table A-1. Studied episode monitor-level observation data and Tier classification for Washington HS monitor (170310022).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310022	5/3/2023	4.0	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/6/2023	8.4	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/9/2023	4.9	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/12/2023	16.1	Yes	WASHINGTON HS	Cook	24.2	16.1	T2
170310022	5/15/2023	4.8	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/18/2023	7.7	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/21/2023	10.0	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/24/2023	10.0	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/27/2023	5.8	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	5/30/2023	11.3	Yes	WASHINGTON HS	Cook	24.2	16.1	
170310022	6/2/2023	12.1	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/5/2023	18.0	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/8/2023	15.4	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/11/2023	5.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/14/2023	10.5	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/17/2023	22.6	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/20/2023	18.0	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/23/2023	22.8	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/26/2023	30.5	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/29/2023	45.7	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	7/2/2023	6.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/5/2023	13.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/8/2023	7.4	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/11/2023	9.2	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/14/2023	7.5	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/17/2023	19.2	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/20/2023	11.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/23/2023	11.5	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/26/2023	19.3	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/29/2023	4.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	8/1/2023	10.2	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/4/2023	12.6	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/7/2023	7.0	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/10/2023	14.7	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/13/2023	4.8	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/16/2023	14.1	Yes	WASHINGTON HS	Cook	21.2	14.1	T2

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310022	8/19/2023	14.4	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/22/2023	18.5	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/25/2023	3.8	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/28/2023	14.0	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/31/2023	5.7	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	7/2/2024	5.5	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/5/2024	9.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/8/2024	10.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/11/2024	9.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/14/2024	5.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/17/2024	7.9	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/20/2024	12.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/23/2024	16.6	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/26/2024	8.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/29/2024	6.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/1/2025	8.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/2/2025	11.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/3/2025	18.2	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/4/2025	43.5	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/5/2025	59.3	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/6/2025	36.7	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/7/2025	24.1	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/8/2025	26.1	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/9/2025	21.9	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/10/2025	21.5	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	6/11/2025	26.4	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/12/2025	28.9	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/13/2025	28.9	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	6/14/2025	14.5	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/15/2025	10.4	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/16/2025	16.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/17/2025	9.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/18/2025	7.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/19/2025	9.2	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/20/2025	9.4	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/21/2025	11.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/22/2025	13.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/23/2025	15.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/24/2025	9.1	Yes	WASHINGTON HS	Cook	24.9	16.6	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310022	6/25/2025	6.0	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/26/2025	12.6	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/27/2025	9.0	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/28/2025	4.5	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/29/2025	8.9	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	6/30/2025	7.7	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/1/2025	9.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/2/2025	16.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/3/2025	13.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/4/2025	19.8	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/5/2025	17.3	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/6/2025	10.0	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/7/2025	15.9	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/8/2025	24.1	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/9/2025	12.3	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/10/2025	8.0	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/11/2025	8.6	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/12/2025	6.4	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/13/2025	21.5	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/14/2025	44.4	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	7/15/2025	22.8	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/16/2025	9.2	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/17/2025	2.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/18/2025	8.2	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/19/2025	6.8	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/20/2025	7.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/21/2025	22.3	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/22/2025	25.9	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	7/23/2025	17.5	Yes	WASHINGTON HS	Cook	24.9	16.6	T2
170310022	7/24/2025	11.8	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/25/2025	5.9	No	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/26/2025	7.1	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/27/2025	7.7	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/28/2025	9.6	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/29/2025	10.9	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/30/2025	14.0	Yes	WASHINGTON HS	Cook	24.9	16.6	
170310022	7/31/2025	66.1	Yes	WASHINGTON HS	Cook	24.9	16.6	T1
170310022	8/1/2025	47.1	Yes	WASHINGTON HS	Cook	21.2	14.1	T1
170310022	8/2/2025	24.9	Yes	WASHINGTON HS	Cook	21.2	14.1	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310022	8/3/2025	29.4	Yes	WASHINGTON HS	Cook	21.2	14.1	T1
170310022	8/4/2025	17.2	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/5/2025	33.9	Yes	WASHINGTON HS	Cook	21.2	14.1	T1
170310022	8/6/2025	31.5	Yes	WASHINGTON HS	Cook	21.2	14.1	T1
170310022	8/7/2025	15.3	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/8/2025	15.0	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/9/2025	12.9	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/10/2025	10.4	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/11/2025	10.0	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/12/2025	9.4	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/13/2025	11.8	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/14/2025	22.4	Yes	WASHINGTON HS	Cook	21.2	14.1	T1
170310022	8/15/2025	19.7	Yes	WASHINGTON HS	Cook	21.2	14.1	T2
170310022	8/16/2025	12.8	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/17/2025	4.9	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/18/2025	6.7	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/19/2025	4.9	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/20/2025	2.6	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/21/2025	3.1	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/22/2025	7.7	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/23/2025	6.1	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/24/2025	3.8	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/25/2025	3.6	No	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/26/2025	5.9	No	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/27/2025	8.5	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/28/2025	5.9	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/29/2025	2.3	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/30/2025	5.2	Yes	WASHINGTON HS	Cook	21.2	14.1	
170310022	8/31/2025	6.4	Yes	WASHINGTON HS	Cook	21.2	14.1	

Table A-2. Studied episode monitor-level observation data and Tier classification for Mayfair Pump Station monitor (170310052).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310052	5/6/2023	11.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/7/2023	14.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/9/2023	6.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/12/2023	18.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	5/15/2023	6.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/18/2023	8.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/21/2023	8.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/24/2023	8.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/27/2023	7.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	5/30/2023	13.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/2/2023	13.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/5/2023	15.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/8/2023	16.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/11/2023	4.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/14/2023	11.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/17/2023	22.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/20/2023	17.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/23/2023	23.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/26/2023	29.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	7/2/2023	12.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/5/2023	15.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/8/2023	7.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/11/2023	7.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/14/2023	5.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/17/2023	15.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/20/2023	9.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/23/2023	10.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/26/2023	19.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	7/29/2023	5.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	8/1/2023	10.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/4/2023	7.7	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/7/2023	14.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/10/2023	15.1	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/13/2023	4.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/16/2023	9.9	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/19/2023	15.1	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310052	8/22/2023	17.9	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T2
170310052	8/25/2023	4.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/28/2023	13.0	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/31/2023	6.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	7/2/2024	7.2	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/5/2024	10.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/8/2024	9.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/11/2024	9.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/14/2024	6.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/17/2024	7.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/20/2024	12.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/23/2024	17.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/26/2024	7.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/29/2024	8.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/1/2025	6.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/2/2025	11.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/3/2025	15.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/4/2025	27.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/5/2025	59.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/6/2025	35.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/7/2025	27.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/8/2025	26.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/9/2025	18.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/10/2025	20.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/11/2025	24.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/12/2025	26.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	6/13/2025	23.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	6/14/2025	13.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/15/2025	10.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/16/2025	14.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/17/2025	10.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/18/2025	7.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/19/2025	9.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/20/2025	8.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/21/2025	10.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/22/2025	12.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/23/2025	12.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/24/2025	6.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/25/2025	6.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310052	6/26/2025	11.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/27/2025	5.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/28/2025	4.4	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/29/2025	8.4	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	6/30/2025	5.9	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/1/2025	8.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/2/2025	14.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/3/2025	11.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/4/2025	79.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	7/5/2025	17.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/6/2025	8.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/7/2025	17.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/8/2025	19.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	7/9/2025	10.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/10/2025	8.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/11/2025	7.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/12/2025	6.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/13/2025	24.6	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	7/14/2025	39.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	7/15/2025	25.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	7/16/2025	7.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/17/2025	3.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/18/2025	6.3	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/19/2025	7.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/20/2025	10.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/21/2025	34.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	7/22/2025	26.1	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	7/23/2025	18.7	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T2
170310052	7/24/2025	10.4	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/25/2025	6.5	No	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/26/2025	6.4	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/27/2025	7.5	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/28/2025	9.0	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/29/2025	11.2	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/30/2025	11.8	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	
170310052	7/31/2025	73.9	Yes	MAYFAIR PUMP STATION	Cook	26.1	17.4	T1
170310052	8/1/2025	47.6	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1
170310052	8/2/2025	28.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1
170310052	8/3/2025	35.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310052	8/4/2025	26.1	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1
170310052	8/5/2025	34.1	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1
170310052	8/6/2025	32.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T1
170310052	8/7/2025	18.4	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T2
170310052	8/8/2025	15.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/9/2025	14.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/10/2025	10.6	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/11/2025	8.9	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/12/2025	7.8	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/13/2025	12.6	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/14/2025	19.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T2
170310052	8/15/2025	21.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	T2
170310052	8/16/2025	11.8	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/17/2025	5.2	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/18/2025	8.4	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/19/2025	4.6	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/20/2025	3.0	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/21/2025	3.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/22/2025	7.4	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/23/2025	6.0	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/24/2025	3.5	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/25/2025	3.5	No	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/26/2025	5.5	No	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/27/2025	6.9	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/28/2025	5.5	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/29/2025	2.7	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/30/2025	4.1	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	
170310052	8/31/2025	6.3	Yes	MAYFAIR PUMP STATION	Cook	23.6	15.7	

Table A-3. Studied episode monitor-level observation data and Tier classification for Springfield Pump Station monitor (170310057).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310057	5/6/2023	9.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	5/12/2023	19.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	5/18/2023	7.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	5/24/2023	9.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	5/30/2023	13.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	6/5/2023	17.4	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/11/2023	4.6	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/17/2023	24.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/23/2023	22.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/29/2023	54.3	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	7/5/2023	16.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/11/2023	7.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/17/2023	15.3	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/23/2023	11.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/29/2023	5.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/4/2023	14.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/10/2023	15.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/16/2023	10.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/22/2023	18.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	8/28/2023	13.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/5/2024	10.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/11/2024	9.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/17/2024	8.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/23/2024	16.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/29/2024	6.9	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	6/1/2025	6.7	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/2/2025	10.8	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/3/2025	15.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/4/2025	24.4	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/5/2025	58.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/6/2025	34.7	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/7/2025	26.1	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/8/2025	27.1	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/9/2025	18.3	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/10/2025	19.2	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/11/2025	24.0	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310057	6/12/2025	27.6	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/13/2025	27.0	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T1
170310057	6/14/2025	15.0	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/15/2025	10.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/16/2025	14.6	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/17/2025	10.3	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/18/2025	8.3	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/19/2025	10.7	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/20/2025	8.1	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/21/2025	11.0	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/22/2025	13.2	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/23/2025	13.2	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	T2
170310057	6/24/2025	6.9	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/25/2025	6.8	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/26/2025	11.6	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/27/2025	6.0	Yes	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/28/2025	5.0	No	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/29/2025	8.4	No	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	6/30/2025	6.1	No	SPRINGFIELD PUMP STATION	Cook	19.5	13.0	
170310057	7/1/2025	7.9	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/2/2025	14.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/3/2025	12.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/4/2025	54.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	7/5/2025	17.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/6/2025	9.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/7/2025	17.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/8/2025	20.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/9/2025	11.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/10/2025	8.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/11/2025	8.3	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/12/2025	6.3	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/13/2025	24.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/14/2025	39.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	7/15/2025	23.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/16/2025	7.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/17/2025	3.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/18/2025	6.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/19/2025	7.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/20/2025	10.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310057	7/21/2025	31.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	7/22/2025	26.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	7/23/2025	18.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	7/24/2025	10.5	No	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/25/2025	7.0	No	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/26/2025	7.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/27/2025	8.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/28/2025	9.3	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/29/2025	10.9	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/30/2025	12.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	7/31/2025	72.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/1/2025	46.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/2/2025	26.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/3/2025	35.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/4/2025	21.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	8/5/2025	34.3	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/6/2025	32.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T1
170310057	8/7/2025	17.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	8/8/2025	15.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/9/2025	13.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/10/2025	10.9	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/11/2025	8.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/12/2025	8.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/13/2025	13.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/14/2025	20.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	8/15/2025	21.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	T2
170310057	8/16/2025	12.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/17/2025	5.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/18/2025	8.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/19/2025	5.8	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/20/2025	3.2	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/21/2025	3.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/22/2025	8.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/23/2025	6.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/24/2025	3.5	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/25/2025	3.4	No	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/26/2025	5.3	No	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/27/2025	7.1	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/28/2025	5.6	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310057	8/29/2025	2.7	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/30/2025	4.4	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	
170310057	8/31/2025	7.0	Yes	SPRINGFIELD PUMP STATION	Cook	24.2	16.1	

Table A-4. Studied episode monitor-level observation data and Tier classification for Kingery Near Road #1 monitor (170310119).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	5/1/2023	1.6	No	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/2/2023	2.9	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/3/2023	6.8	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/4/2023	8.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/5/2023	5.0	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/6/2023	7.9	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/7/2023	12.6	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/8/2023	10.1	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/9/2023	6.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/10/2023	11.1	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/11/2023	11.3	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/12/2023	17.2	Yes	Kingery Near Road #1	Cook	24.8	16.5	T2
170310119	5/13/2023	21.0	Yes	Kingery Near Road #1	Cook	24.8	16.5	T2
170310119	5/14/2023	8.9	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/15/2023	7.1	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/16/2023	10.3	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/17/2023	4.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/18/2023	7.5	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/19/2023	23.6	Yes	Kingery Near Road #1	Cook	24.8	16.5	T2
170310119	5/20/2023	9.5	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/21/2023	8.6	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/22/2023	10.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/23/2023	11.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/24/2023	12.2	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/25/2023	5.6	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/26/2023	7.1	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/27/2023	6.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/28/2023	7.8	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/29/2023	10.4	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/30/2023	14.9	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	5/31/2023	7.5	Yes	Kingery Near Road #1	Cook	24.8	16.5	
170310119	6/1/2023	9.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/2/2023	15.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/3/2023	16.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/4/2023	19.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/5/2023	19.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/6/2023	28.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/7/2023	21.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/8/2023	25.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/9/2023	19.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/10/2023	14.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/11/2023	6.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/12/2023	6.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/13/2023	11.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/14/2023	14.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	6/15/2023	18.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/16/2023	12.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/17/2023	30.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/18/2023	29.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/19/2023	23.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/20/2023	20.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/21/2023	21.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/22/2023	21.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/23/2023	24.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/24/2023	17.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/25/2023	8.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/26/2023	34.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/27/2023	135.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/28/2023	117.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/29/2023	50.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/30/2023	25.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/1/2023	19.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/2/2023	7.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/3/2023	13.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/4/2023	17.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/5/2023	10.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/6/2023	11.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/7/2023	11.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/8/2023	6.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/9/2023	8.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/10/2023	7.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/11/2023	9.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/12/2023	5.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/13/2023	8.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/14/2023	7.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/15/2023	17.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/16/2023	54.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/17/2023	26.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/18/2023	8.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/19/2023	8.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/20/2023	10.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/21/2023	7.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/22/2023	12.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/23/2023	12.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/24/2023	32.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/25/2023	53.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/26/2023	19.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/27/2023	14.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/28/2023	11.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/29/2023	4.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/30/2023	6.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/31/2023	8.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	8/1/2023	10.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/2/2023	12.8	Yes	Kingery Near Road #1	Cook	24.0	16.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	8/3/2023	14.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/4/2023	15.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/5/2023	19.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/6/2023	9.9	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/7/2023	7.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/8/2023	15.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/9/2023	17.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/10/2023	16.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/11/2023	10.6	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/12/2023	4.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/13/2023	4.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/14/2023	5.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/15/2023	13.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/16/2023	13.6	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/17/2023	12.2	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/18/2023	22.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/19/2023	19.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/20/2023	14.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/21/2023	23.2	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/22/2023	19.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/23/2023	18.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/24/2023	17.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/25/2023	5.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/26/2023	5.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/27/2023	6.6	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/28/2023	16.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/29/2023	13.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/30/2023	3.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/31/2023	5.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	7/1/2024	4.8	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/2/2024	4.2	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/3/2024	4.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/4/2024	16.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/5/2024	6.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/6/2024	10.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/7/2024	10.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/8/2024	9.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/9/2024	7.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/10/2024	7.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/11/2024	11.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/12/2024	11.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/13/2024	10.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/14/2024	5.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/15/2024	6.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/16/2024	7.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/17/2024	9.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/18/2024	4.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/19/2024	10.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/20/2024	14.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	7/21/2024	13.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/22/2024	10.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/23/2024	14.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/24/2024	12.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/25/2024	6.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/26/2024	8.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/27/2024	9.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/28/2024	9.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/29/2024	6.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/30/2024	7.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/31/2024	6.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/1/2025	8.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/2/2025	10.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/3/2025	15.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/4/2025	29.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/5/2025	53.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/6/2025	35.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/7/2025	24.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/8/2025	24.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/9/2025	18.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/10/2025	16.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/11/2025	21.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	6/12/2025	26.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/13/2025	26.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	6/14/2025	16.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/15/2025	11.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/16/2025	14.9	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/17/2025	7.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/18/2025	6.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/19/2025	6.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/20/2025	7.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/21/2025	9.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/22/2025	11.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/23/2025	11.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/24/2025	8.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/25/2025	6.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/26/2025	7.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/27/2025	5.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/28/2025	5.8	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/29/2025	6.3	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	6/30/2025	4.8	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/1/2025	7.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/2/2025	12.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/3/2025	11.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/4/2025	14.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/5/2025	13.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/6/2025	7.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/7/2025	15.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/8/2025	18.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	7/9/2025	8.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/10/2025	8.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/11/2025	6.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/12/2025	4.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/13/2025	19.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/14/2025	33.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	7/15/2025	15.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/16/2025	6.4	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/17/2025	3.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/18/2025	6.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/19/2025	5.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/20/2025	5.8	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/21/2025	18.5	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/22/2025	22.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	T2
170310119	7/23/2025	13.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/24/2025	8.8	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/25/2025	5.3	No	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/26/2025	6.1	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/27/2025	6.7	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/28/2025	8.3	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/29/2025	9.2	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/30/2025	13.6	Yes	Kingery Near Road #1	Cook	25.2	16.8	
170310119	7/31/2025	57.0	Yes	Kingery Near Road #1	Cook	25.2	16.8	T1
170310119	8/1/2025	45.0	Yes	Kingery Near Road #1	Cook	24.0	16.0	T1
170310119	8/2/2025	24.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	T1
170310119	8/3/2025	27.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	T1
170310119	8/4/2025	15.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/5/2025	28.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	T1
170310119	8/6/2025	24.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	T1
170310119	8/7/2025	11.6	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/8/2025	11.8	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/9/2025	10.1	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/10/2025	8.4	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/11/2025	8.0	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/12/2025	8.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/13/2025	12.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/14/2025	19.8	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/15/2025	16.8	Yes	Kingery Near Road #1	Cook	24.0	16.0	T2
170310119	8/16/2025	10.2	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/17/2025	5.0	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/18/2025	5.9	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/19/2025	4.9	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/20/2025	3.2	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/21/2025	4.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/22/2025	6.5	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/23/2025	5.3	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/24/2025	3.7	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/25/2025	3.6	No	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/26/2025	5.6	No	Kingery Near Road #1	Cook	24.0	16.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170310119	8/27/2025	6.9	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/28/2025	6.2	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/29/2025	3.6	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/30/2025	5.0	Yes	Kingery Near Road #1	Cook	24.0	16.0	
170310119	8/31/2025	7.9	Yes	Kingery Near Road #1	Cook	24.0	16.0	

Table A-5. Studied episode monitor-level observation data and Tier classification for IEPA Trailer (170313103).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	5/1/2023	1.6	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/2/2023	1.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/3/2023	4.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/4/2023	7.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/5/2023	4.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/6/2023	7.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/7/2023	11.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/8/2023	5.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/9/2023	4.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/10/2023	8.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/11/2023	9.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/12/2023	14.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/13/2023	8.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/14/2023	5.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/15/2023	6.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/16/2023	8.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/17/2023	3.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/18/2023	7.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/19/2023	21.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	5/20/2023	6.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/21/2023	7.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/22/2023	9.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/23/2023	9.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/24/2023	8.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/25/2023	3.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/26/2023	4.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/27/2023	4.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/28/2023	5.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/29/2023	6.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/30/2023	8.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	5/31/2023	9.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/1/2023	13.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/2/2023	10.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/3/2023	11.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/4/2023	18.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/5/2023	15.1	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	6/6/2023	20.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/7/2023	14.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/8/2023	16.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/9/2023	15.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/10/2023	13.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/11/2023	4.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/12/2023	5.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/13/2023	8.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/14/2023	13.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/15/2023	16.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/16/2023	10.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/17/2023	25.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/18/2023	25.0	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/19/2023	19.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/20/2023	16.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/21/2023	16.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/22/2023	19.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/23/2023	21.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/24/2023	14.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/25/2023	8.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/26/2023	28.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/27/2023	118.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/28/2023	102.4	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/29/2023	53.0	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/30/2023	23.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/1/2023	17.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/2/2023	9.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/3/2023	11.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/4/2023	26.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/5/2023	12.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/6/2023	8.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/7/2023	7.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/8/2023	5.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/11/2023	7.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/13/2023	8.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/14/2023	6.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/15/2023	22.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/16/2023	47.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/17/2023	17.7	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	7/18/2023	6.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/19/2023	8.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/20/2023	10.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/21/2023	7.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/22/2023	10.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/23/2023	12.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/24/2023	40.5	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/25/2023	54.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/26/2023	20.0	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/27/2023	12.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/28/2023	10.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/29/2023	5.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/30/2023	7.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/31/2023	8.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/1/2023	10.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/2/2023	12.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/3/2023	16.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/4/2023	16.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/5/2023	18.3	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/6/2023	11.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/7/2023	8.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/8/2023	16.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/9/2023	18.3	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/10/2023	17.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/11/2023	10.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/12/2023	4.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/13/2023	4.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/14/2023	5.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/15/2023	12.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/16/2023	11.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/17/2023	11.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/18/2023	23.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/19/2023	18.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/20/2023	17.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/21/2023	21.4	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/22/2023	23.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/23/2023	20.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/24/2023	19.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/25/2023	5.7	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	8/26/2023	5.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/27/2023	5.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/28/2023	15.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/29/2023	13.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/30/2023	3.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/31/2023	5.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/1/2024	3.5	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/2/2024	4.9	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/3/2024	4.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/4/2024	34.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/5/2024	10.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/6/2024	8.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/7/2024	12.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/8/2024	9.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/9/2024	8.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/10/2024	9.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/11/2024	11.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/12/2024	11.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/13/2024	13.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/14/2024	6.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/15/2024	8.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/17/2024	9.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/18/2024	4.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/19/2024	9.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/20/2024	10.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/21/2024	11.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/22/2024	9.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/23/2024	21.5	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/24/2024	8.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/25/2024	6.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/26/2024	8.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/27/2024	12.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/28/2024	10.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/29/2024	7.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/30/2024	8.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/31/2024	8.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/1/2025	8.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/2/2025	10.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/3/2025	15.8	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	6/4/2025	25.4	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/5/2025	59.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/6/2025	34.9	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/7/2025	32.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/8/2025	27.5	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/9/2025	19.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/10/2025	21.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/11/2025	26.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	6/12/2025	29.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/13/2025	27.2	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	6/14/2025	15.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/15/2025	11.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/16/2025	16.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/17/2025	11.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/18/2025	9.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/19/2025	9.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/20/2025	8.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/21/2025	11.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/22/2025	13.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/23/2025	13.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/24/2025	7.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/25/2025	8.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/26/2025	12.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/27/2025	6.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/28/2025	5.9	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/29/2025	9.7	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	6/30/2025	6.7	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/1/2025	10.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/2/2025	14.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/3/2025	14.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/4/2025	25.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/5/2025	17.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/6/2025	9.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/7/2025	21.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/8/2025	20.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/9/2025	12.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/10/2025	10.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/11/2025	8.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/12/2025	6.7	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	7/13/2025	28.5	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/14/2025	38.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/15/2025	22.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/16/2025	8.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/17/2025	4.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/18/2025	8.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/19/2025	7.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/20/2025	10.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/21/2025	37.7	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/22/2025	28.3	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	7/23/2025	19.9	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	7/24/2025	12.2	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/25/2025	7.3	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/26/2025	6.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/27/2025	9.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/28/2025	10.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/29/2025	11.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/30/2025	13.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	7/31/2025	79.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/1/2025	50.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/2/2025	31.1	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/3/2025	39.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/4/2025	29.3	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/5/2025	33.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/6/2025	35.8	Yes	IEPA TRAILER	Cook	27.0	18.0	T1
170313103	8/7/2025	17.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/8/2025	15.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/9/2025	13.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/10/2025	10.9	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/11/2025	10.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/12/2025	9.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/13/2025	14.8	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/14/2025	20.6	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/15/2025	21.0	Yes	IEPA TRAILER	Cook	27.0	18.0	T2
170313103	8/16/2025	13.3	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/17/2025	5.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/18/2025	8.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/19/2025	5.7	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/20/2025	3.3	Yes	IEPA TRAILER	Cook	27.0	18.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313103	8/21/2025	3.6	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/22/2025	9.2	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/23/2025	6.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/24/2025	3.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/25/2025	4.3	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/26/2025	6.6	No	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/27/2025	8.4	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/28/2025	6.5	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/29/2025	3.0	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/30/2025	4.1	Yes	IEPA TRAILER	Cook	27.0	18.0	
170313103	8/31/2025	6.1	Yes	IEPA TRAILER	Cook	27.0	18.0	

Table A-6. Studied episode monitor-level observation data and Tier classification for Graves ES monitor (170313301).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313301	5/3/2023	4.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/6/2023	8.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/9/2023	5.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/12/2023	20.5	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	5/17/2023	4.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/18/2023	7.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/19/2023	19.4	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	5/21/2023	8.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/24/2023	11.4	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/27/2023	8.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	5/30/2023	13.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/2/2023	14.0	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/5/2023	17.5	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/8/2023	17.2	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/11/2023	5.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/14/2023	13.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/17/2023	24.8	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/20/2023	18.8	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/21/2023	21.1	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/23/2023	23.5	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/28/2023	22.8	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/29/2023	48.3	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/2/2023	8.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/5/2023	11.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/8/2023	7.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/14/2023	5.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/15/2023	16.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/17/2023	16.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/20/2023	9.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/23/2023	11.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/26/2023	17.0	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	7/29/2023	5.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	8/2/2023	10.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/4/2023	14.1	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/9/2023	15.8	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/10/2023	14.1	Yes	GRAVES ES	Cook	24.0	16.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313301	8/12/2023	5.0	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/13/2023	5.2	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/16/2023	9.9	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/19/2023	14.1	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/22/2023	19.0	Yes	GRAVES ES	Cook	24.0	16.0	T2
170313301	8/25/2023	5.2	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/28/2023	16.7	Yes	GRAVES ES	Cook	24.0	16.0	T2
170313301	8/31/2023	6.8	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	7/2/2024	5.6	No	GRAVES ES	Cook	25.5	17.0	
170313301	7/5/2024	6.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/8/2024	9.0	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/11/2024	10.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/14/2024	5.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/17/2024	8.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/20/2024	13.0	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/23/2024	14.6	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/26/2024	9.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/29/2024	6.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/1/2025	9.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/2/2025	9.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/3/2025	15.4	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/4/2025	20.1	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/5/2025	53.3	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/6/2025	39.9	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/7/2025	28.1	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/8/2025	25.8	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/9/2025	19.0	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/10/2025	20.0	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/11/2025	24.5	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/12/2025	30.7	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/13/2025	32.6	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	6/14/2025	18.2	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	6/15/2025	12.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/16/2025	16.9	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/17/2025	8.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/18/2025	8.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/19/2025	8.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/20/2025	9.0	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/21/2025	10.8	Yes	GRAVES ES	Cook	25.5	17.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313301	6/22/2025	13.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/23/2025	13.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/24/2025	9.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/25/2025	10.0	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/26/2025	11.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/27/2025	6.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	6/28/2025	5.8	No	GRAVES ES	Cook	25.5	17.0	
170313301	6/29/2025	8.4	No	GRAVES ES	Cook	25.5	17.0	
170313301	6/30/2025	6.4	No	GRAVES ES	Cook	25.5	17.0	
170313301	7/1/2025	8.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/2/2025	15.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/3/2025	13.5	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/4/2025	28.1	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/5/2025	16.6	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/6/2025	9.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/7/2025	21.3	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	7/8/2025	21.2	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	7/9/2025	13.4	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/10/2025	11.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/11/2025	8.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/12/2025	6.3	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/13/2025	25.9	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/14/2025	33.9	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/15/2025	19.5	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	7/16/2025	7.4	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/17/2025	4.2	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/18/2025	9.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/19/2025	5.9	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/20/2025	9.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/21/2025	29.5	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/22/2025	27.4	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	7/23/2025	17.8	Yes	GRAVES ES	Cook	25.5	17.0	T2
170313301	7/24/2025	10.7	No	GRAVES ES	Cook	25.5	17.0	
170313301	7/25/2025	8.5	No	GRAVES ES	Cook	25.5	17.0	
170313301	7/26/2025	5.4	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/27/2025	8.7	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/28/2025	9.1	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/29/2025	11.8	Yes	GRAVES ES	Cook	25.5	17.0	
170313301	7/30/2025	13.9	Yes	GRAVES ES	Cook	25.5	17.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170313301	7/31/2025	70.0	Yes	GRAVES ES	Cook	25.5	17.0	T1
170313301	8/1/2025	50.9	Yes	GRAVES ES	Cook	24.0	16.0	T1
170313301	8/2/2025	26.7	Yes	GRAVES ES	Cook	24.0	16.0	T1
170313301	8/3/2025	33.0	Yes	GRAVES ES	Cook	24.0	16.0	T1
170313301	8/4/2025	21.2	Yes	GRAVES ES	Cook	24.0	16.0	T2
170313301	8/5/2025	32.0	Yes	GRAVES ES	Cook	24.0	16.0	T1
170313301	8/6/2025	32.6	Yes	GRAVES ES	Cook	24.0	16.0	T1
170313301	8/7/2025	14.1	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/8/2025	13.8	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/9/2025	12.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/10/2025	9.9	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/11/2025	8.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/12/2025	8.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/13/2025	14.4	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/14/2025	21.0	Yes	GRAVES ES	Cook	24.0	16.0	T2
170313301	8/15/2025	18.5	Yes	GRAVES ES	Cook	24.0	16.0	T2
170313301	8/16/2025	11.3	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/19/2025	5.4	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/20/2025	3.4	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/21/2025	4.2	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/22/2025	10.2	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/23/2025	5.9	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/24/2025	3.6	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/25/2025	4.0	No	GRAVES ES	Cook	24.0	16.0	
170313301	8/26/2025	5.4	No	GRAVES ES	Cook	24.0	16.0	
170313301	8/27/2025	7.1	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/28/2025	6.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/29/2025	4.5	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/30/2025	5.4	Yes	GRAVES ES	Cook	24.0	16.0	
170313301	8/31/2025	8.8	Yes	GRAVES ES	Cook	24.0	16.0	

Table A-7. Studied episode monitor-level observation data and Tier classification for Liberty School monitor (170316005).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170316005	5/6/2023	9.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	5/12/2023	23.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	5/19/2023	22.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	5/26/2023	5.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	5/30/2023	13.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	6/5/2023	16.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/14/2023	11.3	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/17/2023	24.0	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/23/2023	21.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/29/2023	53.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	7/5/2023	13.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/11/2023	9.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/17/2023	16.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/23/2023	10.6	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/29/2023	5.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/4/2023	13.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/10/2023	14.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/16/2023	10.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/22/2023	19.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/28/2023	14.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/5/2024	9.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/11/2024	10.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/17/2024	9.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/23/2024	16.8	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	6/1/2025	7.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/2/2025	9.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/3/2025	15.4	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/4/2025	22.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/5/2025	58.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/6/2025	37.7	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/7/2025	27.5	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/8/2025	27.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/9/2025	18.3	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/10/2025	19.0	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/11/2025	24.3	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/12/2025	28.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170316005	6/13/2025	29.4	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T1
170316005	6/14/2025	16.5	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/15/2025	12.1	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/16/2025	16.8	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	T2
170316005	6/17/2025	9.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/18/2025	8.6	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/19/2025	11.0	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/20/2025	8.0	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/21/2025	10.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/22/2025	13.1	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/23/2025	13.1	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/24/2025	7.2	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/25/2025	7.6	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/26/2025	10.9	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/27/2025	6.0	Yes	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/28/2025	4.8	No	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/29/2025	8.2	No	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	6/30/2025	5.8	No	LIBERTY SCHOOL	Cook	19.8	13.2	
170316005	7/1/2025	7.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/2/2025	13.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/3/2025	12.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/4/2025	40.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	7/5/2025	16.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/6/2025	8.6	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/7/2025	19.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/8/2025	20.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/9/2025	11.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/10/2025	8.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/11/2025	8.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/12/2025	5.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/13/2025	23.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	7/14/2025	34.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	7/15/2025	20.8	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	7/16/2025	7.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/17/2025	3.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/18/2025	7.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/19/2025	6.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/20/2025	9.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/21/2025	29.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170316005	7/22/2025	28.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	7/23/2025	17.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	7/24/2025	10.2	No	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/25/2025	6.2	No	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/26/2025	6.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/27/2025	8.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/28/2025	8.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/29/2025	11.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/30/2025	12.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	7/31/2025	70.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/1/2025	47.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/2/2025	25.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/3/2025	34.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/4/2025	20.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/5/2025	33.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/6/2025	34.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T1
170316005	8/7/2025	16.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/8/2025	14.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/9/2025	13.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/10/2025	10.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/11/2025	8.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/12/2025	7.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/13/2025	12.8	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/14/2025	20.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/15/2025	19.8	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	T2
170316005	8/16/2025	11.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/17/2025	5.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/18/2025	7.6	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/19/2025	4.9	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/20/2025	3.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/21/2025	3.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/22/2025	7.8	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/23/2025	5.5	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/24/2025	3.3	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/25/2025	3.5	No	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/26/2025	5.4	No	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/27/2025	6.1	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/28/2025	6.7	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/29/2025	3.2	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170316005	8/30/2025	5.4	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	
170316005	8/31/2025	7.0	Yes	LIBERTY SCHOOL	Cook	20.6	13.7	

Table A-8. Studied episode monitor-level observation data and Tier classification for City Hall monitor (170434002).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	5/1/2023	1.1	No	CITY HALL	DuPage	24.2	16.1	
170434002	5/2/2023	2.0	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/3/2023	4.3	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/4/2023	7.9	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/5/2023	5.5	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/6/2023	8.5	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/7/2023	12.9	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/8/2023	9.2	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/9/2023	6.2	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/10/2023	7.6	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/11/2023	10.4	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/12/2023	16.1	Yes	CITY HALL	DuPage	24.2	16.1	T2
170434002	5/13/2023	14.5	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/14/2023	7.8	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/15/2023	6.8	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/16/2023	8.6	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/17/2023	4.1	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/18/2023	7.6	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/19/2023	21.6	Yes	CITY HALL	DuPage	24.2	16.1	T2
170434002	5/20/2023	8.5	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/21/2023	9.7	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/22/2023	10.2	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/23/2023	10.6	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/24/2023	12.0	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/25/2023	4.4	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/26/2023	6.5	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/27/2023	7.7	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/28/2023	7.4	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/29/2023	9.2	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/30/2023	11.8	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	5/31/2023	9.0	Yes	CITY HALL	DuPage	24.2	16.1	
170434002	6/1/2023	11.5	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/2/2023	14.5	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/3/2023	13.2	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/4/2023	26.0	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/5/2023	17.6	Yes	CITY HALL	DuPage	22.5	15.0	T2

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	6/6/2023	25.4	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/7/2023	15.7	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/8/2023	23.6	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/9/2023	15.6	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/10/2023	16.9	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/11/2023	6.0	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/12/2023	5.9	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/13/2023	9.5	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/14/2023	21.5	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/15/2023	26.9	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/16/2023	14.5	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/17/2023	33.0	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/18/2023	29.6	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/19/2023	25.2	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/20/2023	20.7	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/21/2023	21.9	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/22/2023	22.4	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/23/2023	29.6	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/24/2023	22.3	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/25/2023	8.9	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/26/2023	35.8	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/27/2023	157.2	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/28/2023	151.0	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/29/2023	65.4	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/30/2023	27.5	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	7/1/2023	16.5	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/2/2023	9.9	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/3/2023	13.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/4/2023	22.6	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/5/2023	14.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/6/2023	10.3	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/7/2023	10.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/8/2023	6.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/9/2023	8.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/10/2023	7.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/11/2023	9.9	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/12/2023	4.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/13/2023	5.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/28/2023	10.2	Yes	CITY HALL	DuPage	24.8	16.5	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	7/29/2023	6.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/30/2023	7.3	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/31/2023	7.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	8/1/2023	9.5	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/2/2023	10.8	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/3/2023	10.4	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/4/2023	16.7	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/5/2023	18.0	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/6/2023	11.9	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/7/2023	8.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/8/2023	14.4	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/9/2023	14.5	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/10/2023	13.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/11/2023	8.6	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/12/2023	4.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/13/2023	5.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/14/2023	3.8	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/15/2023	12.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/16/2023	8.8	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/17/2023	10.4	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/18/2023	21.5	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/19/2023	17.3	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/20/2023	16.6	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/21/2023	22.3	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/22/2023	21.2	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/23/2023	18.8	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/24/2023	18.2	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/25/2023	8.7	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/26/2023	5.6	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/27/2023	6.0	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/28/2023	14.7	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/29/2023	13.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/30/2023	3.6	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/31/2023	6.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	7/1/2024	5.3	No	CITY HALL	DuPage	24.8	16.5	
170434002	7/2/2024	4.9	No	CITY HALL	DuPage	24.8	16.5	
170434002	7/3/2024	4.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/4/2024	12.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/5/2024	7.6	Yes	CITY HALL	DuPage	24.8	16.5	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	7/6/2024	5.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/7/2024	12.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/8/2024	8.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/9/2024	8.1	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/10/2024	9.5	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/11/2024	12.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/12/2024	13.9	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/13/2024	12.5	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/14/2024	6.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/15/2024	7.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/16/2024	8.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/17/2024	9.4	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/18/2024	5.4	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/19/2024	8.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/20/2024	10.3	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/21/2024	11.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/22/2024	12.1	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/23/2024	17.0	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/24/2024	14.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/25/2024	8.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/26/2024	9.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/27/2024	12.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/28/2024	11.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/29/2024	6.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/30/2024	8.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/31/2024	7.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	6/1/2025	10.0	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/2/2025	10.3	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/3/2025	14.2	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/4/2025	14.6	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/5/2025	51.1	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/6/2025	35.6	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/7/2025	32.7	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/8/2025	23.5	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/9/2025	18.4	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/10/2025	19.2	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/11/2025	24.2	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/12/2025	28.6	Yes	CITY HALL	DuPage	22.5	15.0	T1
170434002	6/13/2025	29.2	Yes	CITY HALL	DuPage	22.5	15.0	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	6/14/2025	18.9	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/15/2025	14.8	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/16/2025	15.7	Yes	CITY HALL	DuPage	22.5	15.0	T2
170434002	6/17/2025	8.3	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/18/2025	6.5	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/19/2025	8.0	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/20/2025	7.6	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/21/2025	10.8	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/22/2025	12.6	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/23/2025	11.7	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/24/2025	7.4	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/25/2025	8.0	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/26/2025	10.4	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/27/2025	5.0	Yes	CITY HALL	DuPage	22.5	15.0	
170434002	6/28/2025	5.4	No	CITY HALL	DuPage	22.5	15.0	
170434002	6/29/2025	9.0	No	CITY HALL	DuPage	22.5	15.0	
170434002	6/30/2025	6.0	No	CITY HALL	DuPage	22.5	15.0	
170434002	7/1/2025	8.3	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/2/2025	13.1	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/3/2025	10.1	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/4/2025	17.7	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/5/2025	17.1	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/6/2025	7.8	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/7/2025	22.8	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/8/2025	18.6	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/9/2025	11.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/10/2025	10.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/11/2025	7.4	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/12/2025	6.6	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/13/2025	27.0	Yes	CITY HALL	DuPage	24.8	16.5	T1
170434002	7/14/2025	30.1	Yes	CITY HALL	DuPage	24.8	16.5	T1
170434002	7/15/2025	16.1	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/16/2025	6.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/17/2025	4.4	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/18/2025	3.9	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/19/2025	5.4	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/20/2025	7.5	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/21/2025	27.9	Yes	CITY HALL	DuPage	24.8	16.5	T1
170434002	7/22/2025	26.1	Yes	CITY HALL	DuPage	24.8	16.5	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	7/23/2025	17.1	Yes	CITY HALL	DuPage	24.8	16.5	T2
170434002	7/24/2025	8.6	No	CITY HALL	DuPage	24.8	16.5	
170434002	7/25/2025	6.6	No	CITY HALL	DuPage	24.8	16.5	
170434002	7/26/2025	4.2	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/27/2025	8.0	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/28/2025	8.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/29/2025	8.7	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/30/2025	10.9	Yes	CITY HALL	DuPage	24.8	16.5	
170434002	7/31/2025	65.2	Yes	CITY HALL	DuPage	24.8	16.5	T1
170434002	8/1/2025	48.4	Yes	CITY HALL	DuPage	24.0	16.0	T1
170434002	8/2/2025	28.0	Yes	CITY HALL	DuPage	24.0	16.0	T1
170434002	8/3/2025	32.2	Yes	CITY HALL	DuPage	24.0	16.0	T1
170434002	8/4/2025	23.4	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/5/2025	26.0	Yes	CITY HALL	DuPage	24.0	16.0	T1
170434002	8/6/2025	25.7	Yes	CITY HALL	DuPage	24.0	16.0	T1
170434002	8/7/2025	13.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/8/2025	13.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/9/2025	11.9	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/10/2025	9.5	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/11/2025	7.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/12/2025	7.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/13/2025	12.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/14/2025	17.8	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/15/2025	16.9	Yes	CITY HALL	DuPage	24.0	16.0	T2
170434002	8/16/2025	9.0	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/17/2025	6.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/18/2025	6.7	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/19/2025	4.3	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/20/2025	3.2	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/21/2025	3.9	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/22/2025	6.0	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/23/2025	4.9	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/24/2025	3.1	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/25/2025	2.9	No	CITY HALL	DuPage	24.0	16.0	
170434002	8/26/2025	4.4	No	CITY HALL	DuPage	24.0	16.0	
170434002	8/27/2025	5.0	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/28/2025	5.6	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/29/2025	4.6	Yes	CITY HALL	DuPage	24.0	16.0	
170434002	8/30/2025	6.5	Yes	CITY HALL	DuPage	24.0	16.0	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
170434002	8/31/2025	7.9	Yes	CITY HALL	DuPage	24.0	16.0	

Table A-9. Studied episode monitor-level observation data and Tier classification for Pershing School monitor (171971002).

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	5/5/2023	5.7	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/6/2023	8.0	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/7/2023	10.2	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/8/2023	9.9	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/9/2023	5.5	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/10/2023	7.5	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/11/2023	9.1	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/12/2023	13.0	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/13/2023	17.3	Yes	PERSHING SCHOOL	Will	23.0	15.3	T2
171971002	5/14/2023	8.0	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/15/2023	7.6	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/16/2023	8.8	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/17/2023	4.2	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/18/2023	7.6	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/19/2023	20.3	Yes	PERSHING SCHOOL	Will	23.0	15.3	T2
171971002	5/20/2023	9.3	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/21/2023	7.3	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/22/2023	9.1	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/23/2023	10.6	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/24/2023	13.8	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/25/2023	5.0	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/26/2023	6.5	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/27/2023	5.9	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/28/2023	6.7	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/29/2023	9.1	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/30/2023	10.8	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	5/31/2023	7.8	Yes	PERSHING SCHOOL	Will	23.0	15.3	
171971002	6/1/2023	11.2	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/2/2023	12.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/3/2023	13.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/4/2023	23.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/5/2023	17.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/6/2023	25.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/7/2023	17.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/8/2023	25.3	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/9/2023	14.7	Yes	PERSHING SCHOOL	Will	24.3	16.2	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	6/10/2023	17.2	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/11/2023	7.0	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/12/2023	6.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/13/2023	8.9	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/14/2023	19.9	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/15/2023	24.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/16/2023	14.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/17/2023	30.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/18/2023	29.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/19/2023	25.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/20/2023	21.7	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/21/2023	21.4	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/22/2023	22.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/23/2023	31.2	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/24/2023	22.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/25/2023	8.5	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/26/2023	33.4	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/27/2023	144.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/28/2023	169.3	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/29/2023	59.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/30/2023	26.3	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	7/1/2023	15.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/2/2023	8.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/3/2023	15.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/4/2023	19.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/5/2023	12.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/6/2023	9.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/7/2023	11.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/8/2023	6.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/9/2023	7.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/10/2023	8.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/11/2023	9.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/12/2023	5.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/13/2023	5.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/14/2023	6.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/15/2023	20.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/16/2023	56.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/17/2023	25.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/18/2023	6.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	7/19/2023	7.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/20/2023	10.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/21/2023	8.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/22/2023	10.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/23/2023	12.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/24/2023	36.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/25/2023	46.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/26/2023	19.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/27/2023	11.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/28/2023	12.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/29/2023	5.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/30/2023	7.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/31/2023	7.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/1/2023	9.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/2/2023	10.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/3/2023	12.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/4/2023	16.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/5/2023	17.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/6/2023	11.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/7/2023	8.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/8/2023	16.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/9/2023	17.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/10/2023	12.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/11/2023	10.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/12/2023	5.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/13/2023	4.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/14/2023	4.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/15/2023	13.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/16/2023	11.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/17/2023	11.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/18/2023	20.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/19/2023	17.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/20/2023	16.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/21/2023	26.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	8/22/2023	21.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/23/2023	21.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/24/2023	19.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/25/2023	8.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/26/2023	6.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	8/27/2023	5.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/28/2023	14.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/29/2023	14.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/30/2023	3.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/31/2023	5.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/1/2024	3.6	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/2/2024	4.1	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/3/2024	3.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/4/2024	11.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/5/2024	4.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/6/2024	6.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/7/2024	11.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/8/2024	8.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/9/2024	7.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/10/2024	9.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/11/2024	12.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/12/2024	13.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/13/2024	11.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/14/2024	5.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/15/2024	8.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/17/2024	9.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/18/2024	5.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/19/2024	8.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/20/2024	12.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/21/2024	11.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/22/2024	14.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/23/2024	16.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/24/2024	14.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/25/2024	7.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/26/2024	8.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/27/2024	12.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/28/2024	10.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/29/2024	6.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/30/2024	7.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/31/2024	6.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	6/1/2025	12.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/2/2025	9.5	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/3/2025	15.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/4/2025	14.3	Yes	PERSHING SCHOOL	Will	24.3	16.2	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	6/5/2025	48.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/6/2025	42.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/7/2025	32.8	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/8/2025	24.0	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/9/2025	19.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/10/2025	18.4	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/11/2025	24.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/12/2025	29.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/13/2025	28.2	Yes	PERSHING SCHOOL	Will	24.3	16.2	T1
171971002	6/14/2025	18.9	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/15/2025	13.7	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/16/2025	13.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/17/2025	8.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/18/2025	5.1	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/19/2025	8.4	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/20/2025	8.5	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/21/2025	11.5	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/22/2025	13.4	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/23/2025	19.9	Yes	PERSHING SCHOOL	Will	24.3	16.2	T2
171971002	6/24/2025	10.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/25/2025	8.0	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/26/2025	12.6	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/27/2025	8.5	Yes	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/28/2025	5.6	No	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/29/2025	8.4	No	PERSHING SCHOOL	Will	24.3	16.2	
171971002	6/30/2025	5.4	No	PERSHING SCHOOL	Will	24.3	16.2	
171971002	7/1/2025	8.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/2/2025	13.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/3/2025	12.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/4/2025	14.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/5/2025	16.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/6/2025	8.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/7/2025	22.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/8/2025	20.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/9/2025	10.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/10/2025	10.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/11/2025	7.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/12/2025	5.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/13/2025	25.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	7/14/2025	34.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/15/2025	18.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/16/2025	7.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/17/2025	4.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/18/2025	4.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/19/2025	5.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/20/2025	5.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/21/2025	21.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/22/2025	26.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	7/23/2025	17.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	7/24/2025	9.2	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/25/2025	4.9	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/26/2025	4.6	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/27/2025	7.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/28/2025	6.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/29/2025	9.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/30/2025	11.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	7/31/2025	62.5	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	8/1/2025	50.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	8/2/2025	24.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/3/2025	26.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	8/4/2025	16.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/5/2025	26.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	T1
171971002	8/6/2025	23.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/7/2025	12.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/8/2025	13.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/9/2025	11.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/10/2025	9.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/11/2025	9.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/12/2025	7.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/13/2025	12.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/14/2025	17.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/15/2025	21.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	T2
171971002	8/16/2025	9.9	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/17/2025	5.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/18/2025	7.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/19/2025	4.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/20/2025	3.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/21/2025	3.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	

Monitor	Date	24-hr PM2.5 (µg/m3)	HMS Smoke	Local Name	County	Tier 1 Threshold	Tier 2 Threshold	T1/T2 Identification
171971002	8/22/2025	5.8	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/23/2025	5.0	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/24/2025	3.4	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/25/2025	3.2	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/26/2025	4.9	No	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/27/2025	6.2	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/28/2025	5.7	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/29/2025	4.1	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/30/2025	5.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	
171971002	8/31/2025	7.3	Yes	PERSHING SCHOOL	Will	24.5	16.3	

Appendix B

HYSPLIT Back Trajectories for Select Tier 1 and Tier 2 Dates

Hysplit Trajectories for Exceptional Events

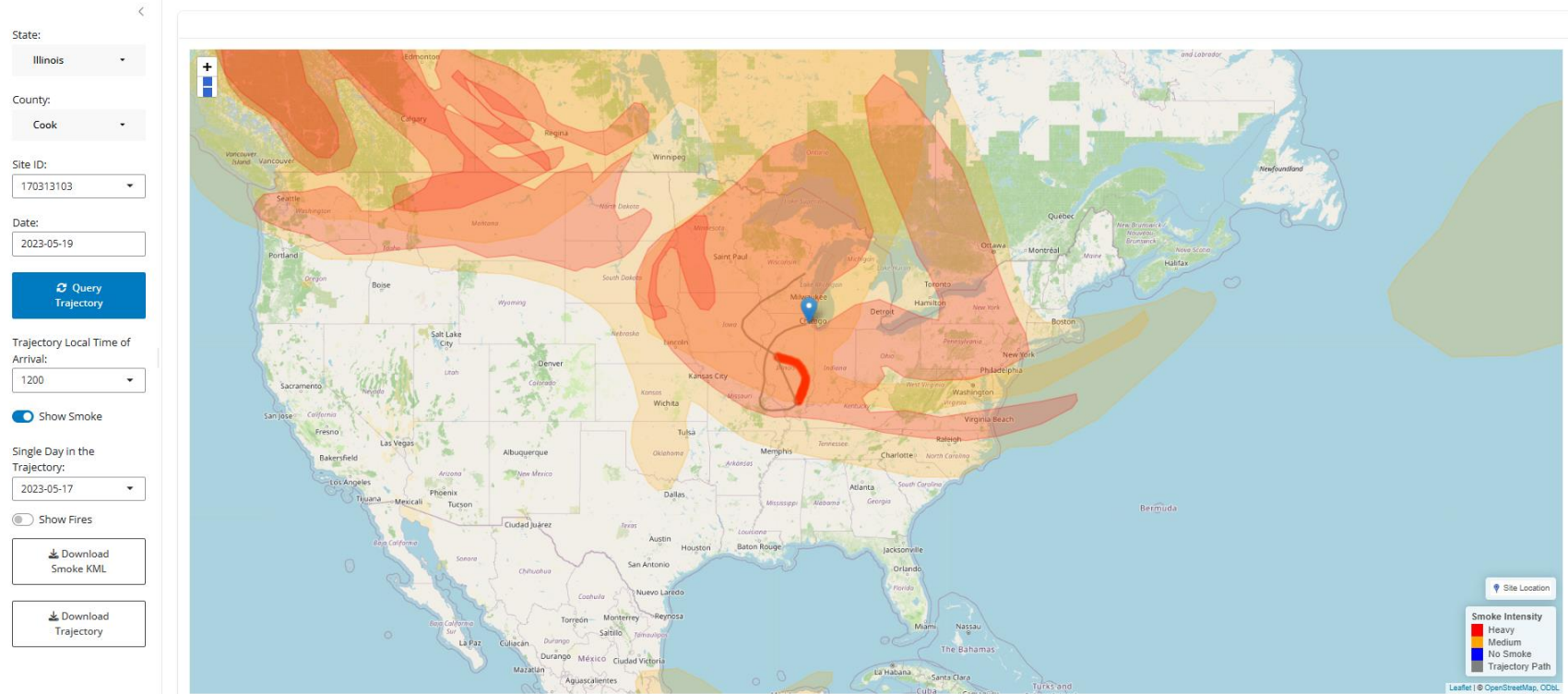


Figure B-1. HYSPLIT back trajectory from IEPA Trailer monitor on May 19, 2023.

Hysplit Trajectories for Exceptional Events

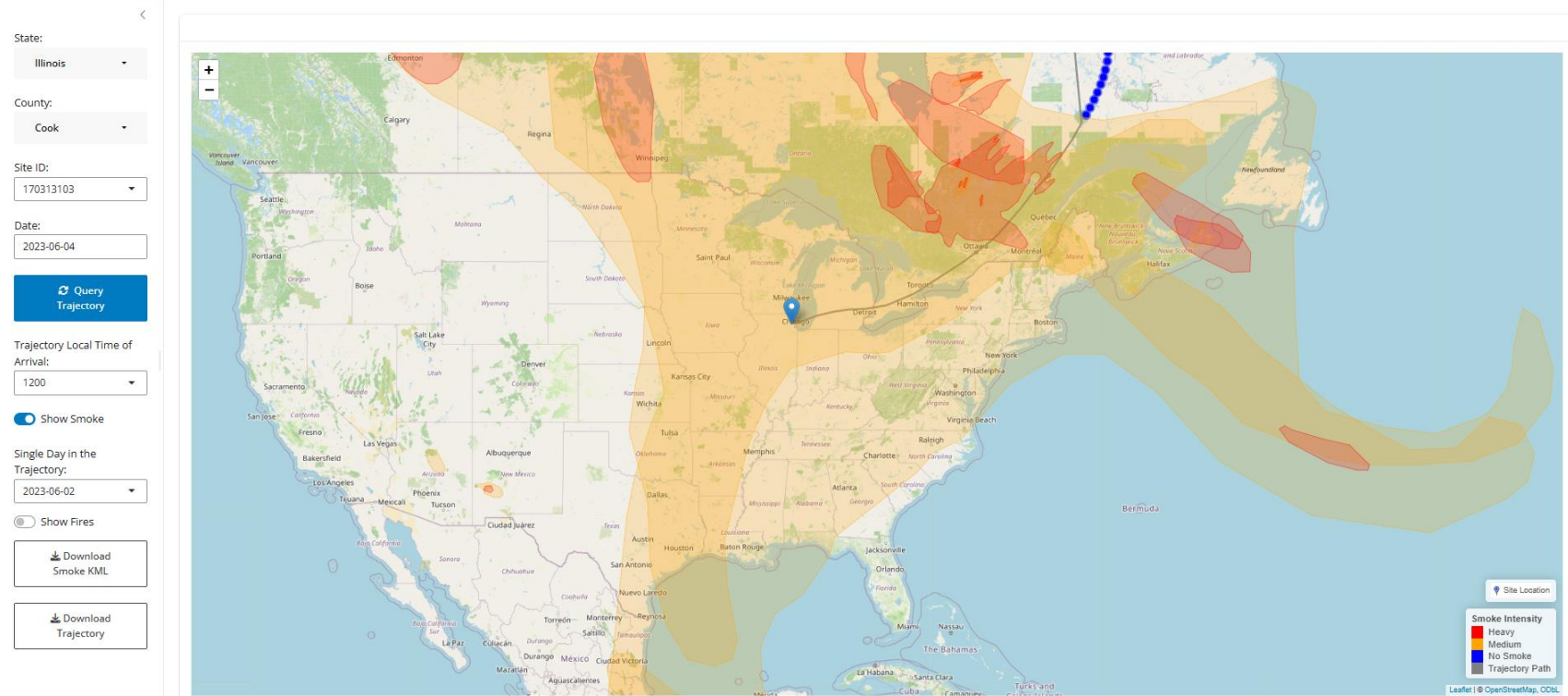


Figure B-2. HYSPLIT back trajectory from IEPA Trailer monitor on June 04, 2023.

Hysplit Trajectories for Exceptional Events

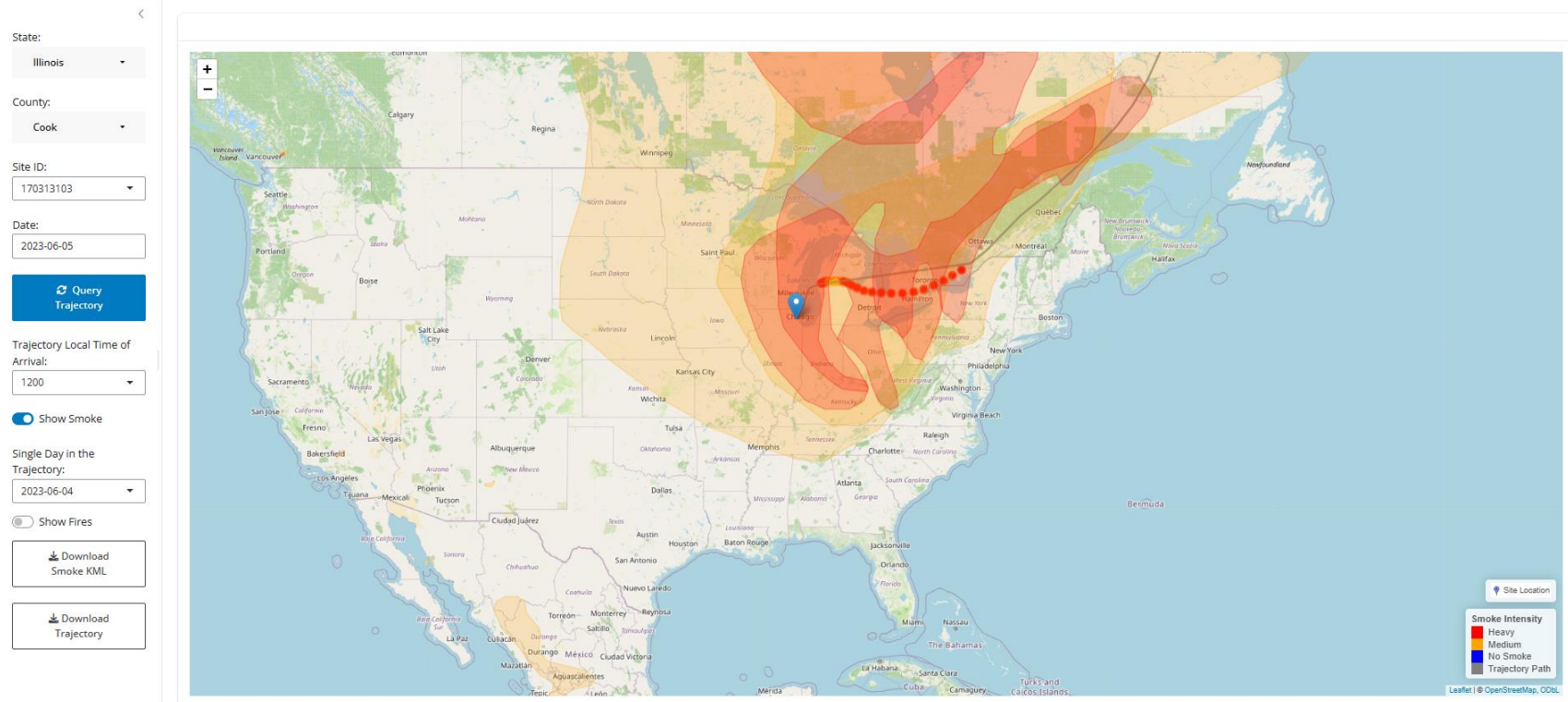


Figure B-3. HYSPLIT back trajectory from IEPA Trailer monitor on June 05, 2023.

Hysplit Trajectories for Exceptional Events

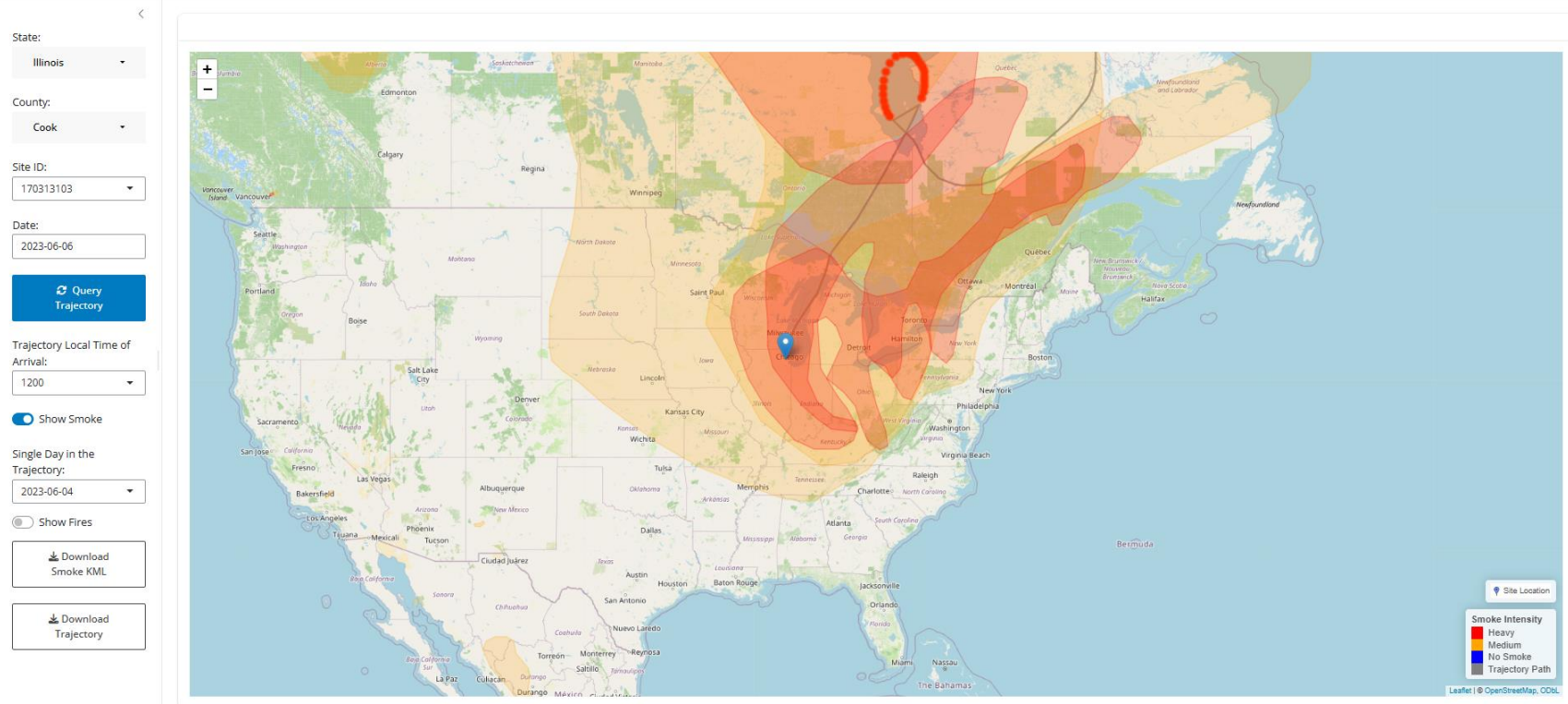


Figure B-4. HYSPLIT back trajectory from IEPA Trailer monitor on June 06, 2023.

Hysplit Trajectories for Exceptional Events

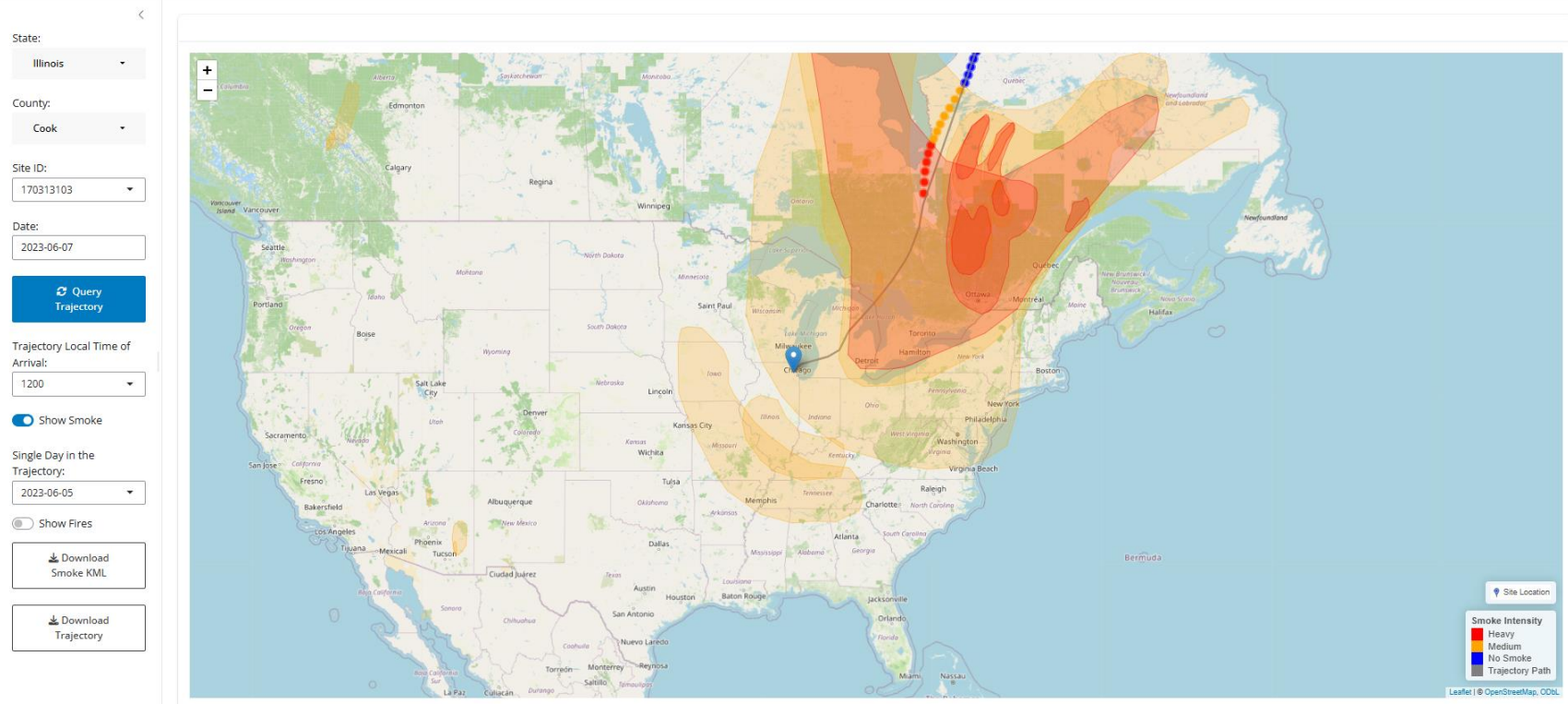


Figure B-5. HYSPLIT back trajectory from IEPA Trailer monitor on June 07, 2023.

Hysplit Trajectories for Exceptional Events

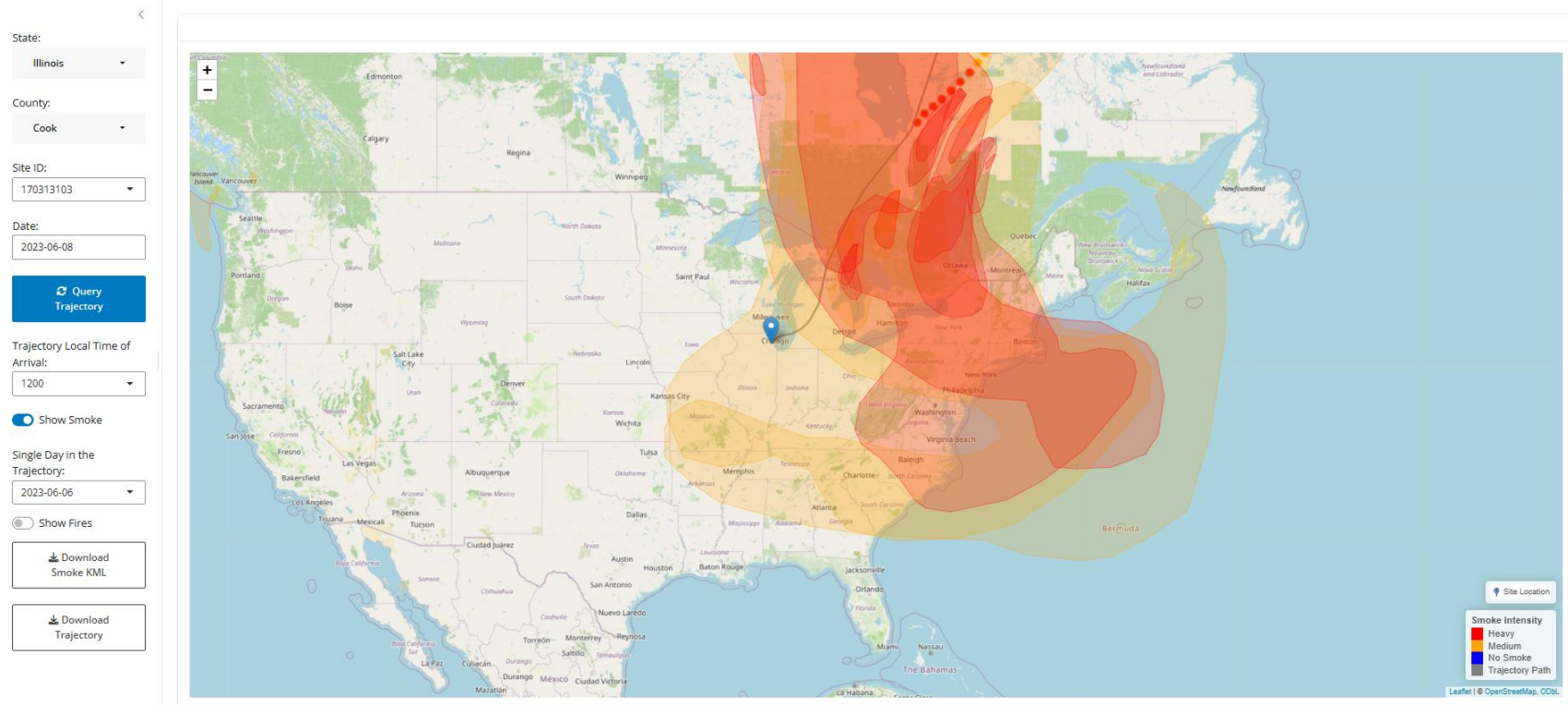


Figure B-6. HYSPLIT back trajectory from IEPA Trailer monitor on June 08, 2023.

Hysplit Trajectories for Exceptional Events

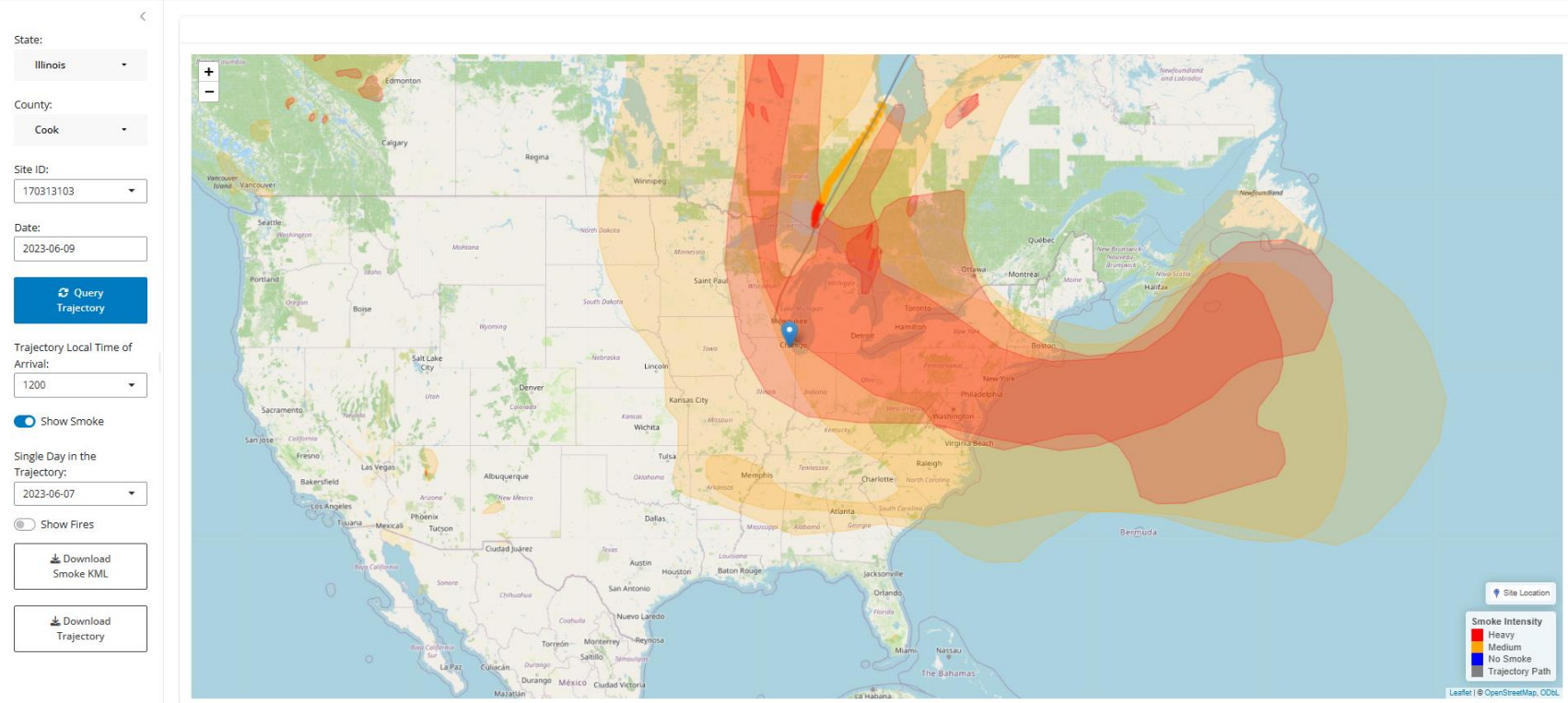


Figure B-7. HYSPLIT back trajectory from IEPA Trailer monitor on June 09, 2023.

Hysplit Trajectories for Exceptional Events

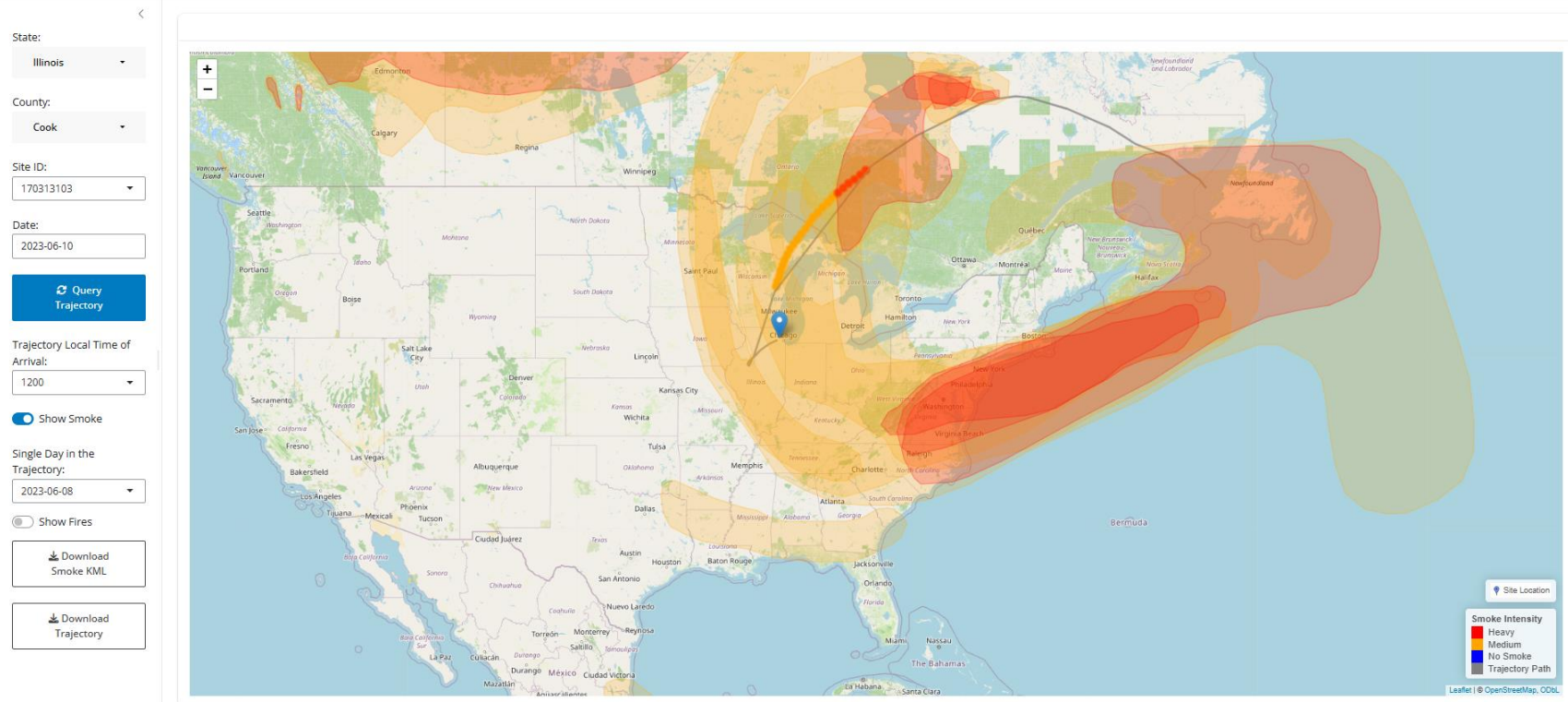


Figure B-8. HYSPLIT back trajectory from IEPA Trailer monitor on June 10, 2023.

Hysplit Trajectories for Exceptional Events

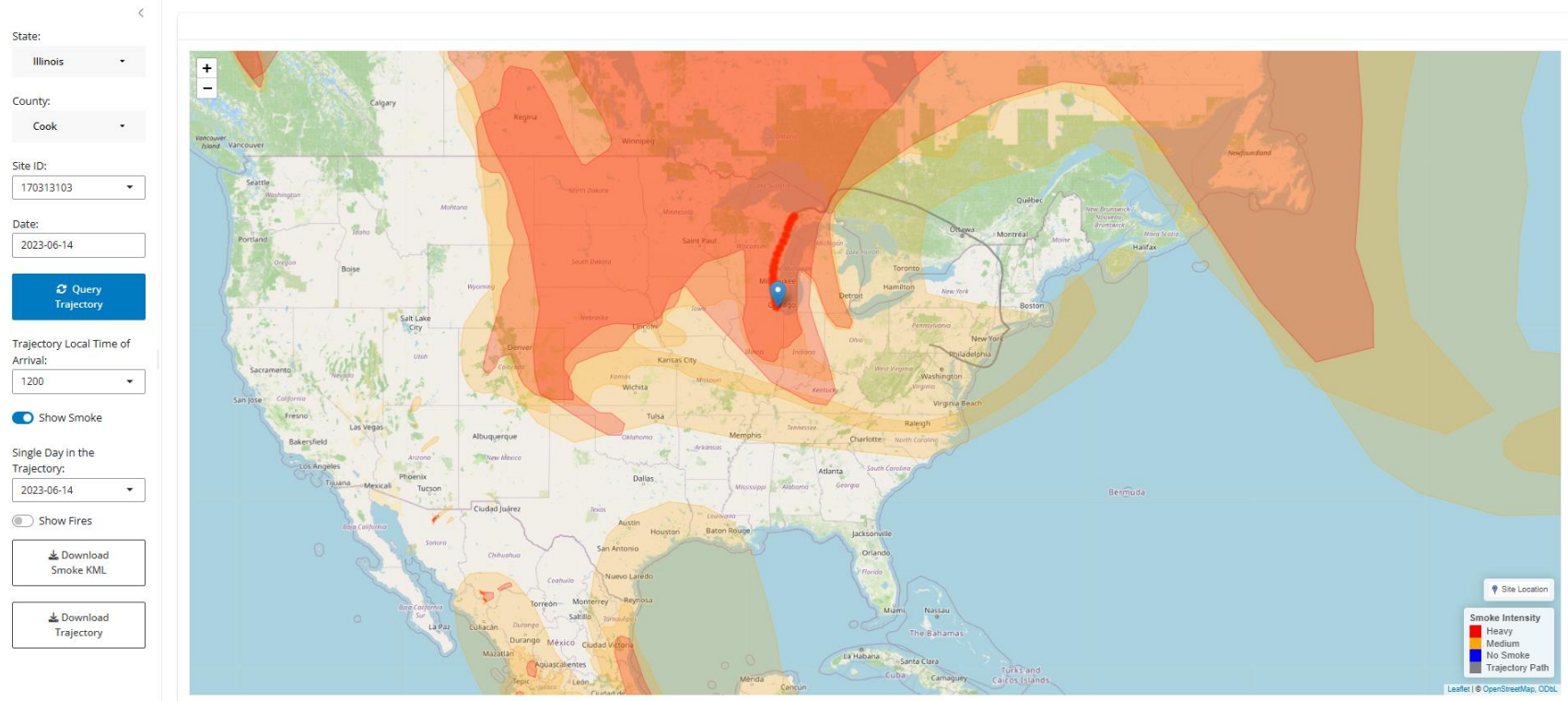


Figure B-9. HYSPLIT back trajectory from IEPA Trailer monitor on June 14, 2023.

Hysplit Trajectories for Exceptional Events

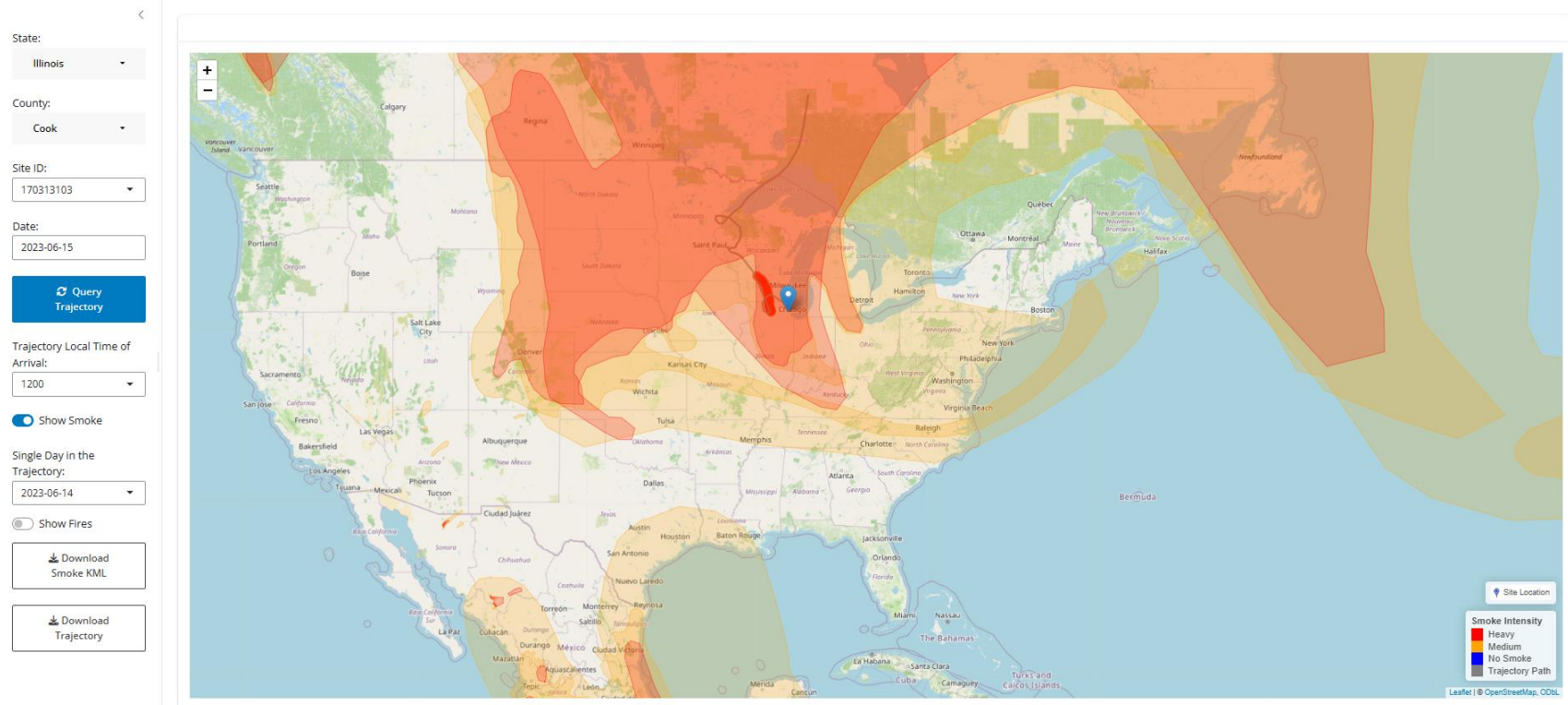


Figure B-10. HYSPLIT back trajectory from IEPA Trailer monitor on June 15, 2023.

Hysplit Trajectories for Exceptional Events

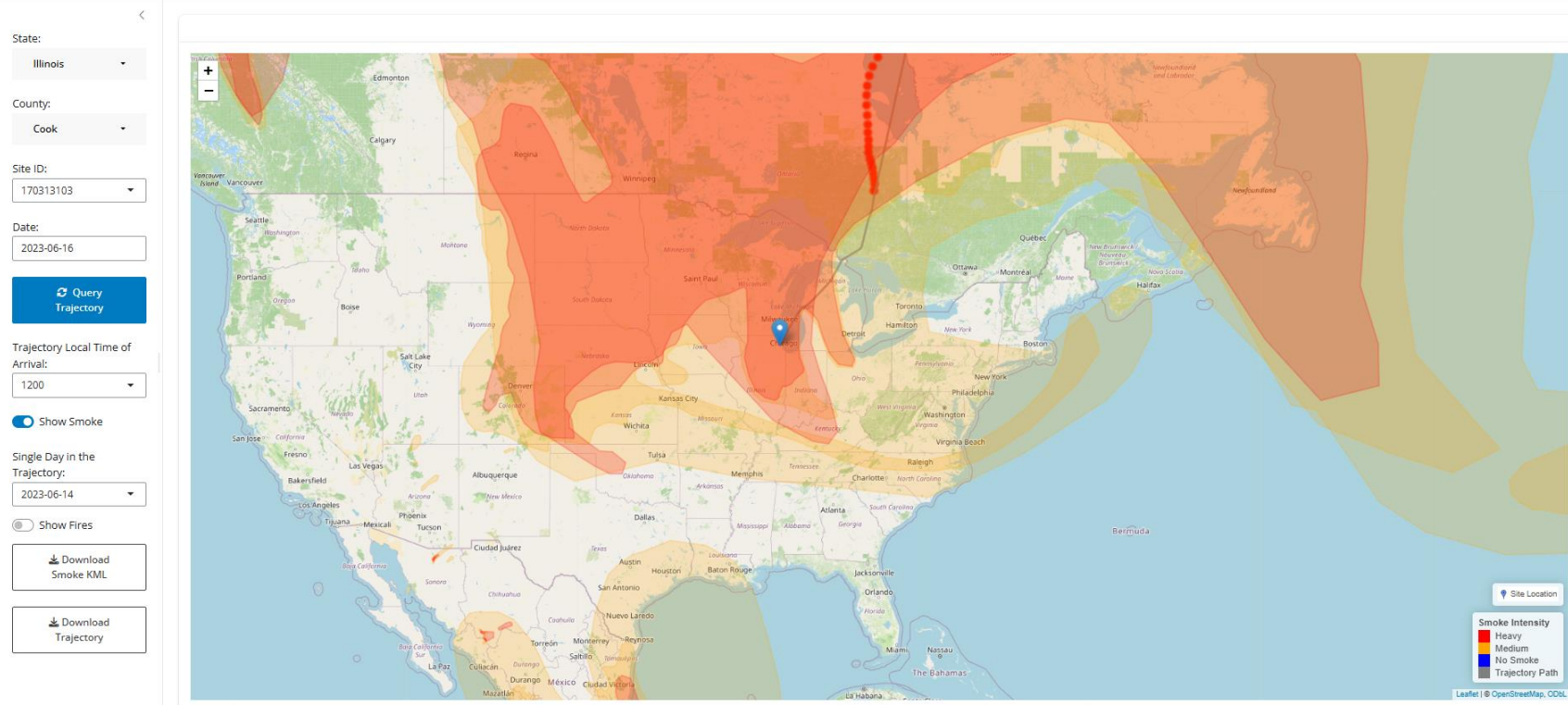


Figure B-11. HYSPLIT back trajectory from IEPA Trailer monitor on June 16, 2023.

Hysplit Trajectories for Exceptional Events

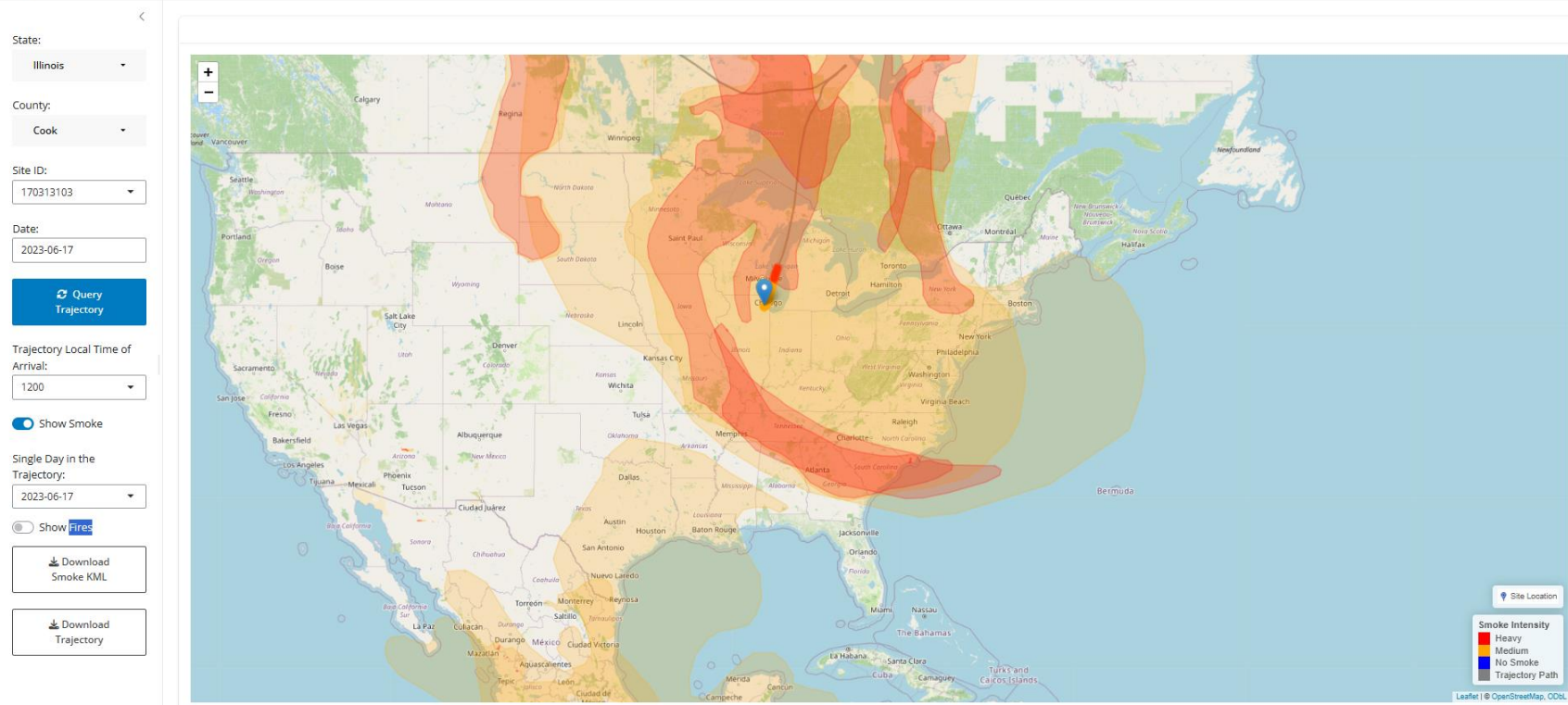


Figure B-12. HYSPLIT back trajectory from IEPA Trailer monitor on June 17, 2023.

Hysplit Trajectories for Exceptional Events

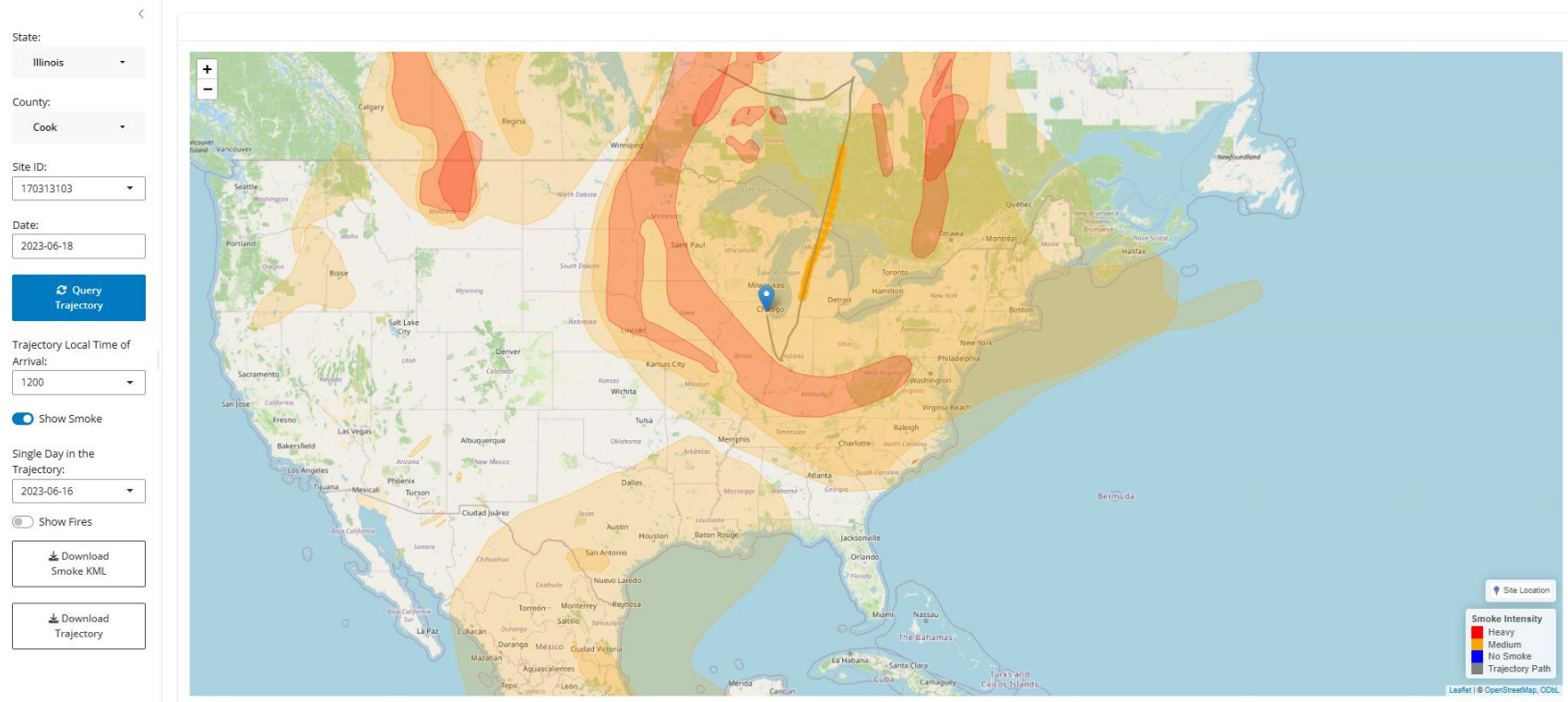


Figure B-13. HYSPLIT back trajectory from IEPA Trailer monitor on June 18, 2023.

Hysplit Trajectories for Exceptional Events

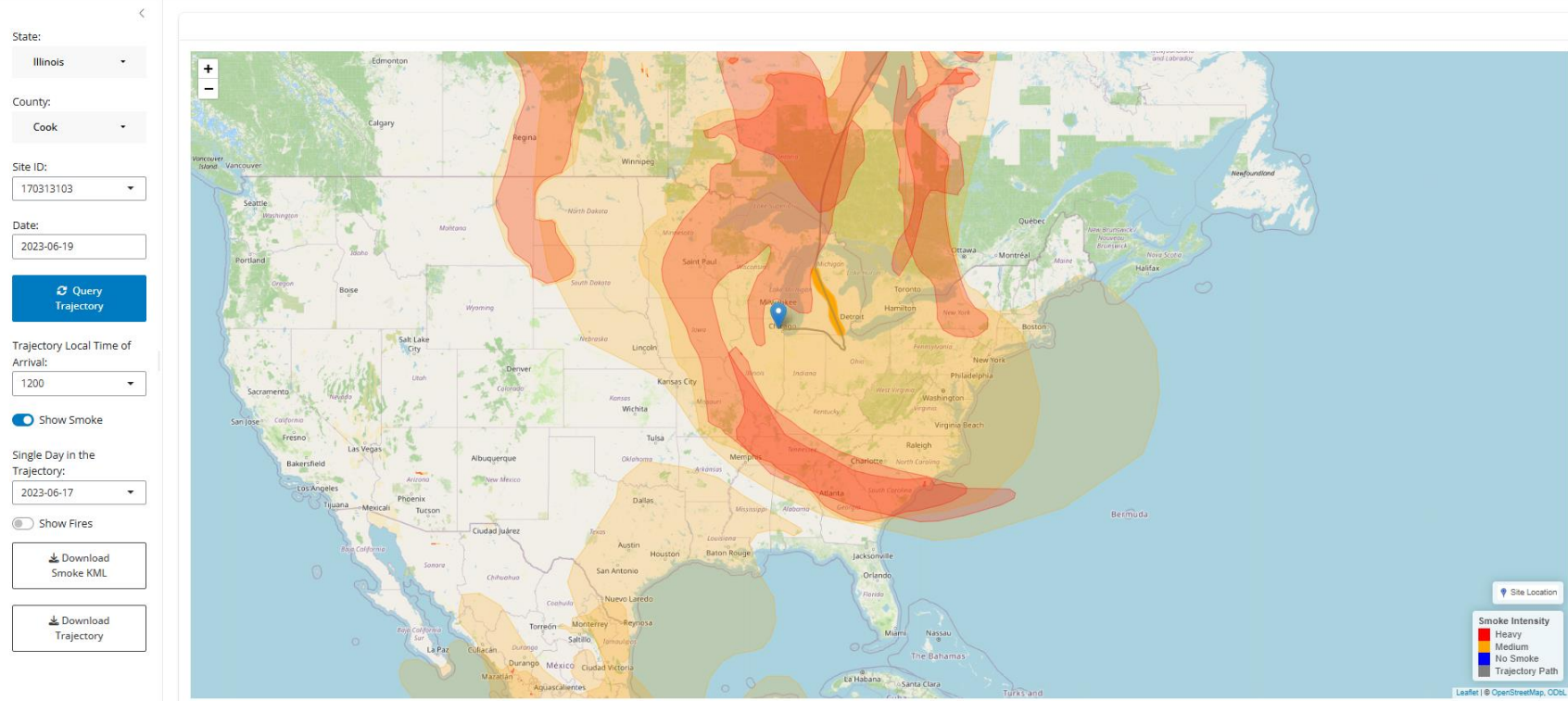


Figure B-14. HYSPLIT back trajectory from IEPA Trailer monitor on June 19, 2023.

Hysplit Trajectories for Exceptional Events

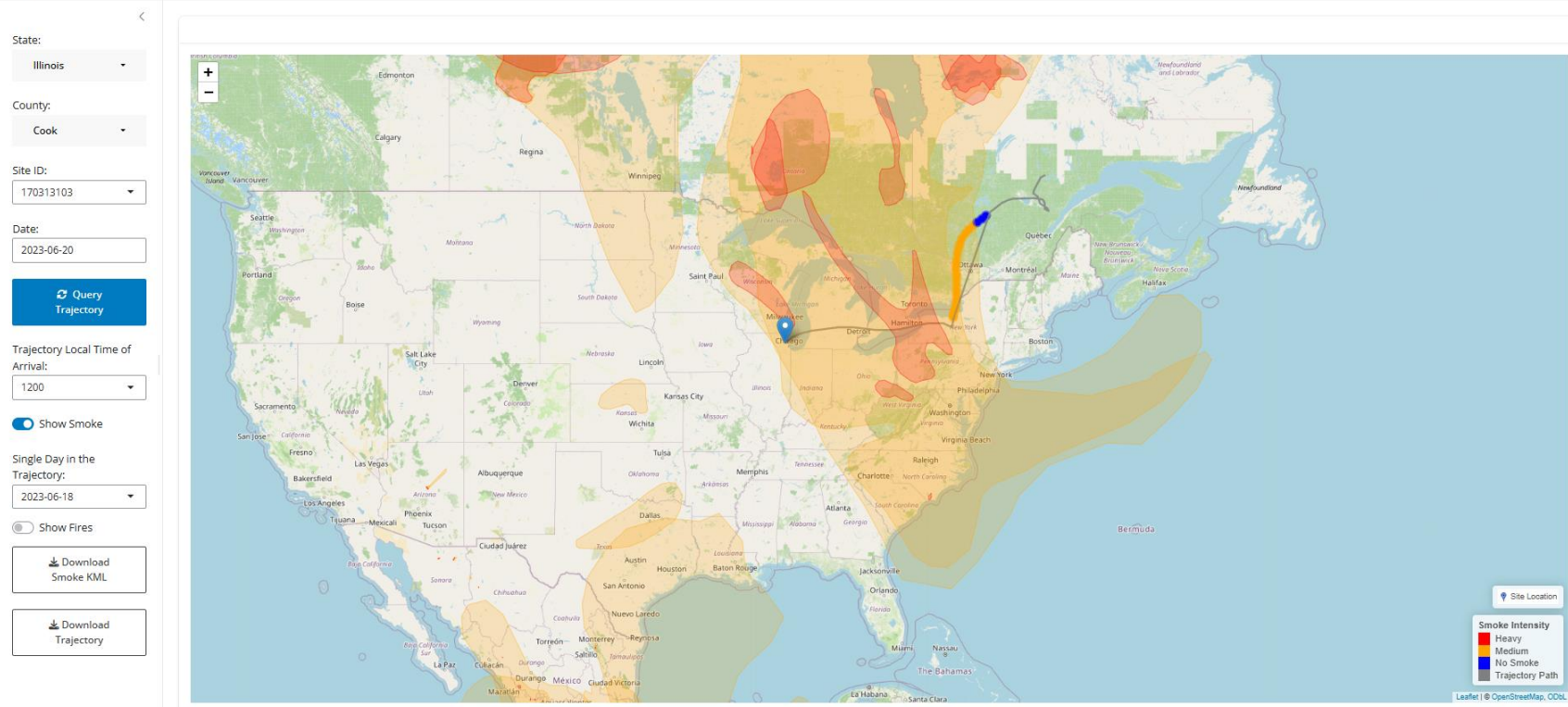


Figure B-15. HYSPLIT back trajectory from IEPA Trailer monitor on June 20, 2023.

Hysplit Trajectories for Exceptional Events

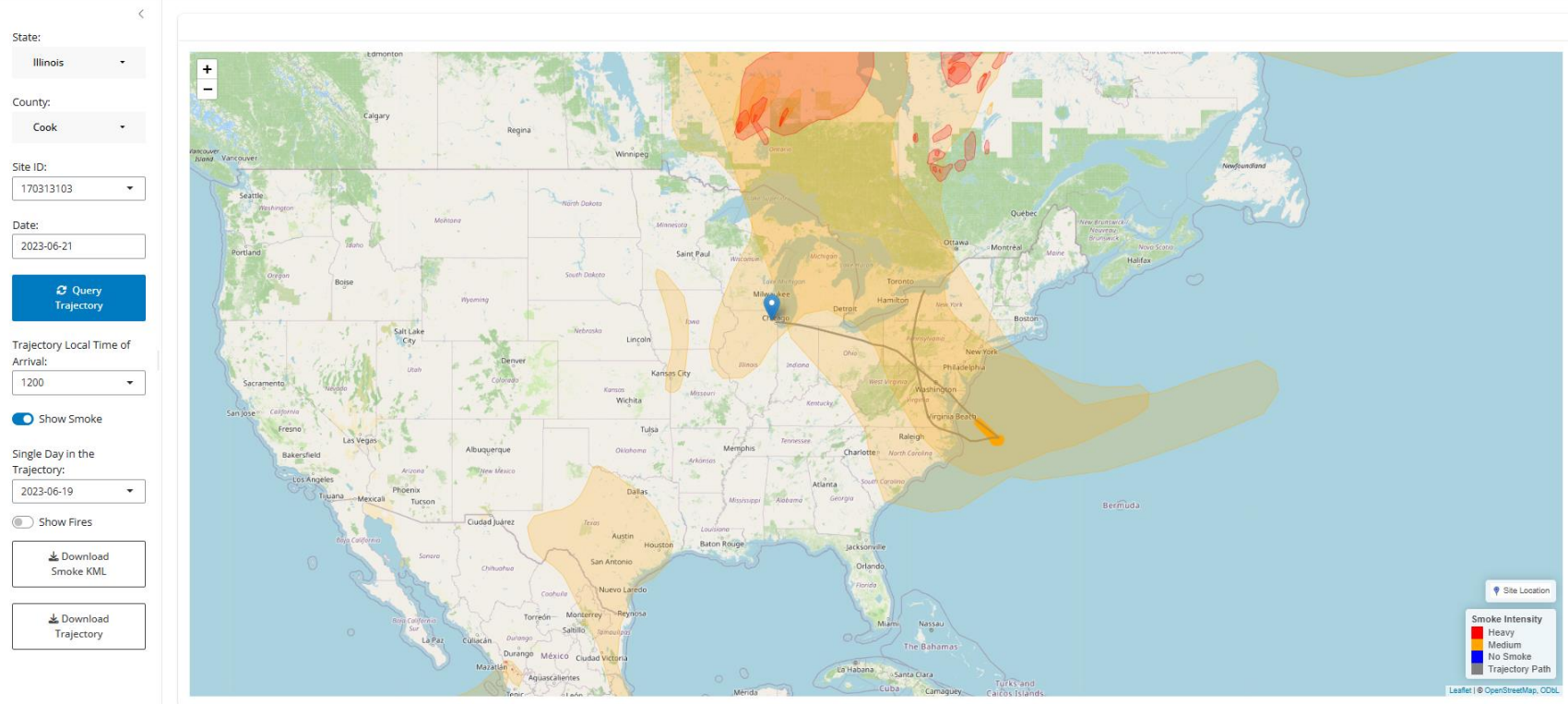


Figure B-16. HYSPLIT back trajectory from IEPA Trailer monitor on June 21, 2023.

Hysplit Trajectories for Exceptional Events

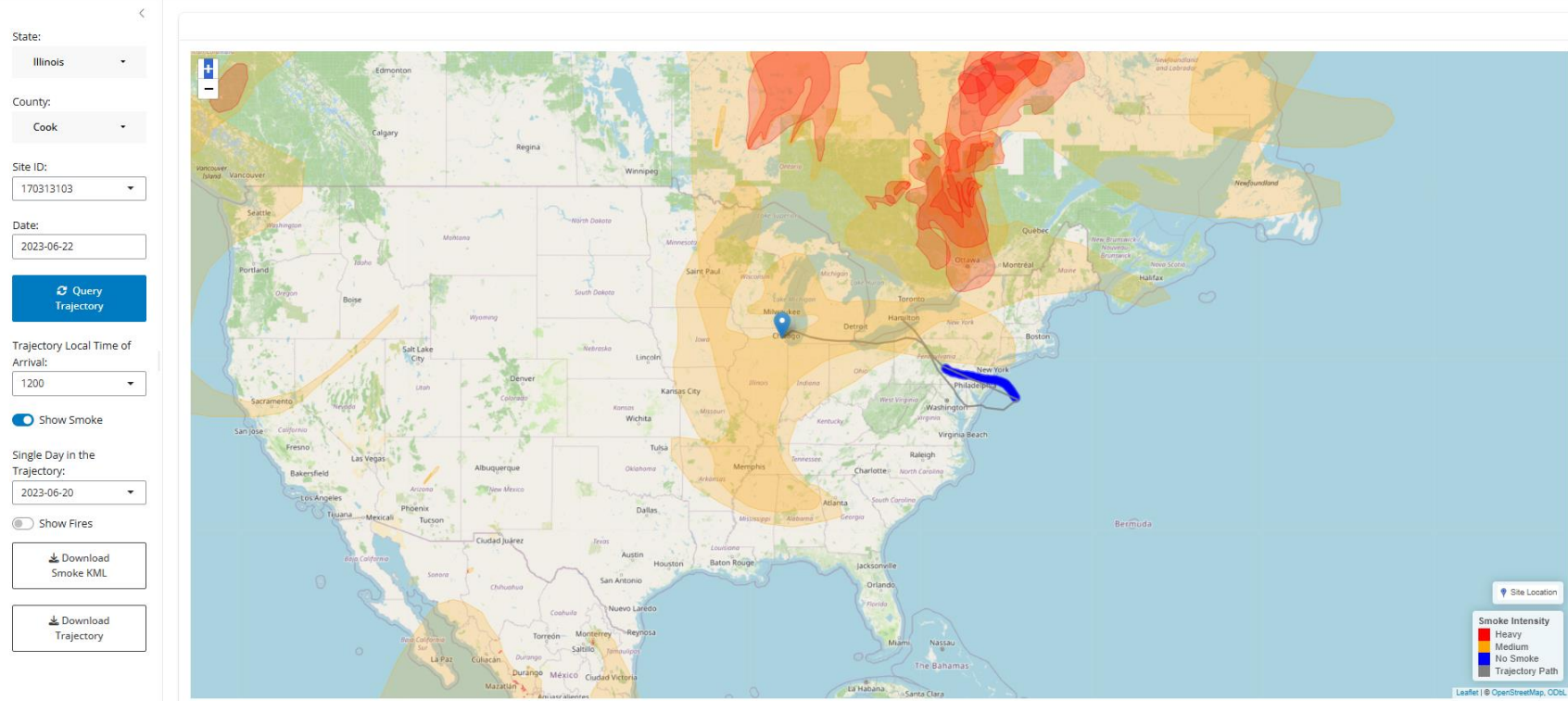


Figure B-17. HYSPLIT back trajectory from IEPA Trailer monitor on June 22, 2023.

Hysplit Trajectories for Exceptional Events

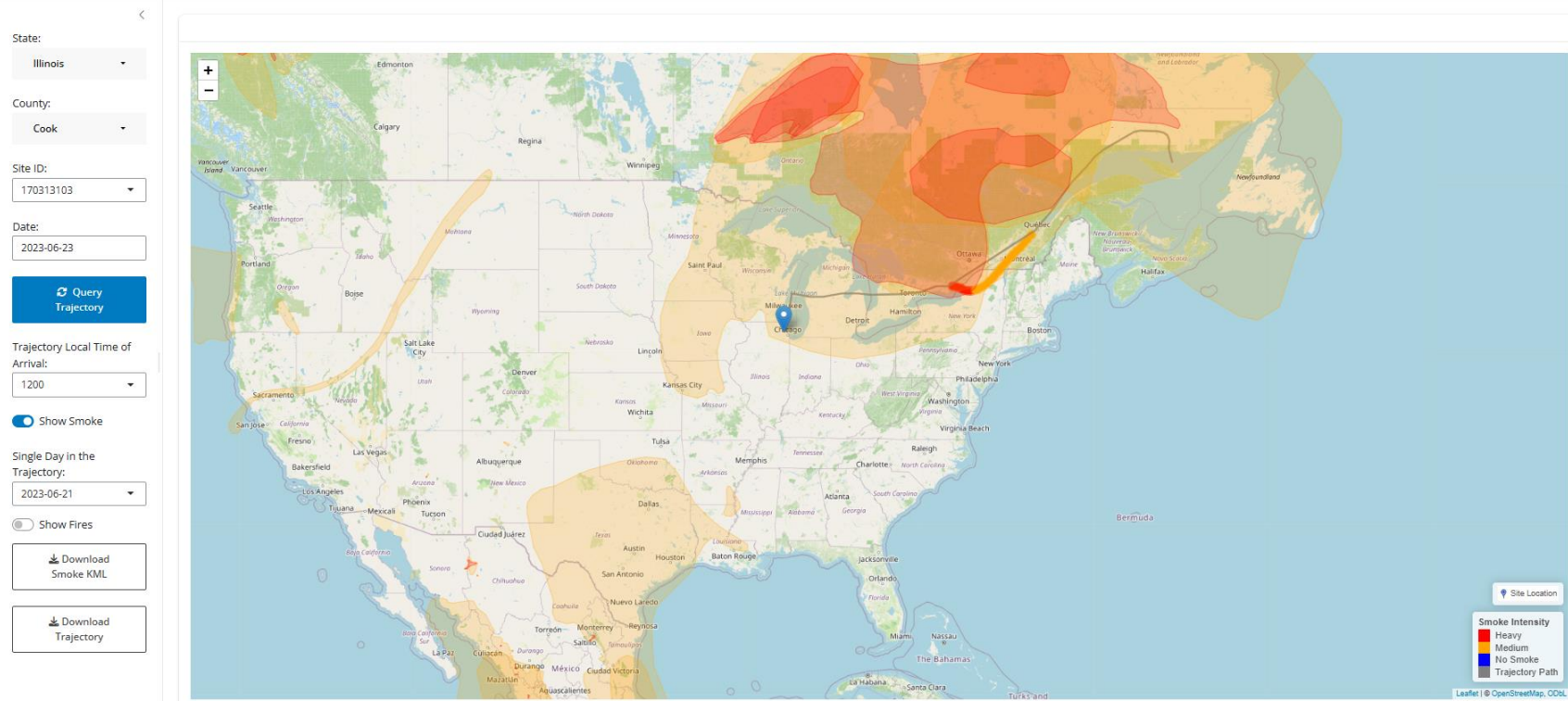


Figure B-18. HYSPLIT back trajectory from IEPA Trailer monitor on June 23, 2023.

Hysplit Trajectories for Exceptional Events

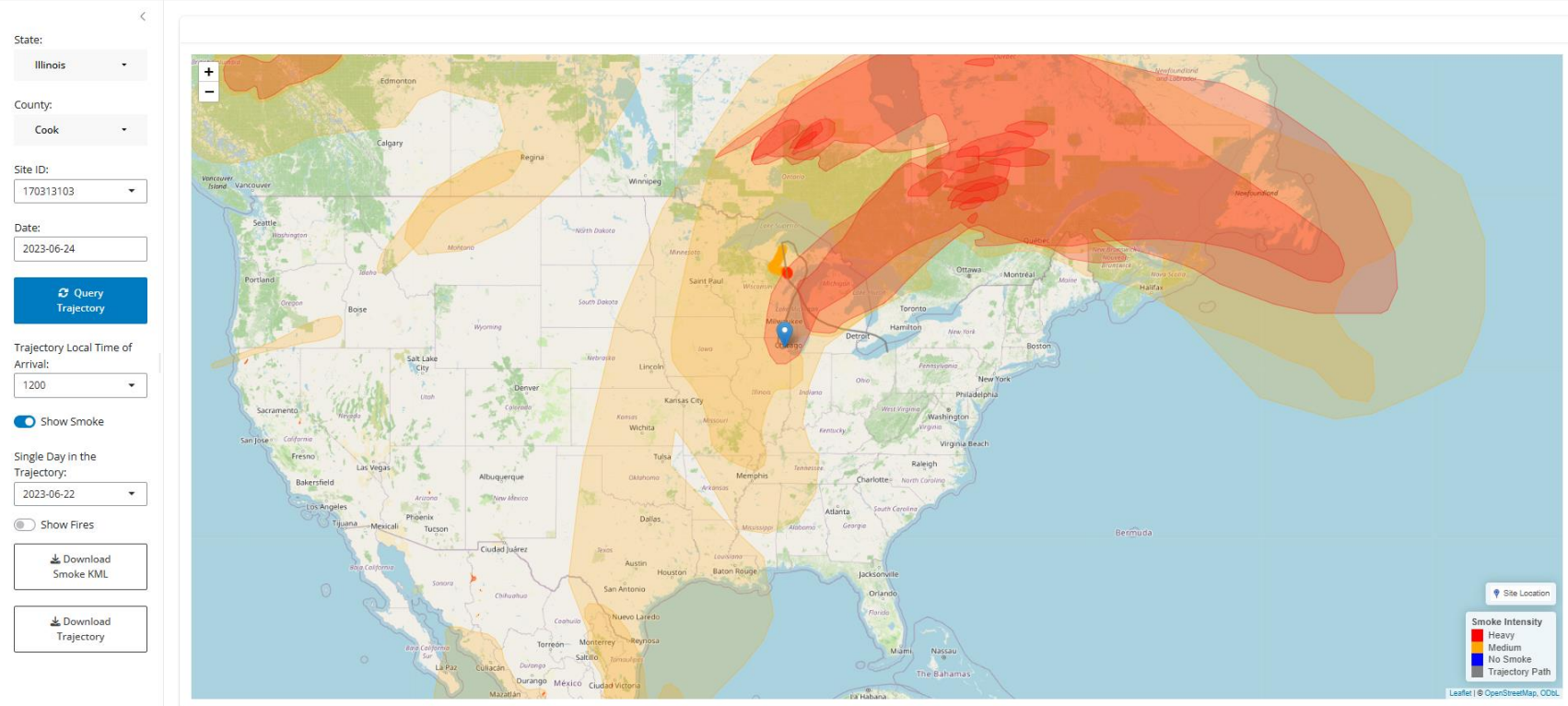


Figure B-19. HYSPLIT back trajectory from IEPA Trailer monitor on June 24, 2023.

Hysplit Trajectories for Exceptional Events

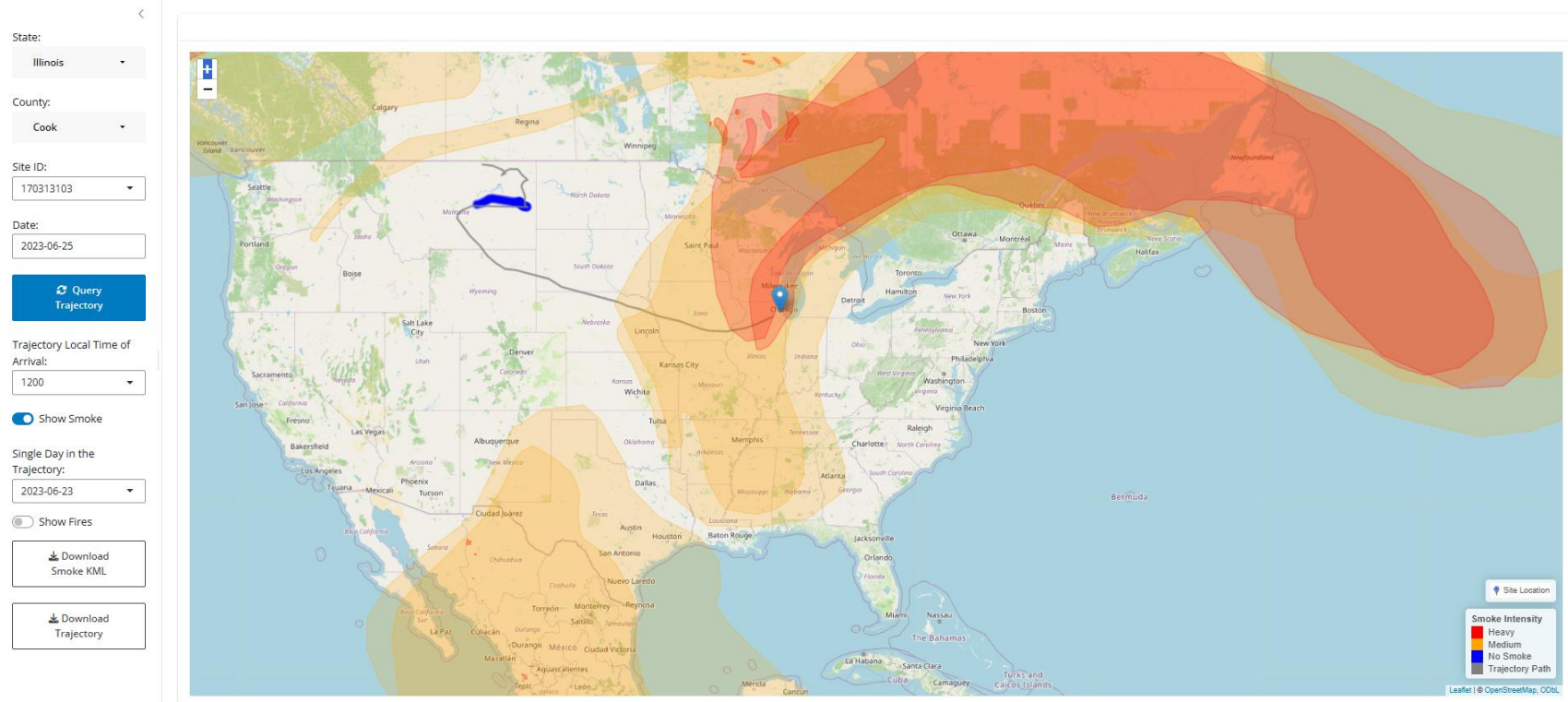


Figure B-20. HYSPLIT back trajectory from IEPA Trailer monitor on June 25, 2023.

Hysplit Trajectories for Exceptional Events

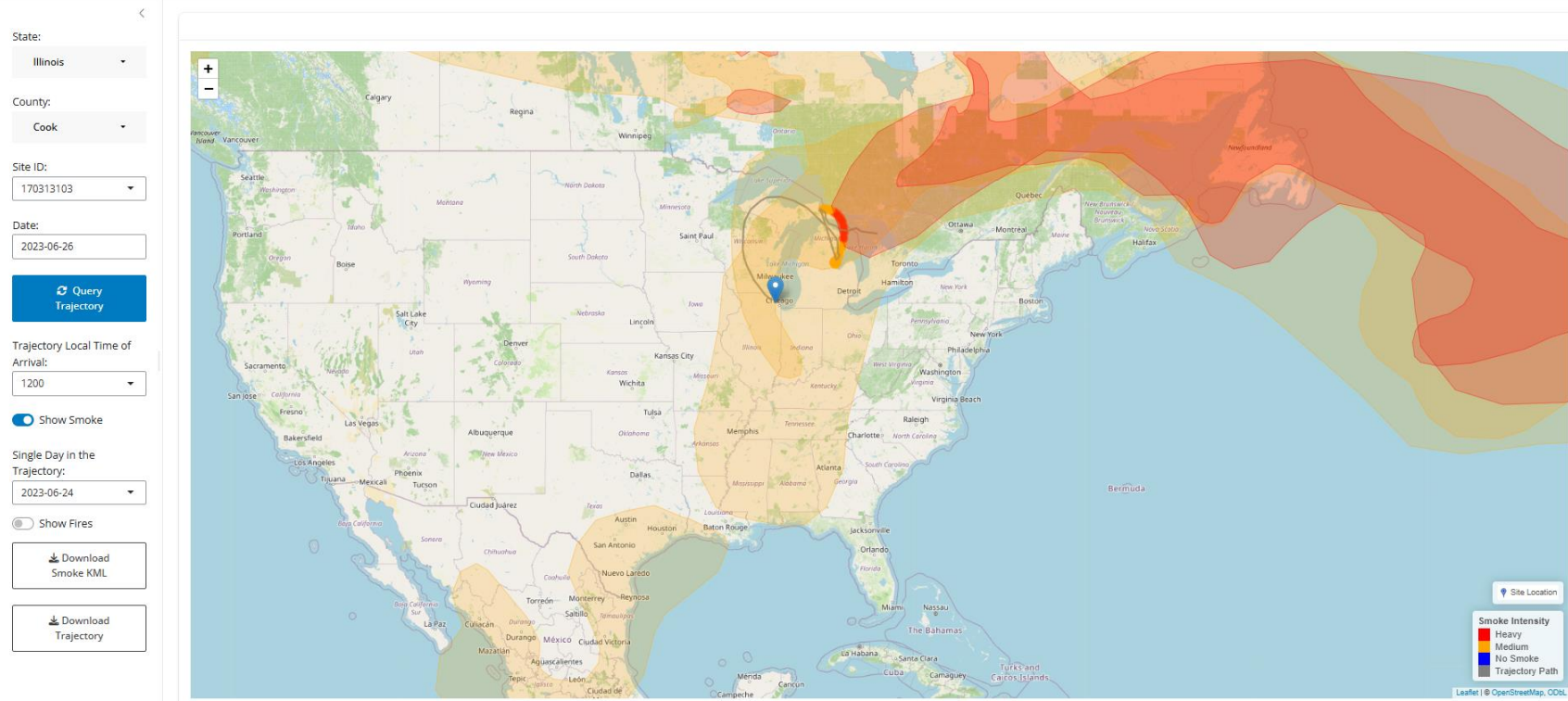


Figure B-21. HYSPLIT back trajectory from IEPA Trailer monitor on June 26, 2023.

Hysplit Trajectories for Exceptional Events

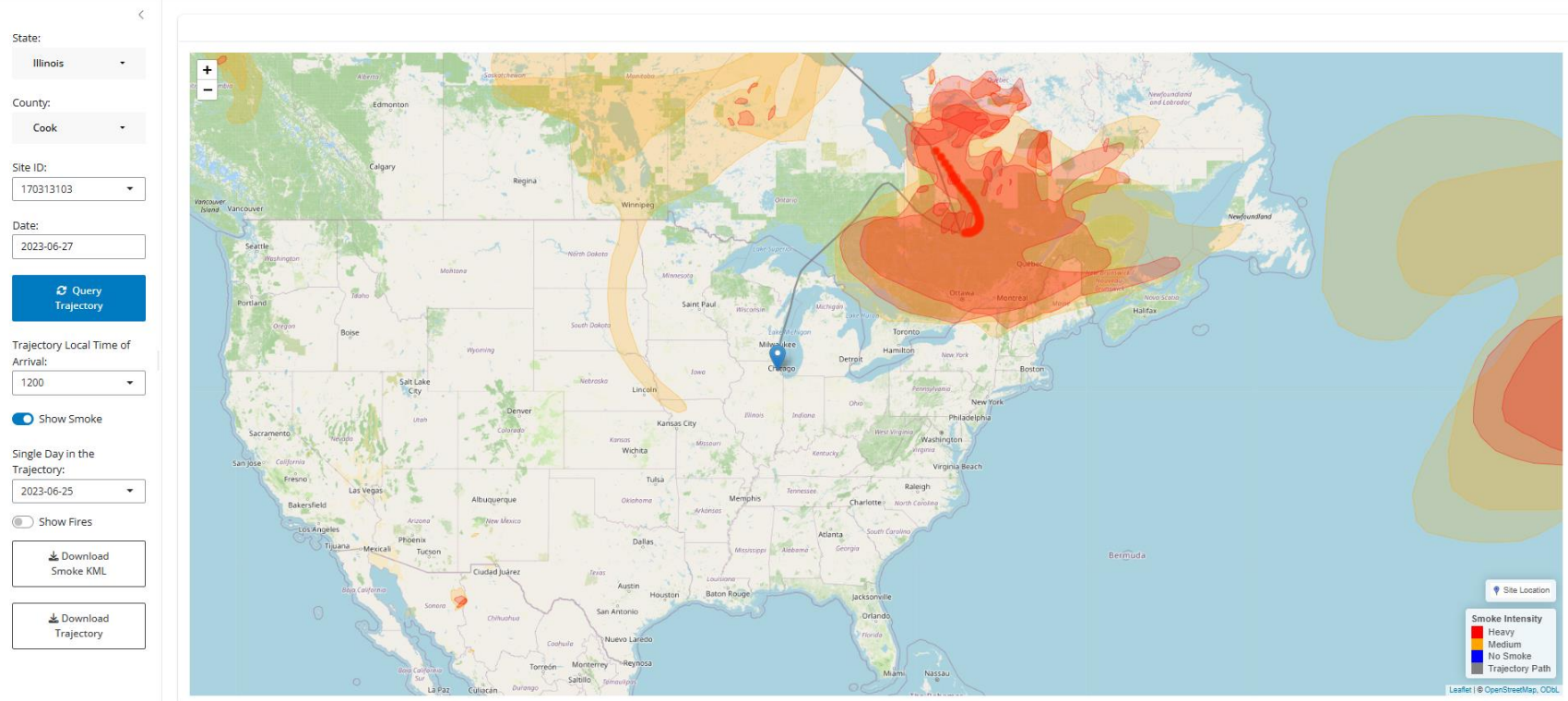


Figure B-22. HYSPLIT back trajectory from IEPA Trailer monitor on June 27, 2023.

Hysplit Trajectories for Exceptional Events

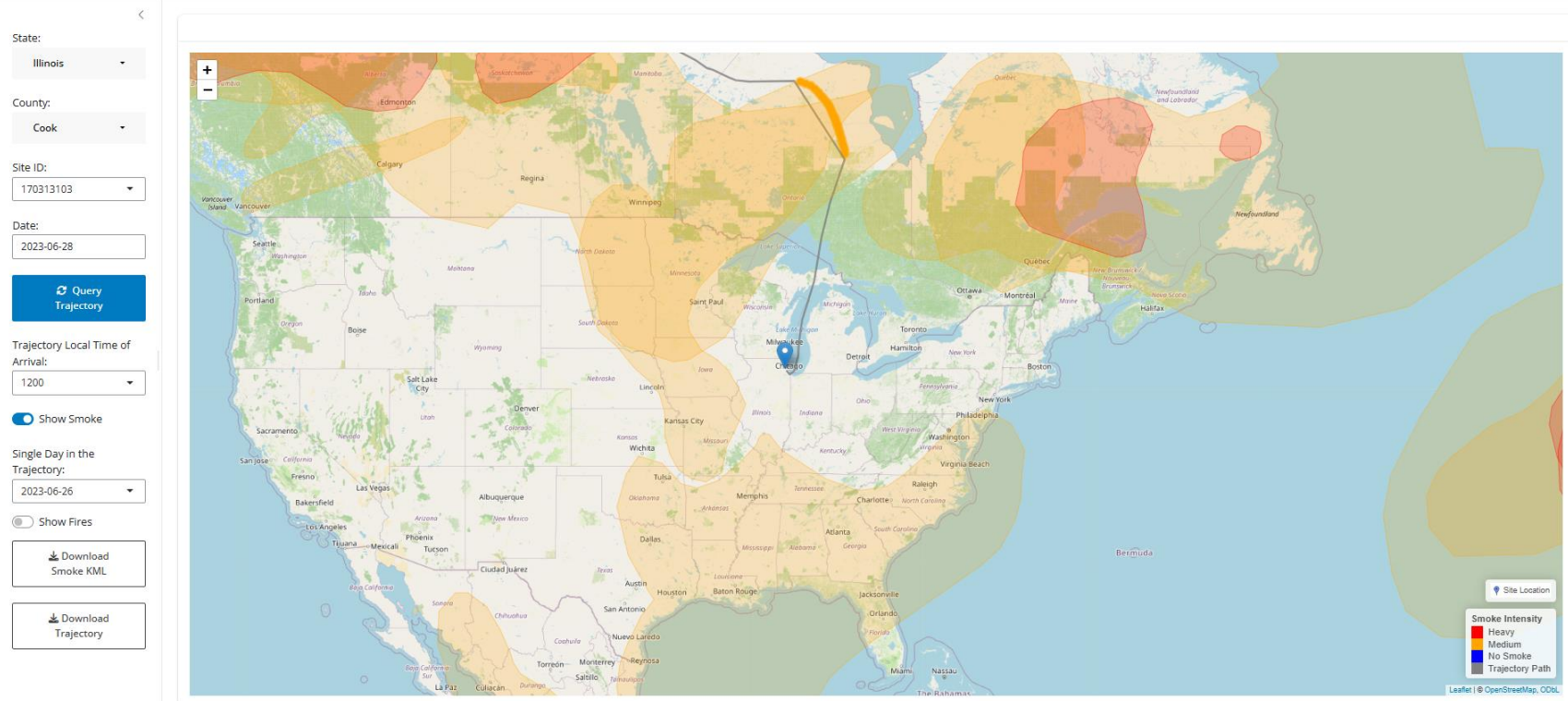


Figure B-23. HYSPLIT back trajectory from IEPA Trailer monitor on June 28, 2023.

Hysplit Trajectories for Exceptional Events

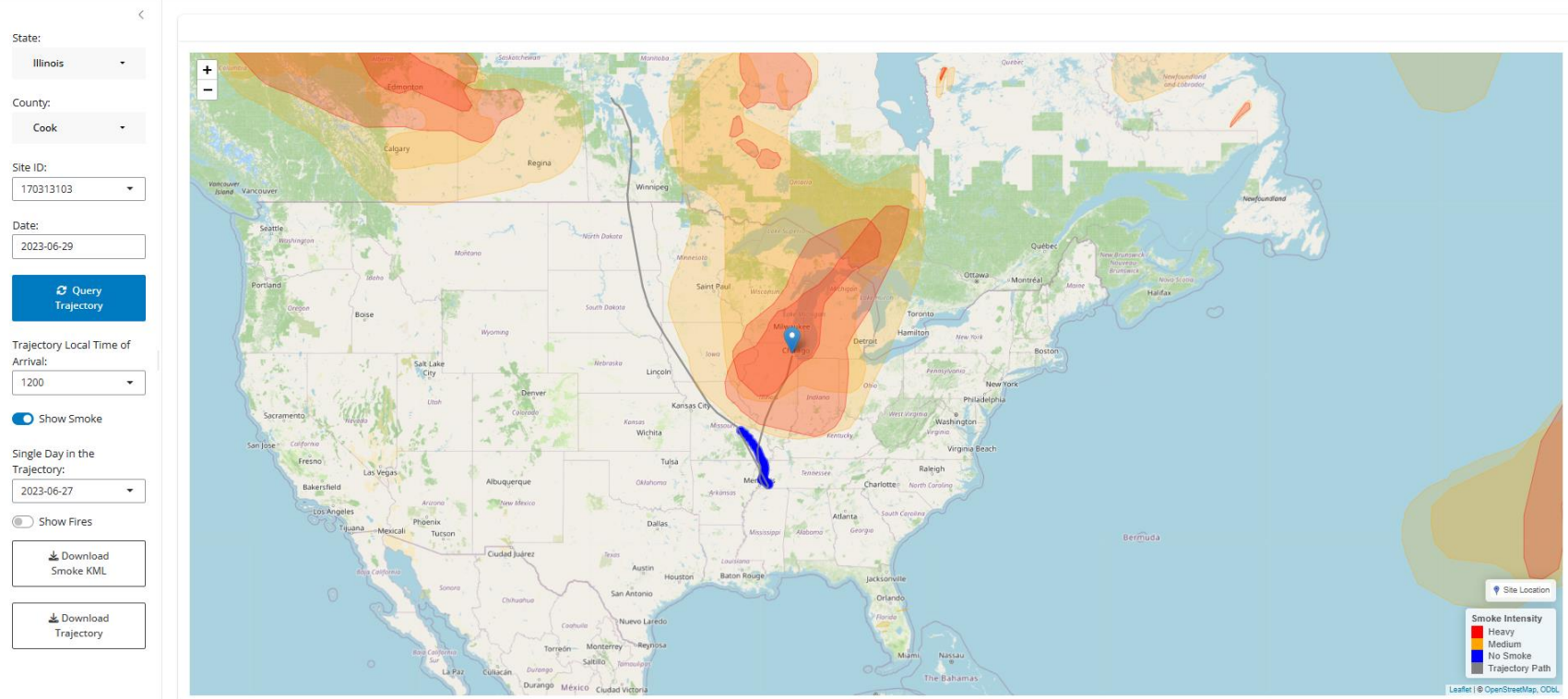


Figure B-24. HYSPLIT back trajectory from IEPA Trailer monitor on June 29, 2023.

Hysplit Trajectories for Exceptional Events

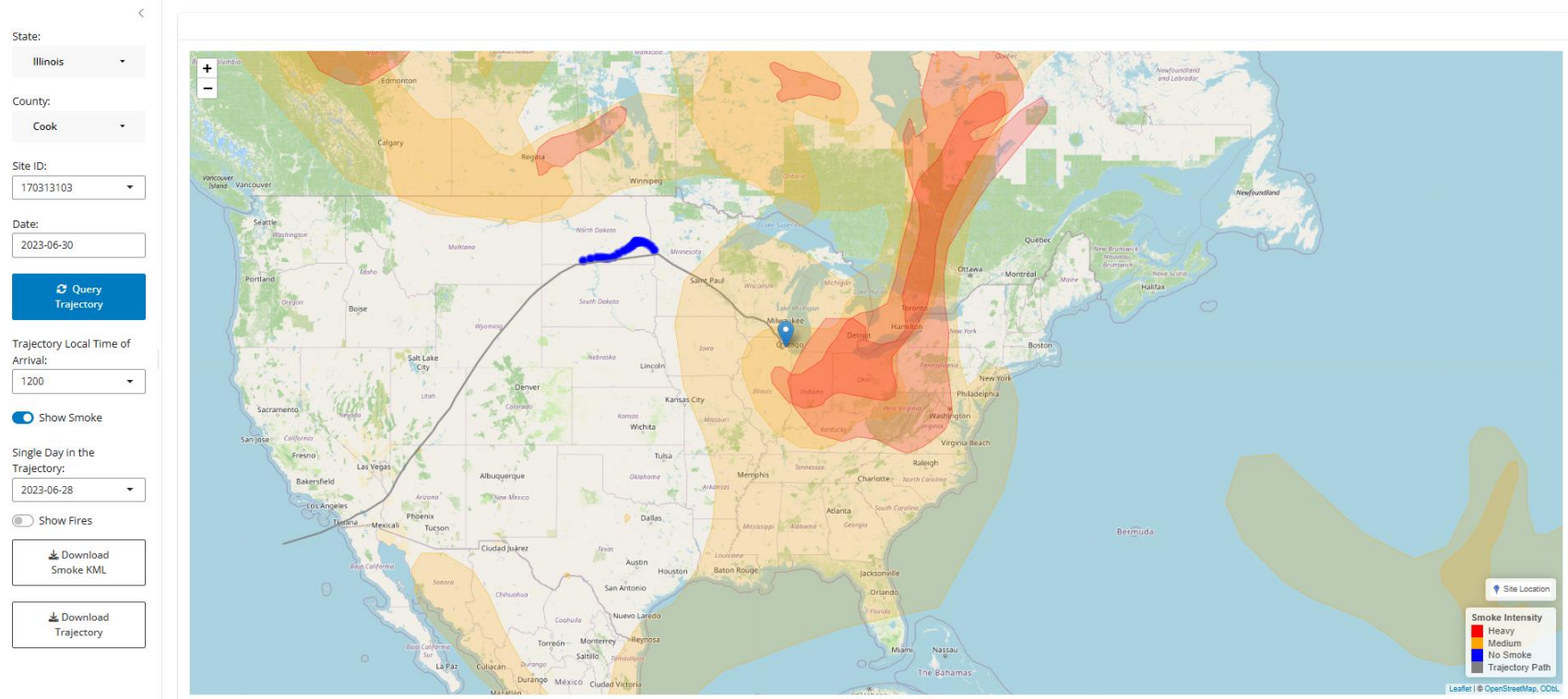


Figure B-25. HYSPLIT back trajectory from IEPA Trailer monitor on June 30, 2023.

Hysplit Trajectories for Exceptional Events

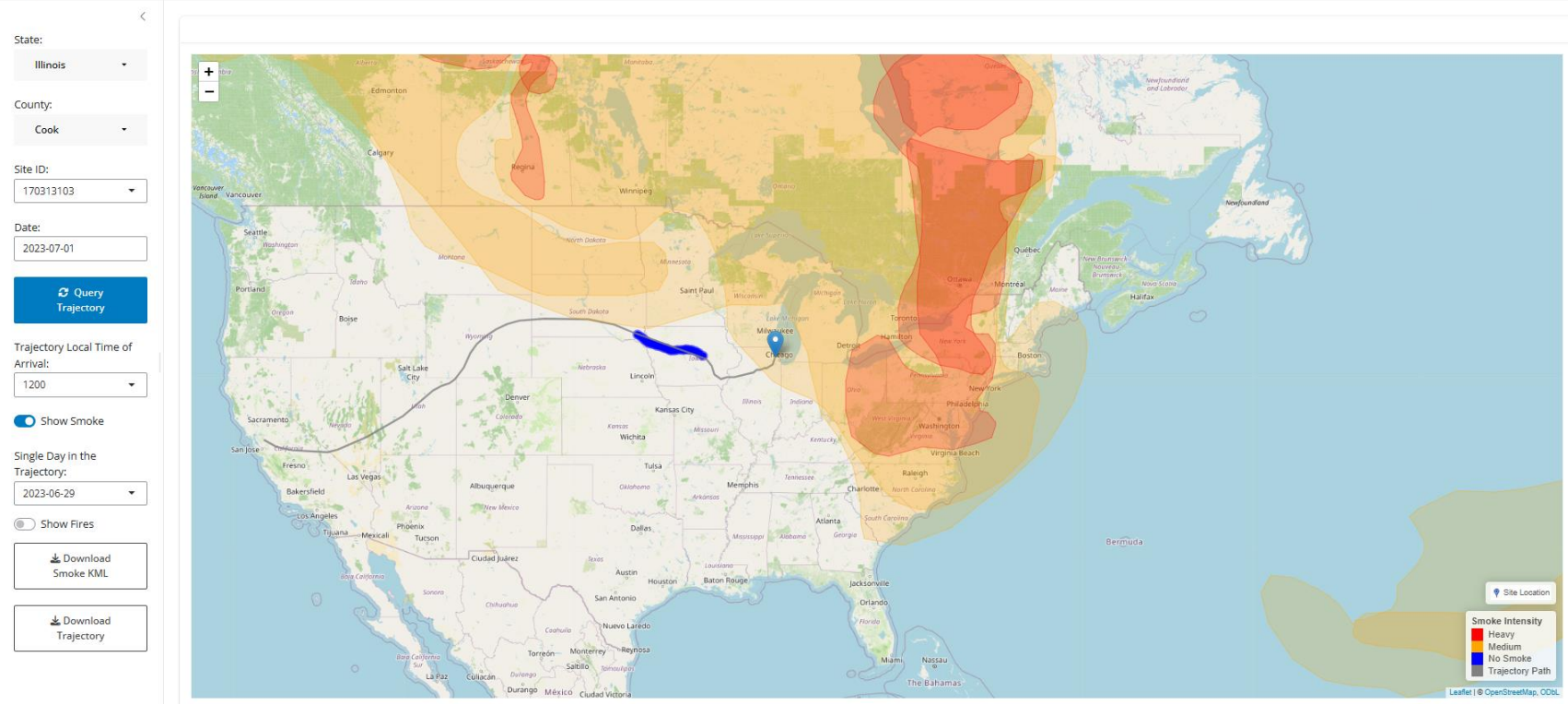


Figure B-26. HYSPLIT back trajectory from IEPA Trailer monitor on July 01, 2023.

Hysplit Trajectories for Exceptional Events

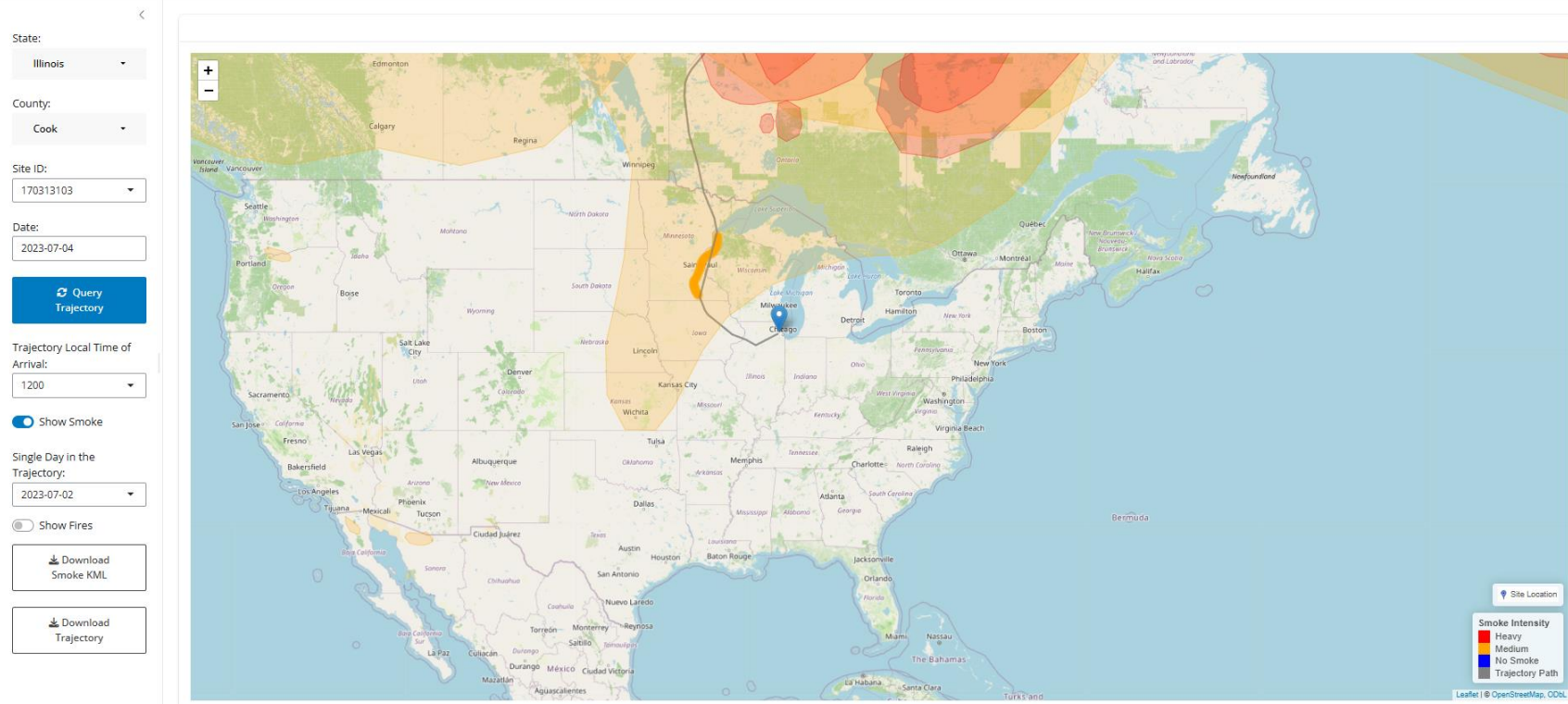


Figure B-27. HYSPLIT back trajectory from IEPA Trailer monitor on July 04, 2023.

Hysplit Trajectories for Exceptional Events

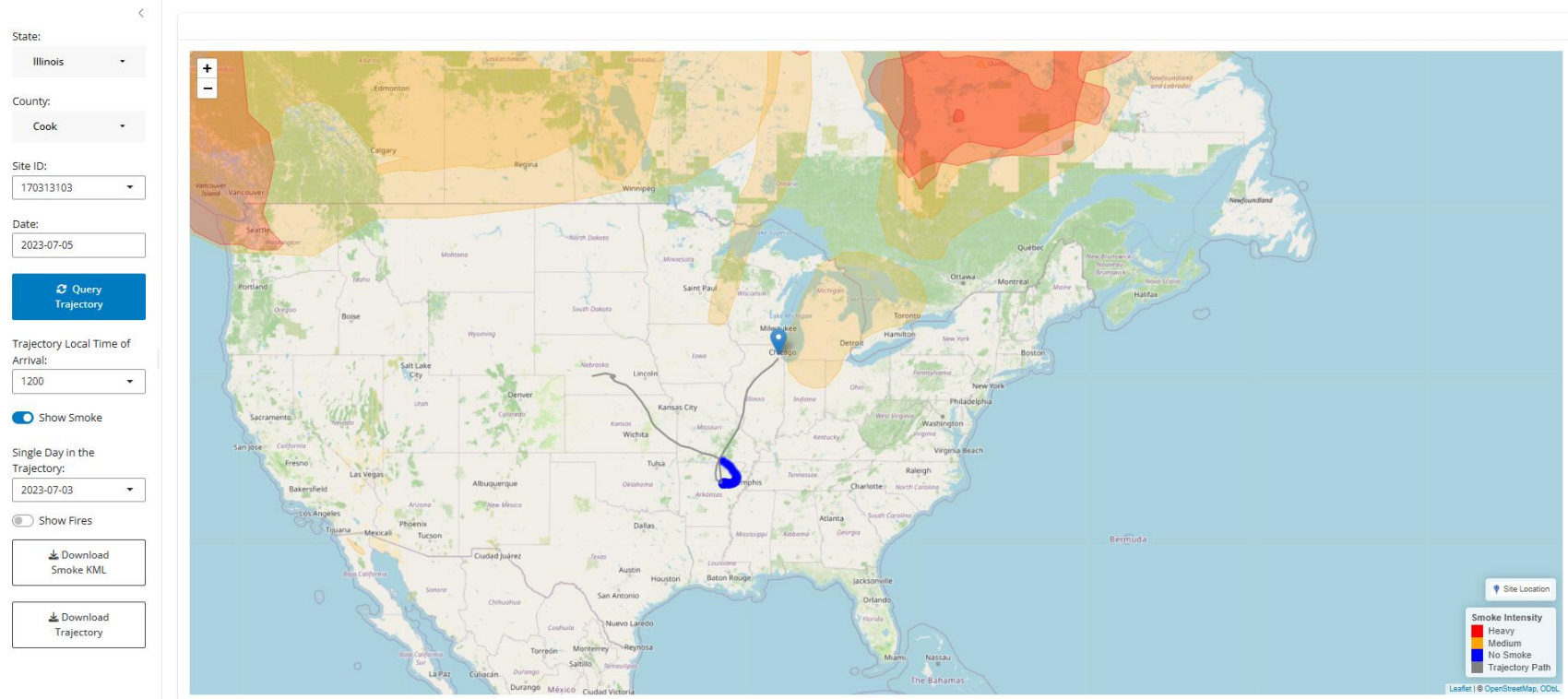


Figure B-28. HYSPLIT back trajectory from IEPA Trailer monitor on July 05, 2023.

Hysplit Trajectories for Exceptional Events

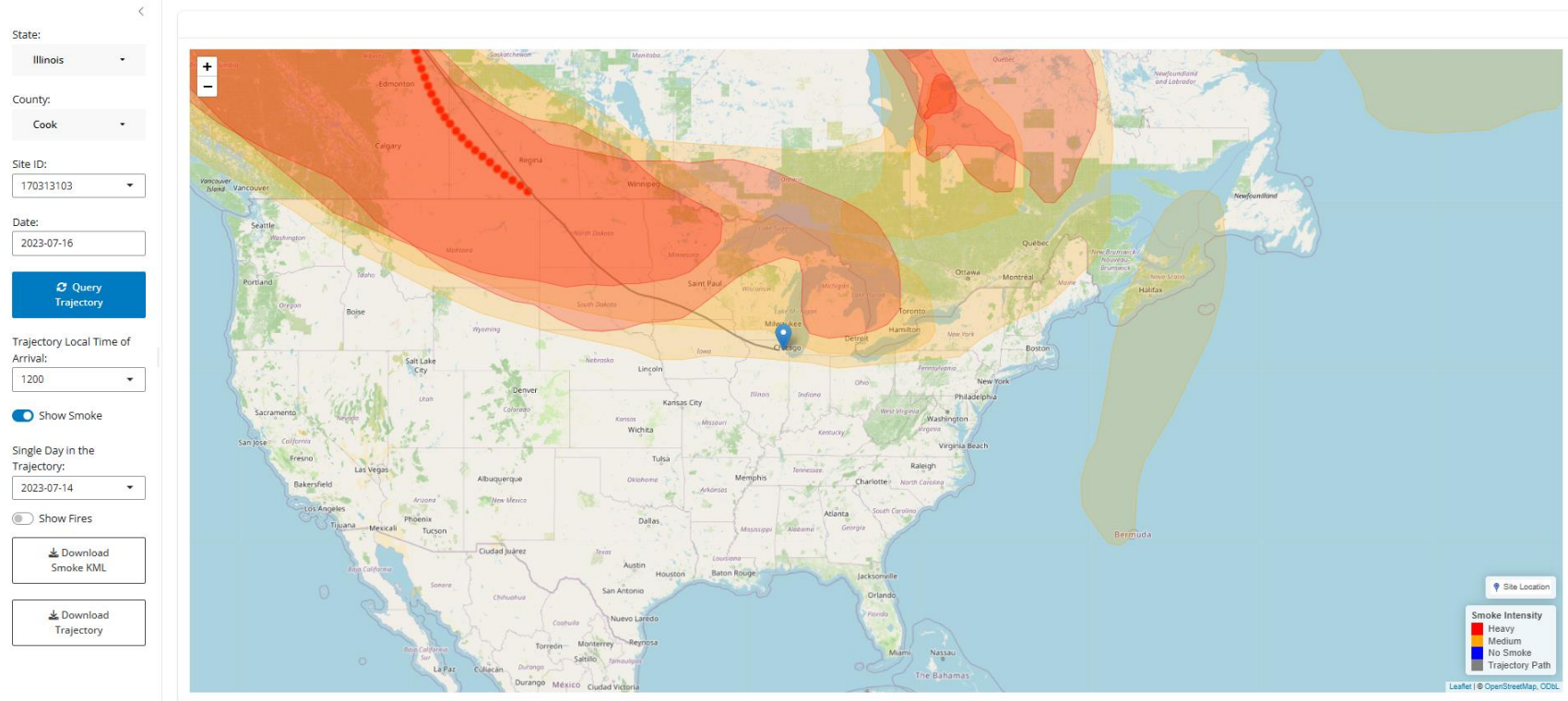


Figure B-29. HYSPLIT back trajectory from IEPA Trailer monitor on July 16, 2023.

Hysplit Trajectories for Exceptional Events

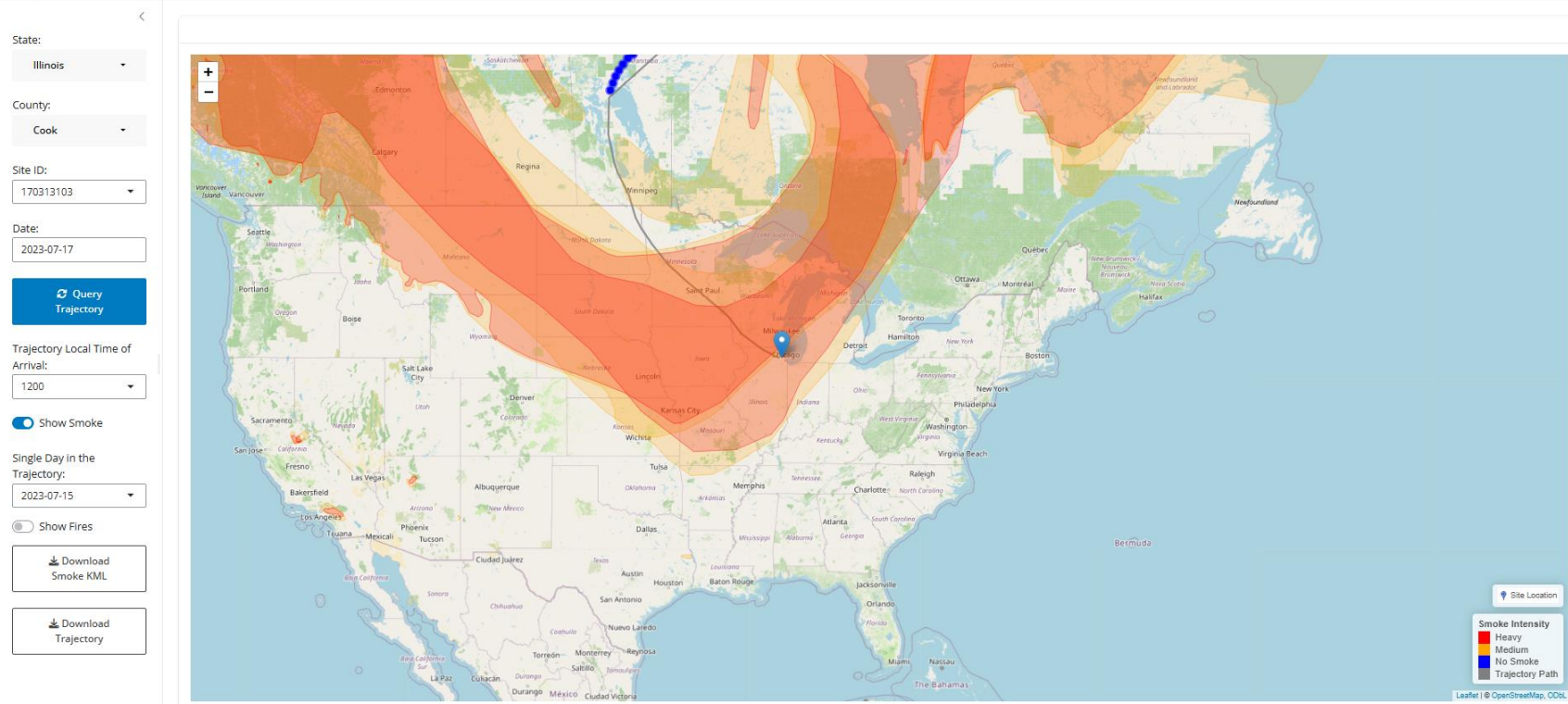


Figure B-30. HYSPLIT back trajectory from IEPA Trailer monitor on July 17, 2023.

Hysplit Trajectories for Exceptional Events

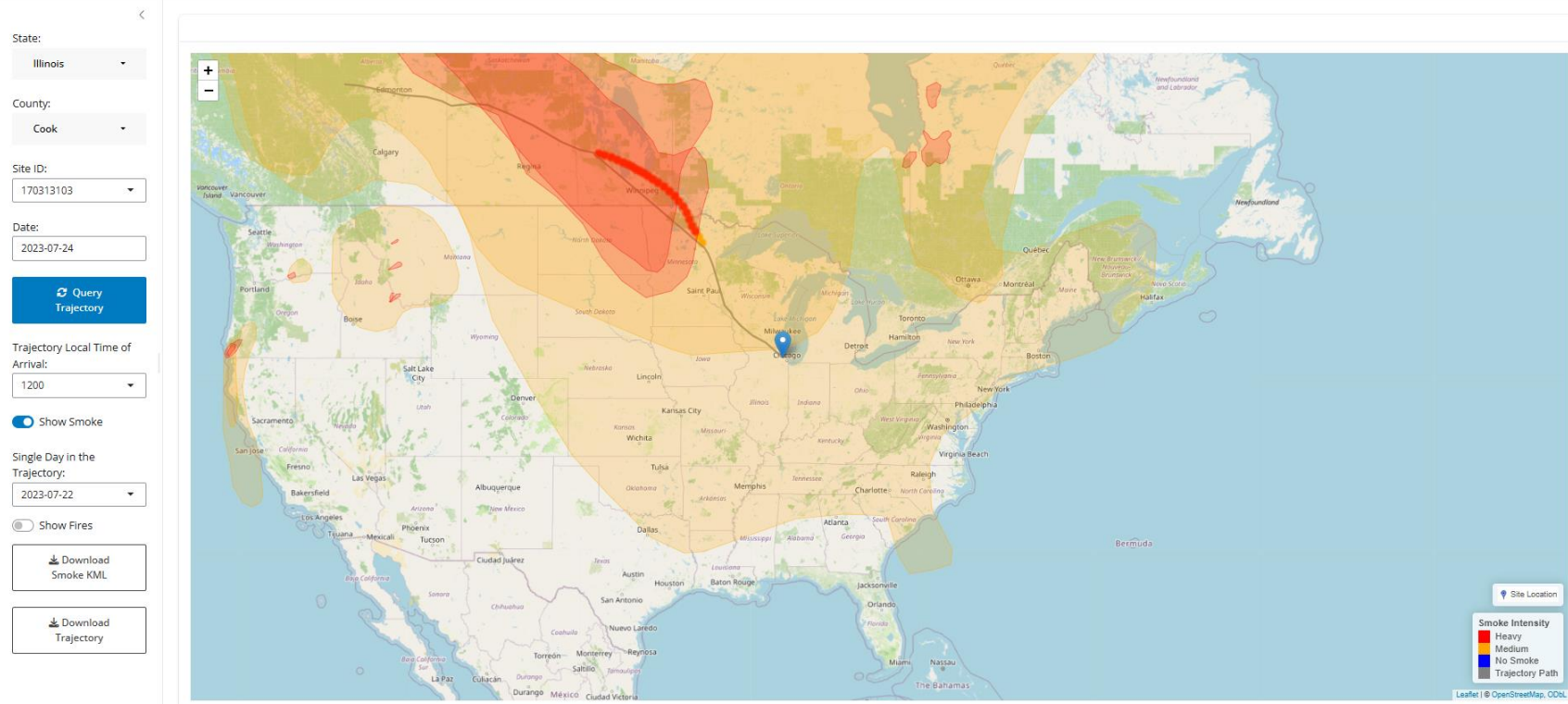


Figure B-31. HYSPLIT back trajectory from IEPA Trailer monitor on July 24, 2023.

Hysplit Trajectories for Exceptional Events

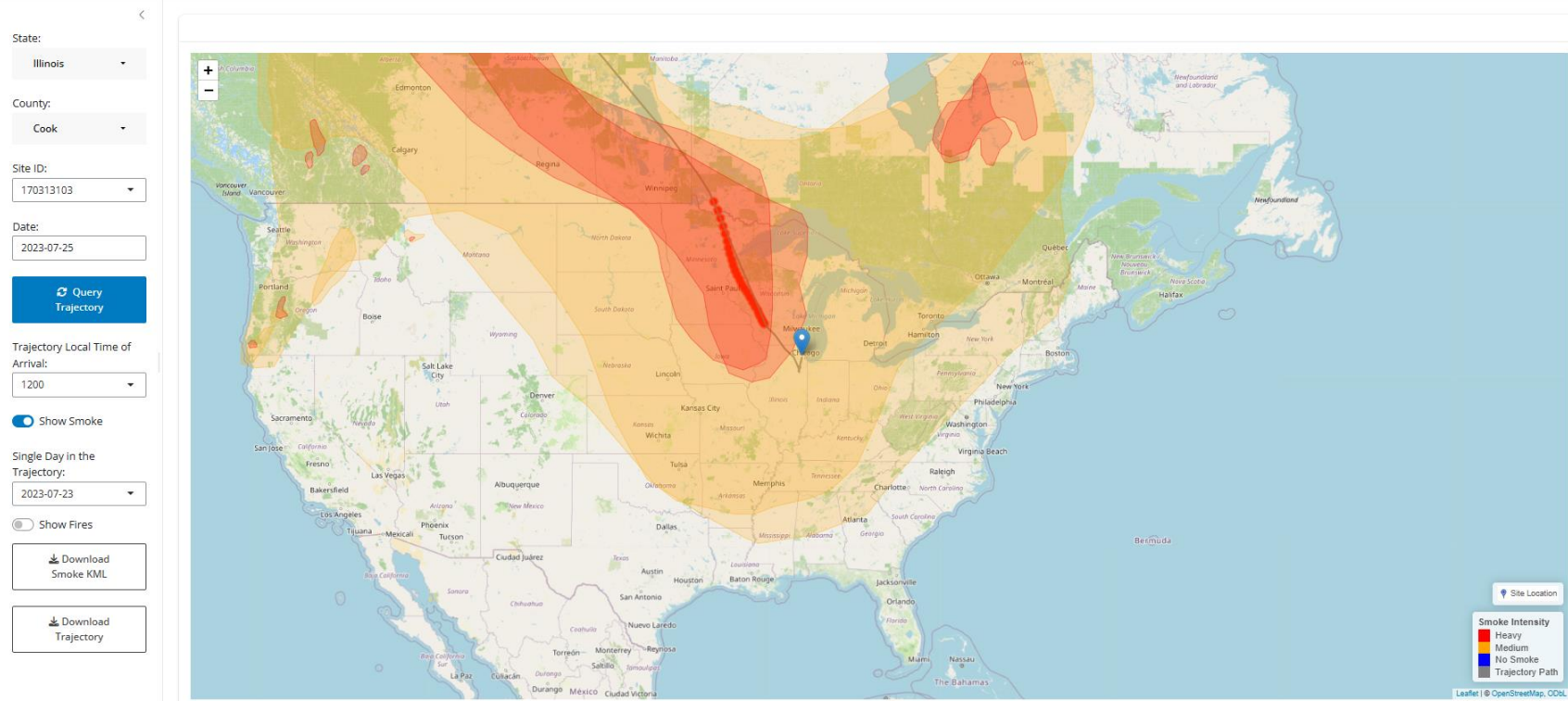


Figure B-32. HYSPLIT back trajectory from IEPA Trailer monitor on July 25, 2023.

Hysplit Trajectories for Exceptional Events

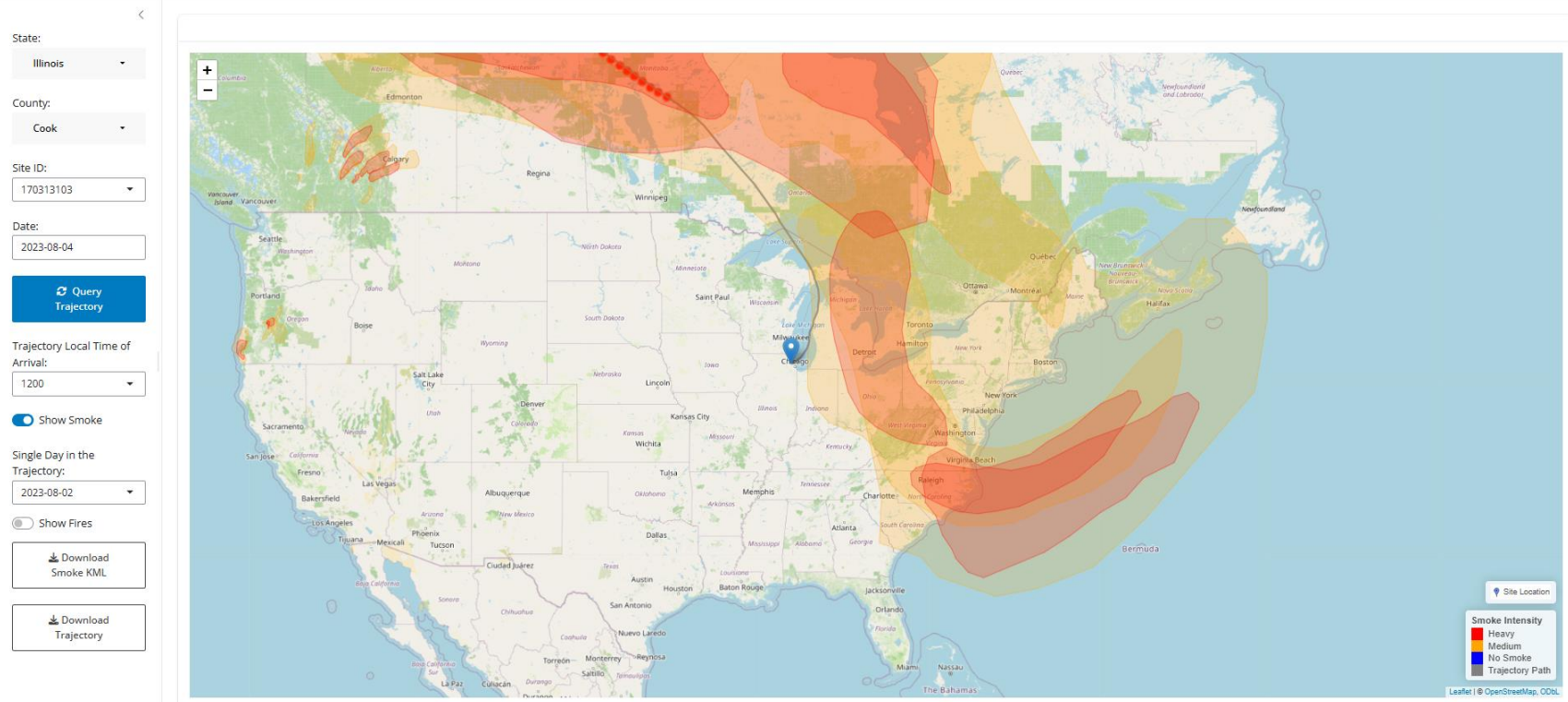


Figure B-33. HYSPLIT back trajectory from IEPA Trailer monitor on August 04, 2023.

Hysplit Trajectories for Exceptional Events

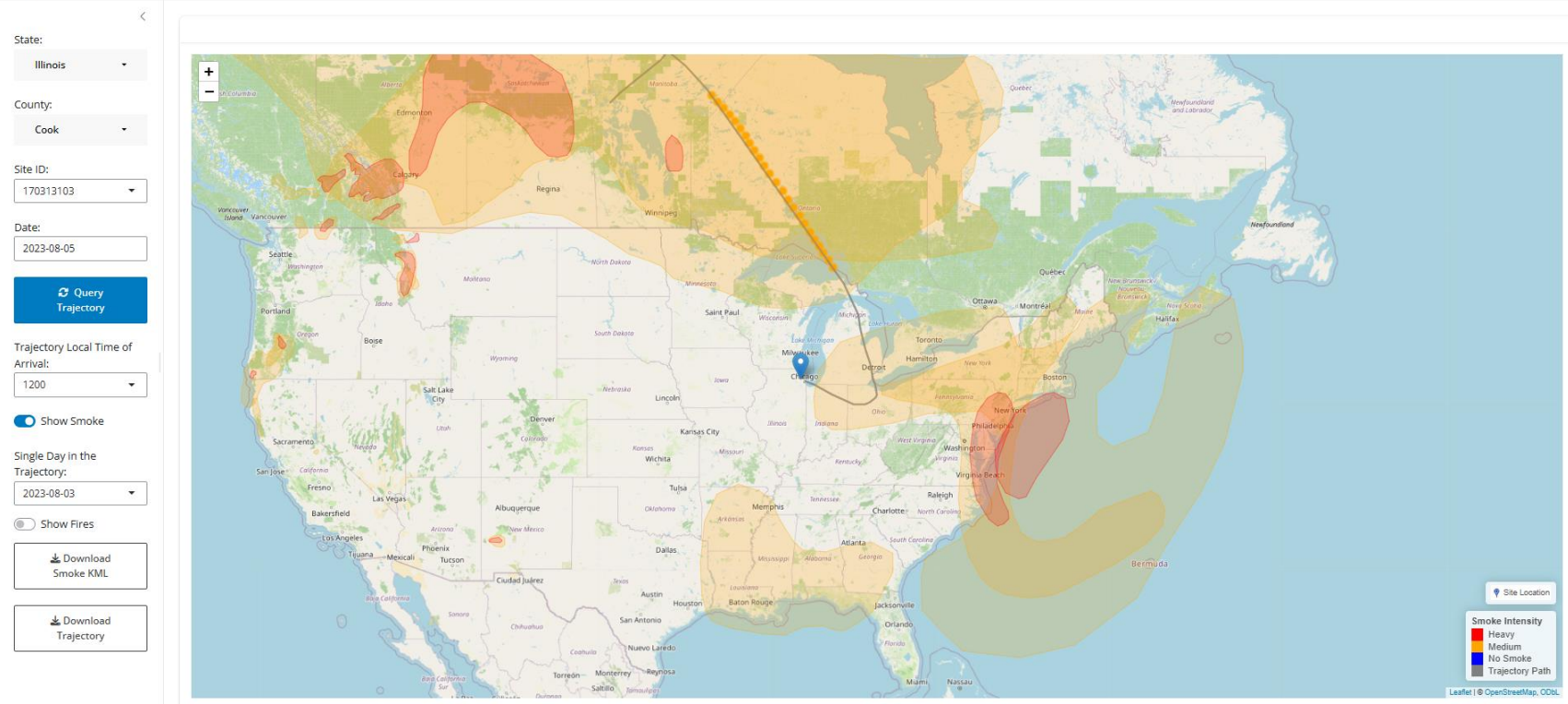


Figure B-34. HYSPLIT back trajectory from IEPA Trailer monitor on August 05, 2023.

Hysplit Trajectories for Exceptional Events

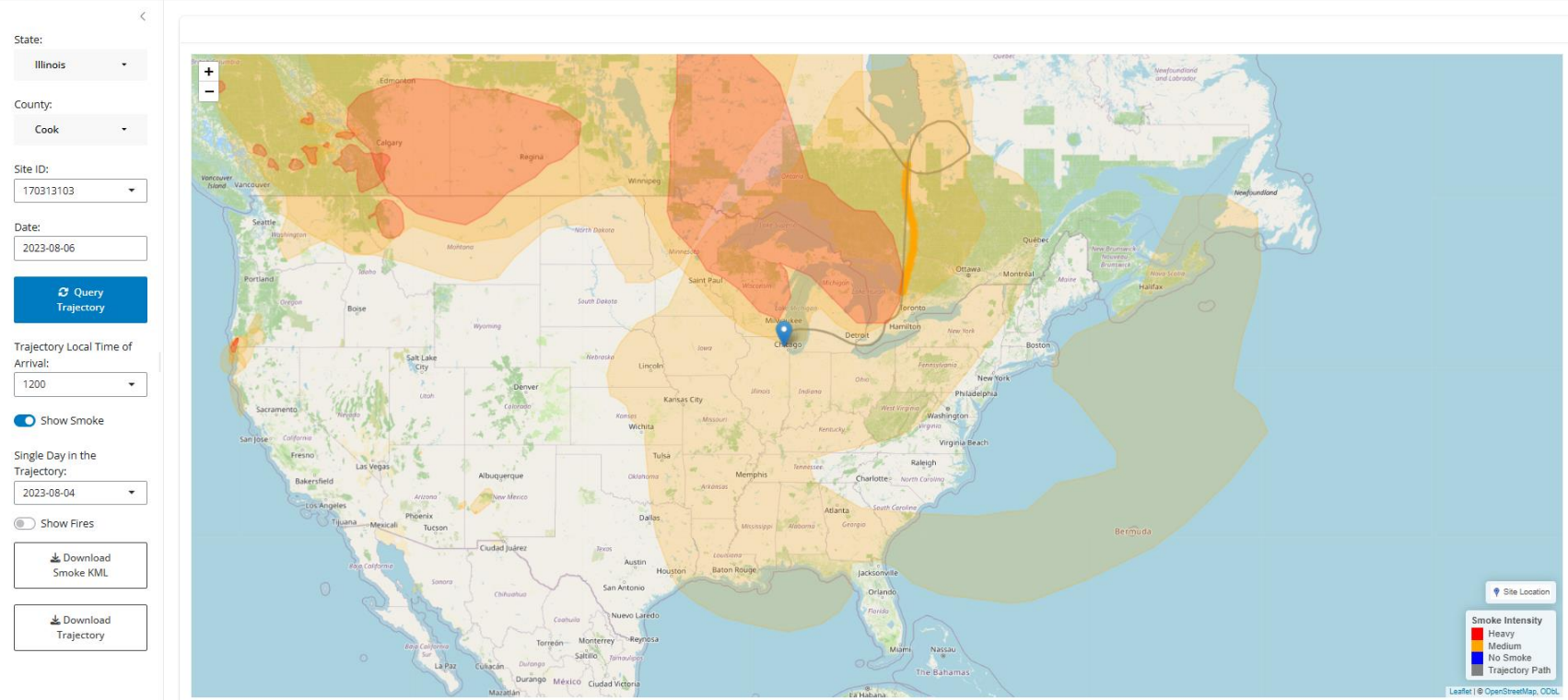


Figure B-35. HYSPLIT back trajectory from IEPA Trailer monitor on August 06, 2023.

Hysplit Trajectories for Exceptional Events

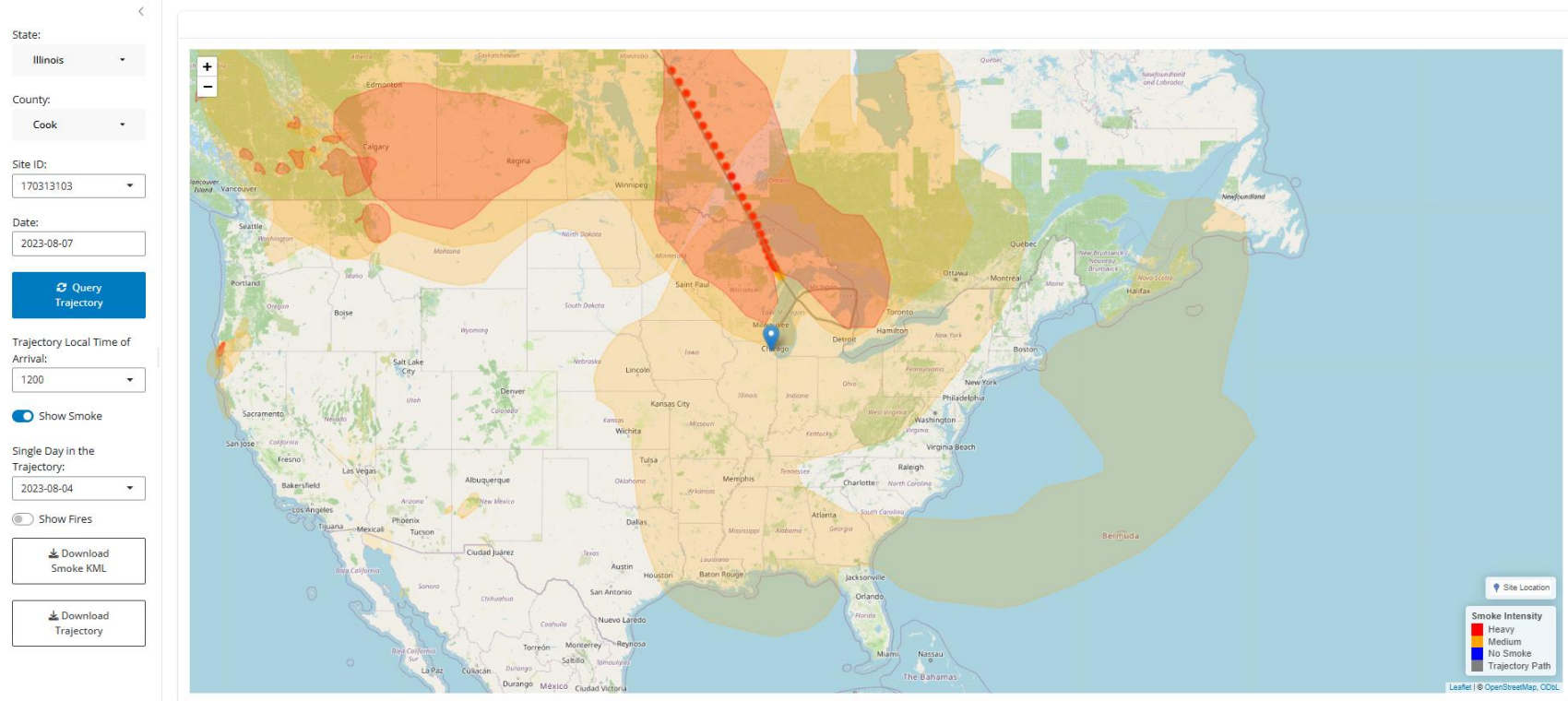


Figure B-36. HYSPLIT back trajectory from IEPA Trailer monitor on August 07, 2023.

Hysplit Trajectories for Exceptional Events

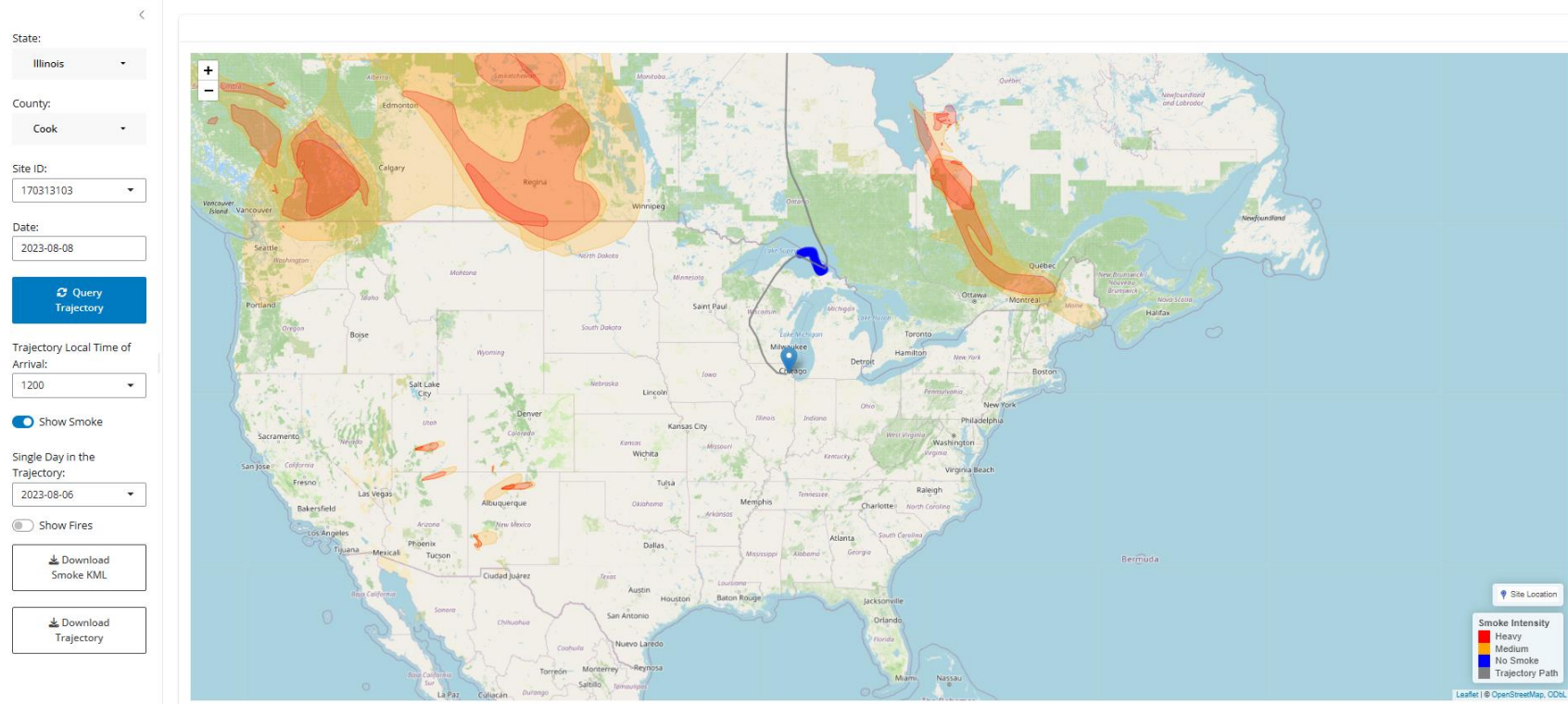


Figure B-37. HYSPLIT back trajectory from IEPA Trailer monitor on August 08, 2023.

Hysplit Trajectories for Exceptional Events

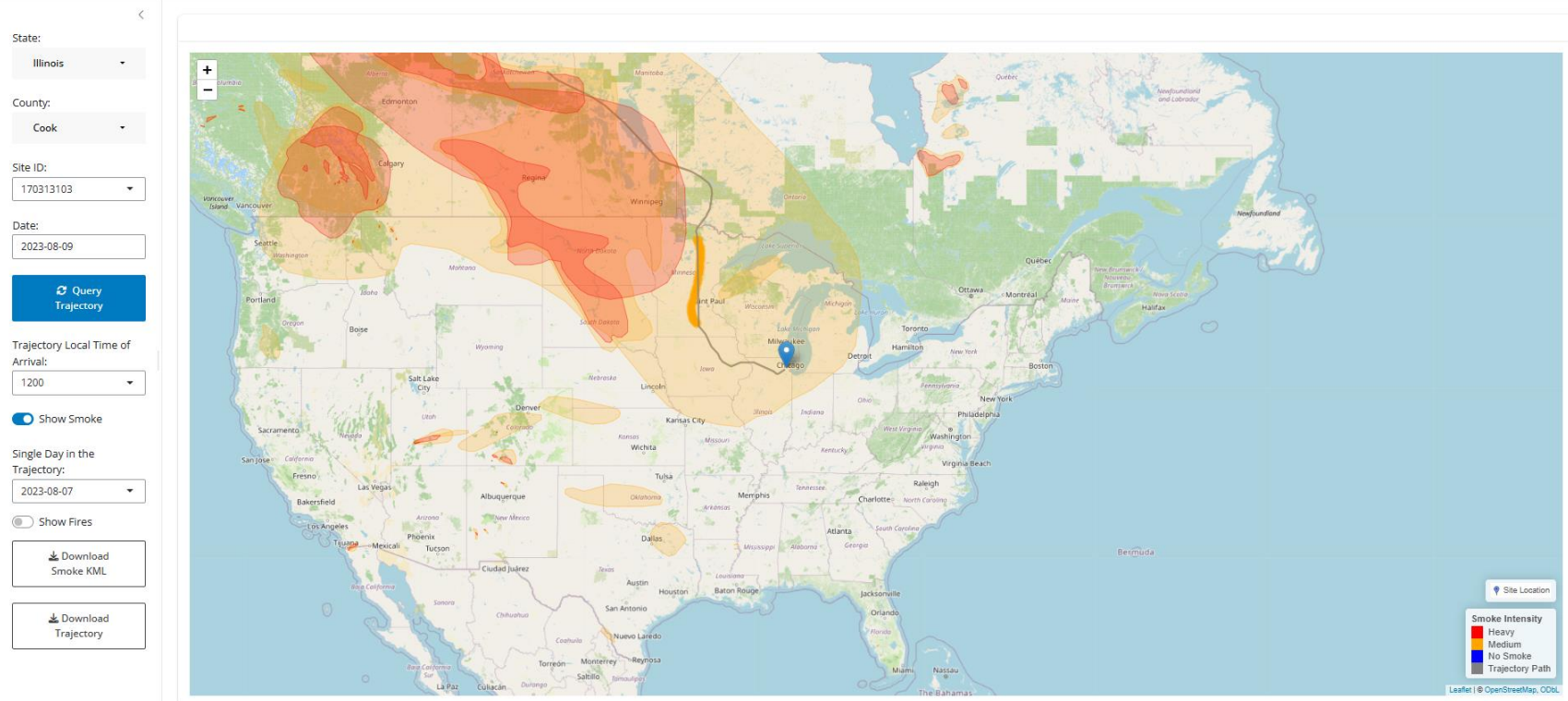


Figure B-38. HYSPLIT back trajectory from IEPA Trailer monitor on August 09, 2023.

Hysplit Trajectories for Exceptional Events

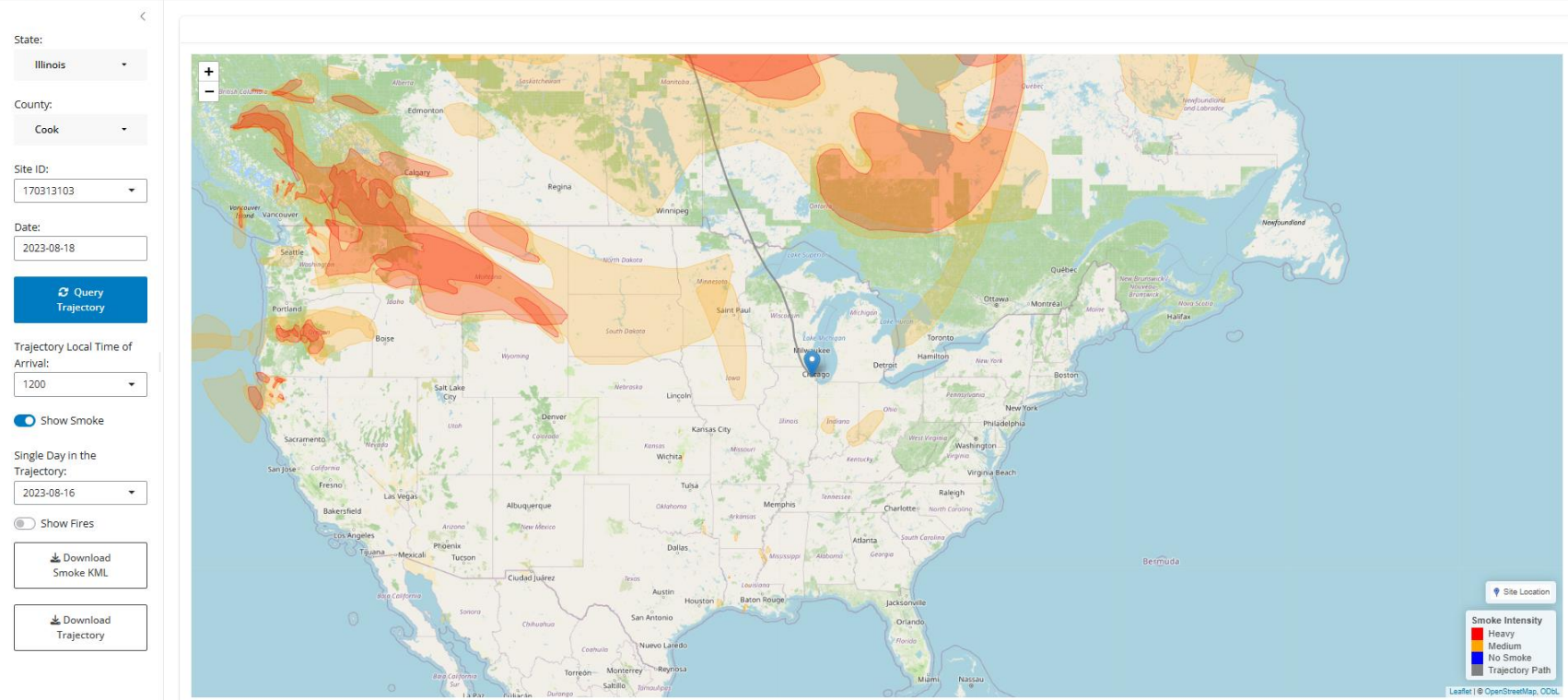


Figure B-39. HYSPLIT back trajectory from IEPA Trailer monitor on August 18, 2023.

Hysplit Trajectories for Exceptional Events

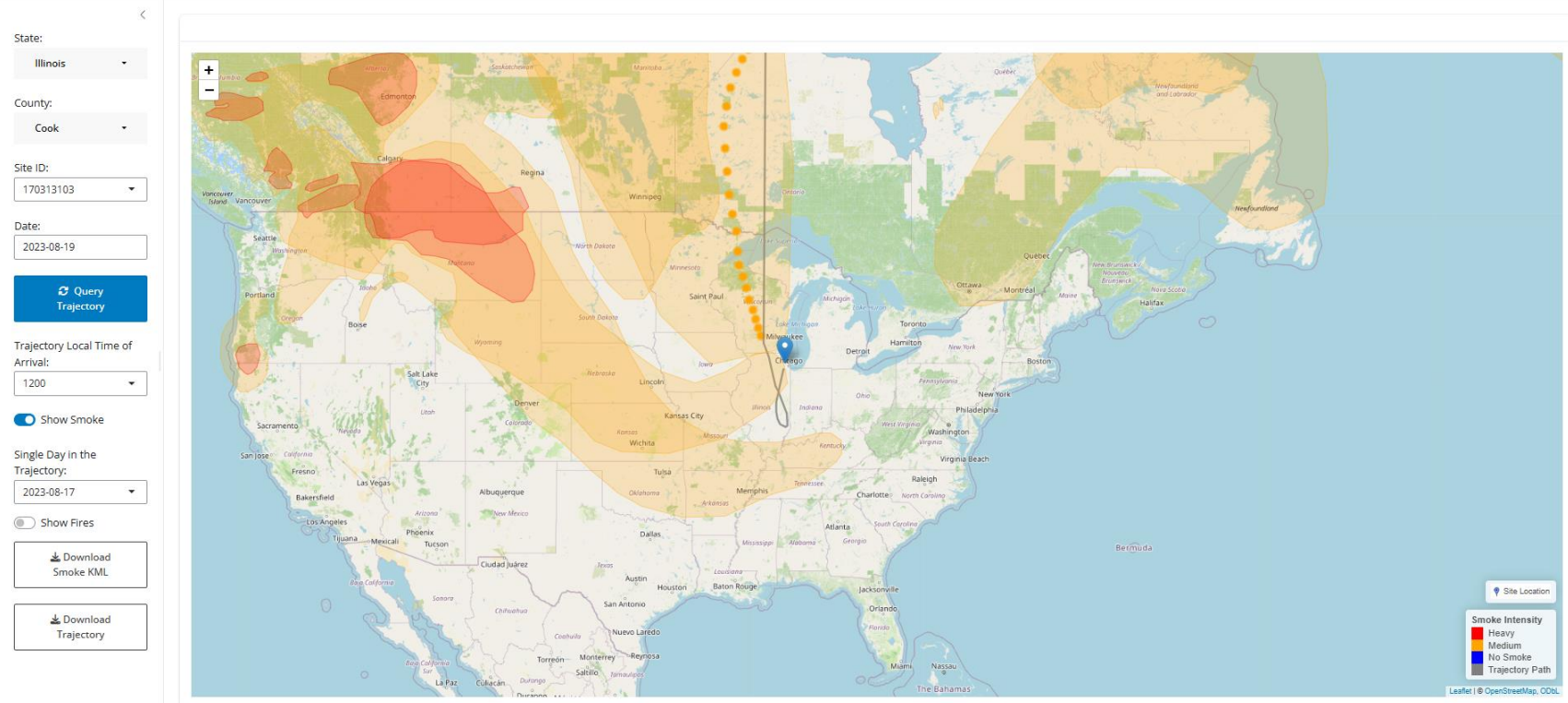


Figure B-40. HYSPLIT back trajectory from IEPA Trailer monitor on August 19, 2023.

Hysplit Trajectories for Exceptional Events

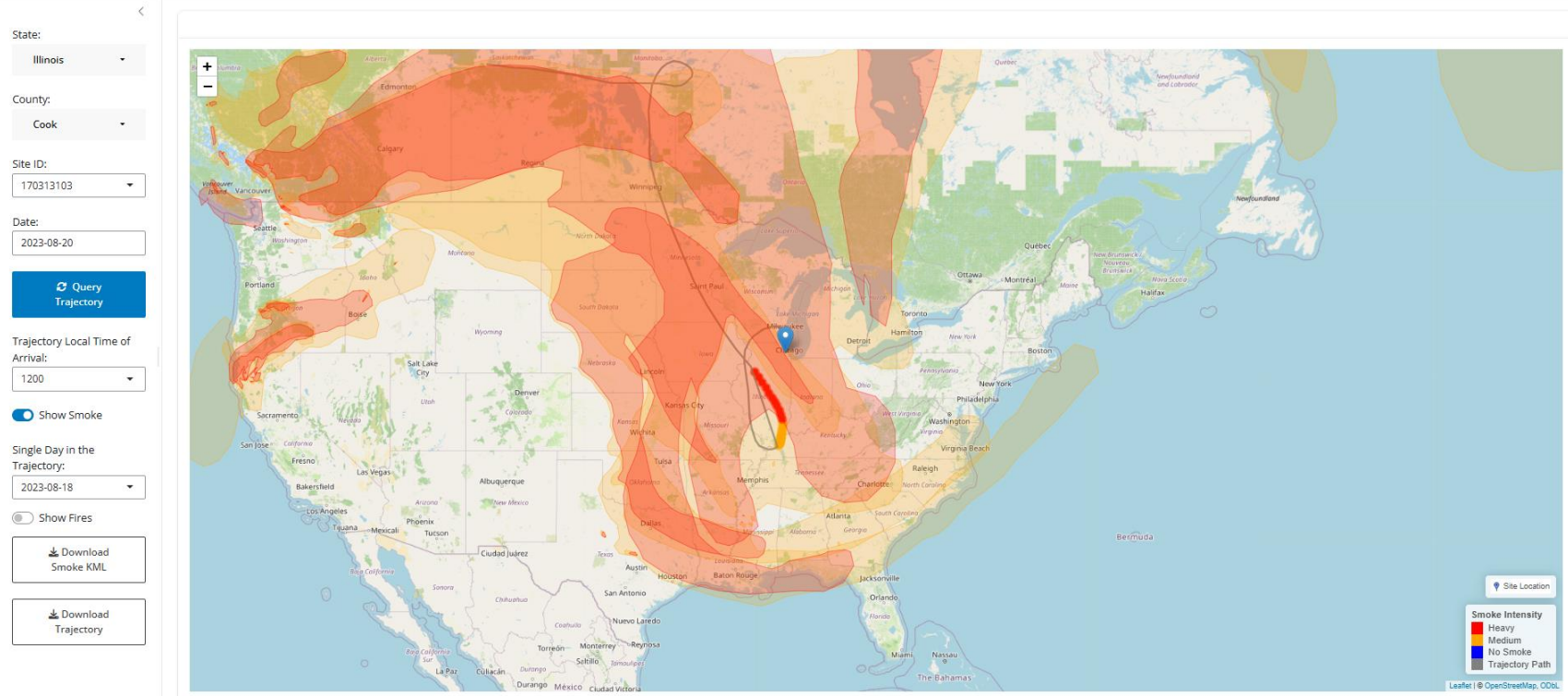


Figure B-41. HYSPLIT back trajectory from IEPA Trailer monitor on August 20, 2023.

Hysplit Trajectories for Exceptional Events

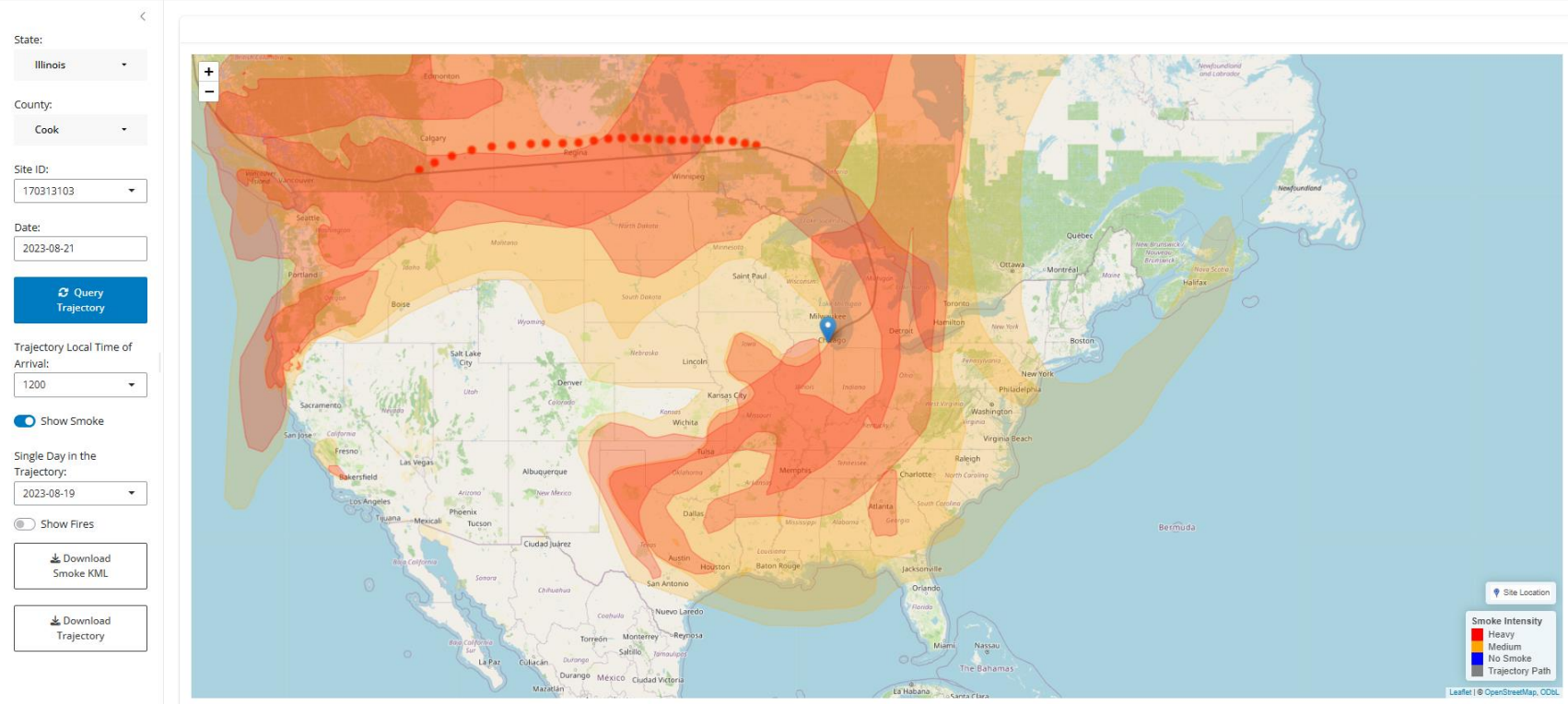


Figure B-42. HYSPLIT back trajectory from IEPA Trailer monitor on August 21, 2023.

Hysplit Trajectories for Exceptional Events

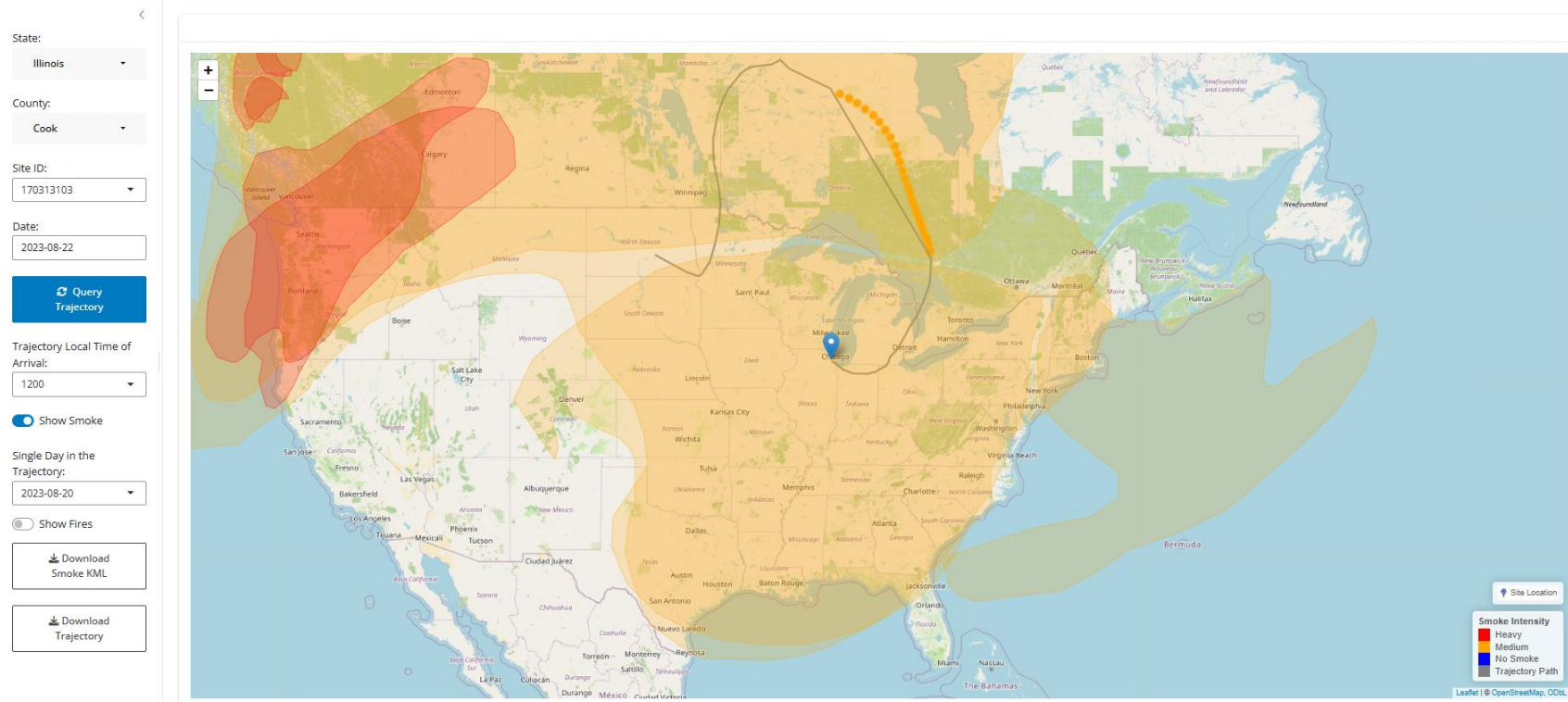


Figure B-43. HYSPLIT back trajectory from IEPA Trailer monitor on August 22, 2023.

Hysplit Trajectories for Exceptional Events

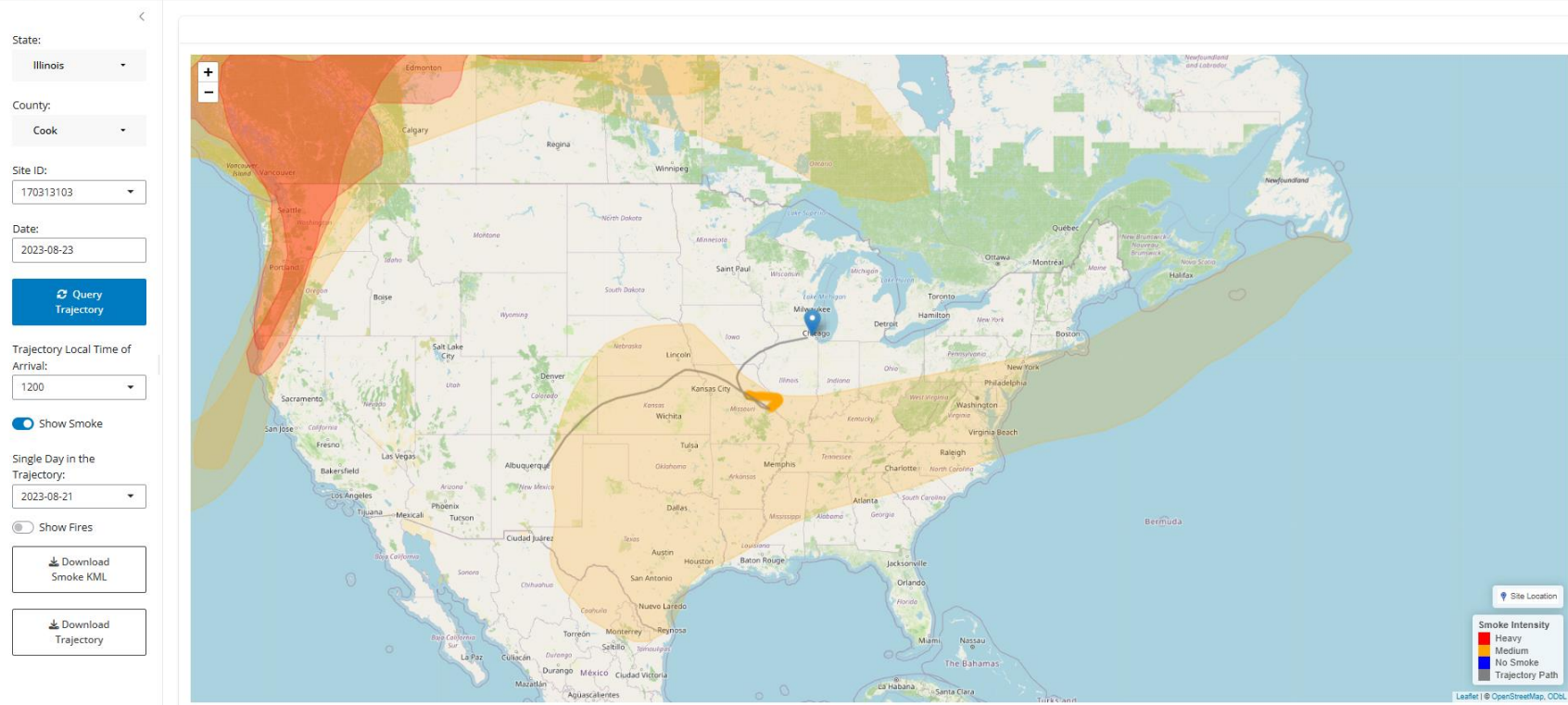


Figure B-44. HYSPLIT back trajectory from IEPA Trailer monitor on August 23, 2023.

Hysplit Trajectories for Exceptional Events

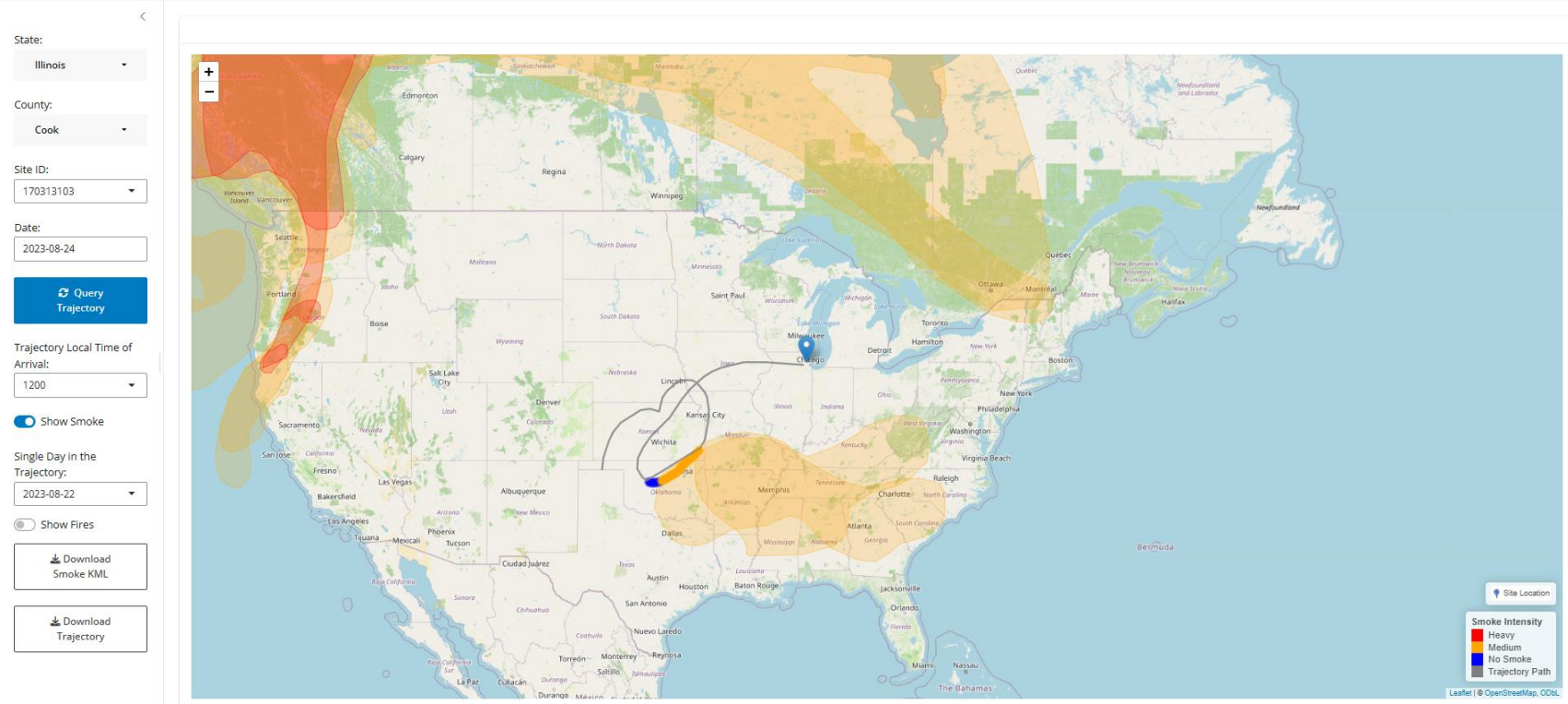


Figure B-45. HYSPLIT back trajectory from IEPA Trailer monitor on August 24, 2023.

Hysplit Trajectories for Exceptional Events

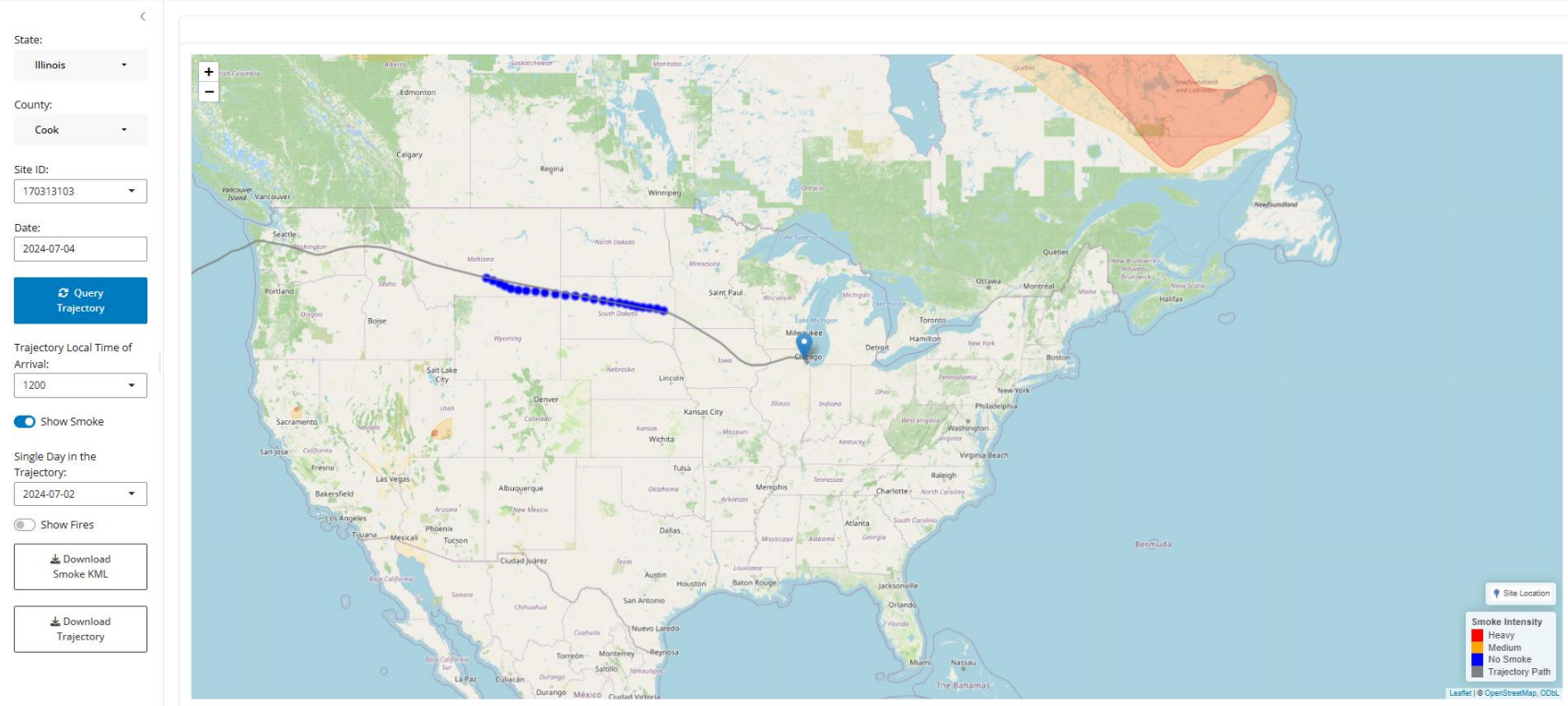


Figure B-46. HYSPLIT back trajectory from IEPA Trailer monitor on July 04, 2024.

Hysplit Trajectories for Exceptional Events

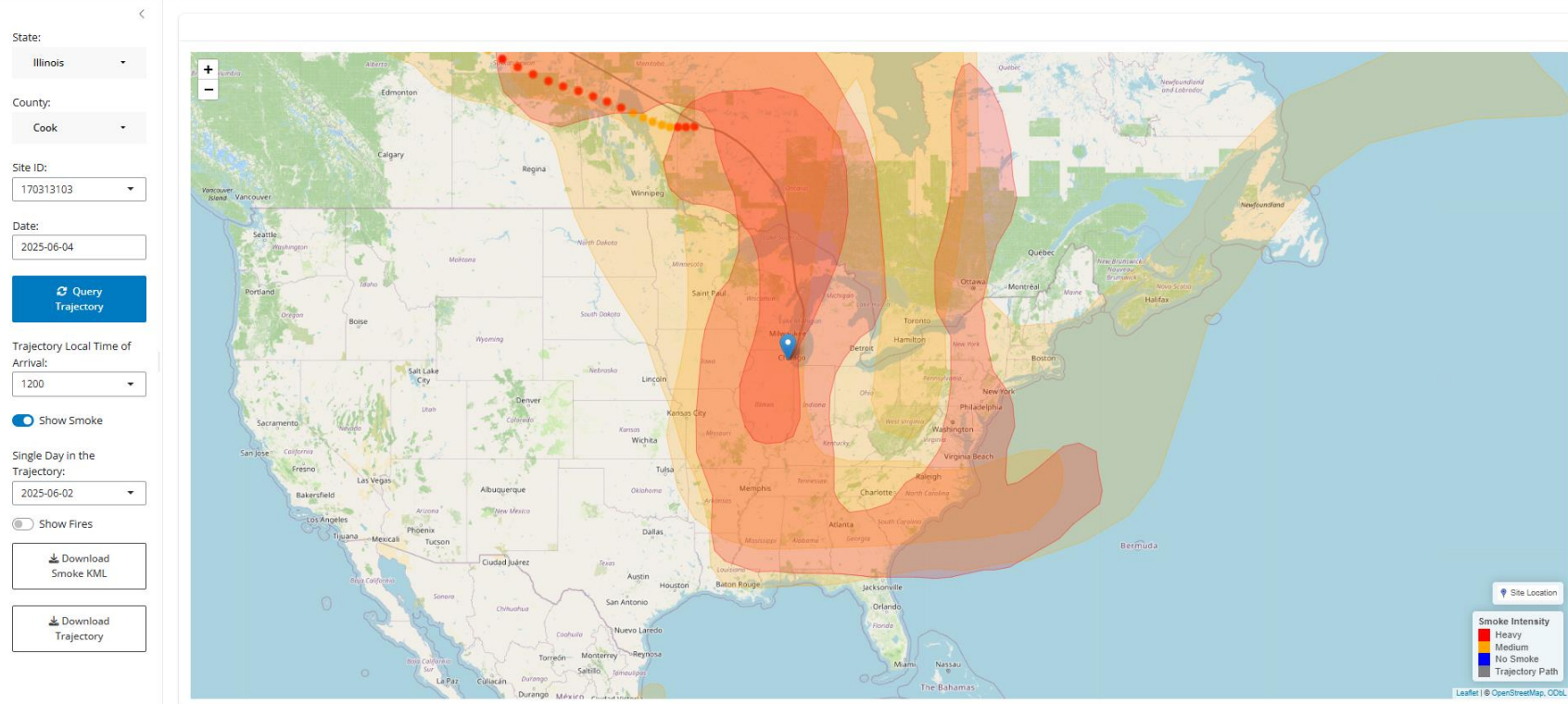


Figure B-47. HYSPLIT back trajectory from IEPA Trailer monitor on June 04, 2025.

Hysplit Trajectories for Exceptional Events

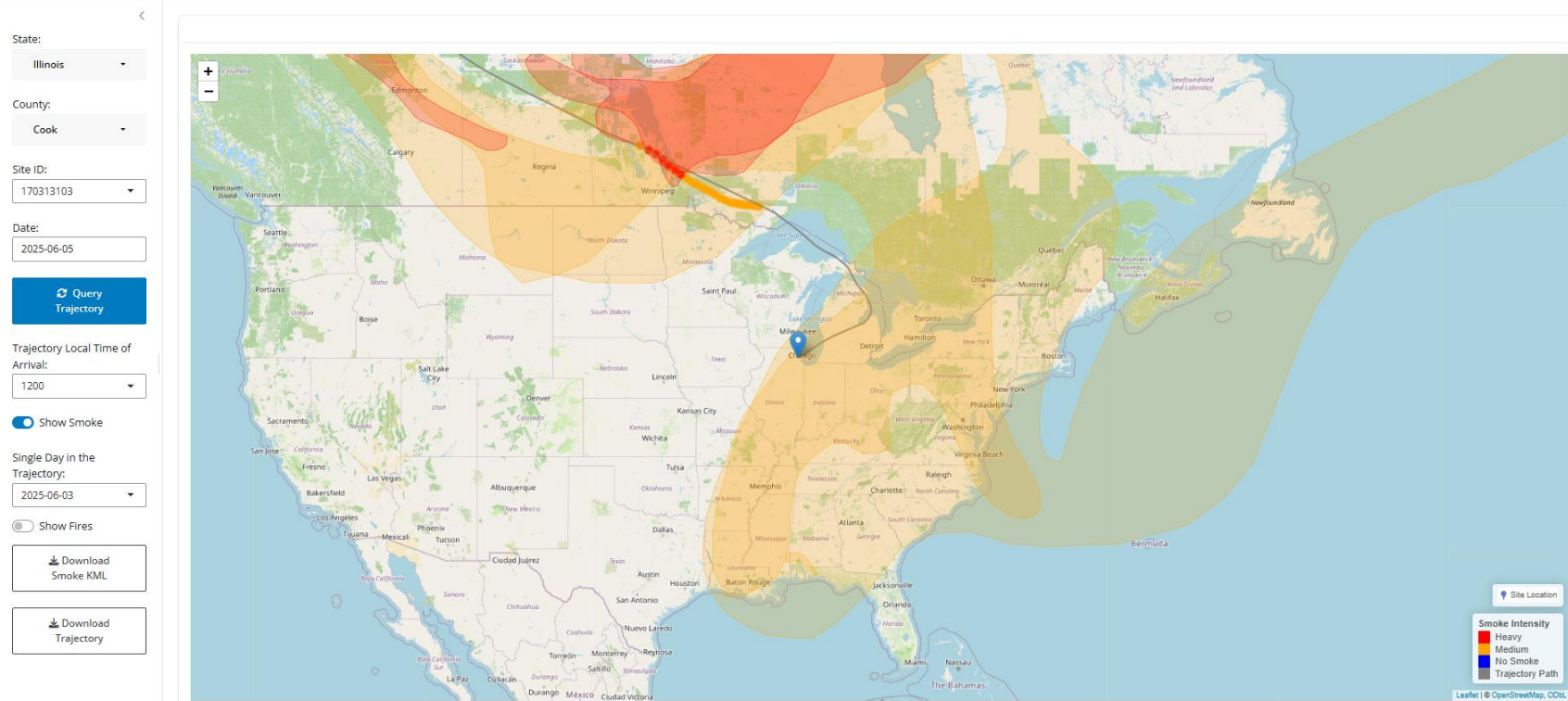


Figure B-48. HYSPLIT back trajectory from IEPA Trailer monitor on June 05, 2025.

Hysplit Trajectories for Exceptional Events

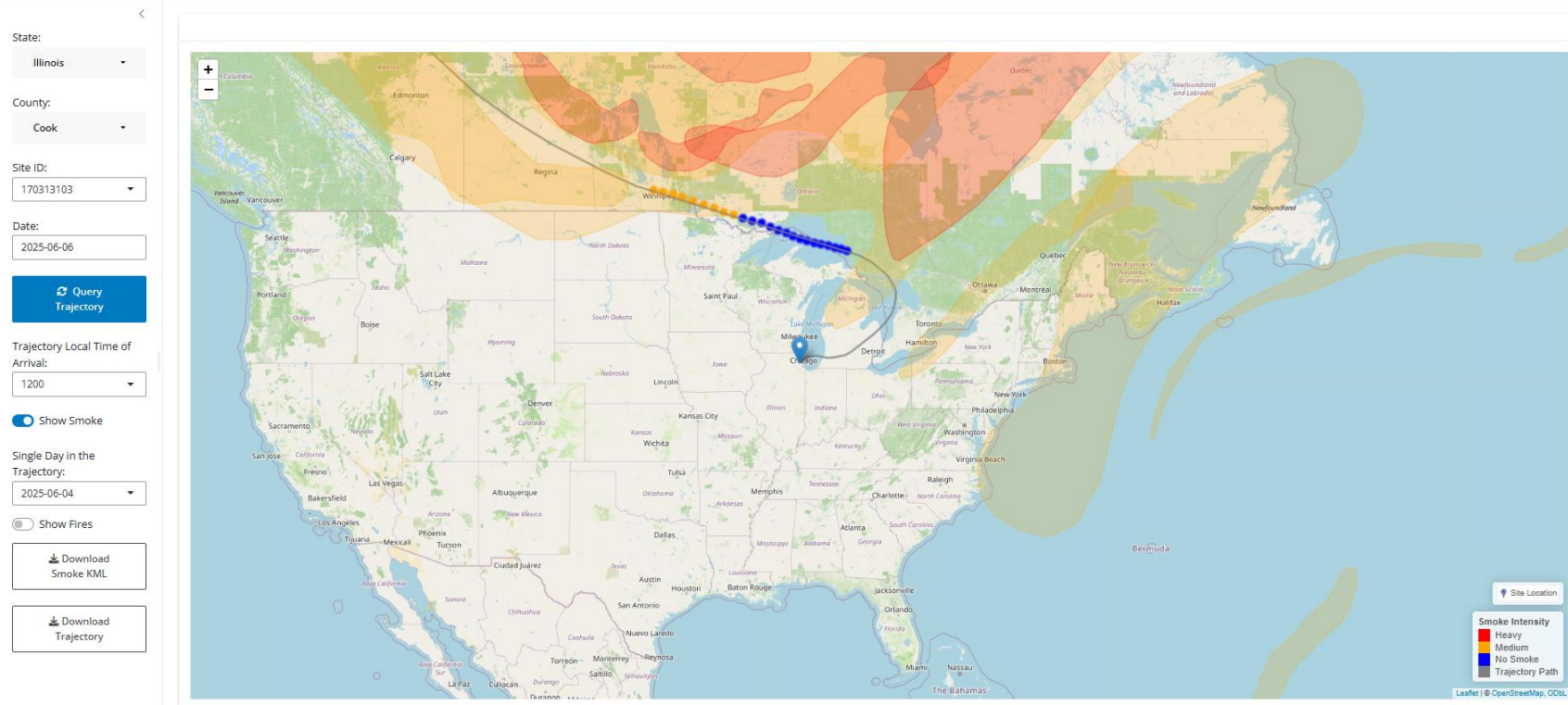


Figure B-49. HYSPLIT back trajectory from IEPA Trailer monitor on June 06, 2025.

Hysplit Trajectories for Exceptional Events

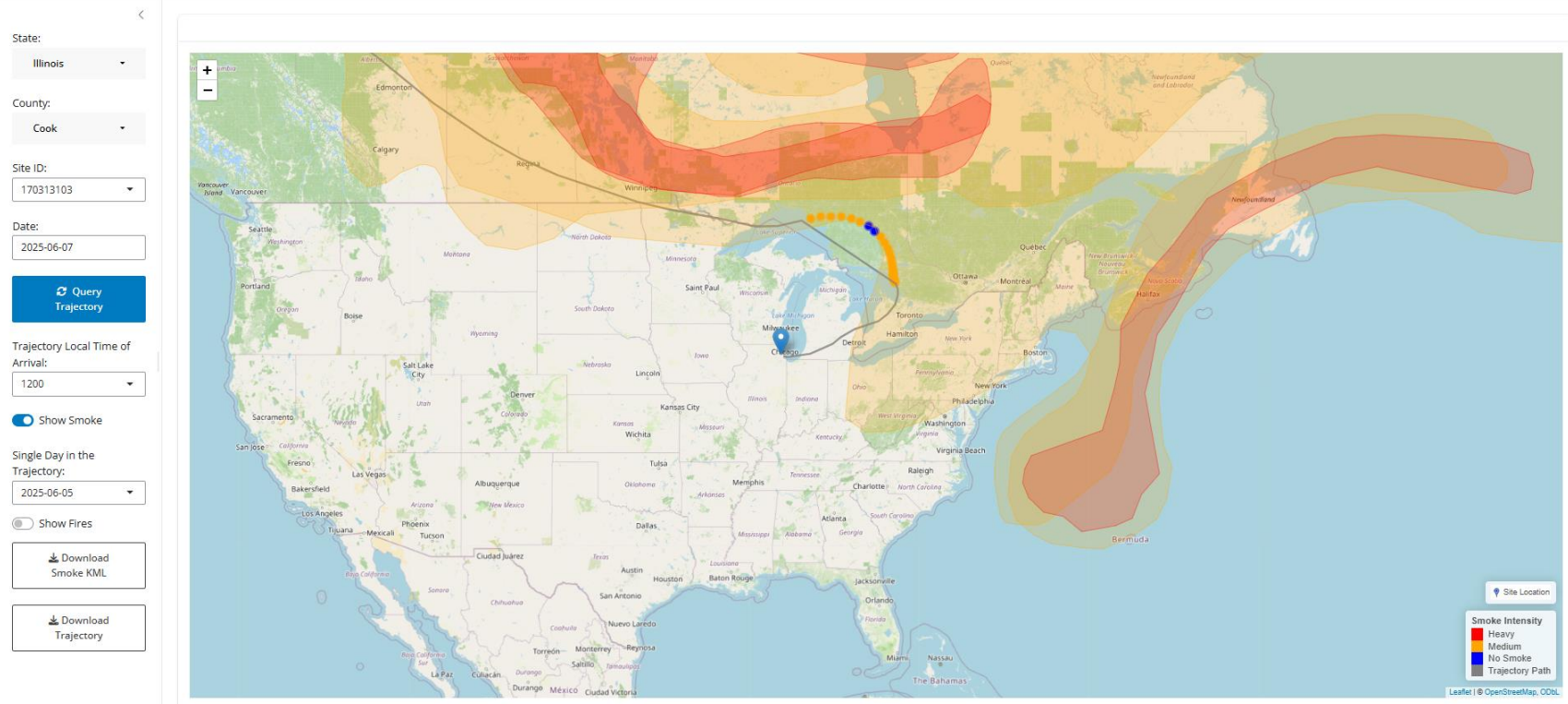


Figure B-50. HYSPLIT back trajectory from IEPA Trailer monitor on June 07, 2025.

Hysplit Trajectories for Exceptional Events

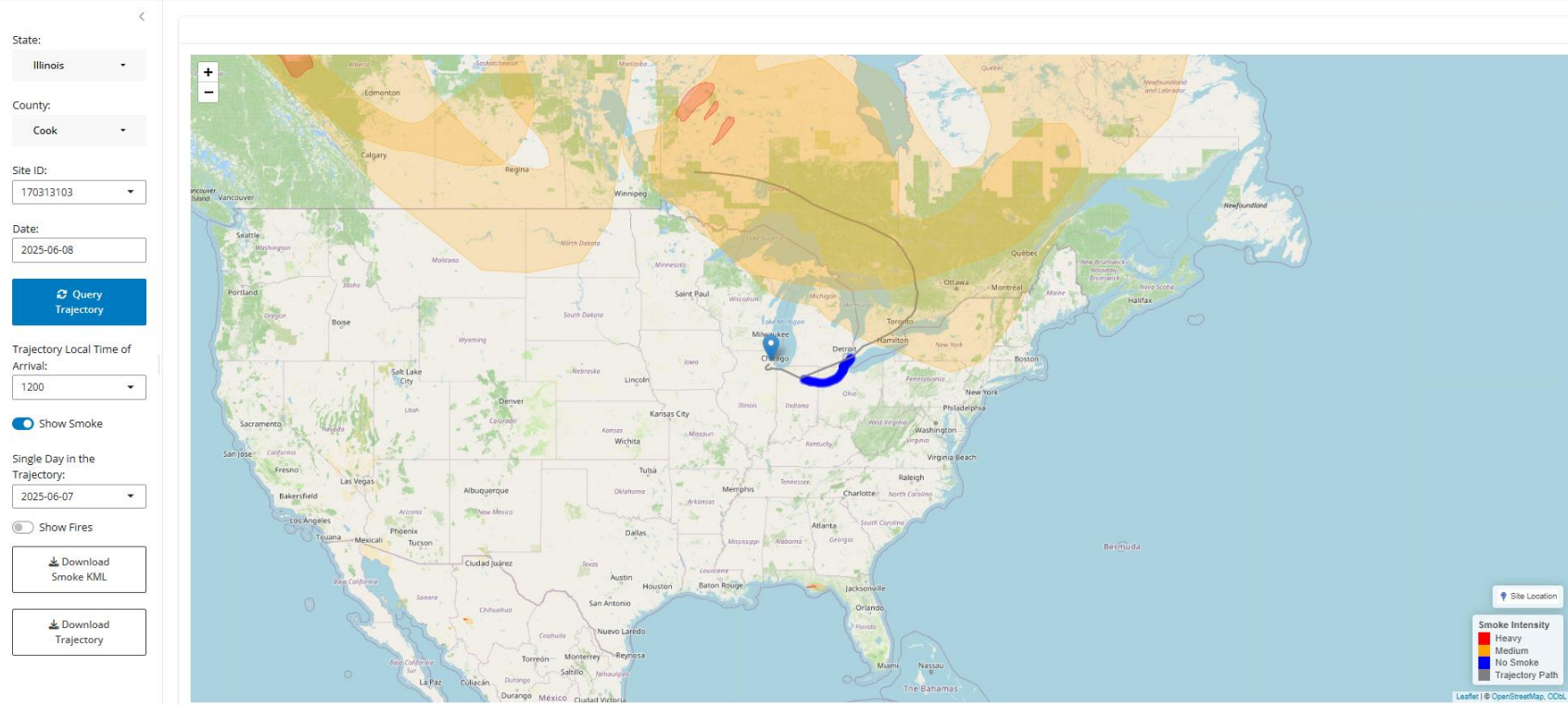


Figure B-51. HYSPLIT back trajectory from IEPA Trailer monitor on June 08, 2025.

Hysplit Trajectories for Exceptional Events

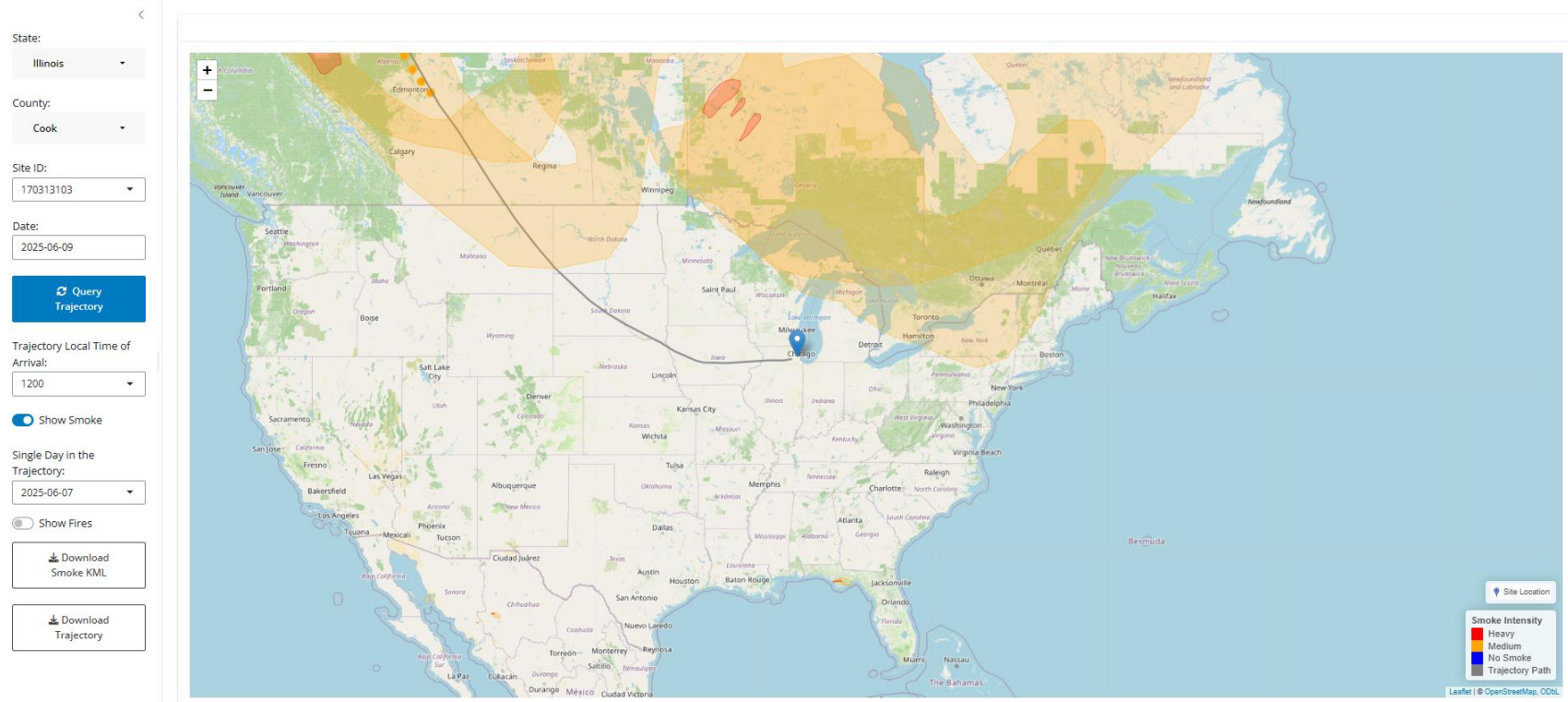


Figure B-52. HYSPLIT back trajectory from IEPA Trailer monitor on June 09, 2025.

Hysplit Trajectories for Exceptional Events

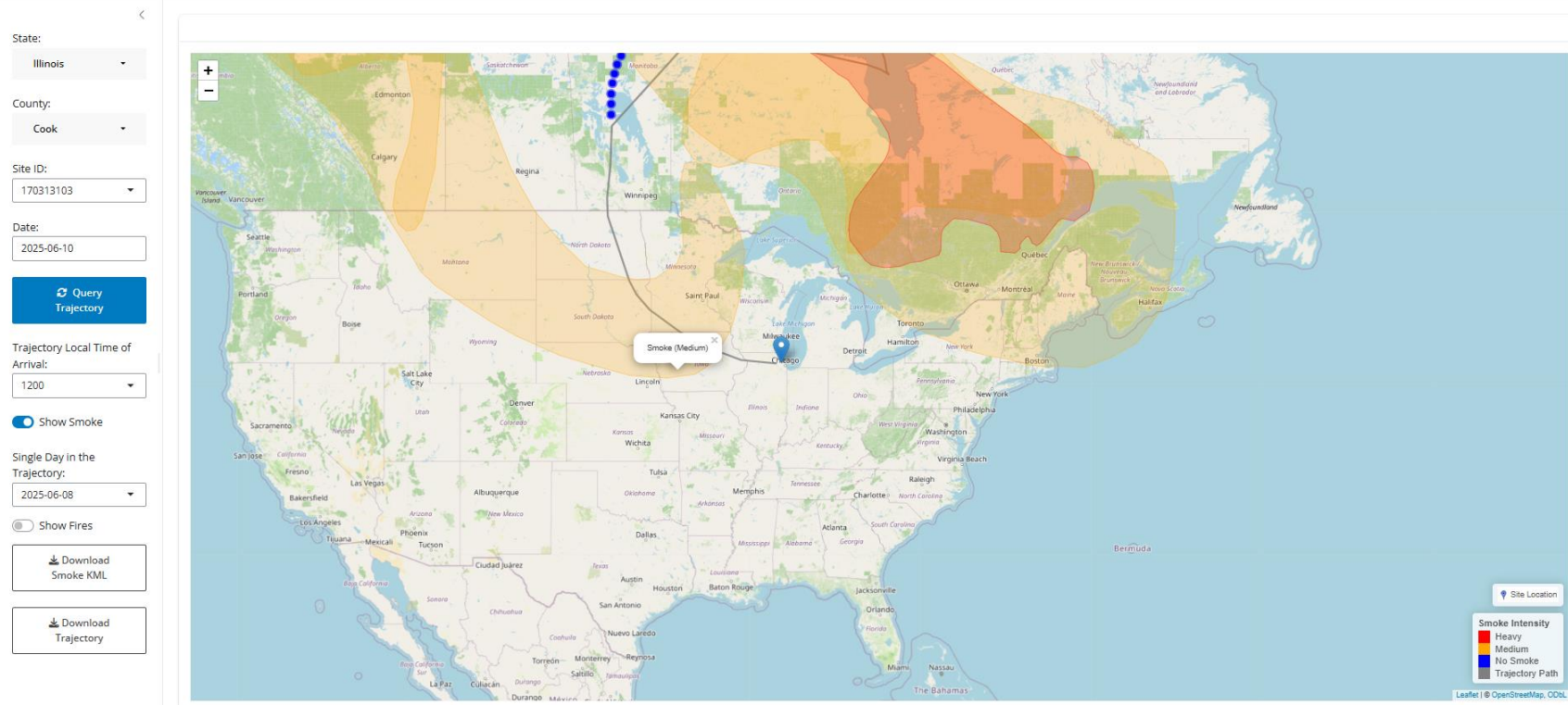


Figure B-53. HYSPLIT back trajectory from IEPA Trailer monitor on June 10, 2025.

Hysplit Trajectories for Exceptional Events

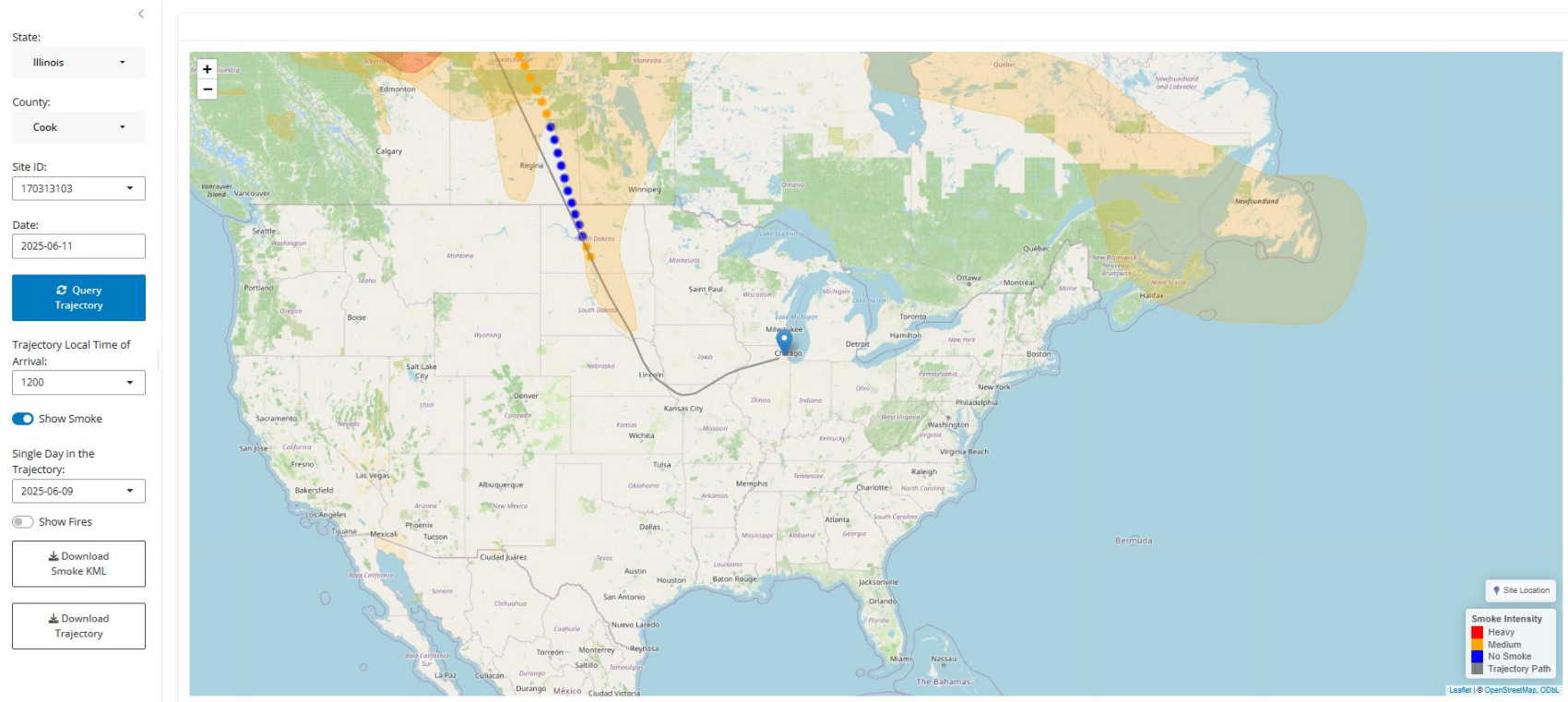


Figure B-54. HYSPLIT back trajectory from IEPA Trailer monitor on June 11, 2025.

Hysplit Trajectories for Exceptional Events

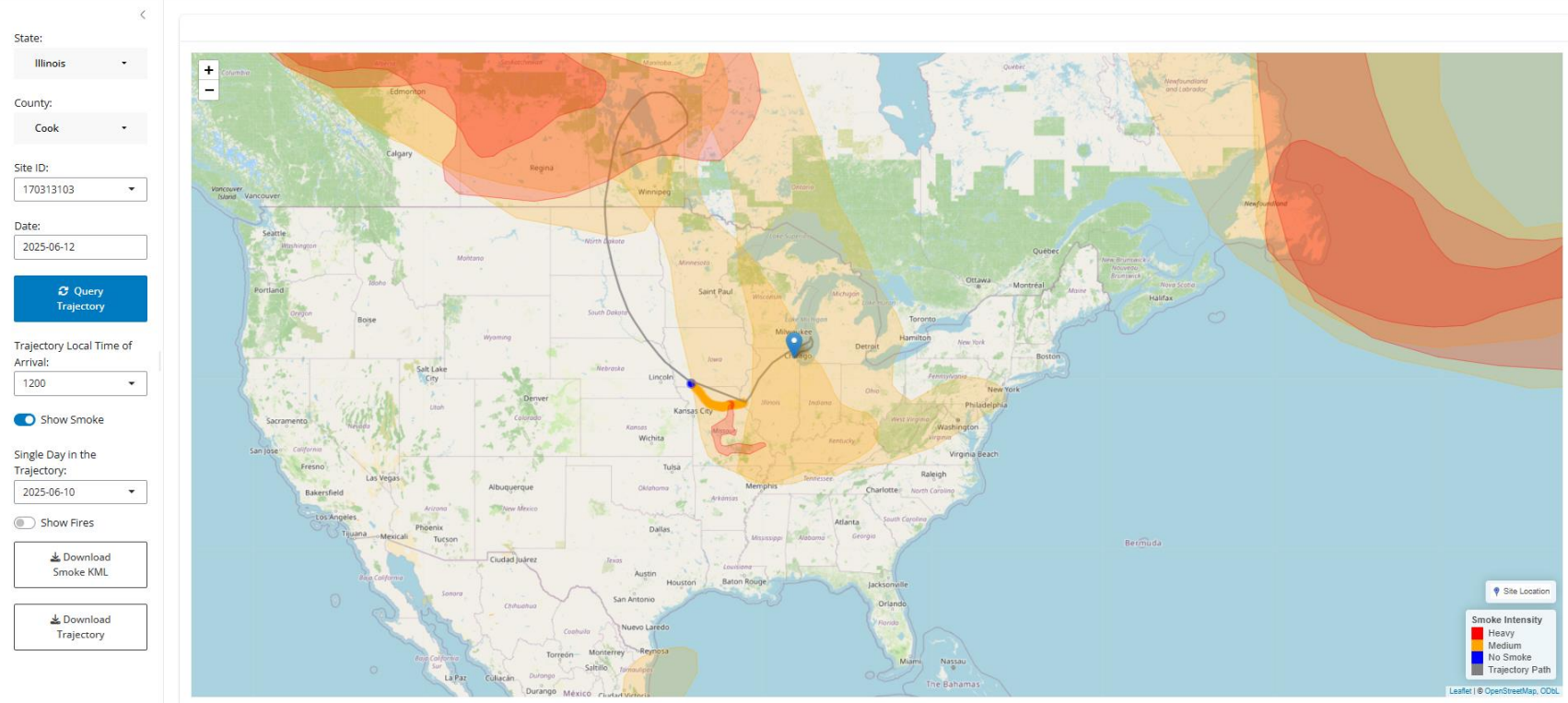


Figure B-55. HYSPLIT back trajectory from IEPA Trailer monitor on June 12, 2025.

Hysplit Trajectories for Exceptional Events

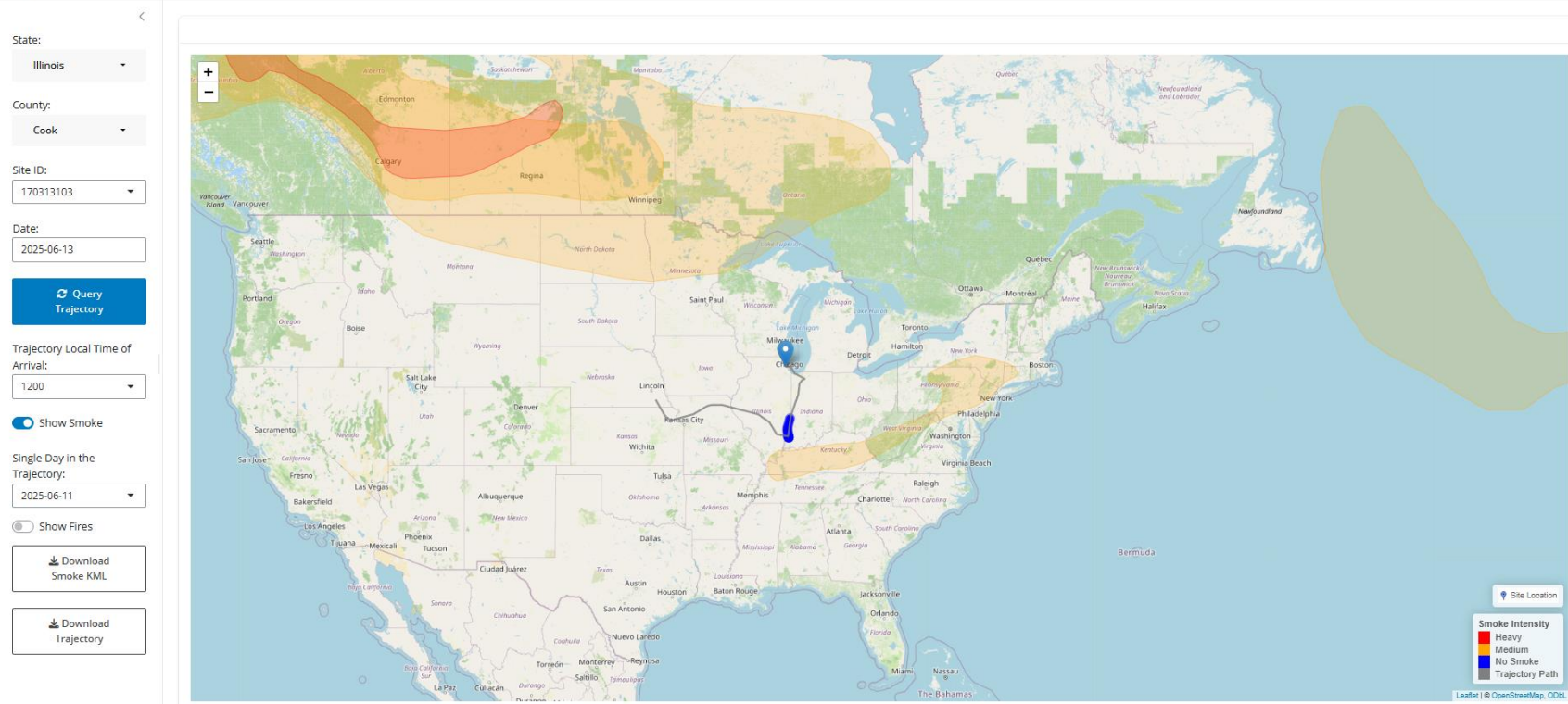


Figure B-56. HYSPLIT back trajectory from IEPA Trailer monitor on June 13, 2025.

Hysplit Trajectories for Exceptional Events

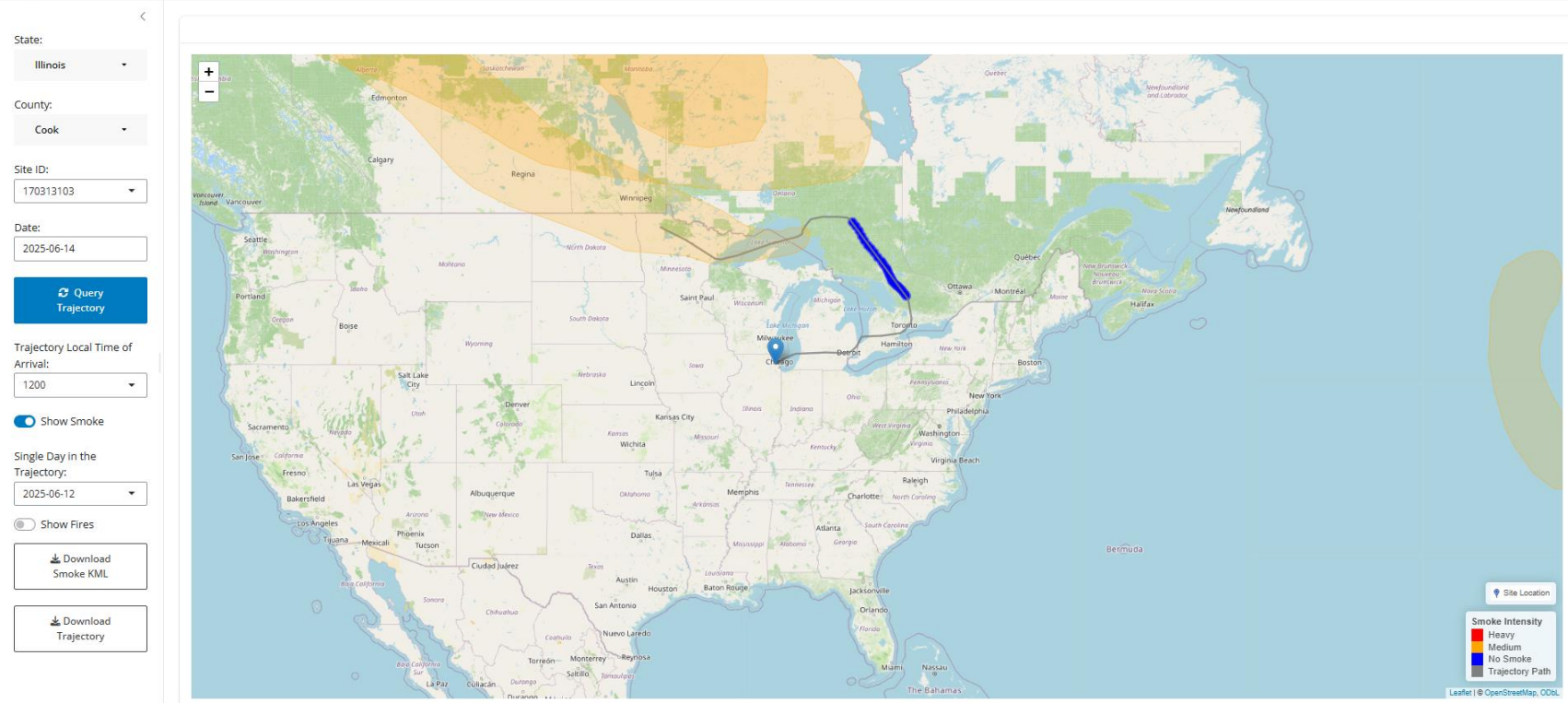


Figure B-57. HYSPLIT back trajectory from IEPA Trailer monitor on June 14, 2025.

Hysplit Trajectories for Exceptional Events

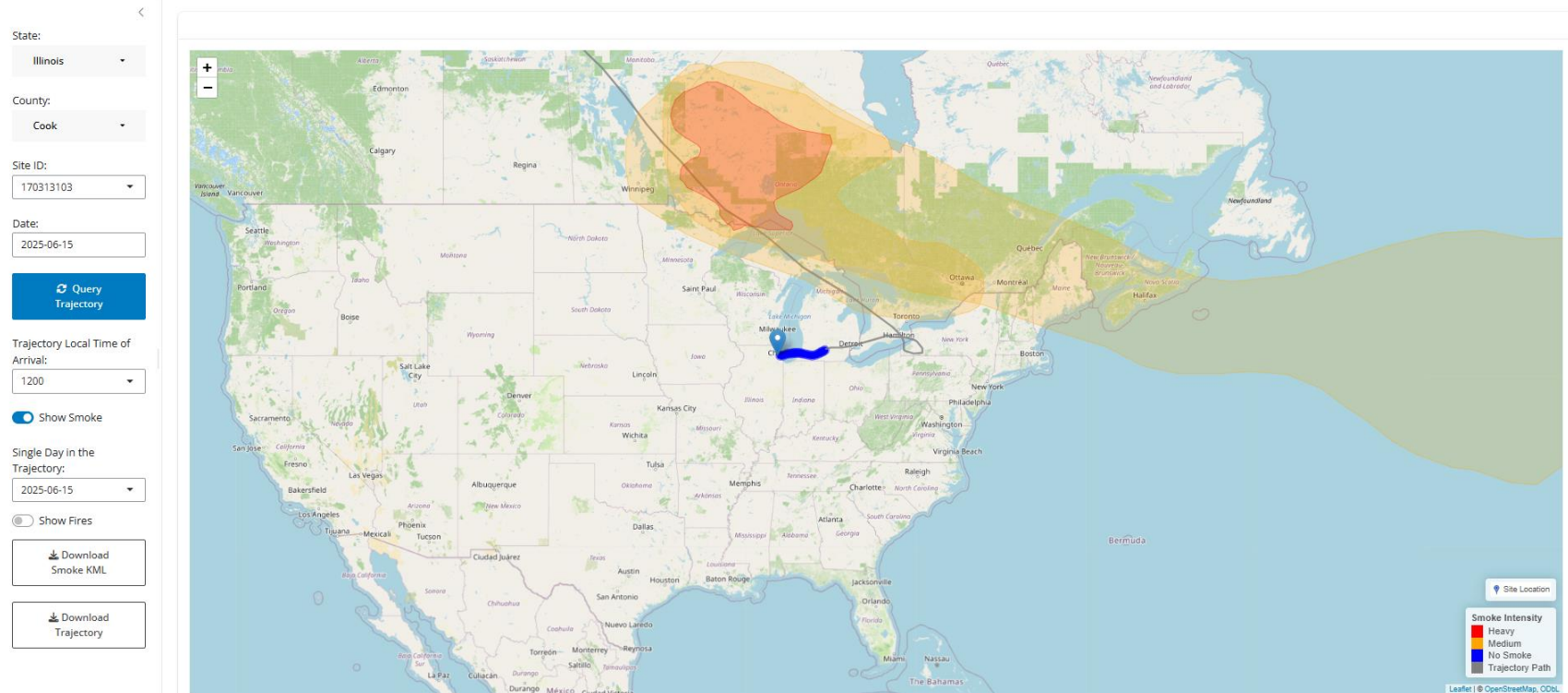


Figure B-58. HYSPLIT back trajectory from IEPA Trailer monitor on June 15, 2025.

Hysplit Trajectories for Exceptional Events

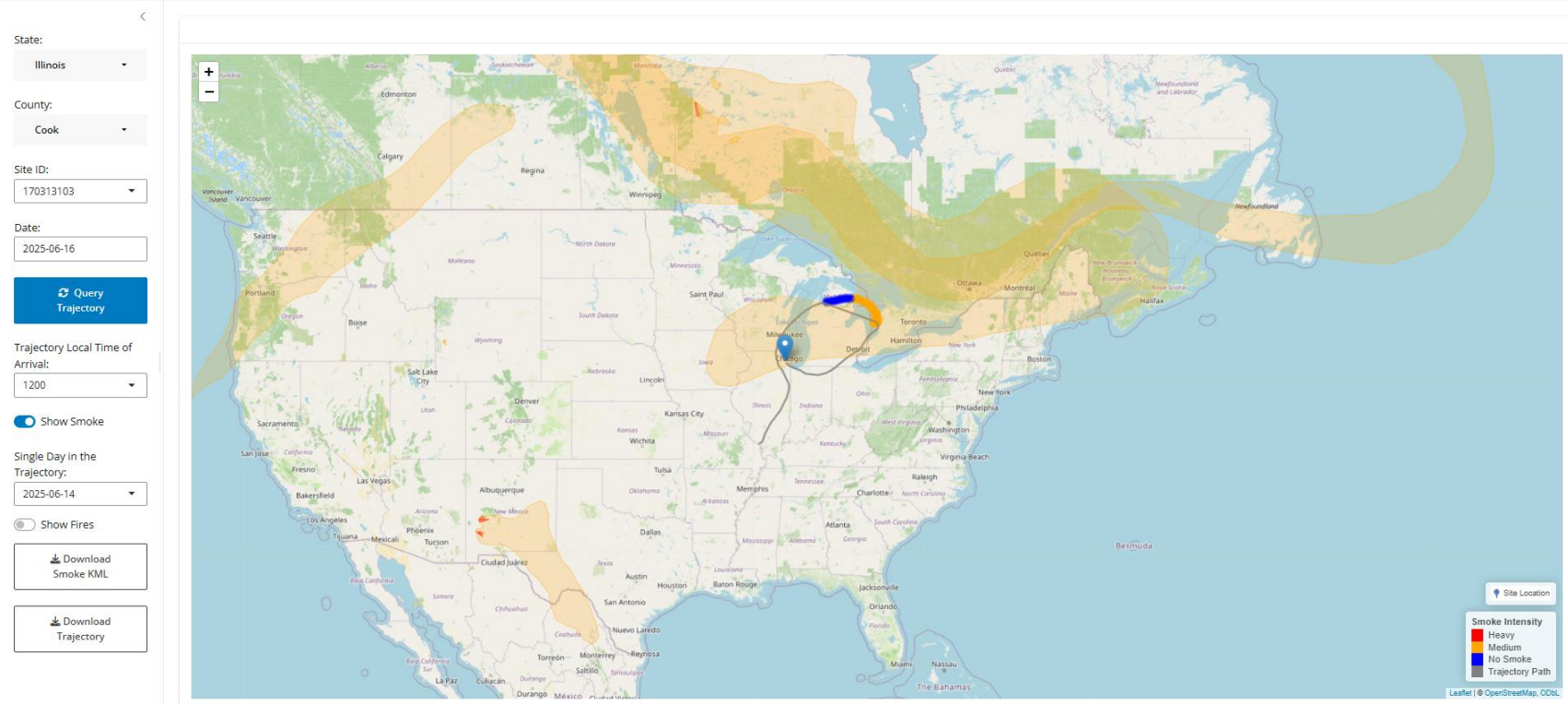


Figure B-59. HYSPLIT back trajectory from IEPA Trailer monitor on June 16, 2025.

Hysplit Trajectories for Exceptional Events

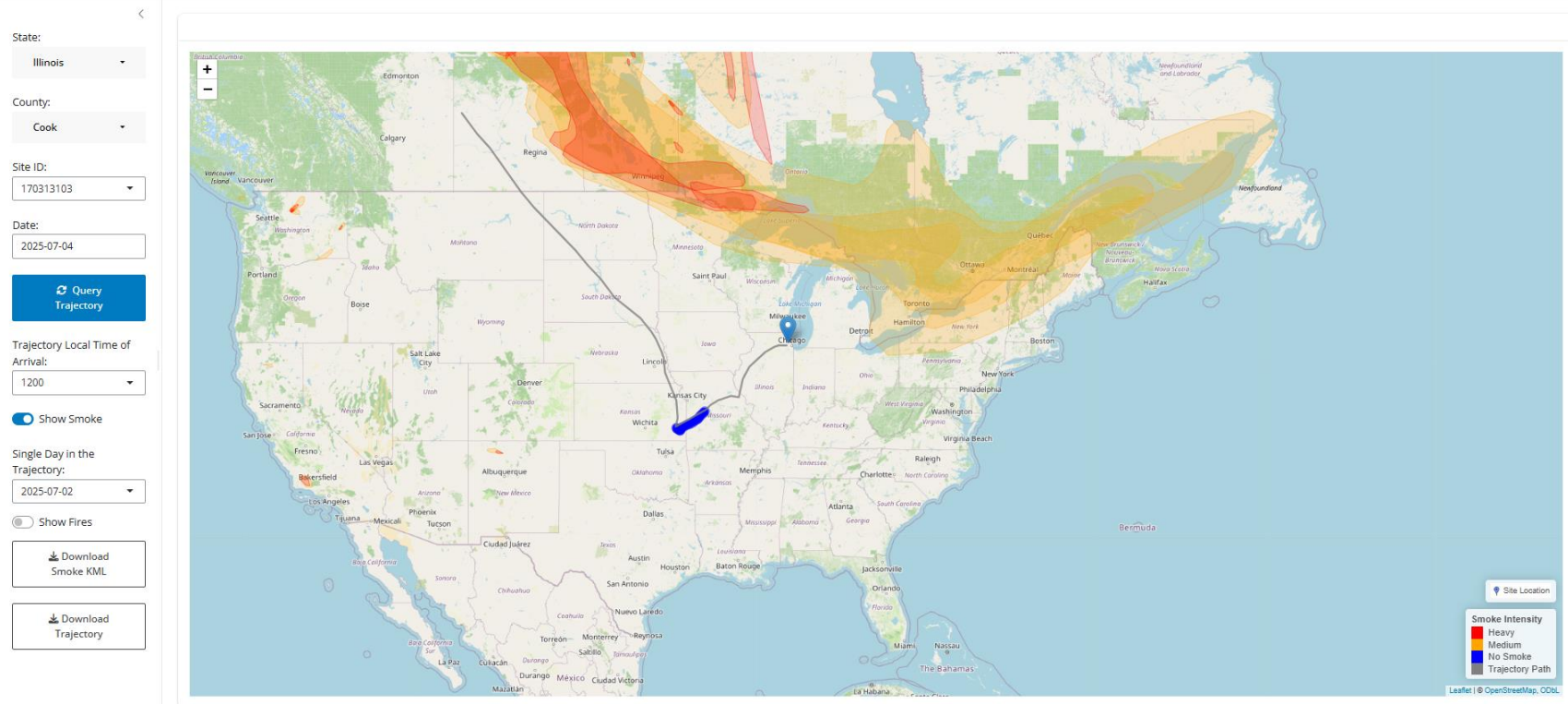


Figure B-60. HYSPLIT back trajectory from IEPA Trailer monitor on July 04, 2025.

Hysplit Trajectories for Exceptional Events

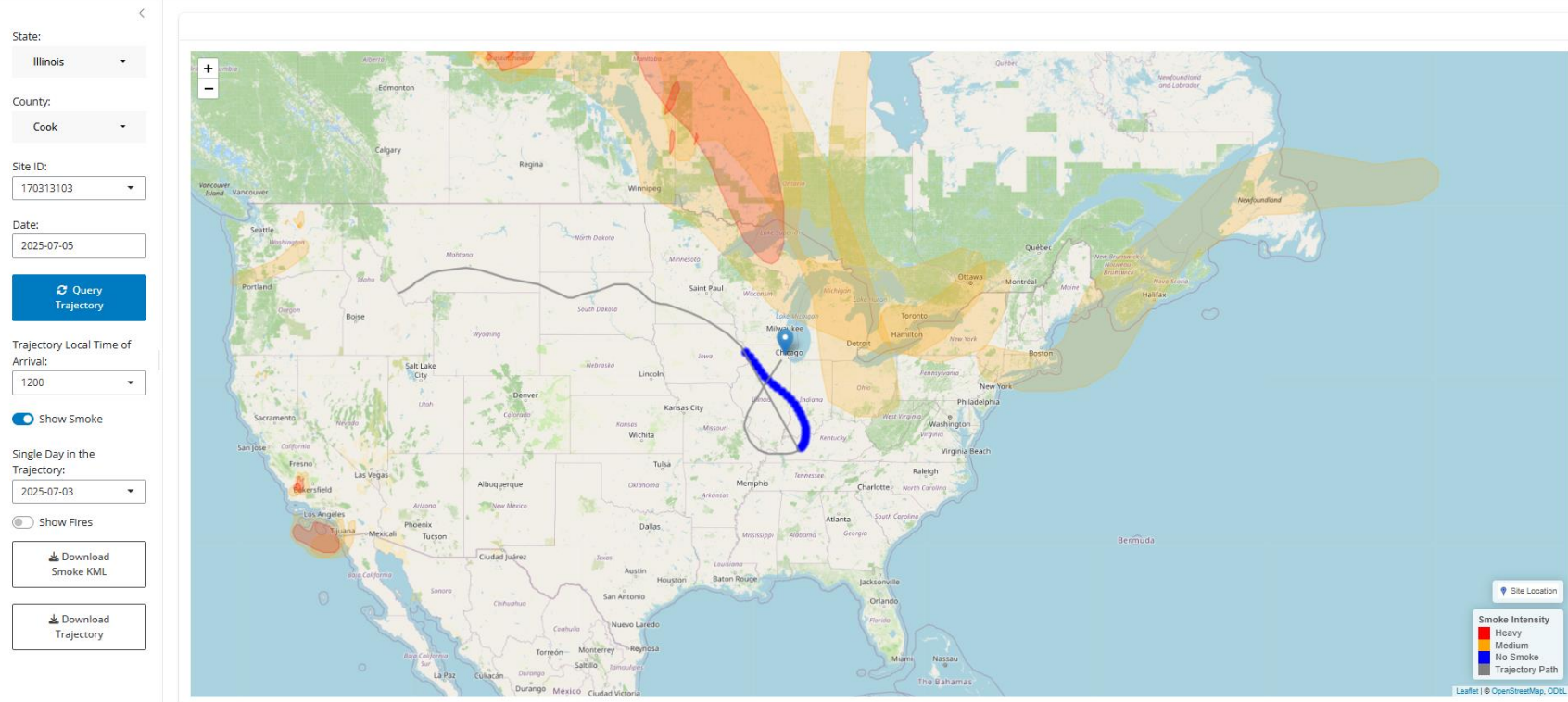


Figure B-61. HYSPLIT back trajectory from IEPA Trailer monitor on July 05, 2025.

Hysplit Trajectories for Exceptional Events

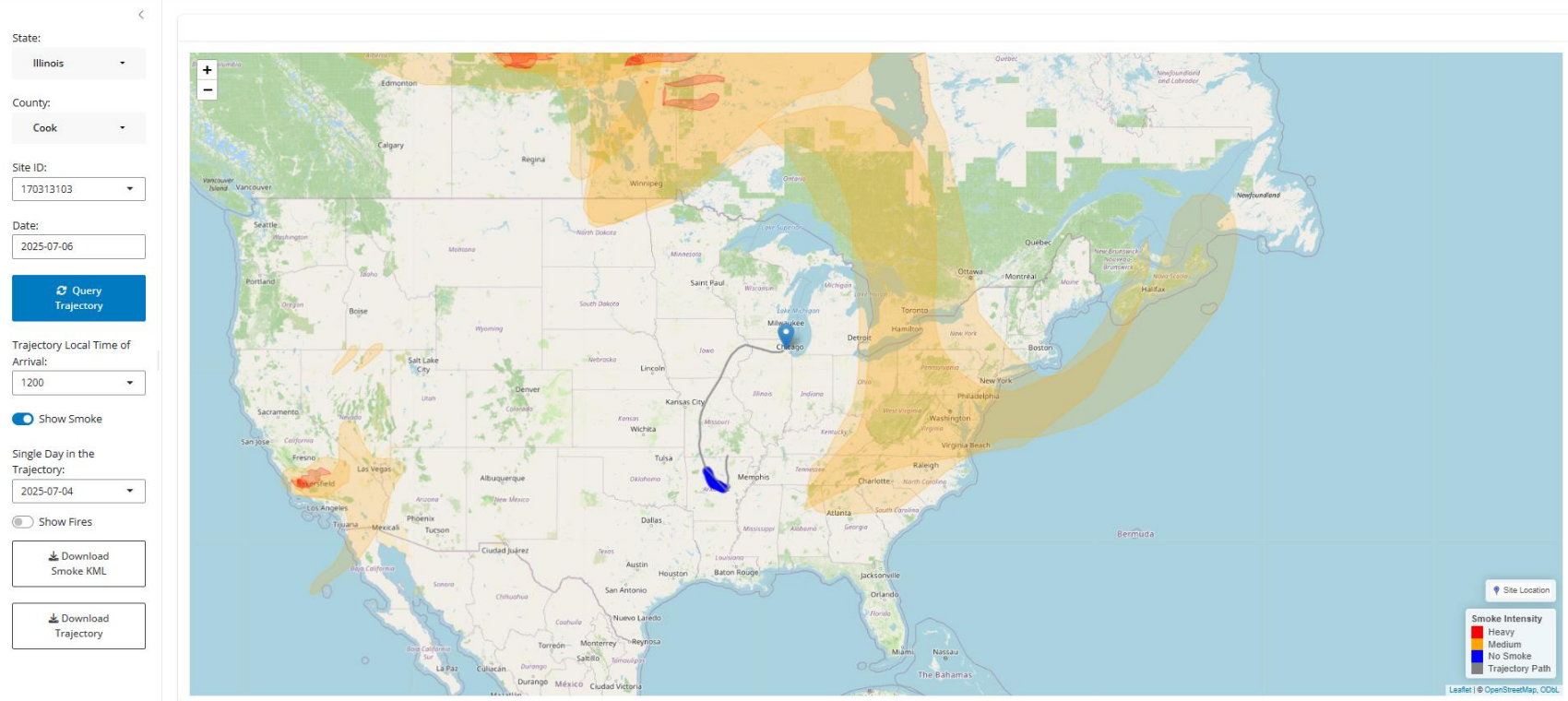


Figure B-62. HYSPLIT back trajectory from IEPA Trailer monitor on July 06, 2025.

Hysplit Trajectories for Exceptional Events

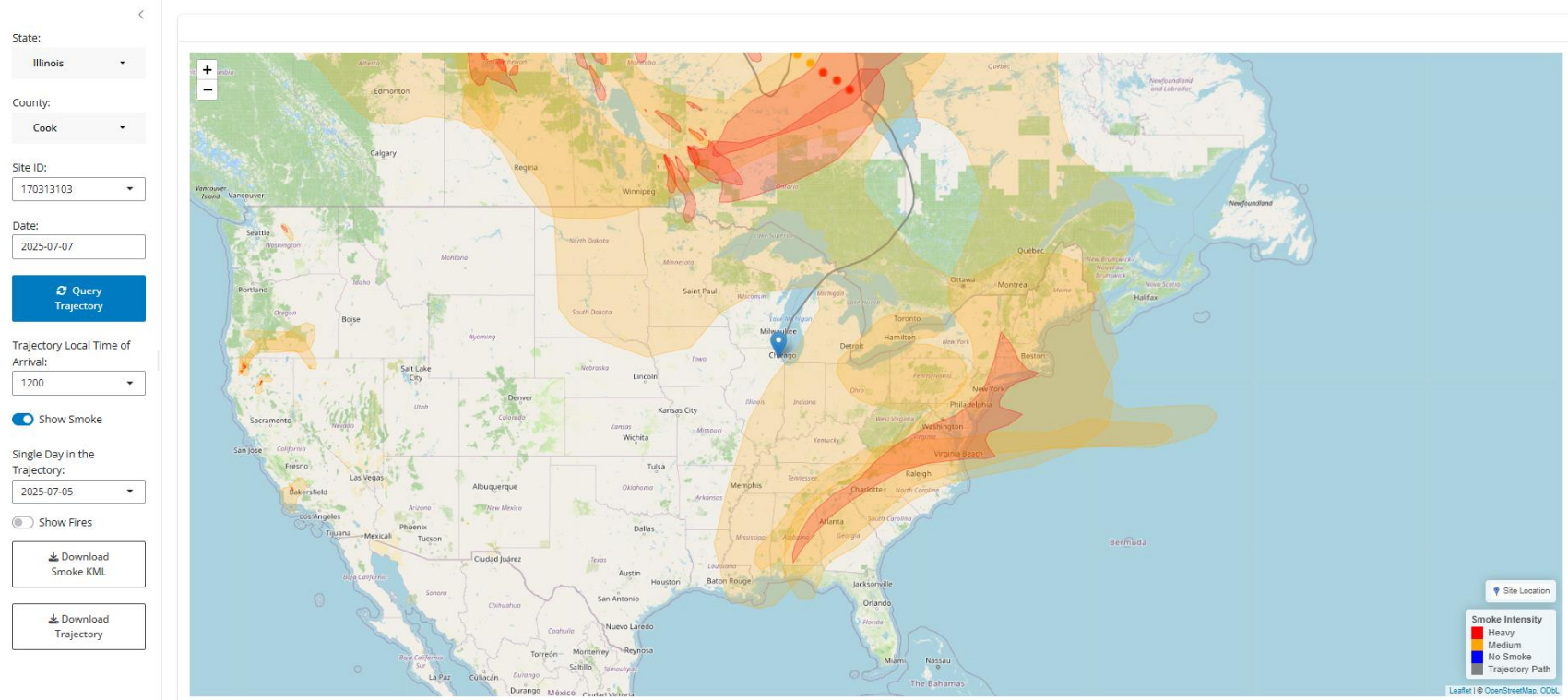


Figure B-63. HYSPLIT back trajectory from IEPA Trailer monitor on July 07, 2025.

Hysplit Trajectories for Exceptional Events

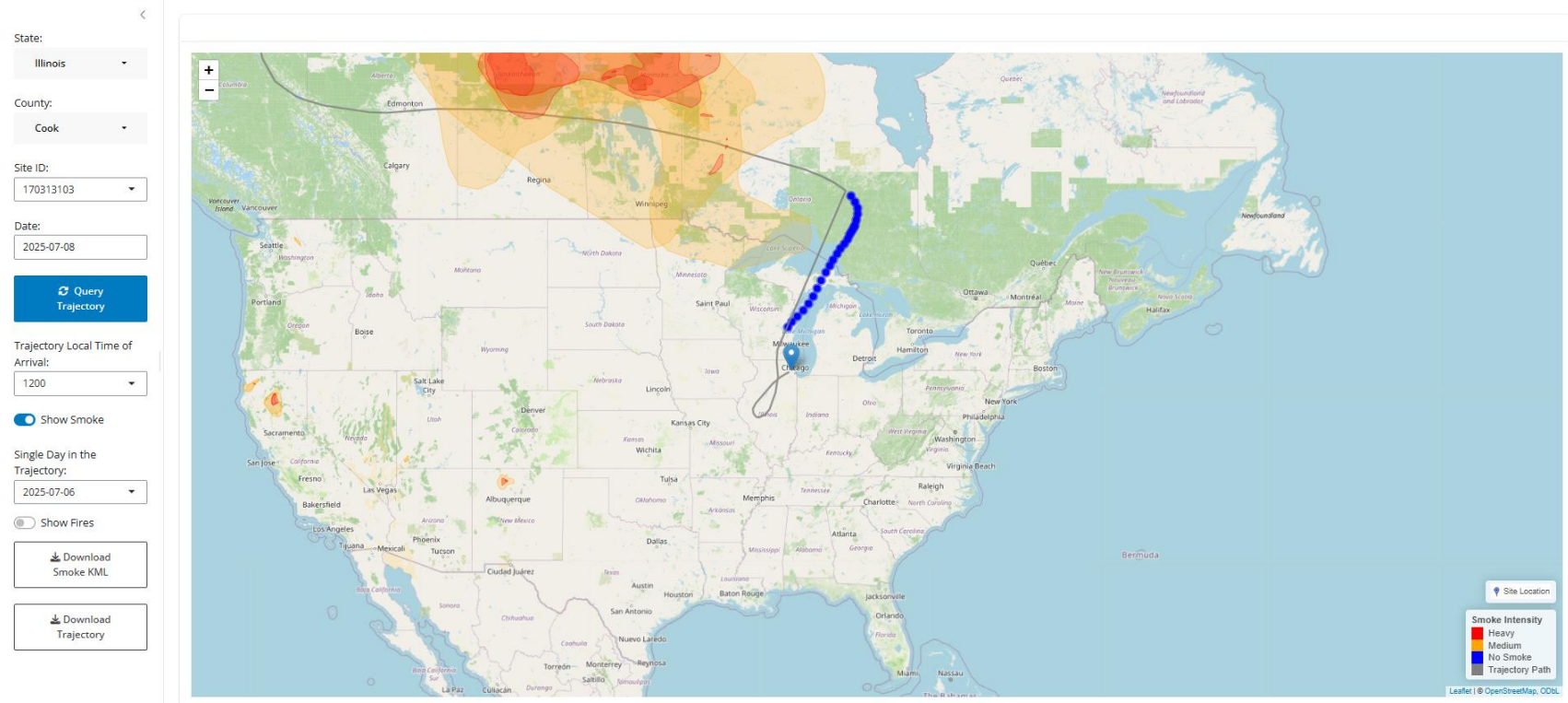


Figure B-64. HYSPLIT back trajectory from IEPA Trailer monitor on July 08, 2025.

Hysplit Trajectories for Exceptional Events

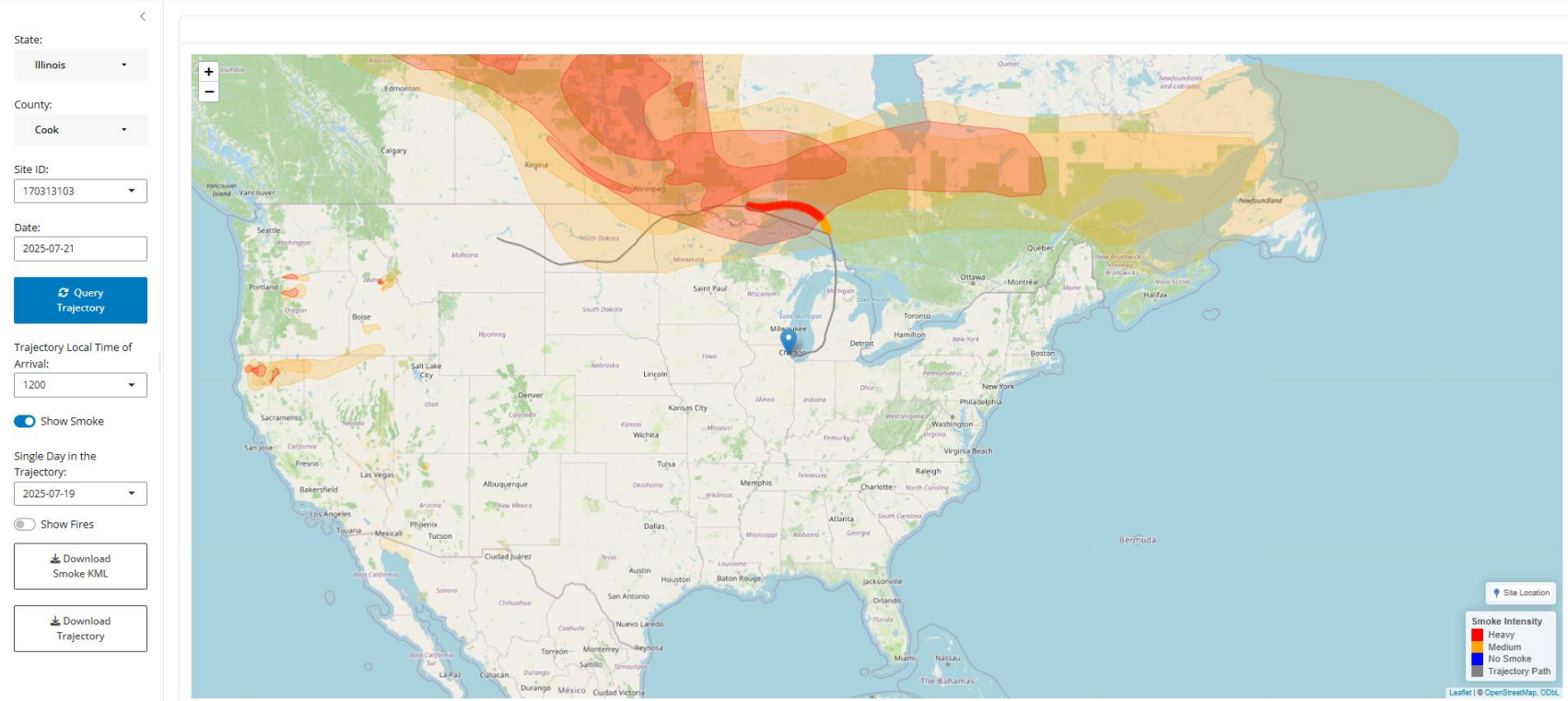


Figure B-65. HYSPLIT back trajectory from IEPA Trailer monitor on July 21, 2025.

Hysplit Trajectories for Exceptional Events

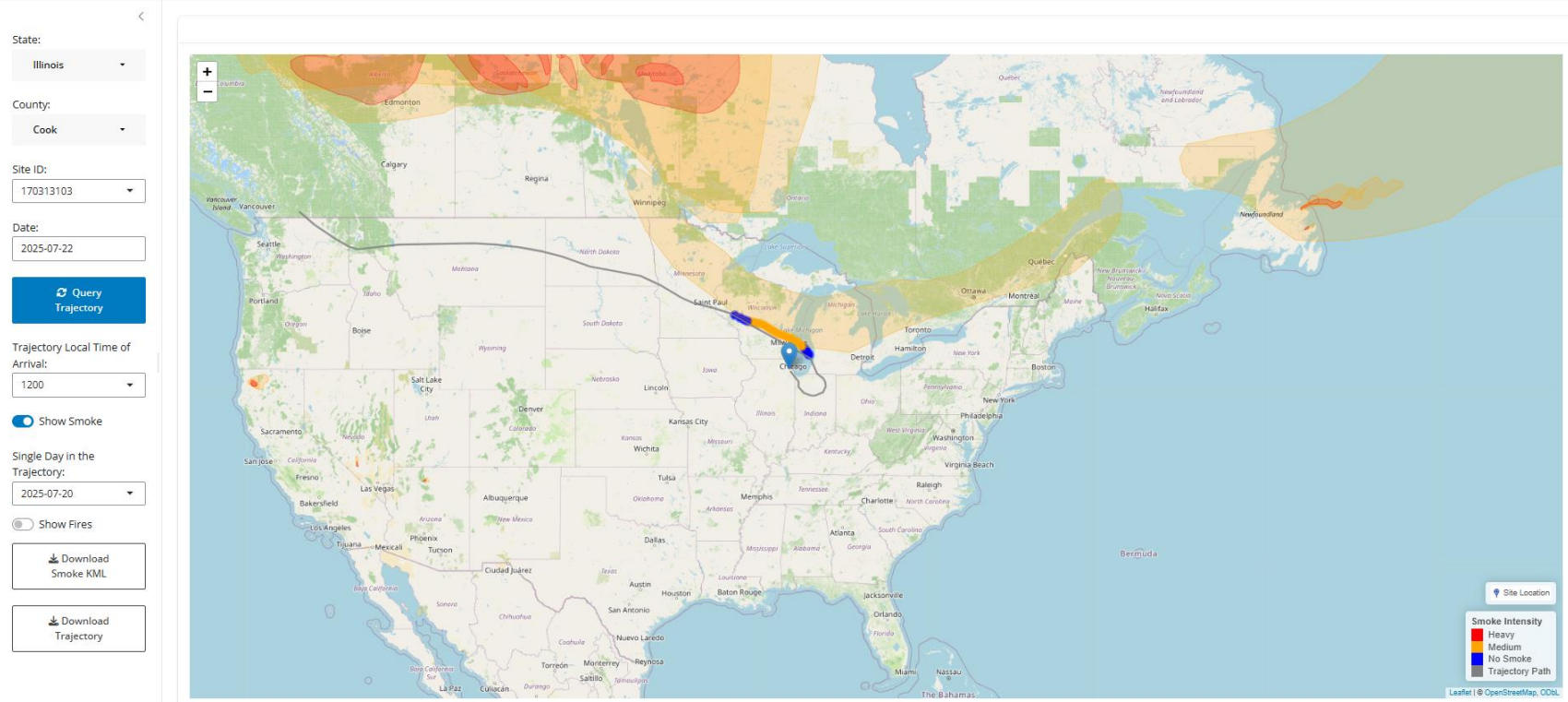


Figure B-66. HYSPLIT back trajectory from IEPA Trailer monitor on July 22, 2025.

Hysplit Trajectories for Exceptional Events

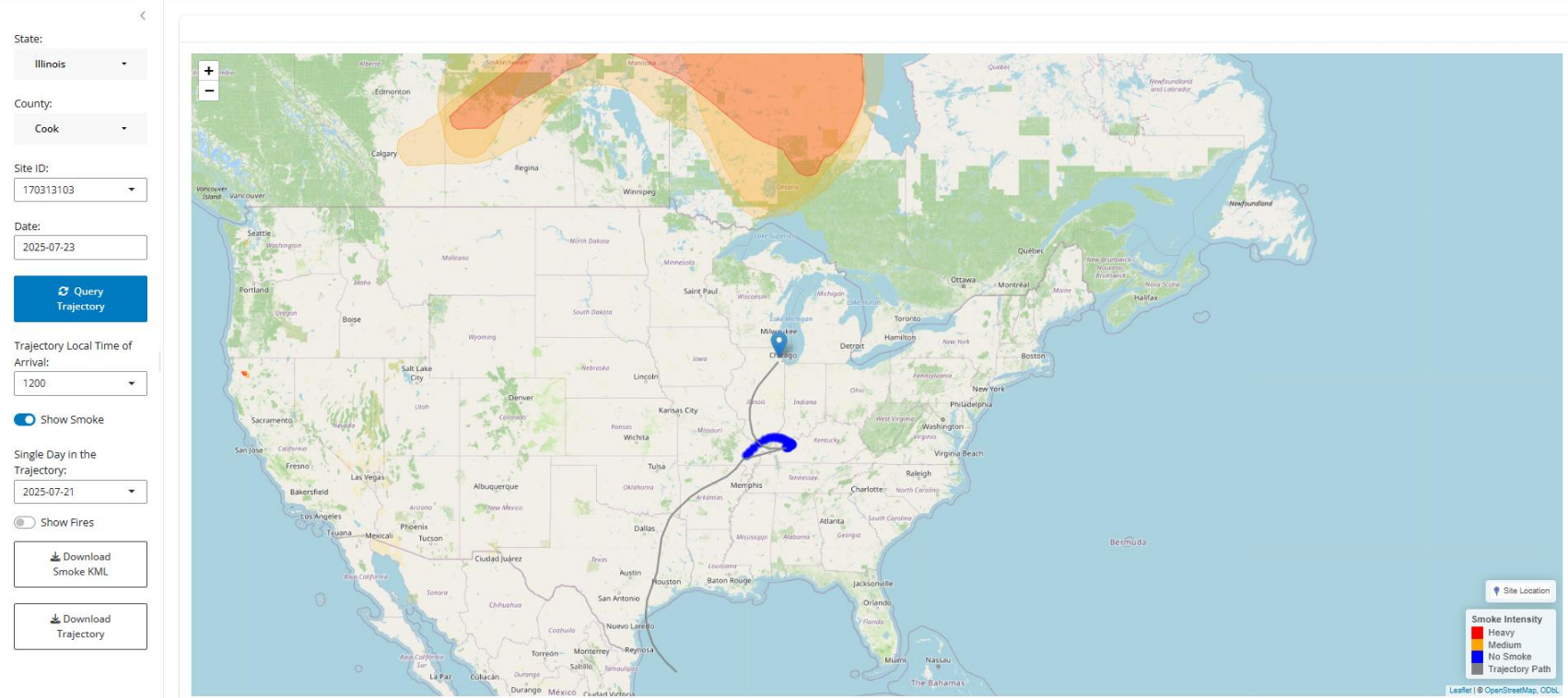


Figure B-67. HYSPLIT back trajectory from IEPA Trailer monitor on July 23, 2025.

Hysplit Trajectories for Exceptional Events

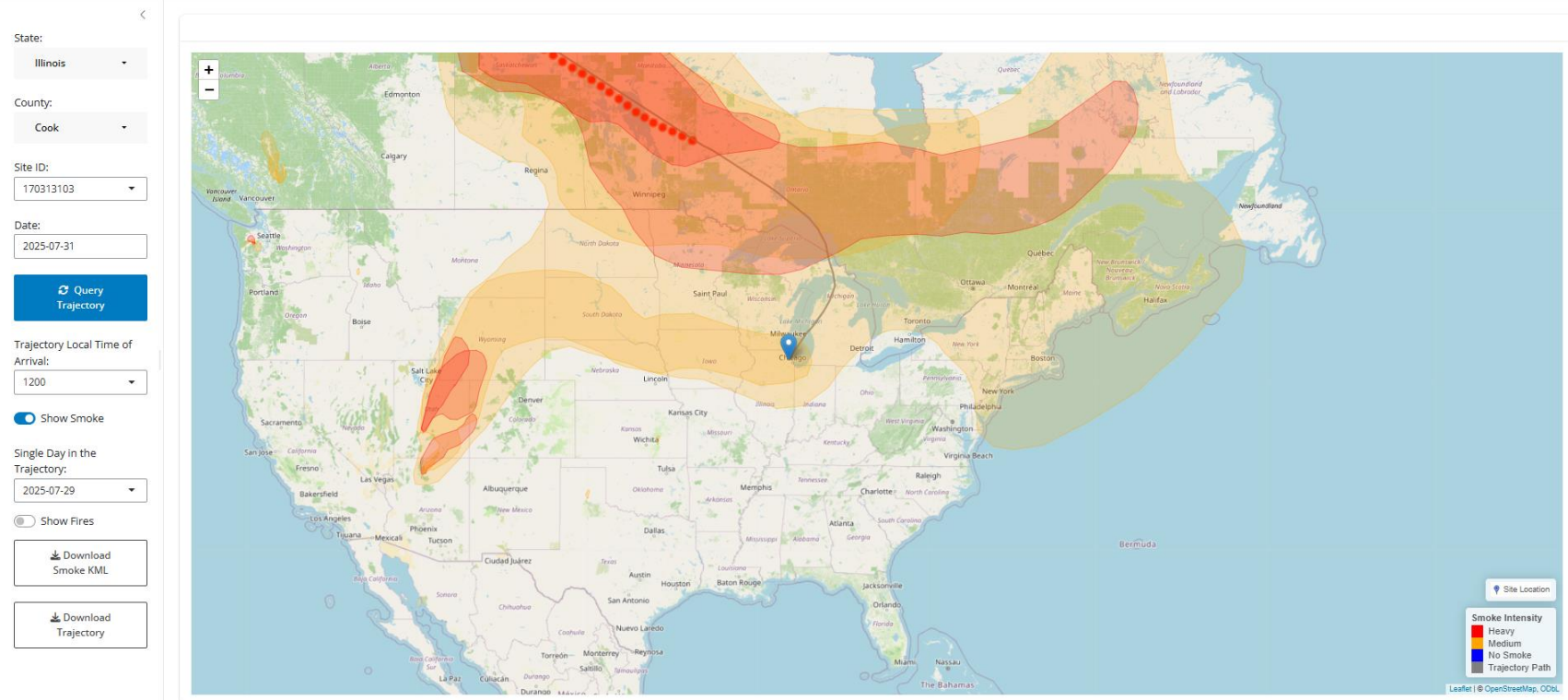


Figure B-68. HYSPLIT back trajectory from IEPA Trailer monitor on July 31, 2025.

Hysplit Trajectories for Exceptional Events

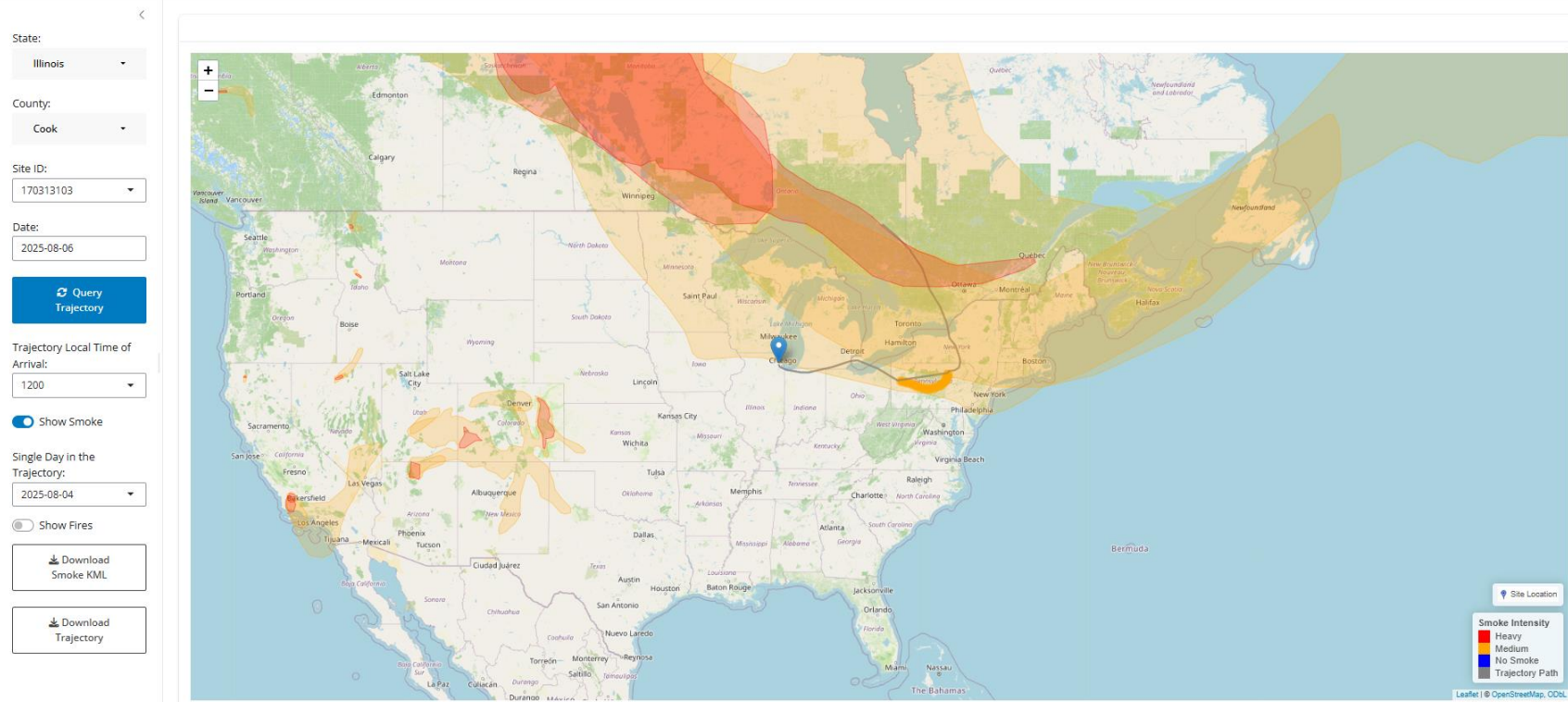


Figure B-69. HYSPLIT back trajectory from IEPA Trailer monitor on August 06, 2025.

Appendix C

Meteorological Episode Summaries

Meteorological Episode Overview: Chicago Metro Area

June 4 – 10, 2023

During the June 4–10, 2023 period, the synoptic-scale weather pattern across the central and eastern United States was favorable for the transport of wildfire smoke from Canada into the Great Lakes and Midwest. An upper-level ridge was established over the central United States, while a broad trough extended across eastern Canada and the northeastern United States. The resulting northwesterly flow between these features provided an efficient transport pathway for smoke from the numerous active wildfires across western and central Canada into the Great Lakes region. As smoke plumes were carried southeastward around the ridge and through the upper-level flow, portions of the smoke reached the Chicago metropolitan area.

At the surface, several areas of high pressure moved southeastward from Canada into the Upper Midwest during the episode. The clockwise circulation associated with these high-pressure systems produced periods of northerly and northeasterly flow across the Great Lakes and northern Illinois. These winds transported smoke-filled Canadian air southward toward the Chicago area following the passage of weak cold fronts. The relatively dry and stable air masses associated with the Canadian high-pressure systems also limited dispersion and provided favorable conditions for smoke to persist within the region. Periods of daytime atmospheric mixing subsequently brought portions of the elevated smoke into the lower atmosphere.

The combination of persistent upper-level northwesterly flow, repeated Canadian high-pressure intrusions, and ongoing wildfire activity resulted in recurring transport of smoke into the Chicago metropolitan area during June 4–10. The synoptic pattern allowed smoke to be transported over long distances from Canadian wildfire source regions and subsequently mixed toward the surface over the Great Lakes and northern Illinois. These conditions contributed to intermittent haze, reduced visibility, and elevated PM_{2.5} concentrations across the Chicago metropolitan area during the episode.

June 14 – July 1, 2023

During the June 14 through July 1, 2023 period, a persistent upper-level ridge remained established over the central United States while a broad trough persisted over eastern Canada and the northeastern United States. This highly amplified flow pattern maintained predominantly northwesterly flow from central and eastern Canada into the Upper Midwest and Great Lakes. Numerous large wildfires burning across Quebec and Ontario produced extensive smoke plumes that were repeatedly entrained into the prevailing flow and transported southward into the Chicago metropolitan area. Several embedded shortwave disturbances moving through the long-wave trough periodically reinforced the transport pathway and introduced additional smoke into the region.

At the surface, repeated high-pressure systems built southeastward from central Canada into the Upper Midwest following the passage of weak cold fronts. The associated northerly and northeasterly winds transported smoke-laden Canadian air into northern Illinois while relatively weak pressure gradients and

stable post-frontal conditions limited atmospheric mixing. As the surface highs migrated eastward, easterly flow across Lake Michigan continued to advect smoke into northeastern Illinois before southerly return flow briefly developed ahead of subsequent frontal passages. This succession of Canadian high-pressure systems resulted in multiple episodes of elevated smoke concentrations throughout the period.

The persistence of the upper-level flow pattern, combined with repeated frontal passages and Canadian surface high pressure, produced nearly continuous opportunities for long-range smoke transport into the Chicago area. Satellite imagery, vertically integrated smoke analyses, and regional observations showed widespread smoke extending across the Great Lakes and Midwest during much of the episode, resulting in recurring periods of degraded visibility and elevated fine particulate matter concentrations.

August 4 – 9, 2023

During the August 4–9, 2023 period, an upper-level trough extending across eastern Canada and the Great Lakes maintained northwesterly flow into the Midwest while an upper ridge remained centered over the central Plains. This synoptic configuration established an efficient transport corridor for smoke generated by ongoing Canadian wildfires, particularly across western and northern Canada, allowing multiple smoke plumes to move southeastward toward the Great Lakes.

Surface high pressure building southward from central Canada behind a weak cold front produced persistent northerly winds across the western Great Lakes. The clockwise circulation around the Canadian high advected smoke-filled air into northern Illinois while relatively dry post-frontal conditions limited wet removal of airborne particles. Weak atmospheric mixing during overnight and morning periods allowed portions of the smoke plume to remain concentrated within the boundary layer before daytime heating promoted vertical mixing.

The combination of favorable upper-level transport, Canadian surface high pressure, and limited precipitation supported several days of intermittent smoke impacts across the Chicago metropolitan area. Satellite observations and regional monitoring networks documented widespread smoke across the Upper Midwest, with transport pathways remaining directly connected to active Canadian wildfire regions.

August 18 – 24, 2023

During the August 18–24, 2023 episode, the large-scale circulation over North America featured a broad upper-level ridge across the western and central United States with a persistent trough extending across eastern Canada. This pattern maintained northwesterly flow across the Great Lakes that continued to transport smoke from numerous active Canadian wildfires into the Midwest. Embedded shortwave disturbances rotating through the eastern Canadian trough periodically enhanced the southward movement of dense smoke plumes.

At the surface, weak cold frontal passages followed by expansive Canadian high-pressure systems reinforced northerly flow into northern Illinois. The resulting post-frontal air masses contained elevated concentrations of wildfire smoke that had been transported hundreds of kilometers from source regions in Canada. Stable atmospheric conditions beneath the surface high limited dispersion during portions of the episode, allowing smoke to remain within the lower atmosphere.

The repeated movement of smoke-filled Canadian air masses across the Great Lakes produced multiple days of hazy conditions and elevated PM_{2.5} concentrations throughout the Chicago metropolitan area. Regional satellite imagery consistently showed expansive smoke plumes covering much of the Great Lakes basin and Midwest, demonstrating the regional scale of the transport event.

June 4 – 16, 2025

During the June 4–16, 2025 period, a broad upper-level trough over eastern Canada combined with persistent ridging across the central United States to establish northwesterly flow from central Canada into the Great Lakes. This circulation pattern coincided with extensive wildfire activity across western and central Canada, allowing smoke to be transported repeatedly into the Midwest through both elevated and near-surface transport pathways.

Surface high pressure originating over central Canada frequently expanded southward behind weak frontal systems, producing extended periods of northerly and northeasterly winds across Lake Michigan and northern Illinois. These air masses transported smoke-laden Canadian air into the Chicago metropolitan area while relatively stable post-frontal conditions reduced vertical dispersion. Periodic frontal passages temporarily increased mixing but were followed by renewed smoke transport as additional Canadian high-pressure systems developed.

The persistence of this synoptic pattern resulted in multiple smoke intrusions across northeastern Illinois throughout the episode. Satellite imagery and regional observations indicated widespread smoke extending across the Great Lakes and Midwest, with transport directly linked to active Canadian wildfire regions.

July 4 – 8, 2025

During the July 4–8, 2025 episode, upper-level northwesterly flow developed across the Upper Midwest between a ridge centered over the central United States and lower heights over eastern Canada. This circulation transported wildfire smoke from active Canadian fire complexes southeastward into the Great Lakes region.

At the surface, a cold front moved through the Upper Midwest followed by Canadian high pressure that established persistent northerly winds across northern Illinois. The resulting post-frontal air mass transported smoke into the Chicago metropolitan area while dry atmospheric conditions and limited precipitation allowed smoke to persist for several days. Weak boundary-layer mixing during overnight

periods enhanced near-surface smoke concentrations before daytime heating partially dispersed the plume.

The combined influence of upper-level transport and persistent Canadian surface high pressure supported elevated smoke concentrations across northeastern Illinois throughout the episode, with satellite imagery documenting widespread smoke across the Great Lakes.

July 13 – 15, 2025

During the July 13–15, 2025 period, the upper-air pattern remained favorable for long-range smoke transport as northwesterly flow persisted between an upper ridge over the central Plains and a trough over eastern Canada. Smoke from active Canadian wildfires was transported southeastward into the Great Lakes and Upper Midwest through this established transport corridor.

Surface high pressure centered over the Upper Midwest maintained northerly flow across northern Illinois following the passage of a weak cold front. Stable atmospheric conditions beneath the high limited vertical mixing and allowed transported smoke to remain concentrated within the lower atmosphere. Limited precipitation during the episode provided little opportunity for removal of fine particulate matter from the atmosphere.

These meteorological conditions resulted in several days of elevated smoke concentrations across the Chicago metropolitan area, with regional satellite observations indicating widespread smoke coverage extending from Canada across the Great Lakes.

July 21 – 23, 2025

During the July 21–23, 2025 period, an upper-level trough over eastern Canada and ridging over the central United States maintained northwesterly flow across the Great Lakes. This pattern facilitated continued transport of smoke from ongoing Canadian wildfires into the Midwest.

Following the passage of a weak cold front, Canadian high pressure expanded into the western Great Lakes, producing persistent northerly winds across northeastern Illinois. The circulation around the surface high transported smoke-filled Canadian air into the Chicago metropolitan area while relatively stable atmospheric conditions reduced vertical dispersion. Daytime mixing periodically brought elevated smoke aloft to the surface, contributing to increased fine particulate matter concentrations.

The combination of favorable upper-level flow, Canadian surface high pressure, and continued wildfire activity supported another episode of regional smoke impacts across the Chicago area.

July 31 – August 6, 2025

During the July 31 through August 6, 2025 period, the synoptic-scale pattern again favored transport of Canadian wildfire smoke into the Great Lakes. An upper-level ridge over the central United States combined with a broad trough over eastern Canada to maintain persistent northwesterly flow from central Canada into the Midwest. Numerous active wildfires across western and central Canada generated extensive smoke plumes that were repeatedly entrained into the prevailing flow.

At the surface, successive Canadian high-pressure systems followed weak frontal passages into the Upper Midwest, maintaining northerly to northeasterly winds across Lake Michigan and northern Illinois. The associated Canadian air masses transported smoke into the Chicago metropolitan area while dry, stable atmospheric conditions limited dispersion and precipitation scavenging. As the surface highs gradually shifted eastward, easterly flow continued to advect smoke into northeastern Illinois before southerly return flow developed ahead of the next frontal system.

The persistence of the upper-level circulation, repeated intrusions of Canadian high pressure, and ongoing wildfire emissions produced several consecutive days of smoke transport into the Chicago metropolitan area. Satellite imagery and regional air quality observations documented widespread smoke across the Great Lakes and Upper Midwest, illustrating the regional extent of the wildfire smoke episode and its influence on air quality throughout northeastern Illinois.

Appendix D

MODIS Visible Satellite Imagery

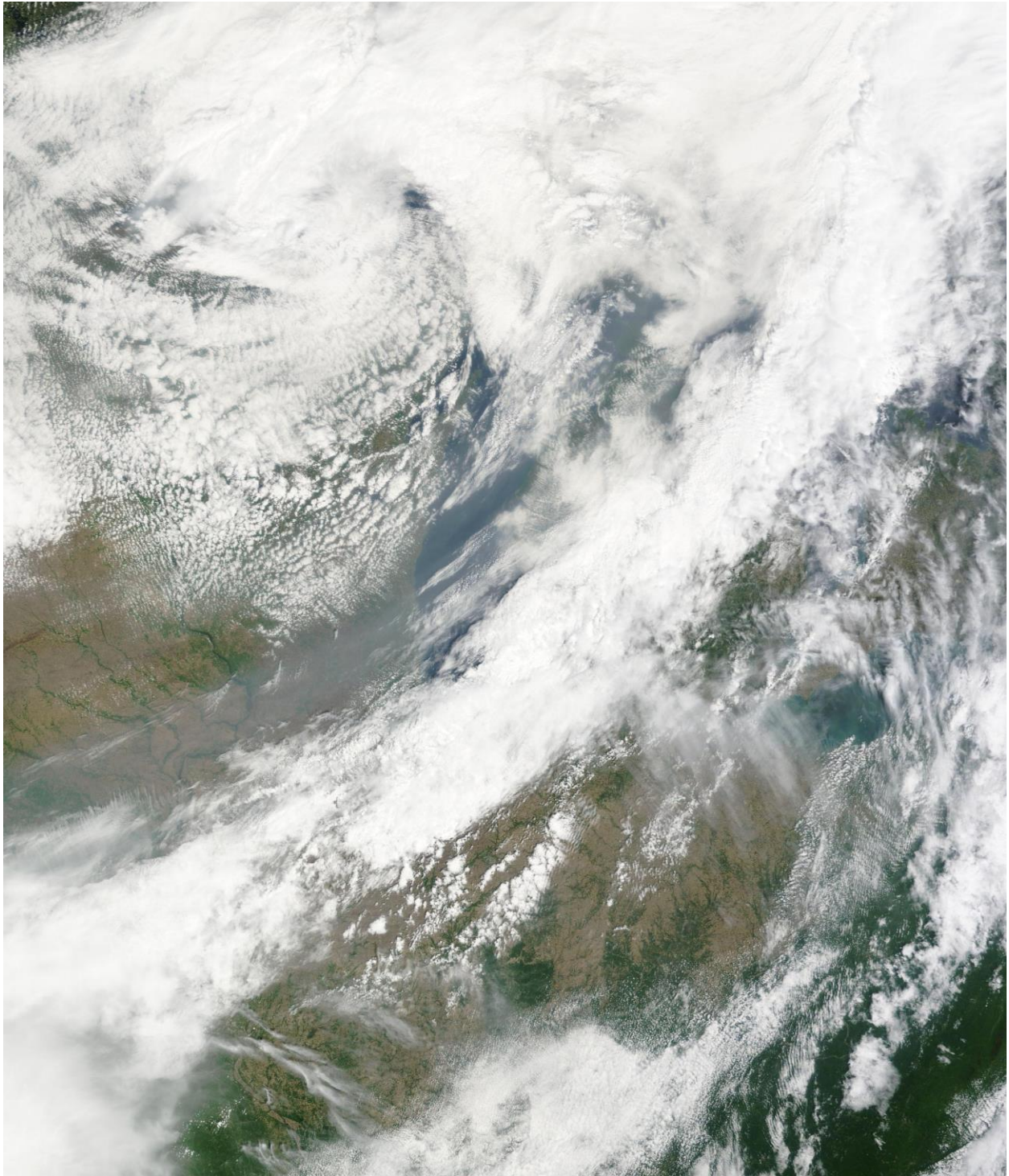


Figure D-1. MODIS Terra true color satellite imagery from May 19, 2023. Image source: NASA Worldview.

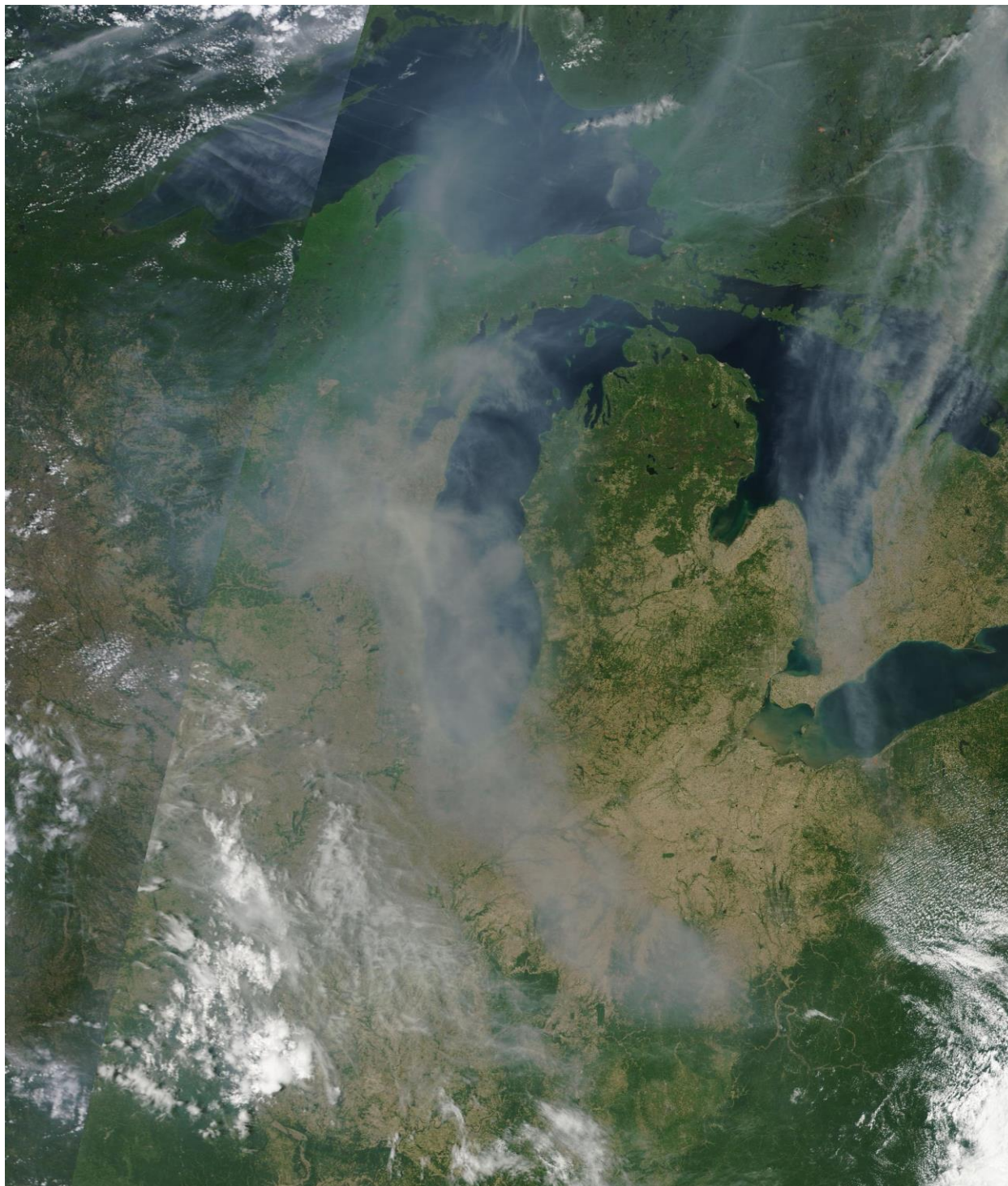


Figure D-2. MODIS Terra true color satellite imagery from June 04, 2023. Image source: NASA Worldview.

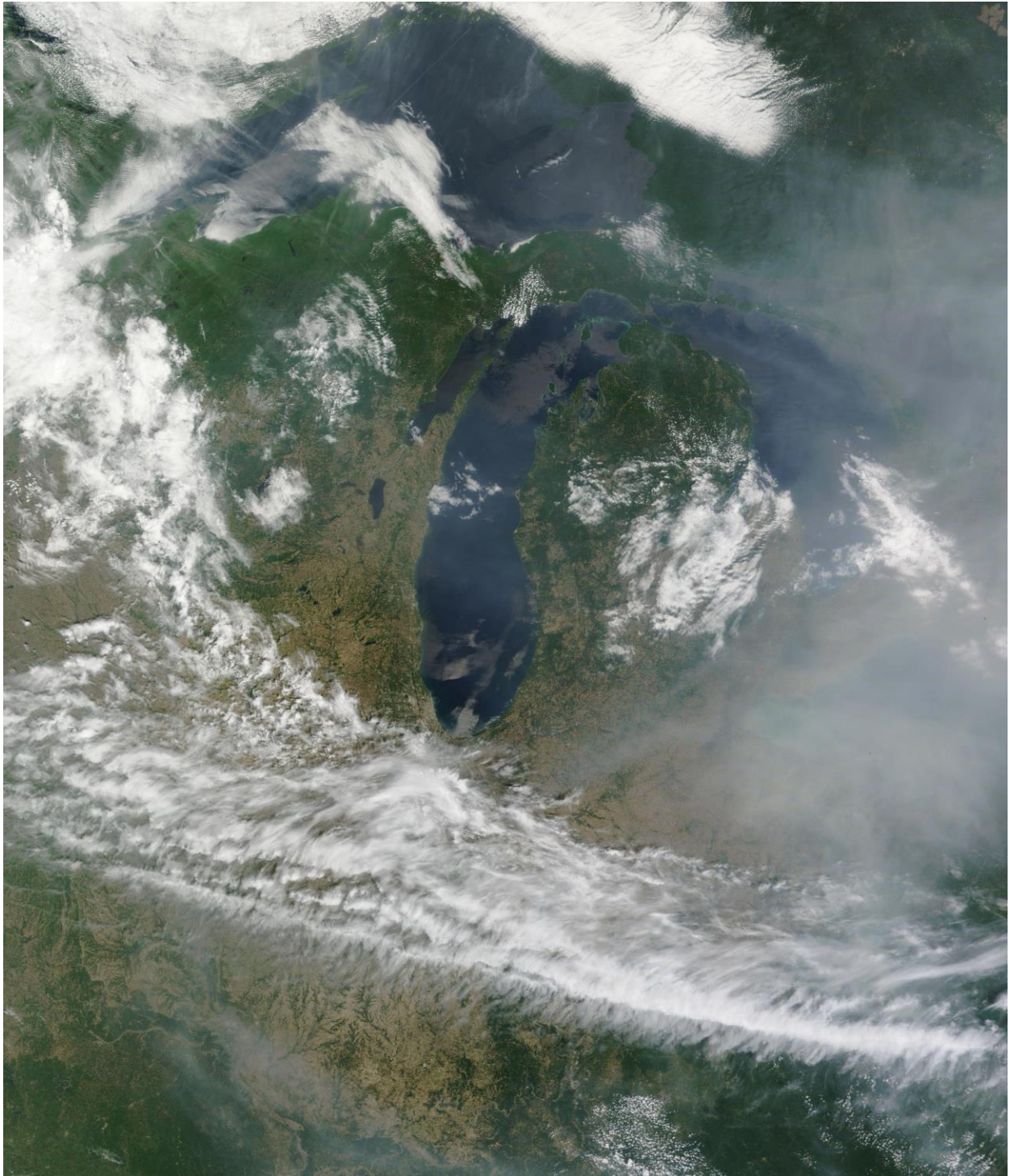


Figure D-3. MODIS Terra true color satellite imagery from June 05, 2023. Image source: NASA Worldview.

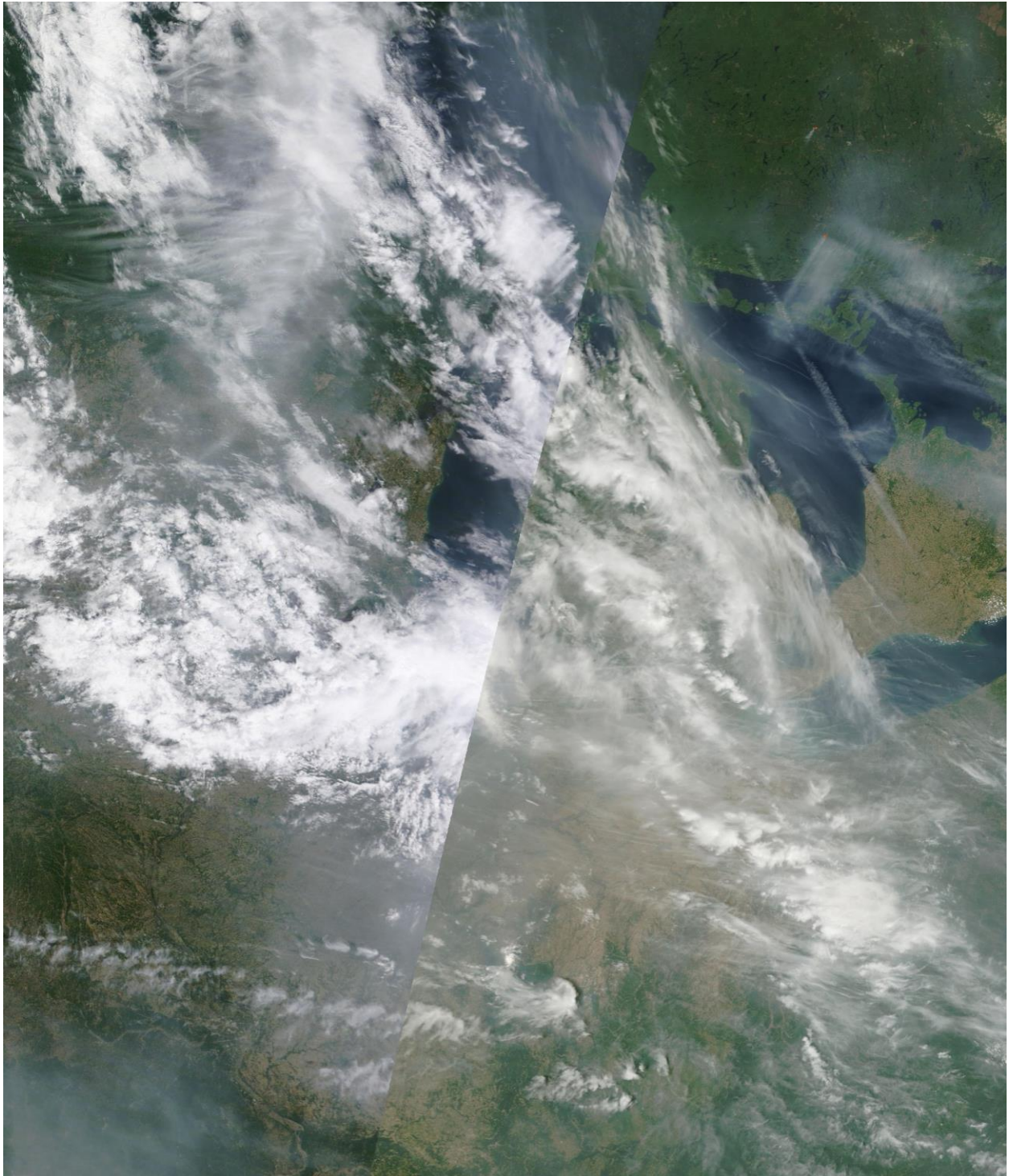


Figure D-4. MODIS Terra true color satellite imagery from June 06, 2023. Image source: NASA Worldview.

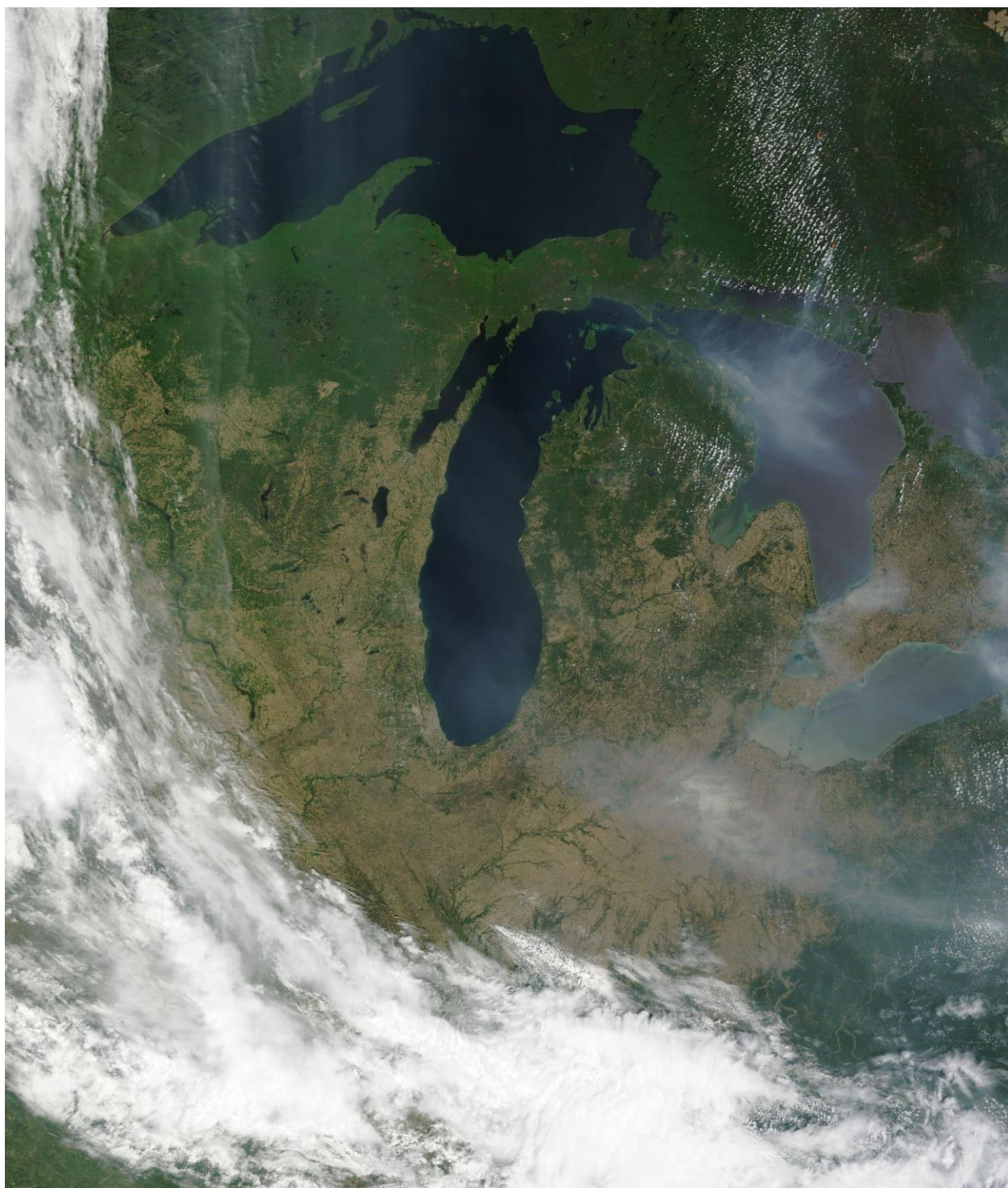


Figure D-5. MODIS Terra true color satellite imagery from June 07, 2023. Image source: NASA Worldview.

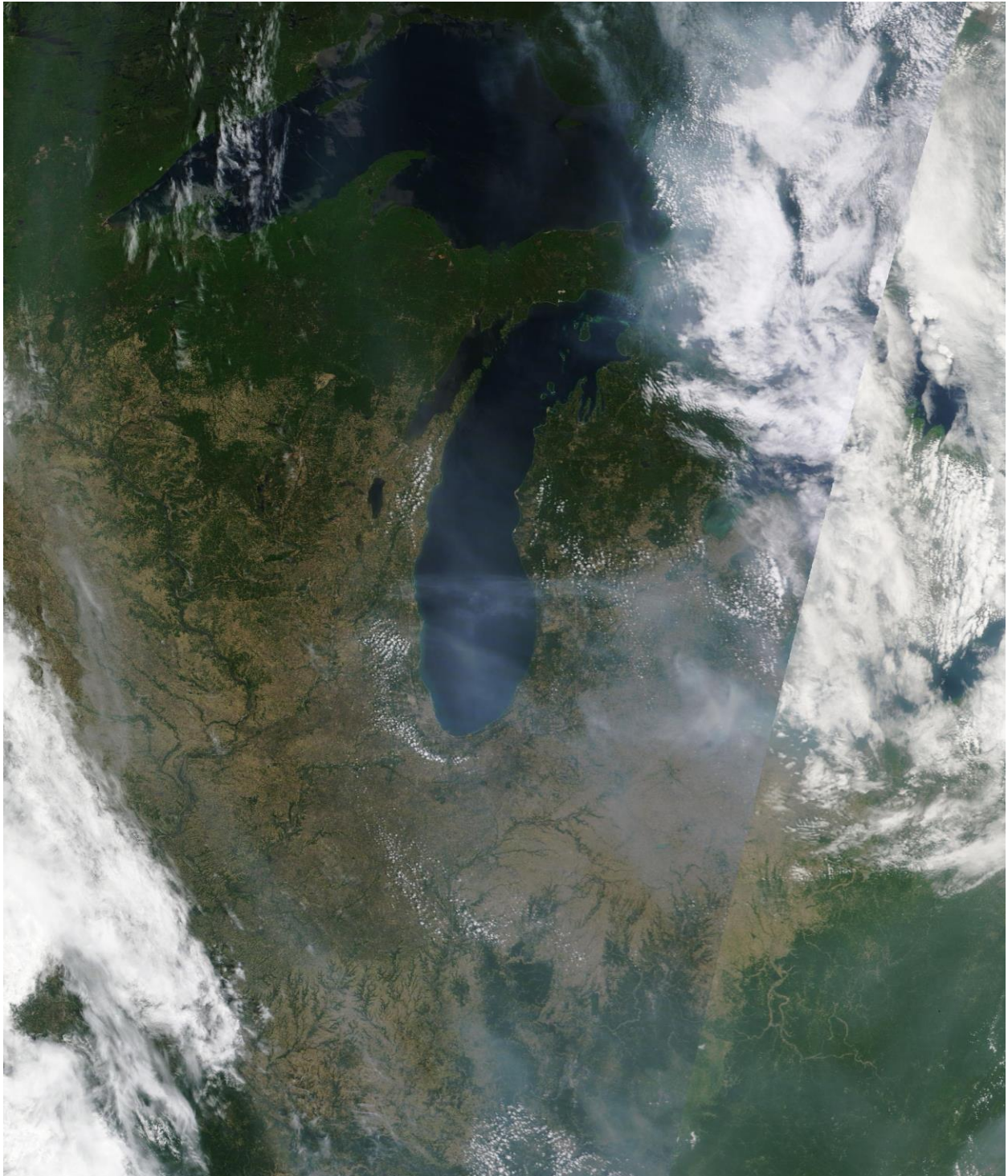


Figure D-6. MODIS Terra true color satellite imagery from June 08, 2023. Image source: NASA Worldview.

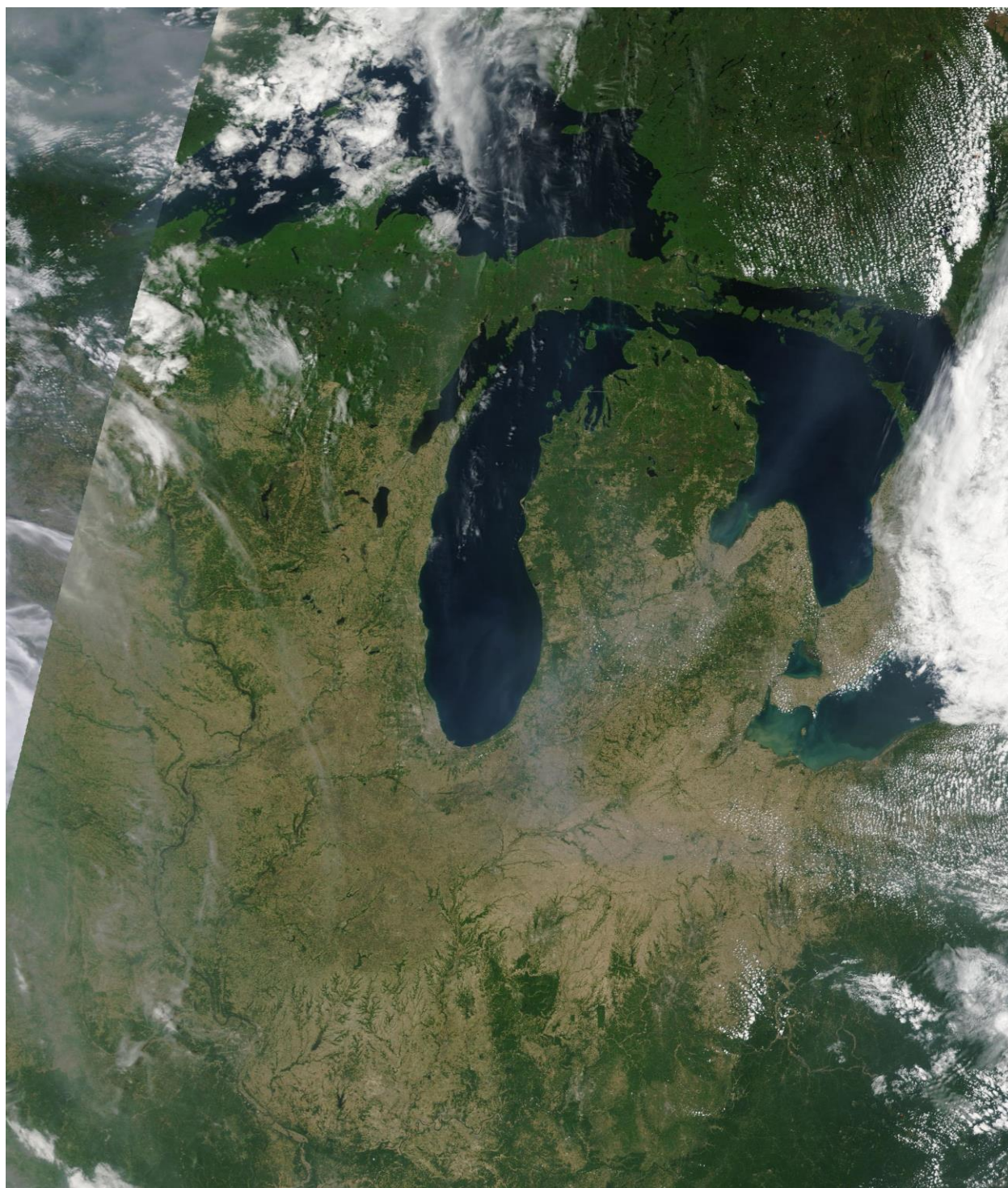


Figure D-7. MODIS Terra true color satellite imagery from June 09, 2023. Image source: NASA Worldview.

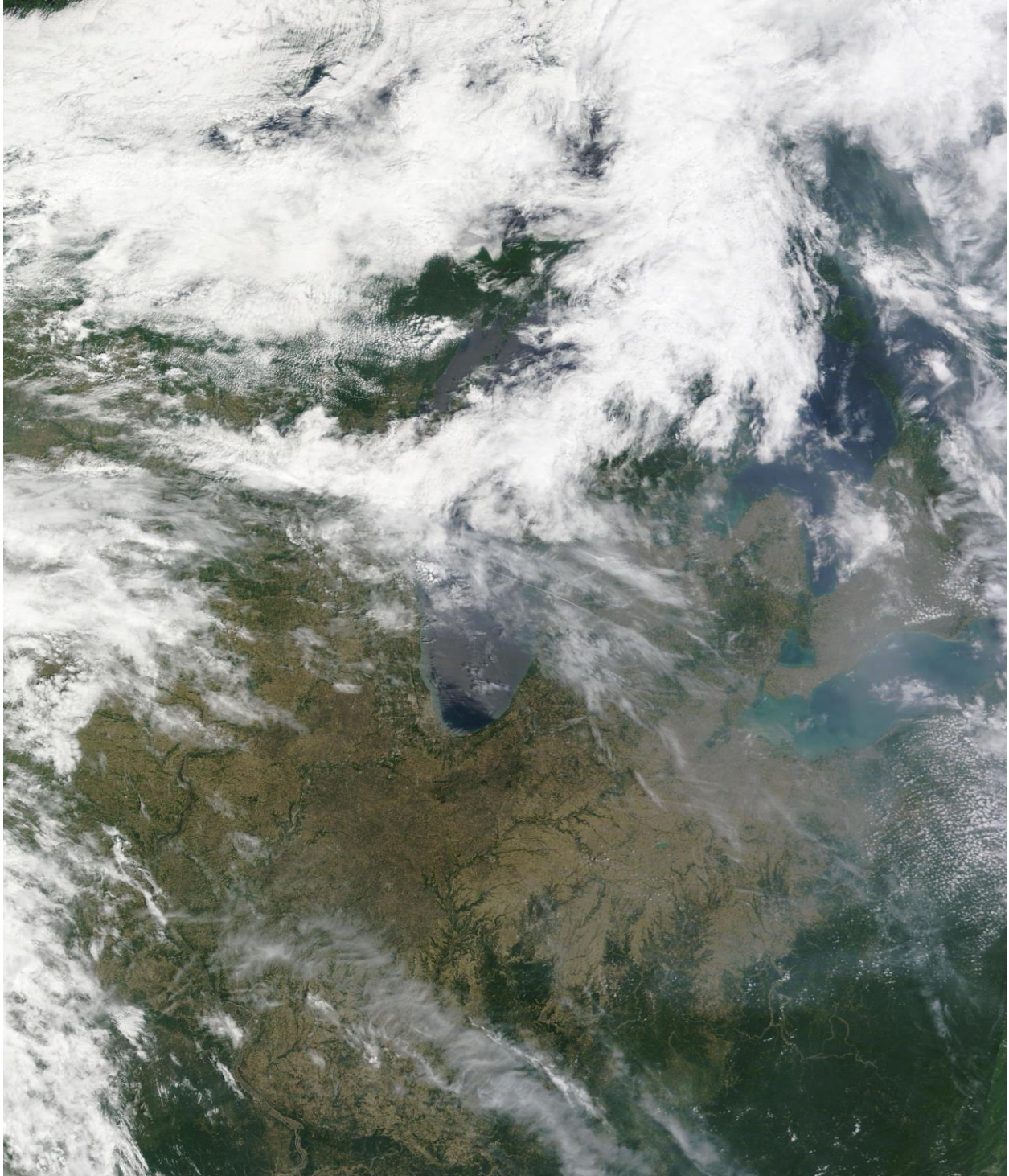


Figure D-8. MODIS Terra true color satellite imagery from June 10, 2023. Image source: NASA Worldview.

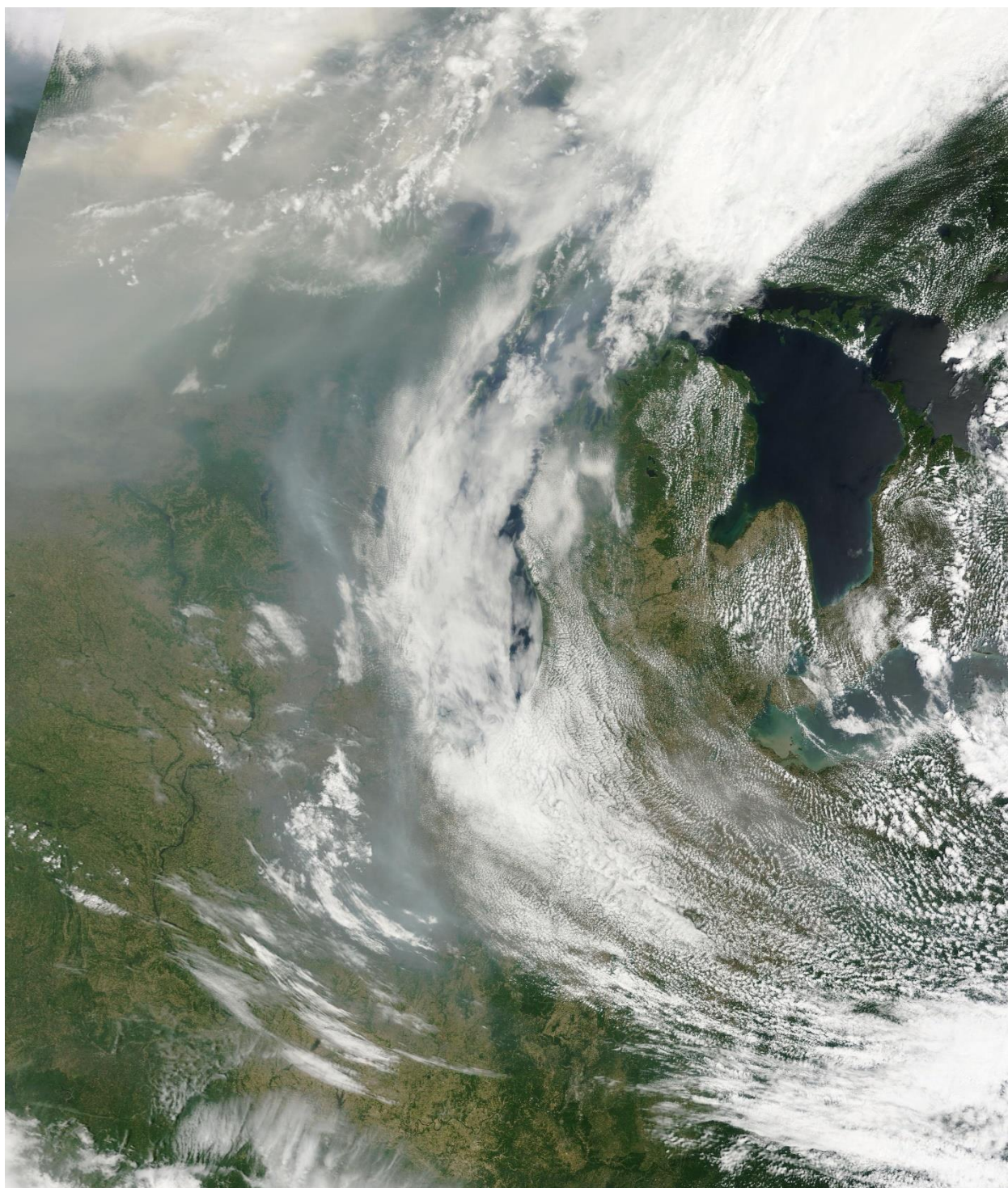


Figure D-9. MODIS Terra true color satellite imagery from June 14, 2023. Image source: NASA Worldview.

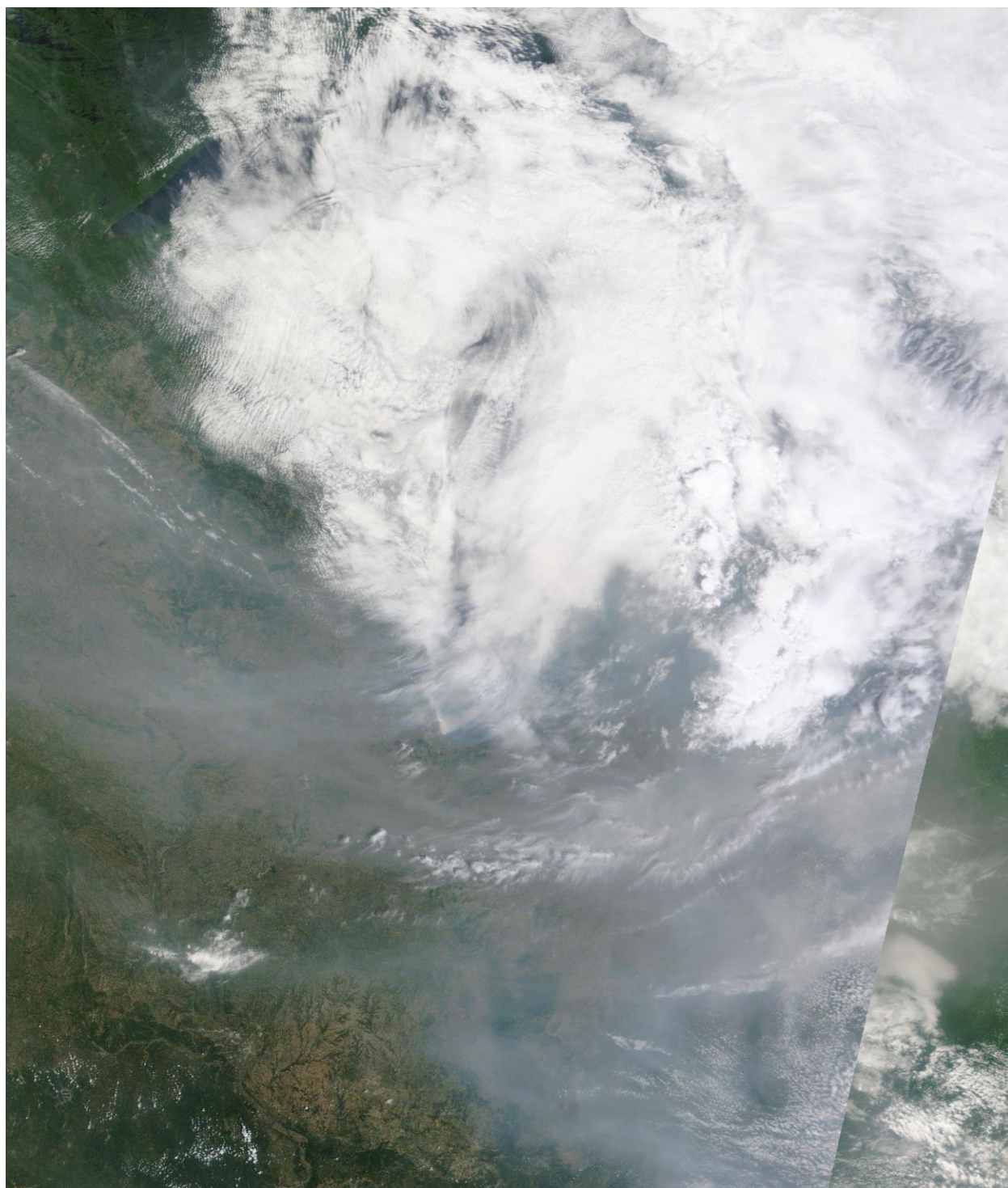


Figure D-10. MODIS Terra true color satellite imagery from June 15, 2023. Image source: NASA Worldview.

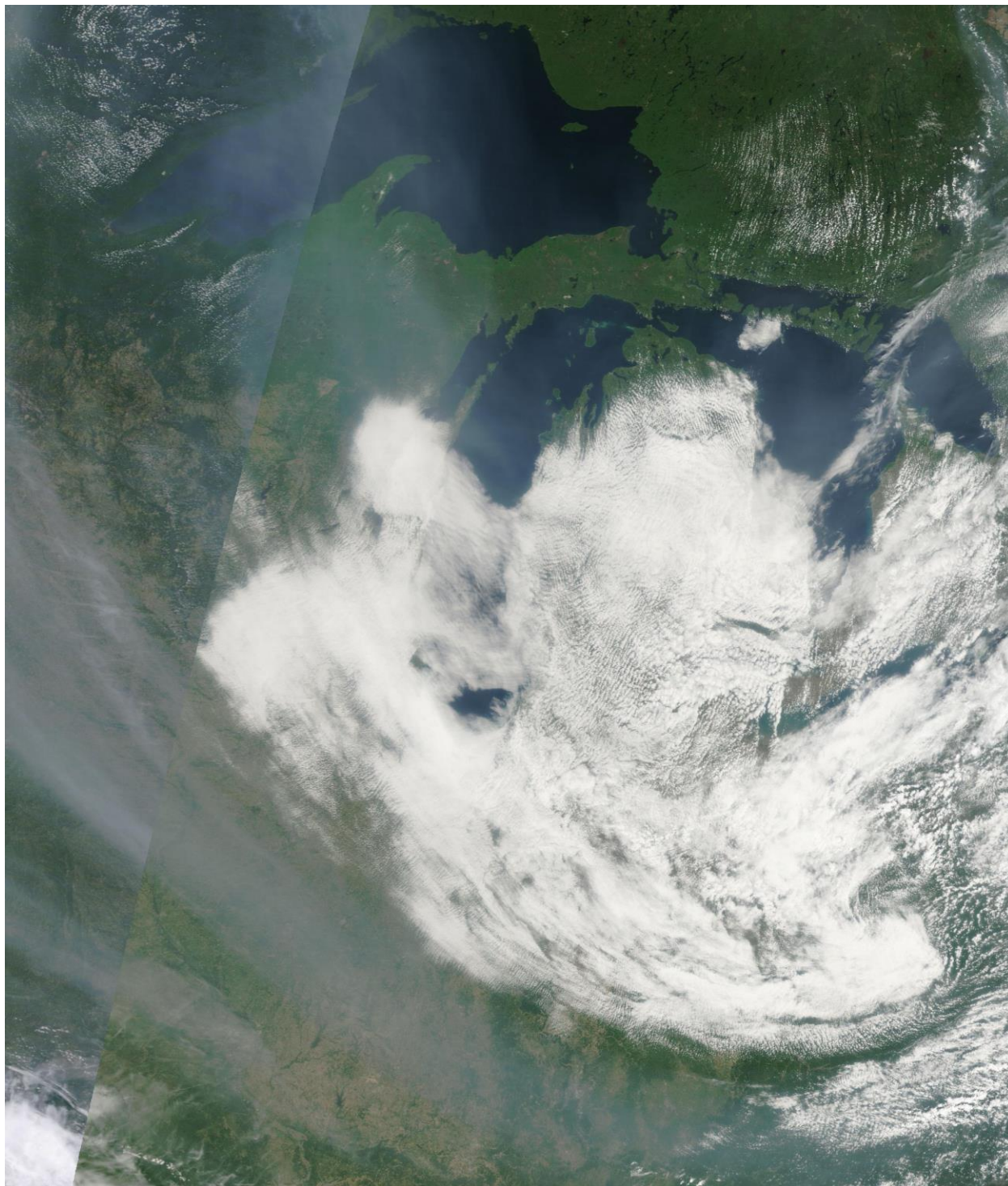


Figure D-11. MODIS Terra true color satellite imagery from June 16, 2023. Image source: NASA Worldview.

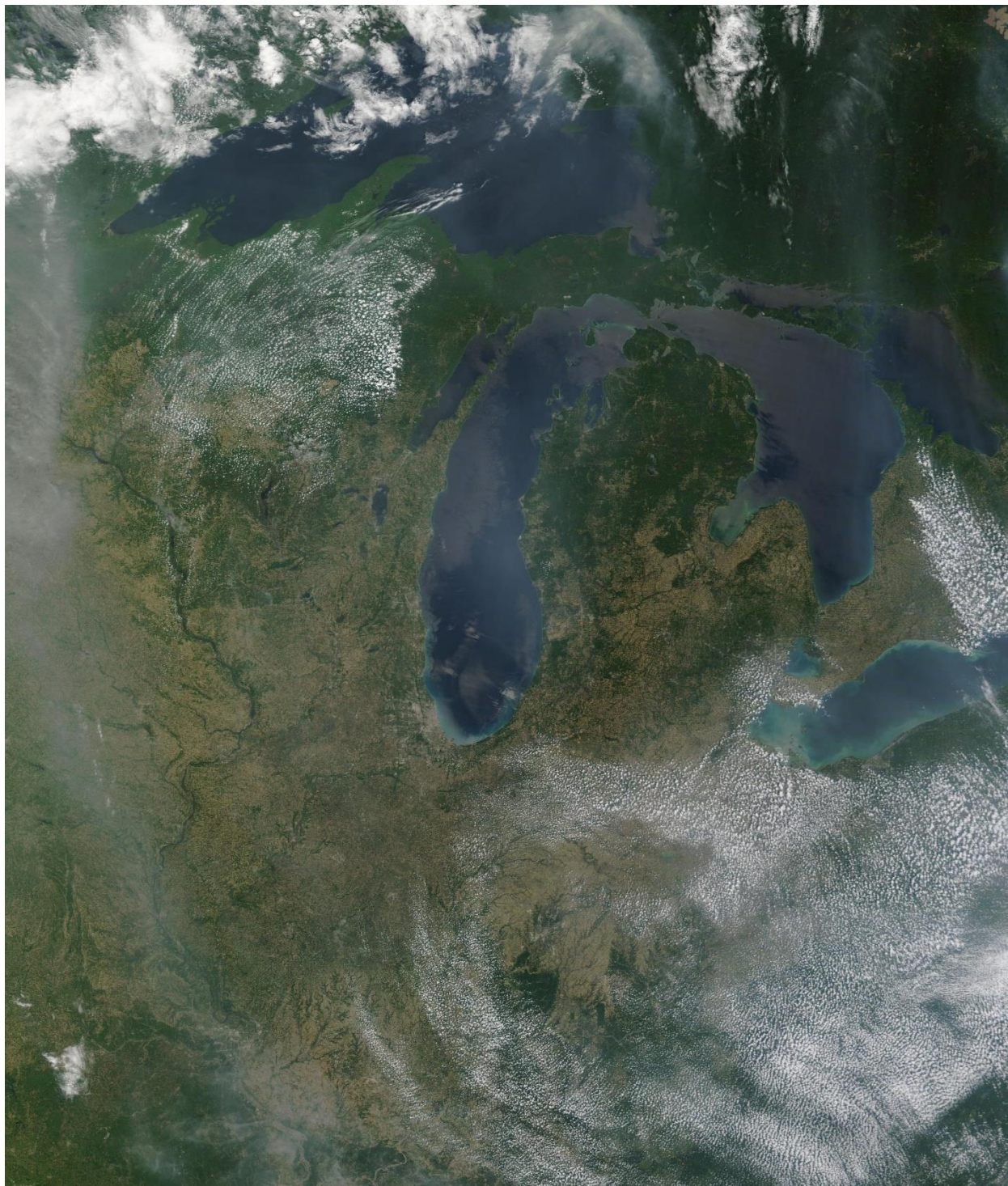


Figure D-12. MODIS Terra true color satellite imagery from June 17, 2023. Image source: NASA Worldview.

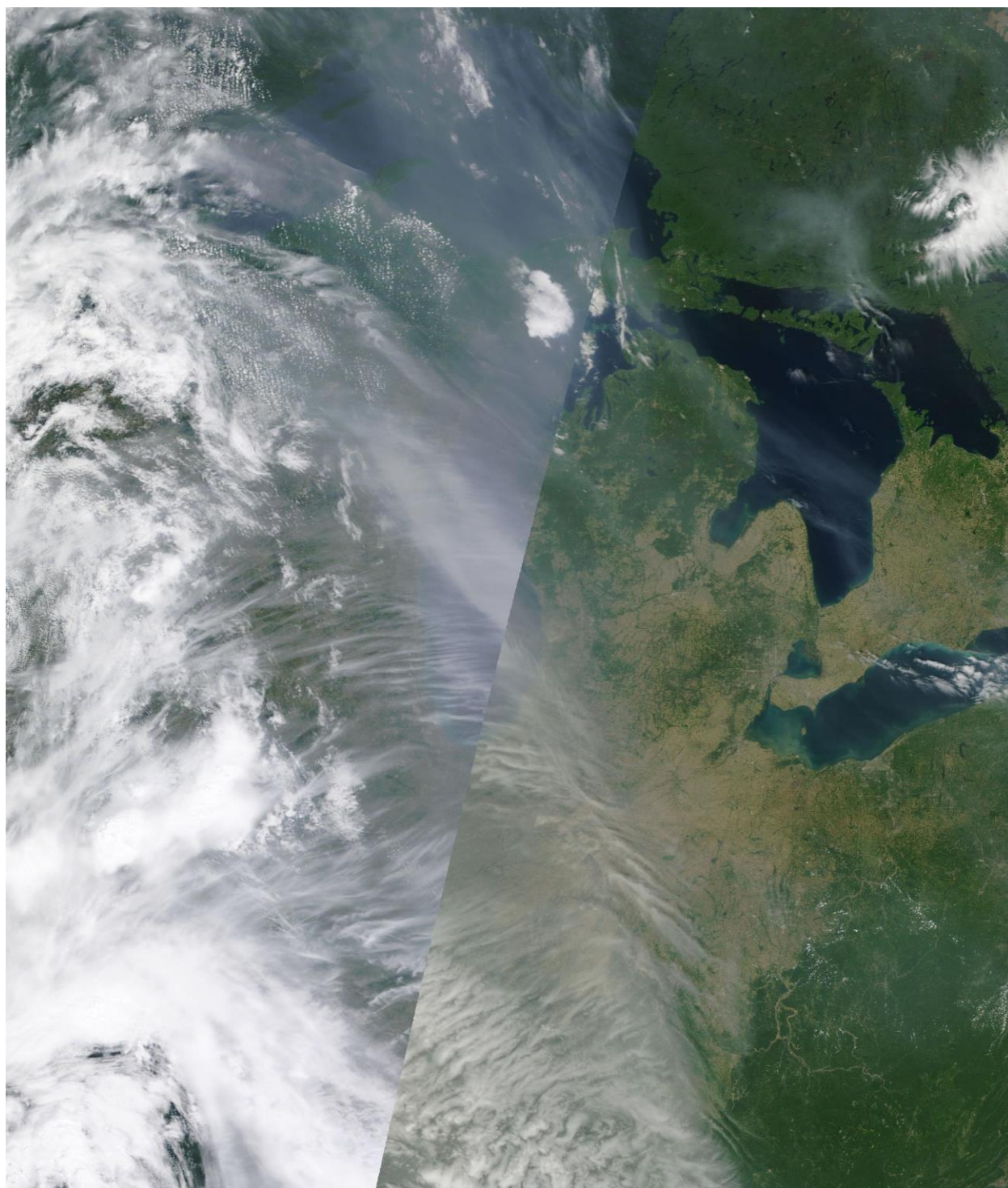


Figure D-13. MODIS Terra true color satellite imagery from June 18, 2023. Image source: NASA Worldview.

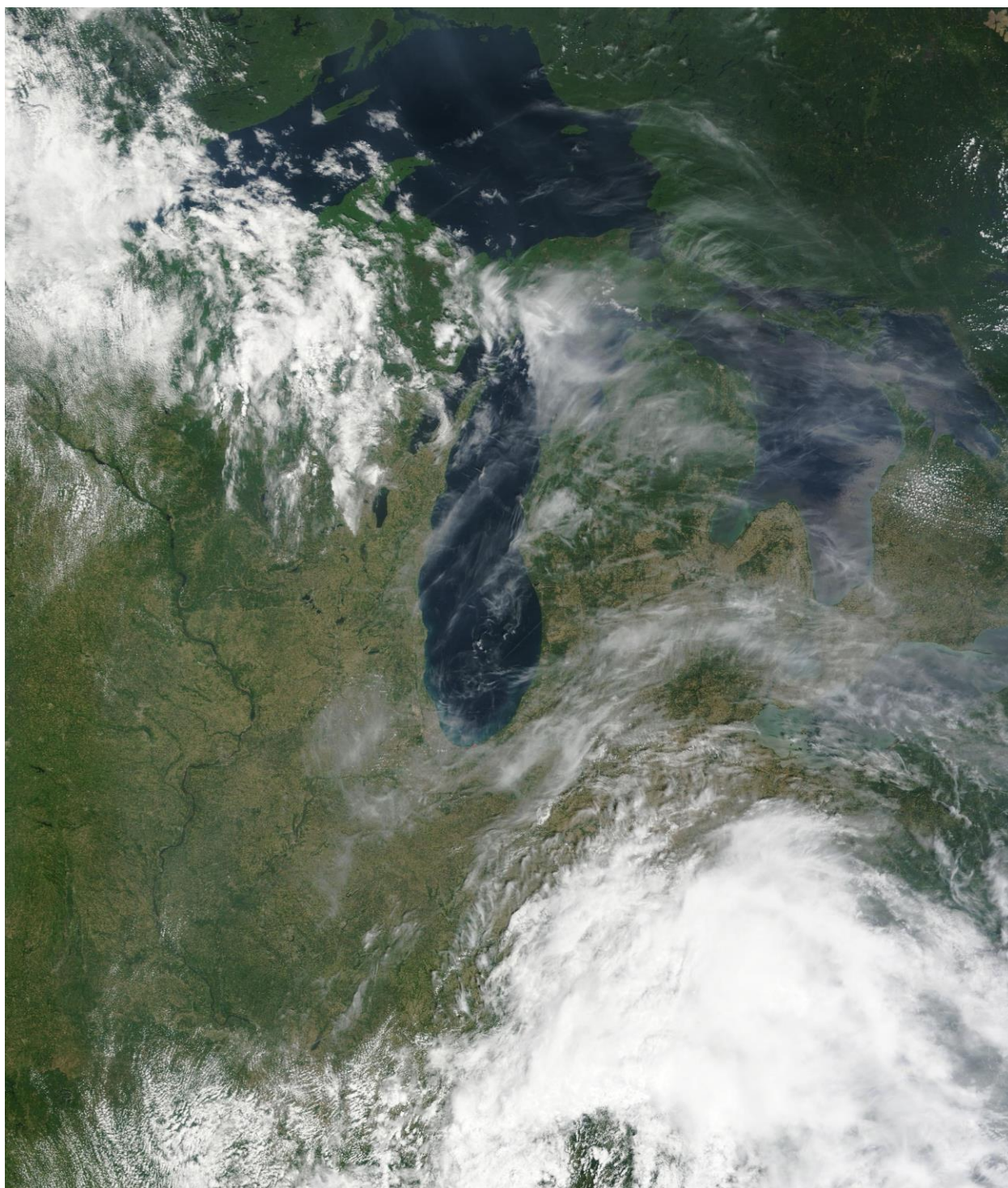


Figure D-14. MODIS Terra true color satellite imagery from June 19, 2023. Image source: NASA Worldview.

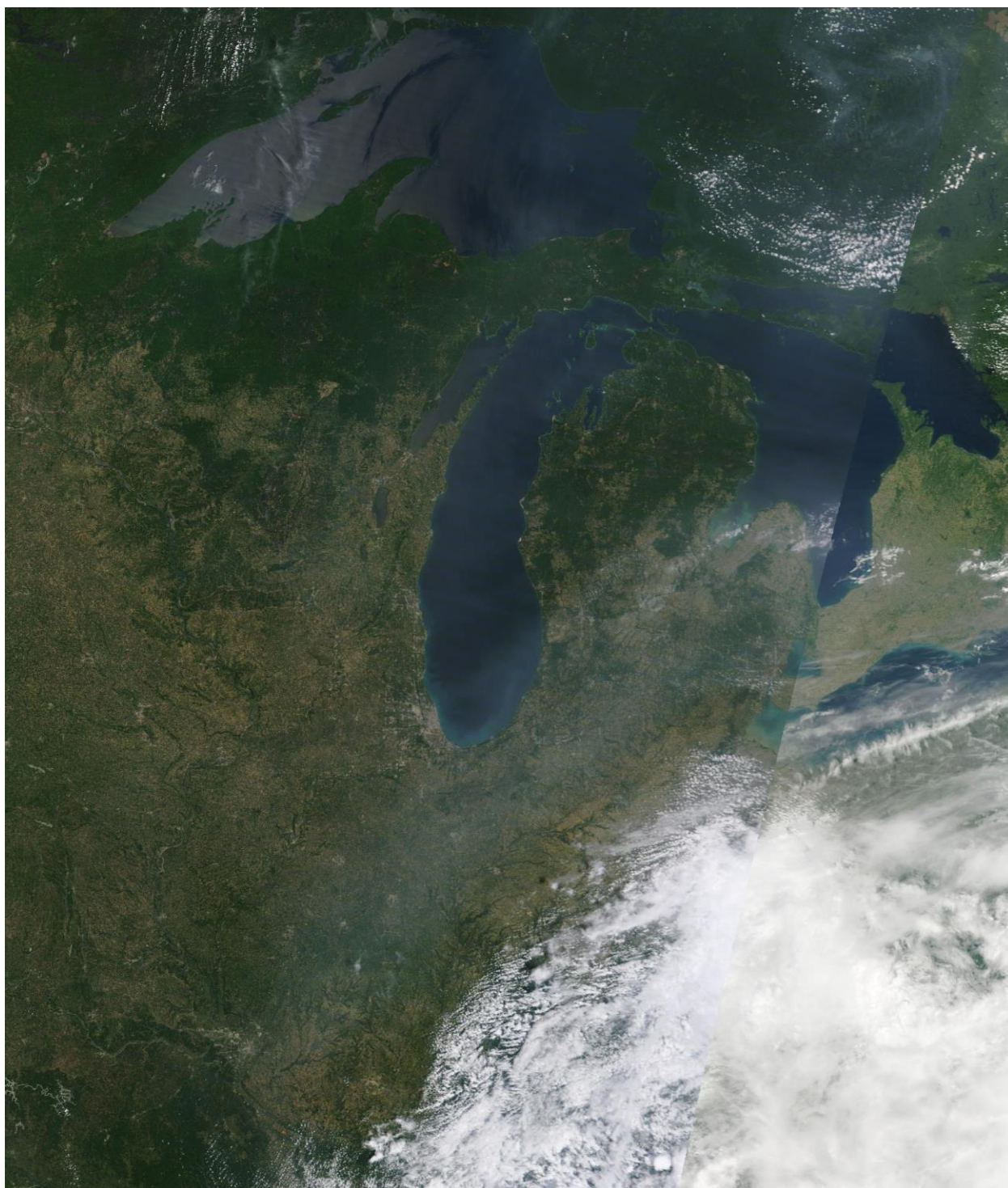


Figure D-15. MODIS Terra true color satellite imagery from June 20, 2023. Image source: NASA Worldview.



Figure D-16. MODIS Terra true color satellite imagery from June 21, 2023. Image source: NASA Worldview.

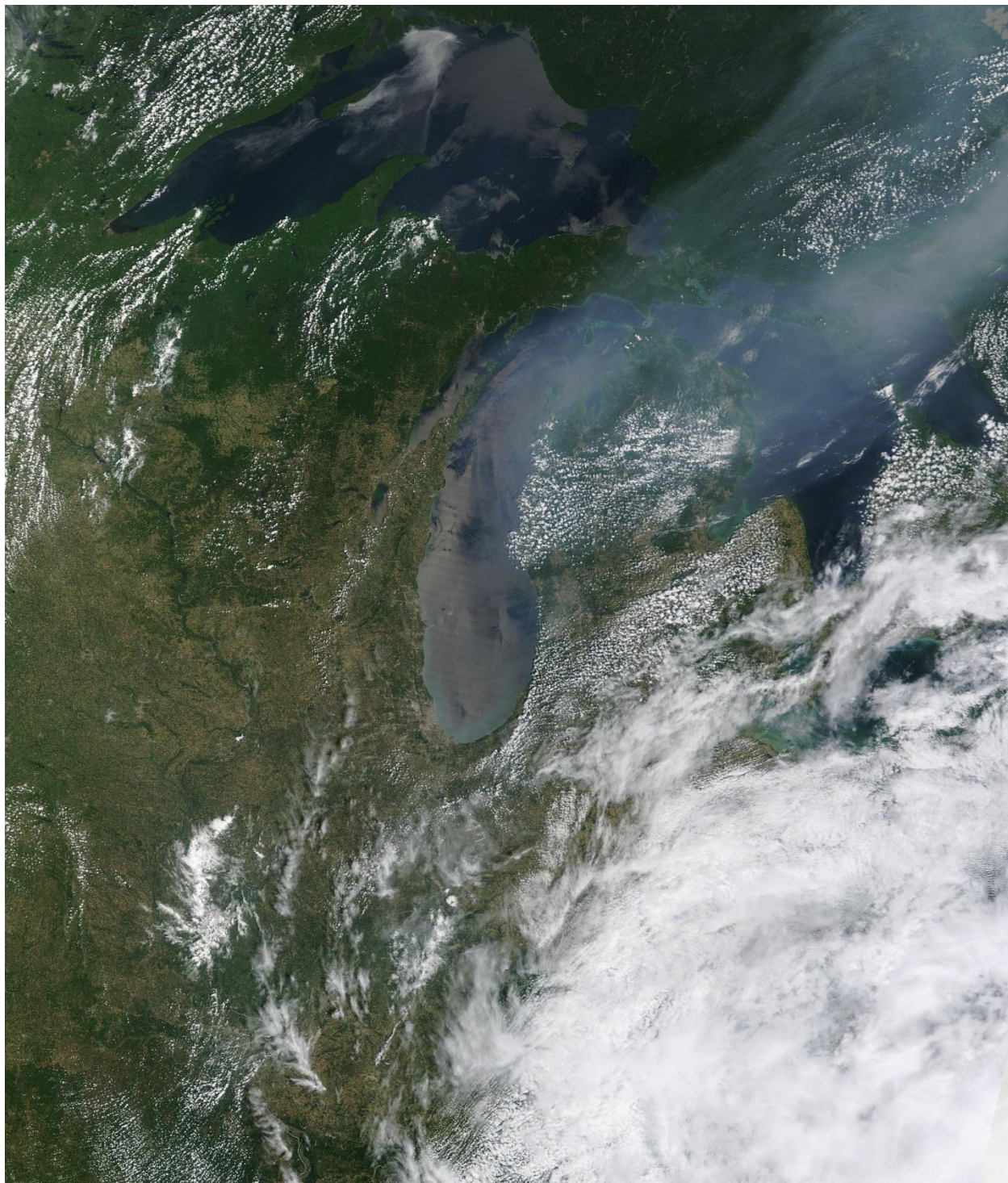


Figure D-17. MODIS Terra true color satellite imagery from June 22, 2023. Image source: NASA Worldview.

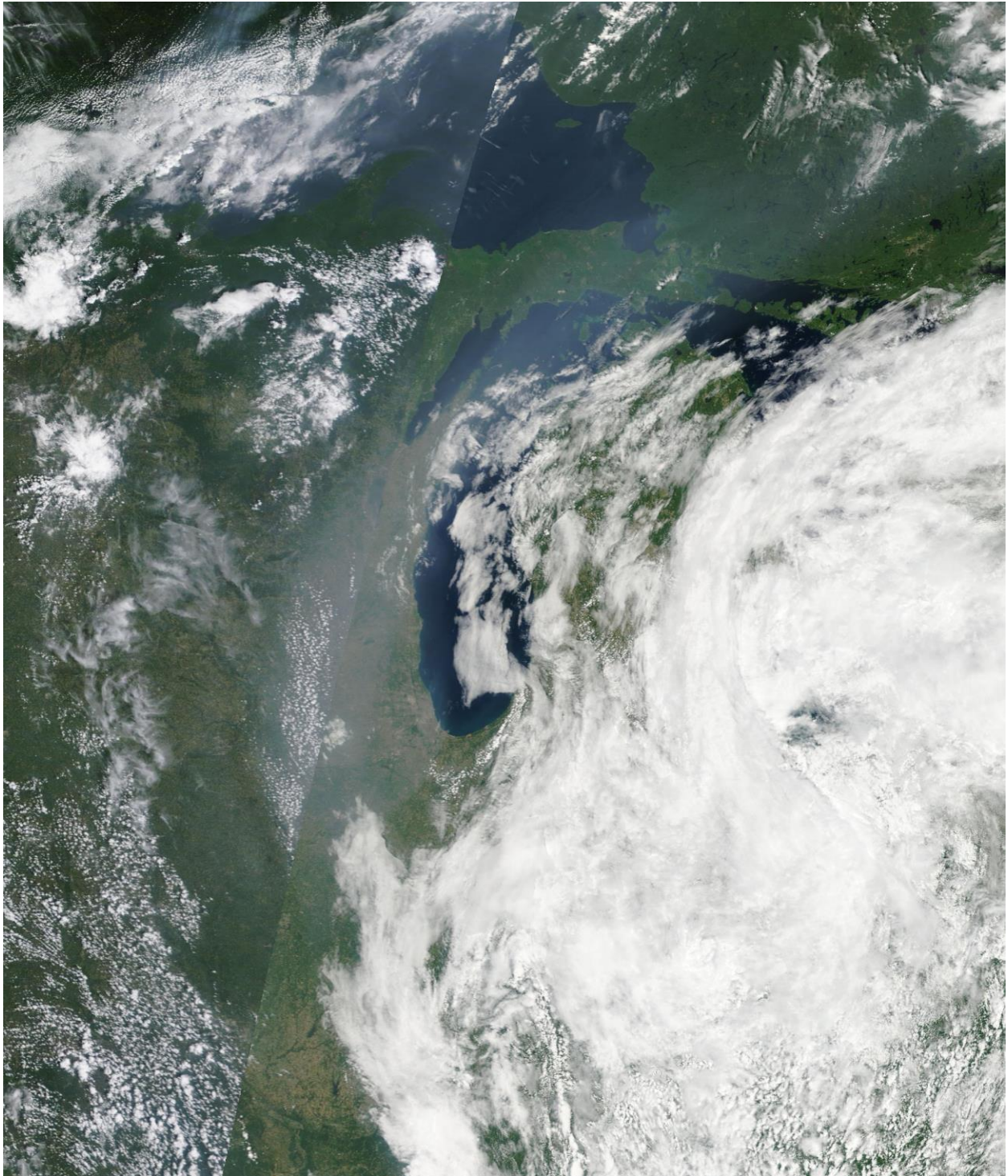


Figure D-18. MODIS Terra true color satellite imagery from June 23, 2023. Image source: NASA Worldview.

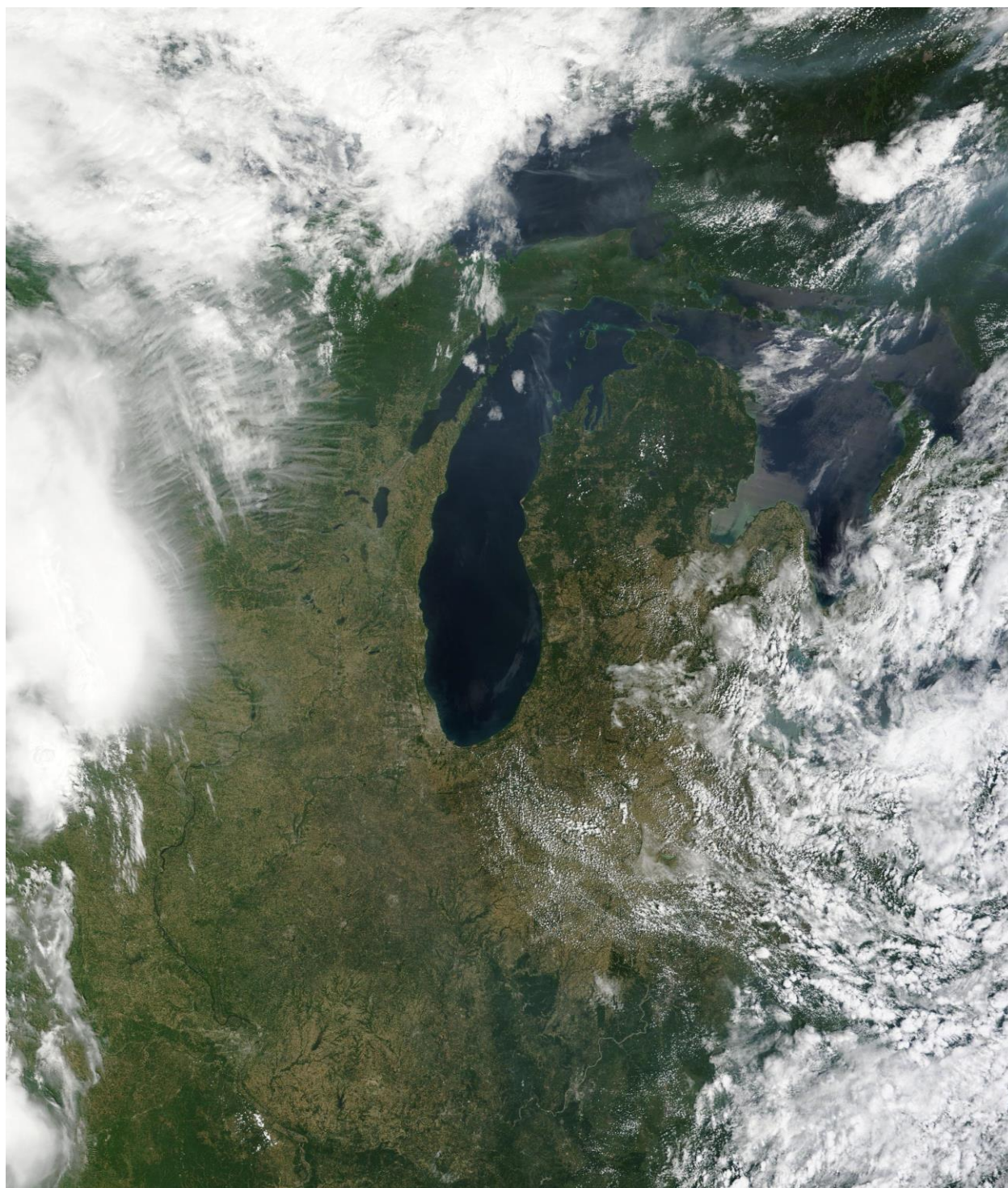


Figure D-19. MODIS Terra true color satellite imagery from June 24, 2023. Image source: NASA Worldview.

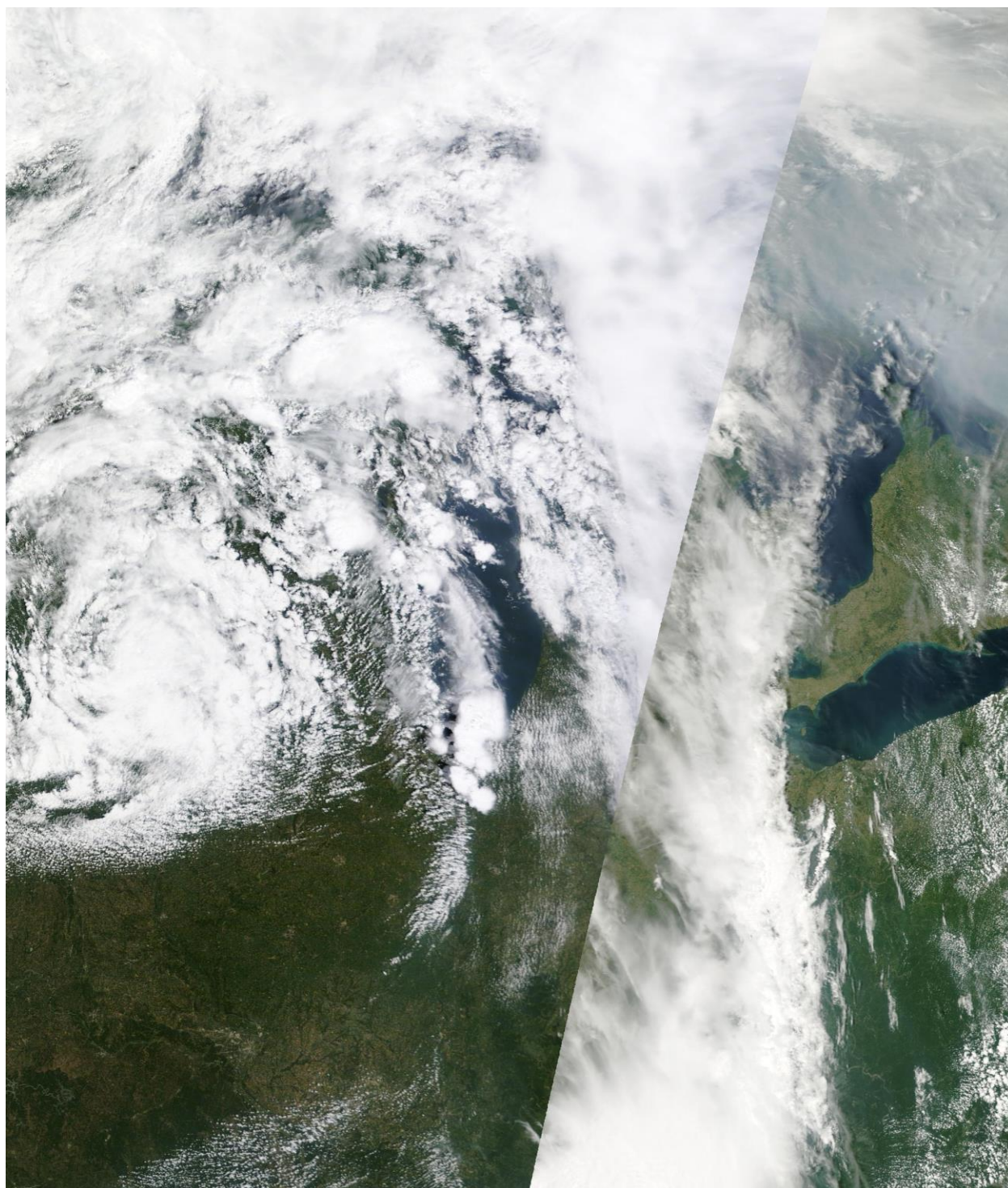


Figure D-20. MODIS Terra true color satellite imagery from June 25, 2023. Image source: NASA Worldview.

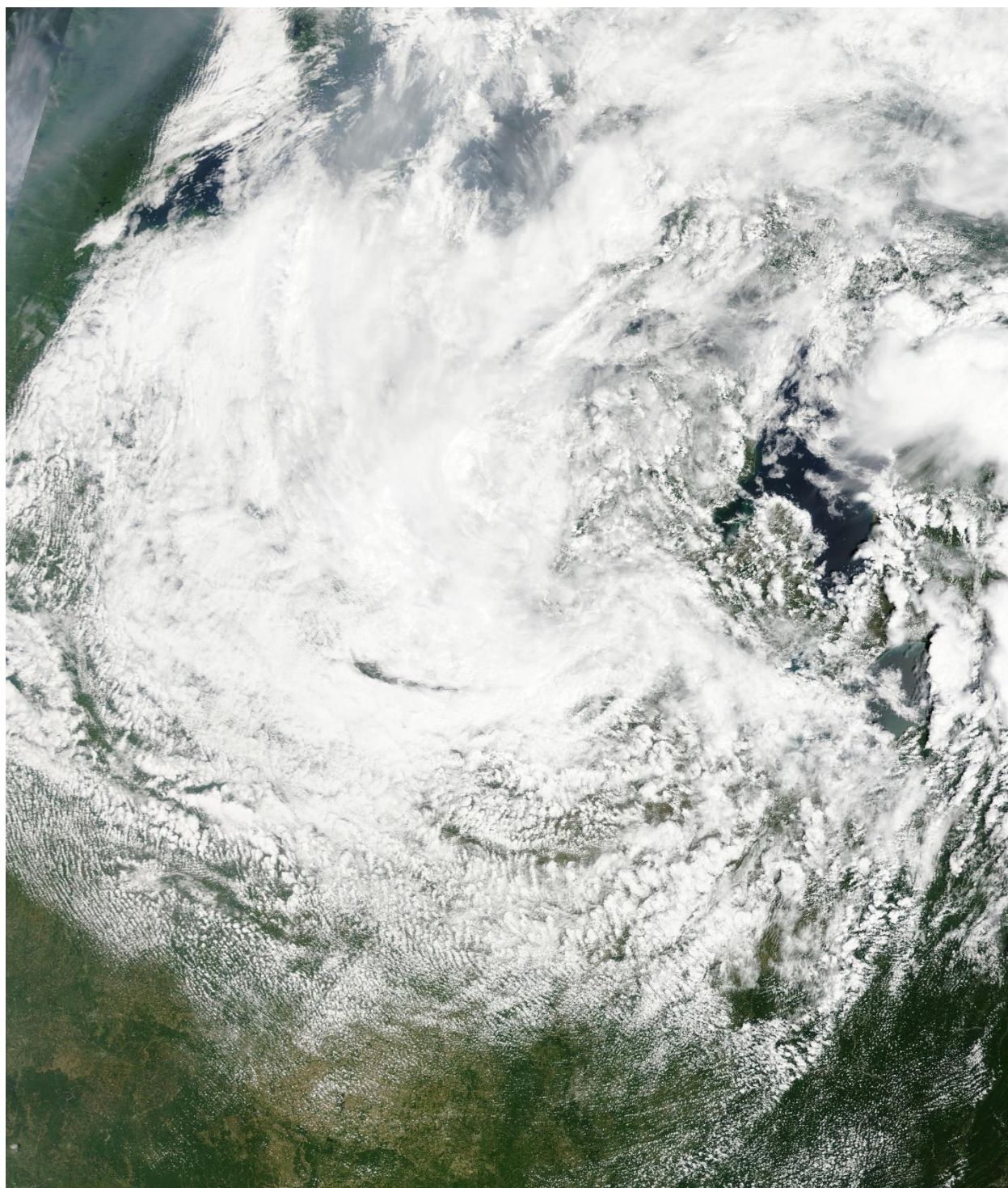


Figure D-21. MODIS Terra true color satellite imagery from June 26, 2023. Image source: NASA Worldview.



Figure D-22. MODIS Terra true color satellite imagery from June 27, 2023. Image source: NASA Worldview.

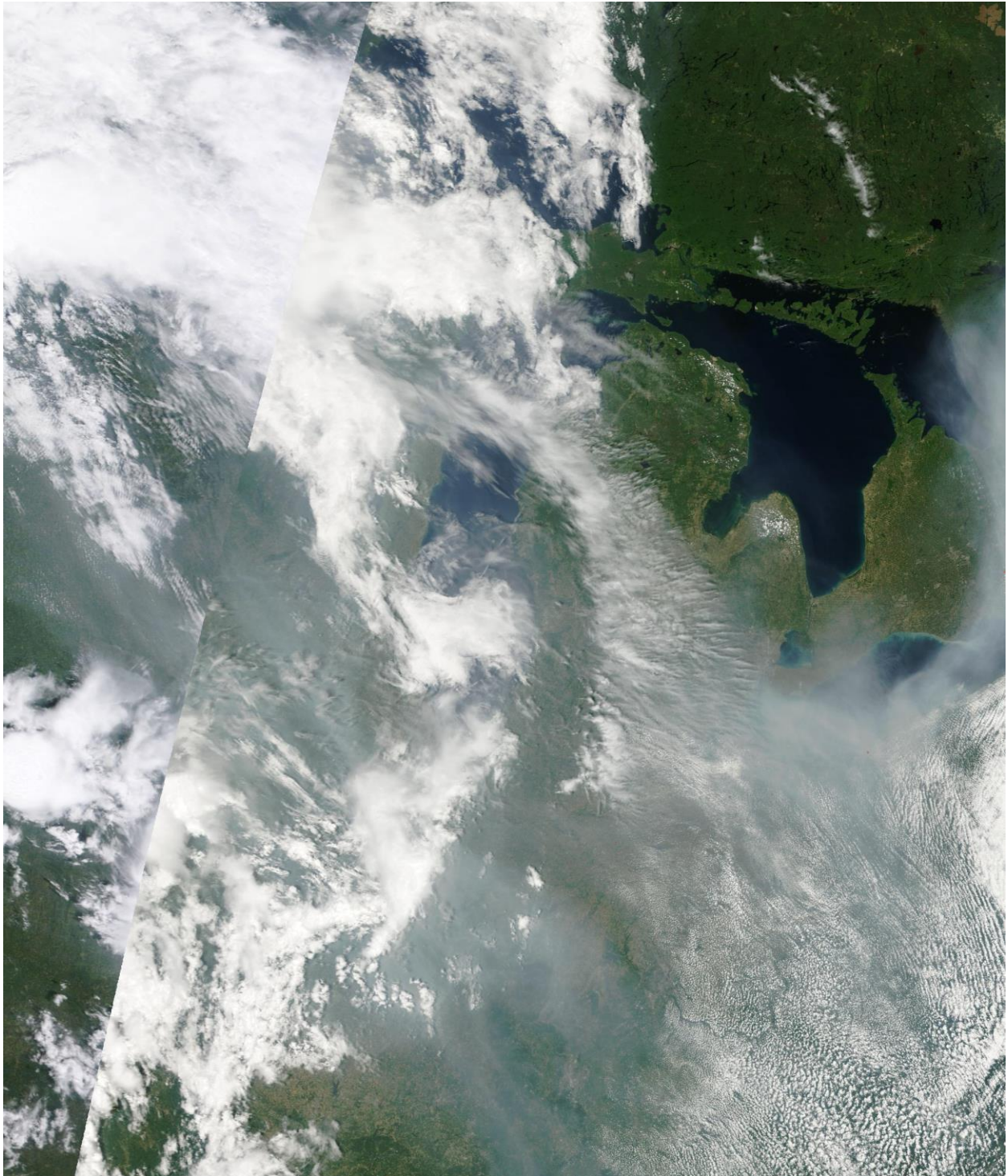


Figure D-23. MODIS Terra true color satellite imagery from June 28, 2023. Image source: NASA Worldview.

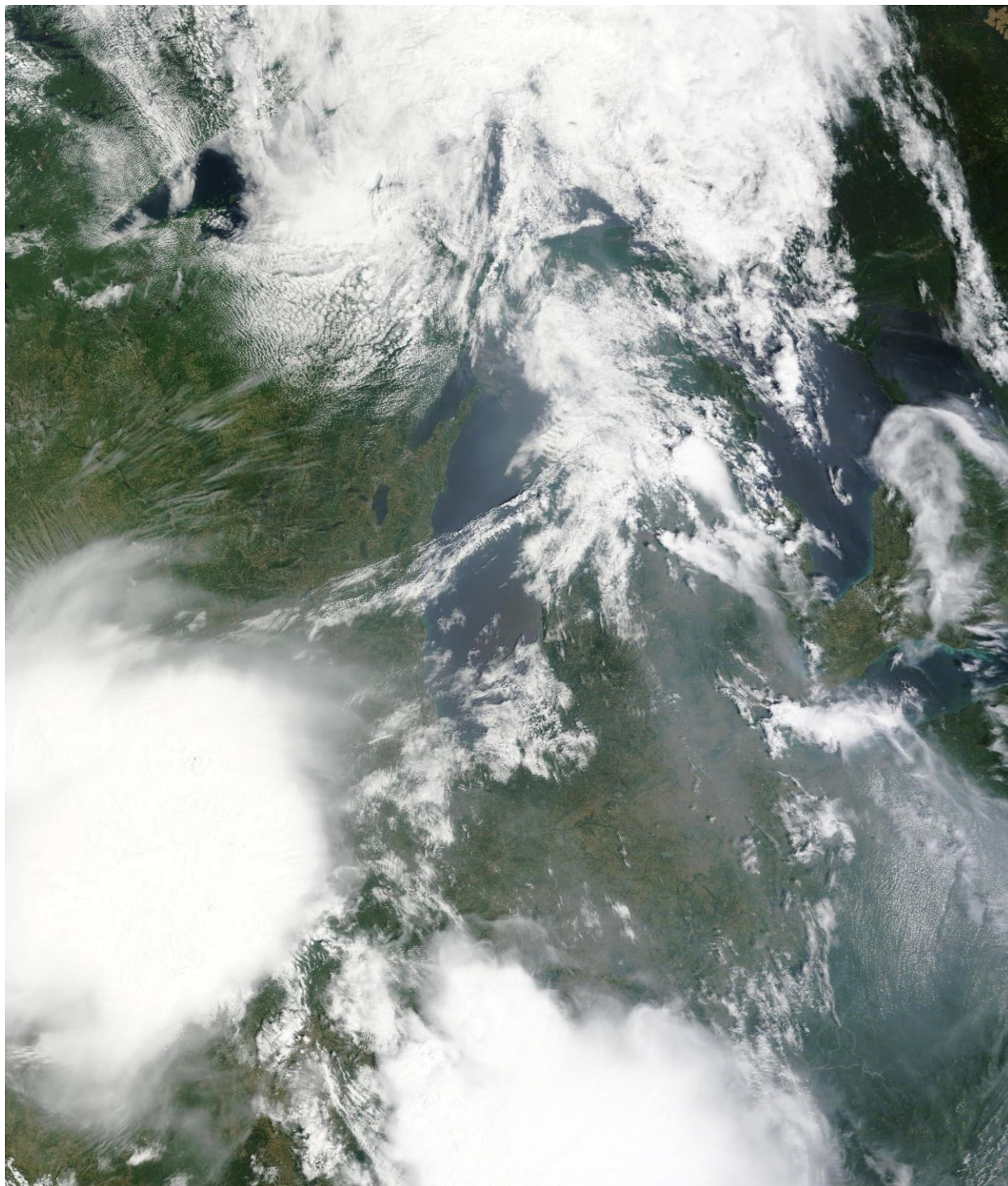


Figure D-24. MODIS Terra true color satellite imagery from June 29, 2023. Image source: NASA Worldview.

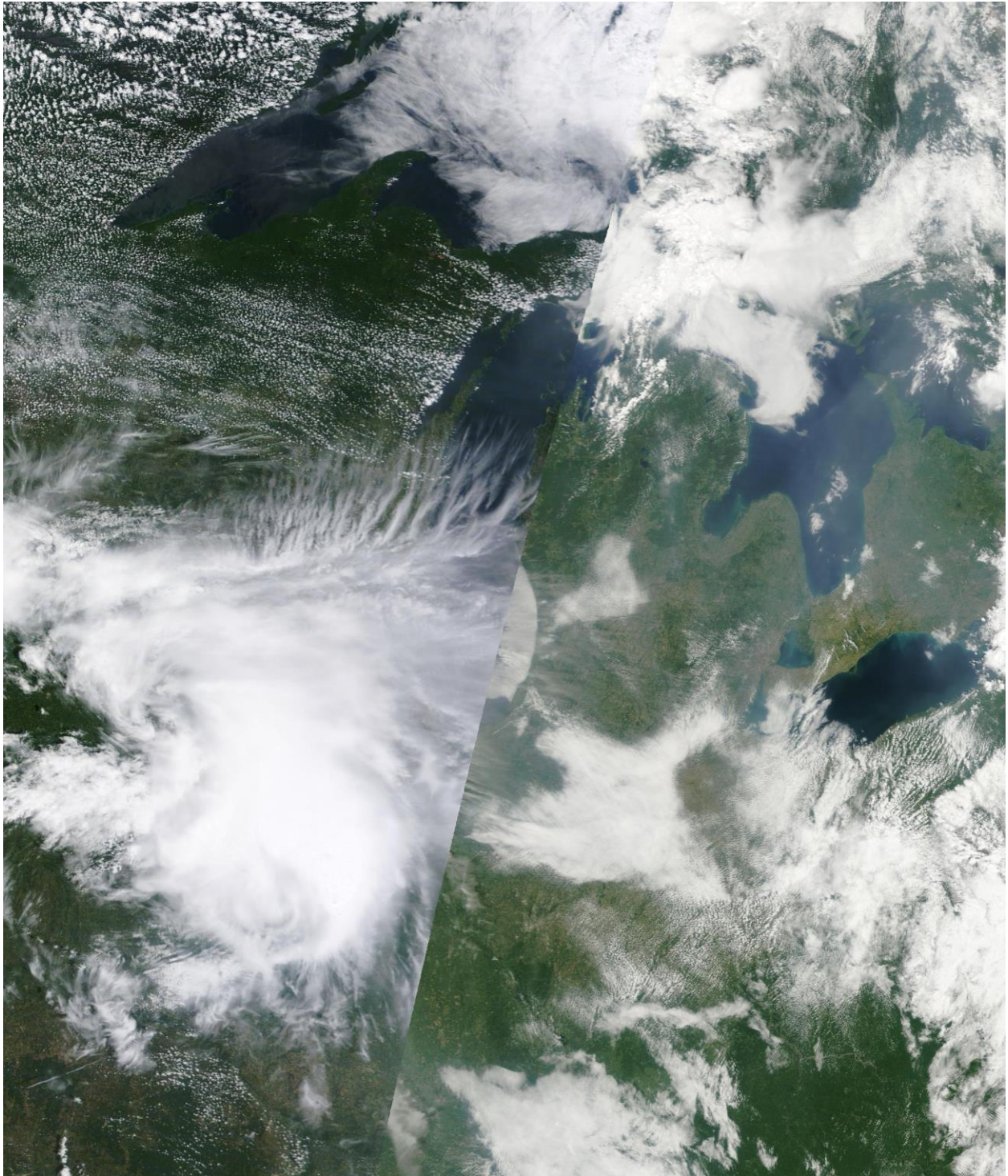


Figure D-25. MODIS Terra true color satellite imagery from June 30, 2023. Image source: NASA Worldview.

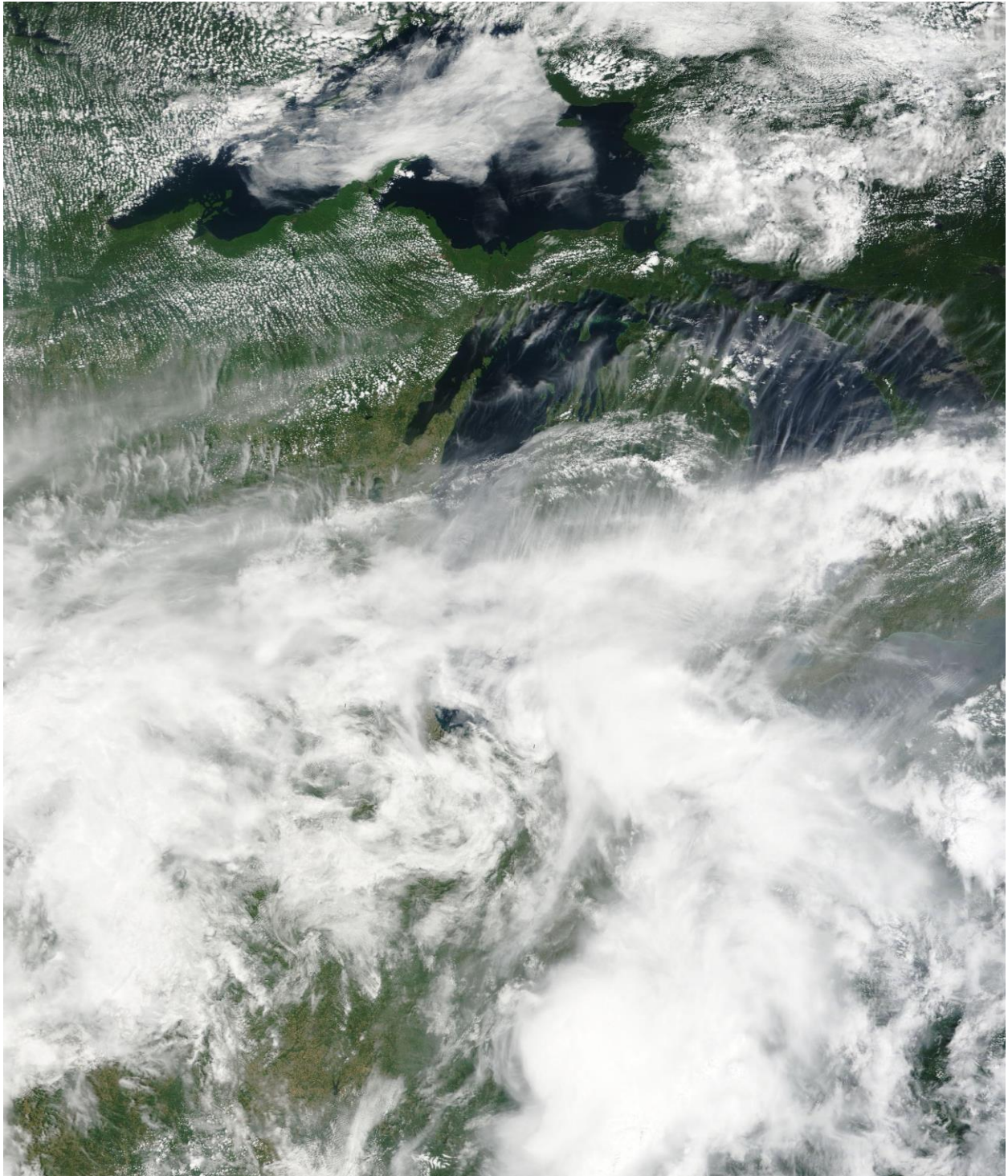


Figure D-26. MODIS Terra true color satellite imagery from July 01, 2023. Image source: NASA Worldview.

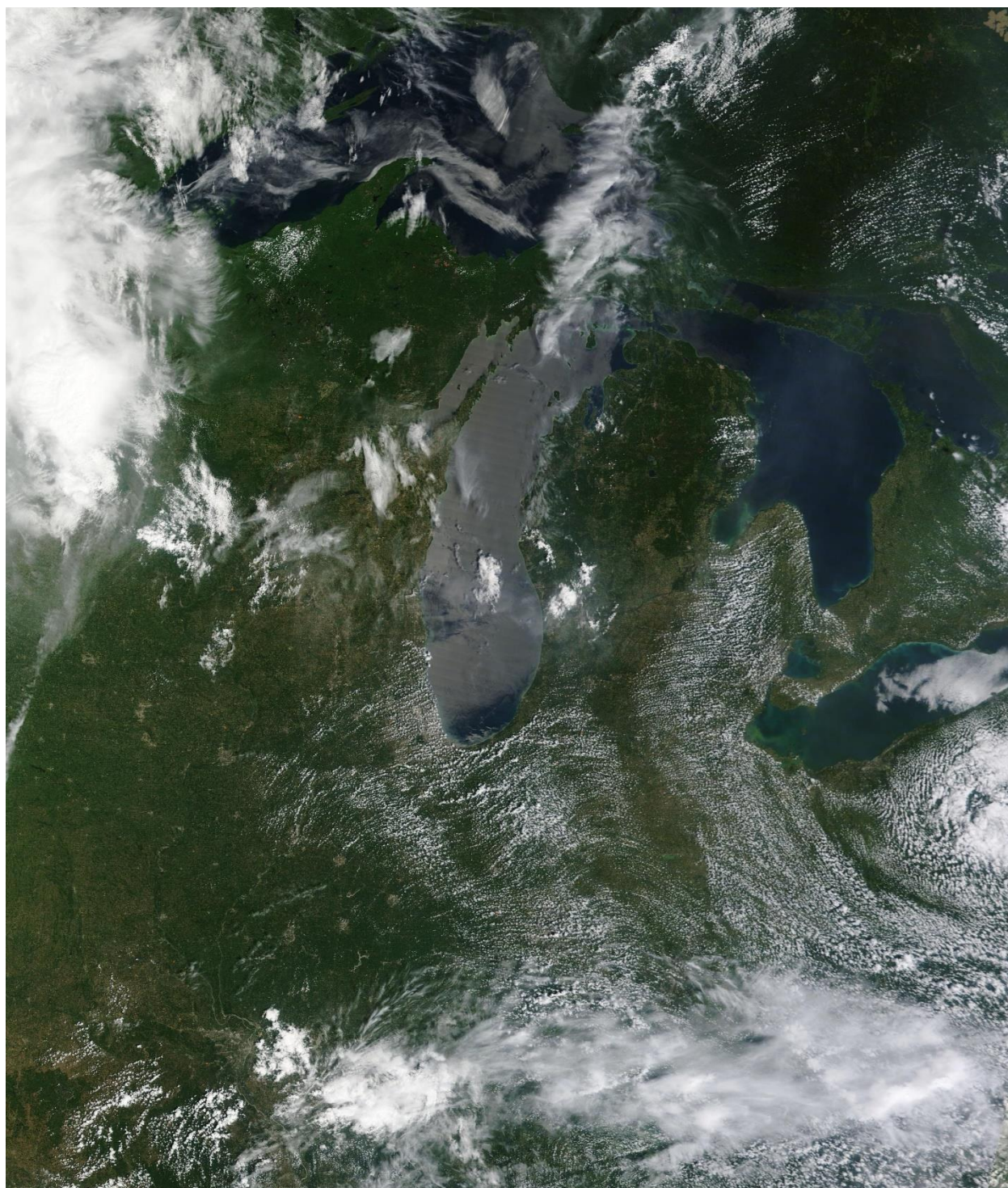


Figure D-27. MODIS Terra true color satellite imagery from July 04, 2023. Image source: NASA Worldview.

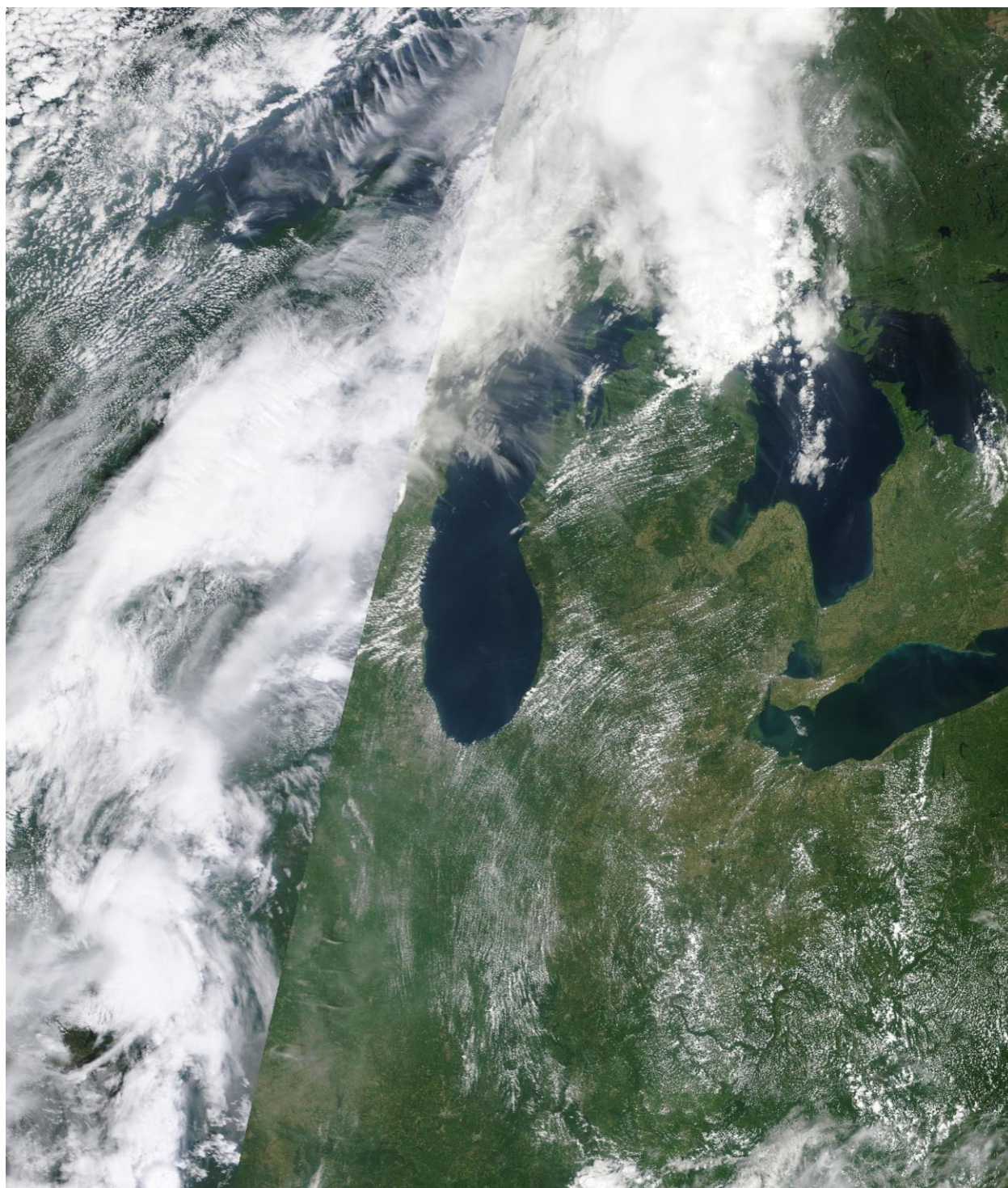


Figure D-28. MODIS Terra true color satellite imagery from July 05, 2023. Image source: NASA Worldview.

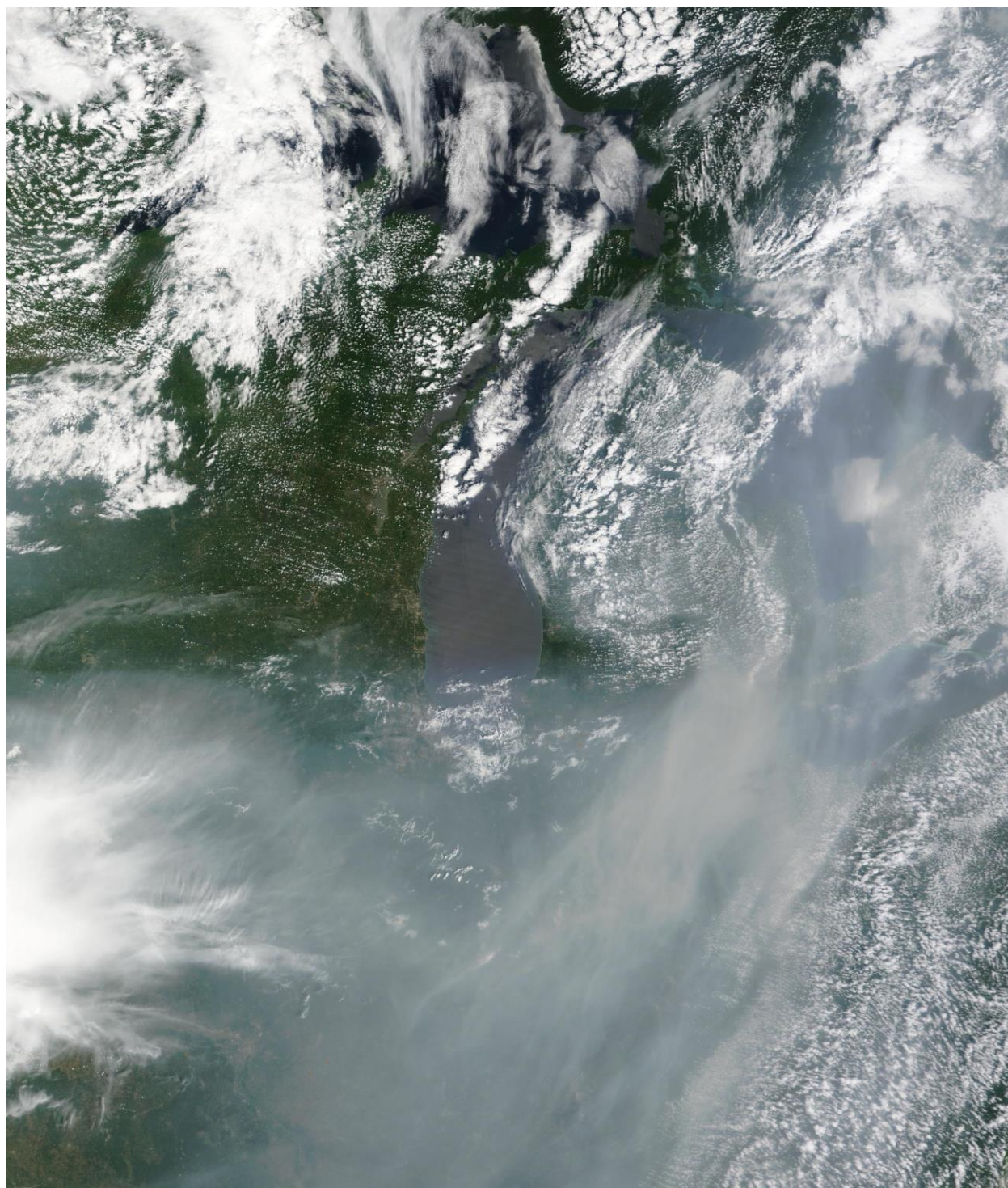


Figure D-29. MODIS Terra true color satellite imagery from July 16, 2023. Image source: NASA Worldview.

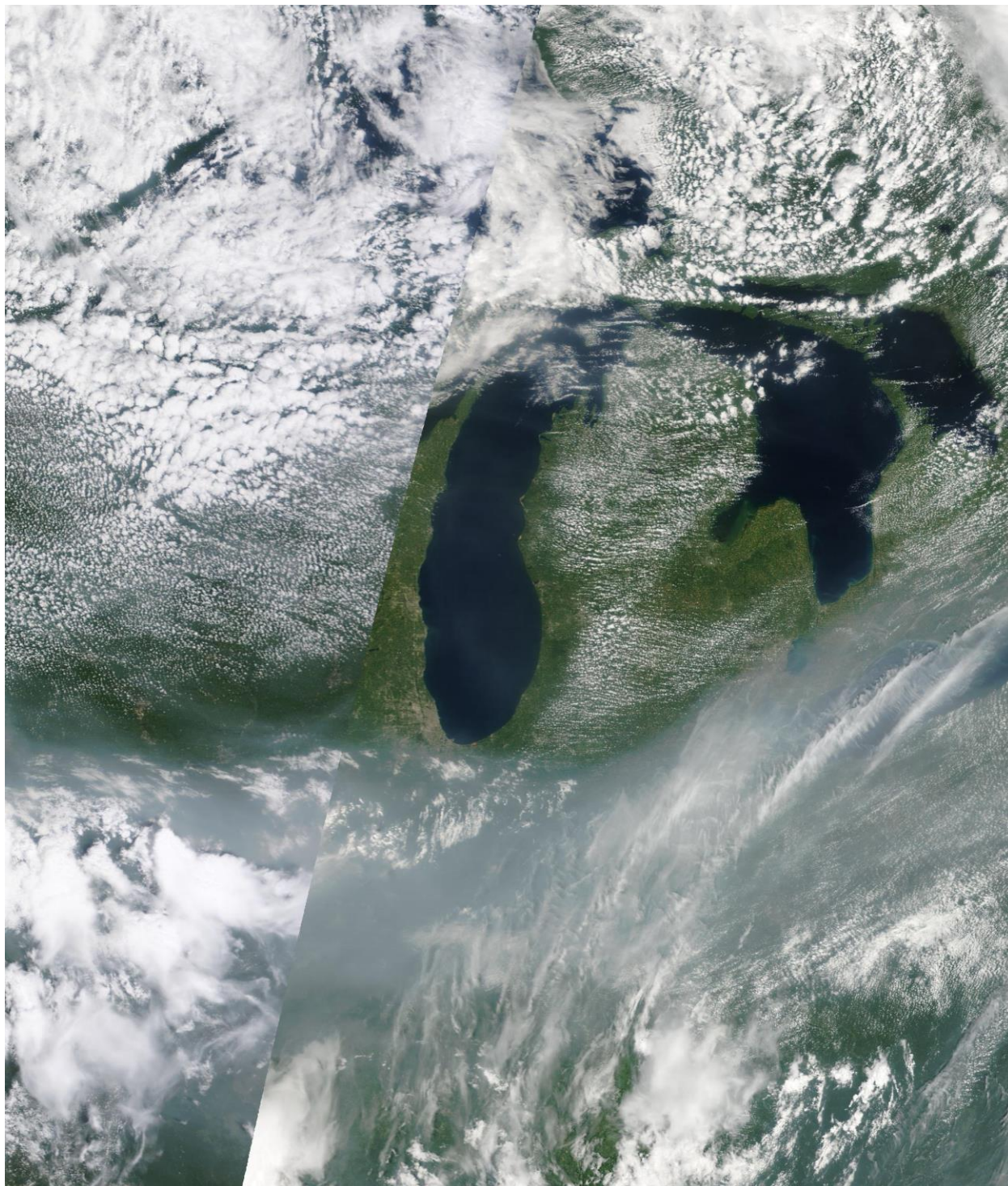


Figure D-30. MODIS Terra true color satellite imagery from July 17, 2023. Image source: NASA Worldview.

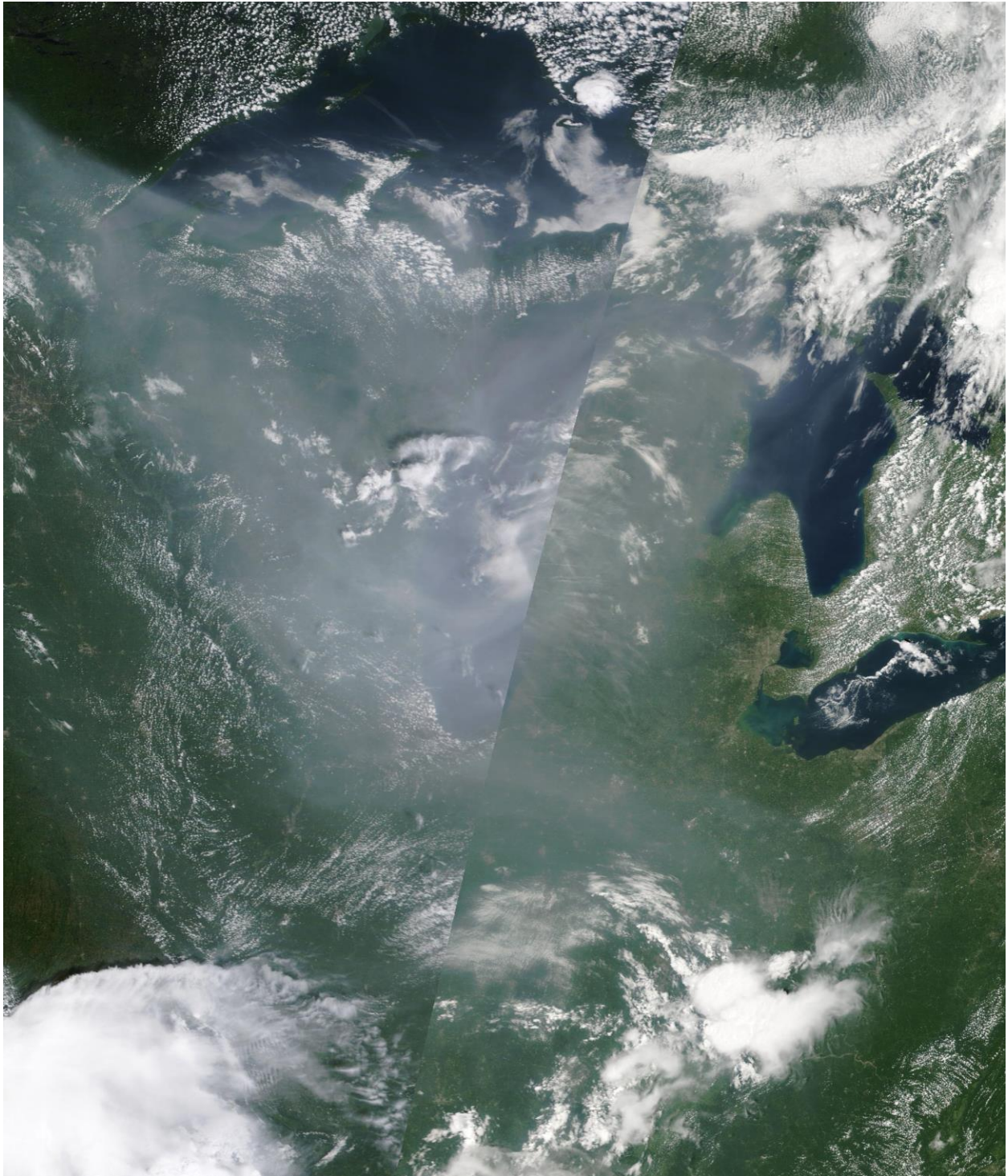


Figure D-31. MODIS Terra true color satellite imagery from July 24, 2023. Image source: NASA Worldview.



Figure D-32. MODIS Terra true color satellite imagery from July 25, 2023. Image source: NASA Worldview.

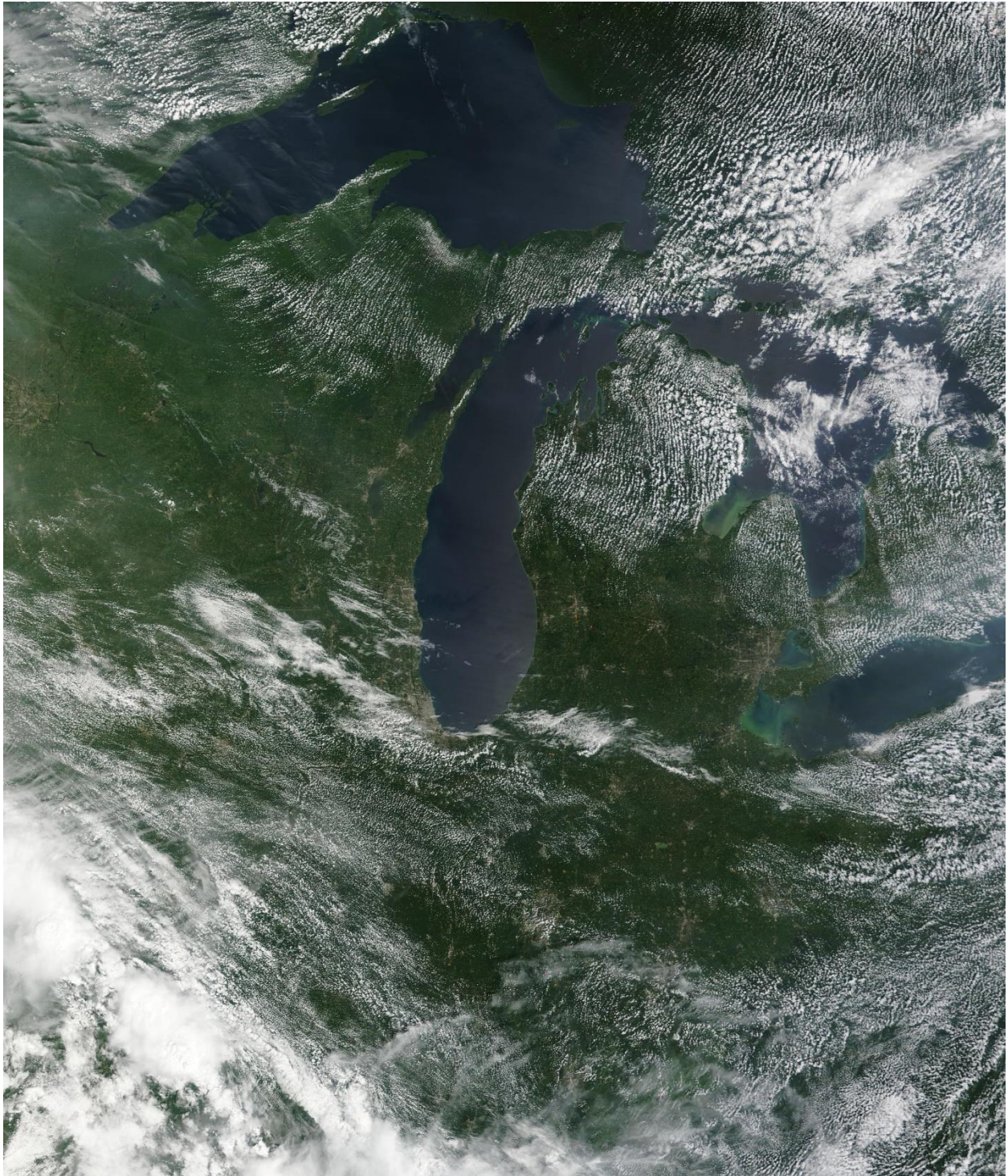


Figure D-33. MODIS Terra true color satellite imagery from August 04, 2023. Image source: NASA Worldview.

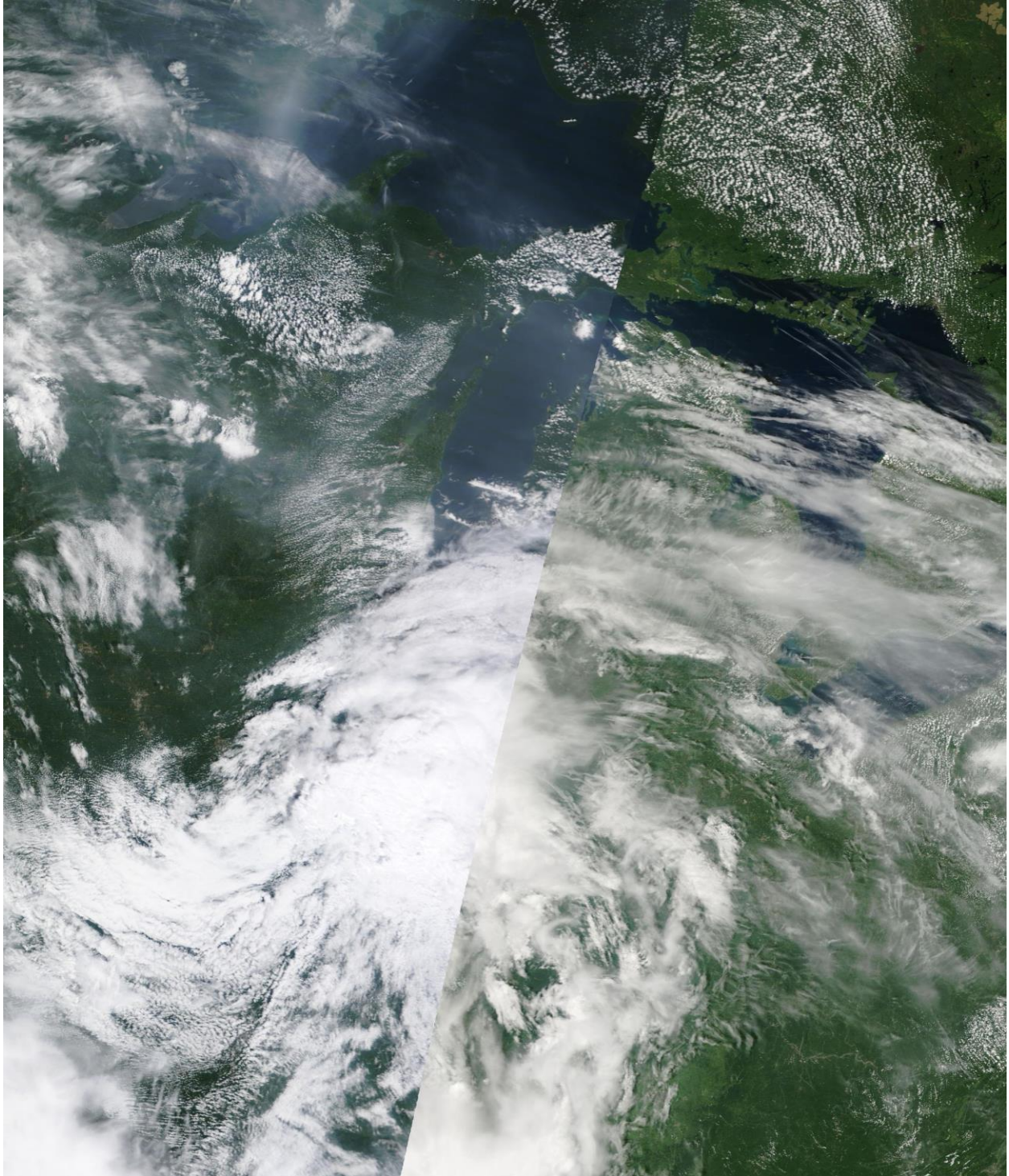


Figure D-34. MODIS Terra true color satellite imagery from August 05, 2023. Image source: NASA Worldview.

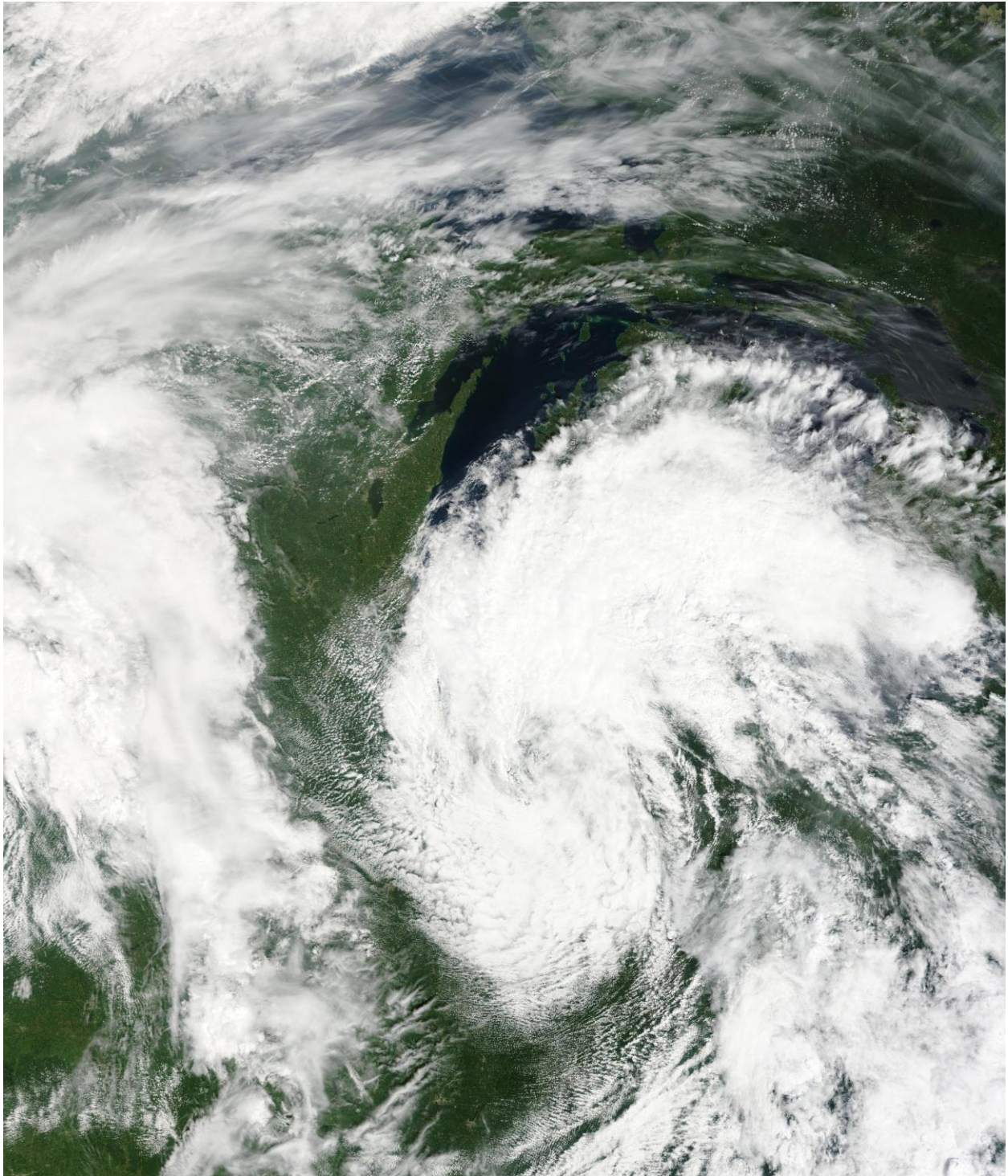


Figure D-35. MODIS Terra true color satellite imagery from August 06, 2023. Image source: NASA Worldview.

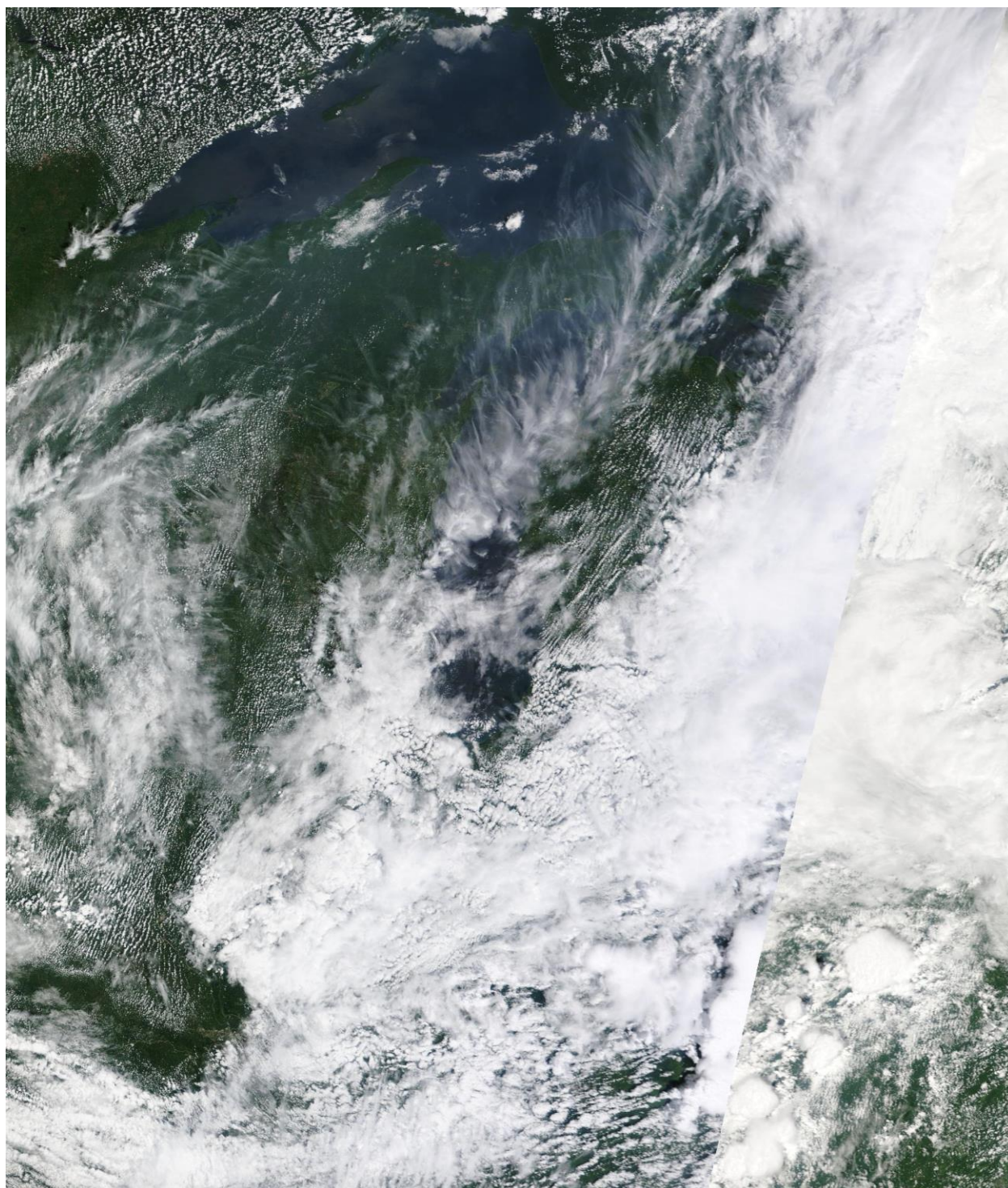


Figure D-36. MODIS Terra true color satellite imagery from August 07, 2023. Image source: NASA Worldview.

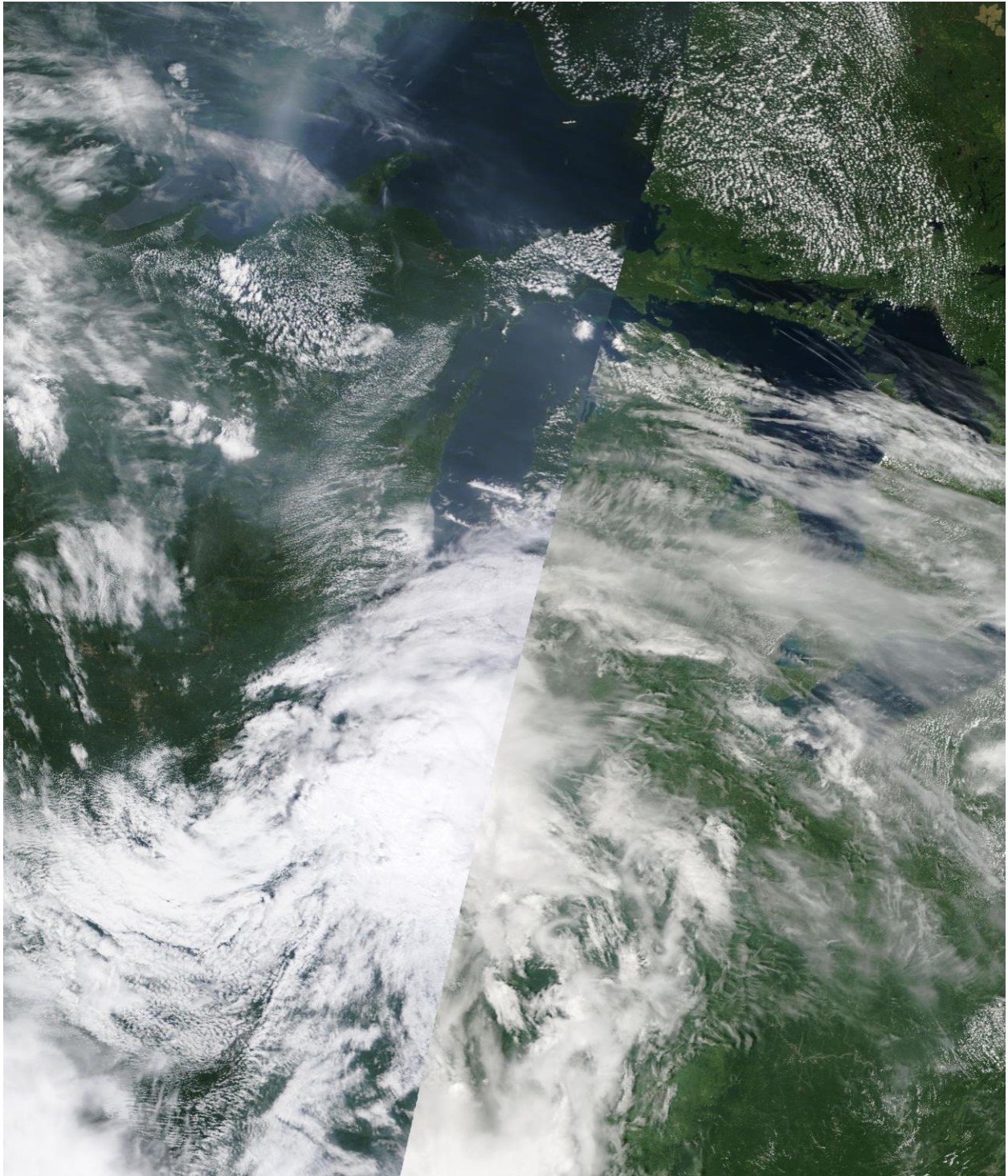


Figure D-37. MODIS Terra true color satellite imagery from August 08, 2023. Image source: NASA Worldview.

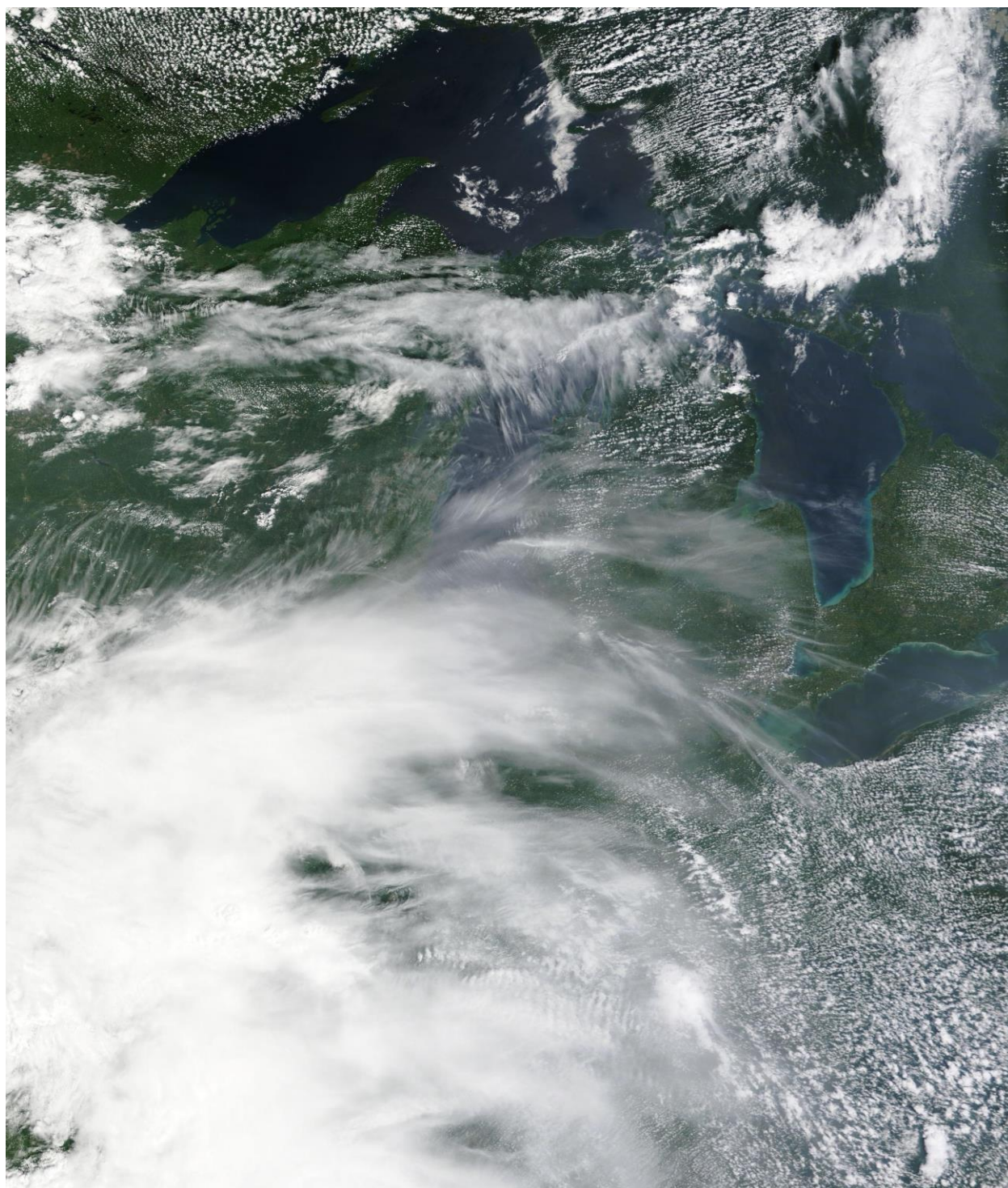


Figure D-38. MODIS Terra true color satellite imagery from August 09, 2023. Image source: NASA Worldview.

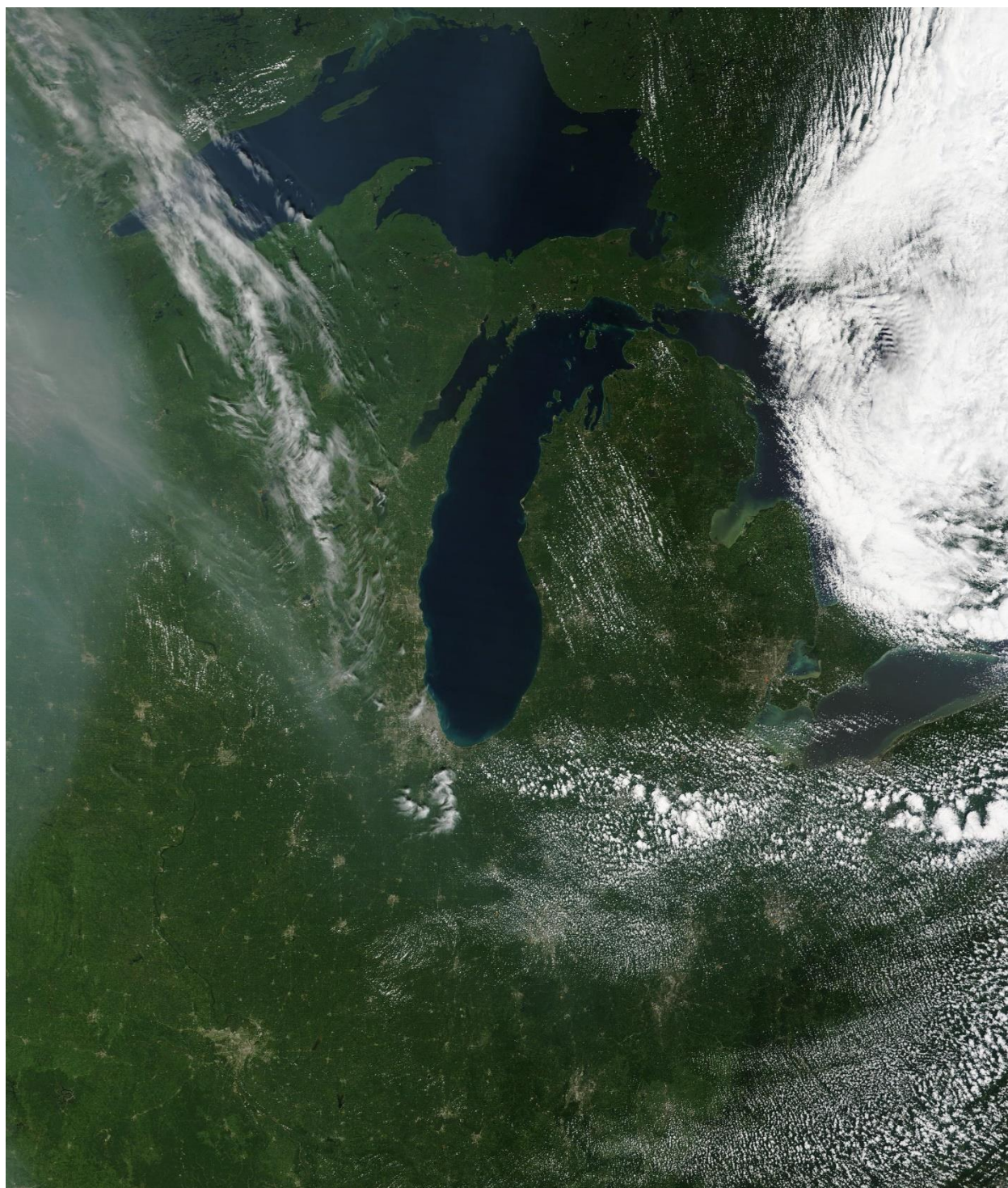


Figure D-39. MODIS Terra true color satellite imagery from August 18, 2023. Image source: NASA Worldview.



Figure D-40. MODIS Terra true color satellite imagery from August 19, 2023. Image source: NASA Worldview.



Figure D-41. MODIS Terra true color satellite imagery from August 20, 2023. Image source: NASA Worldview.

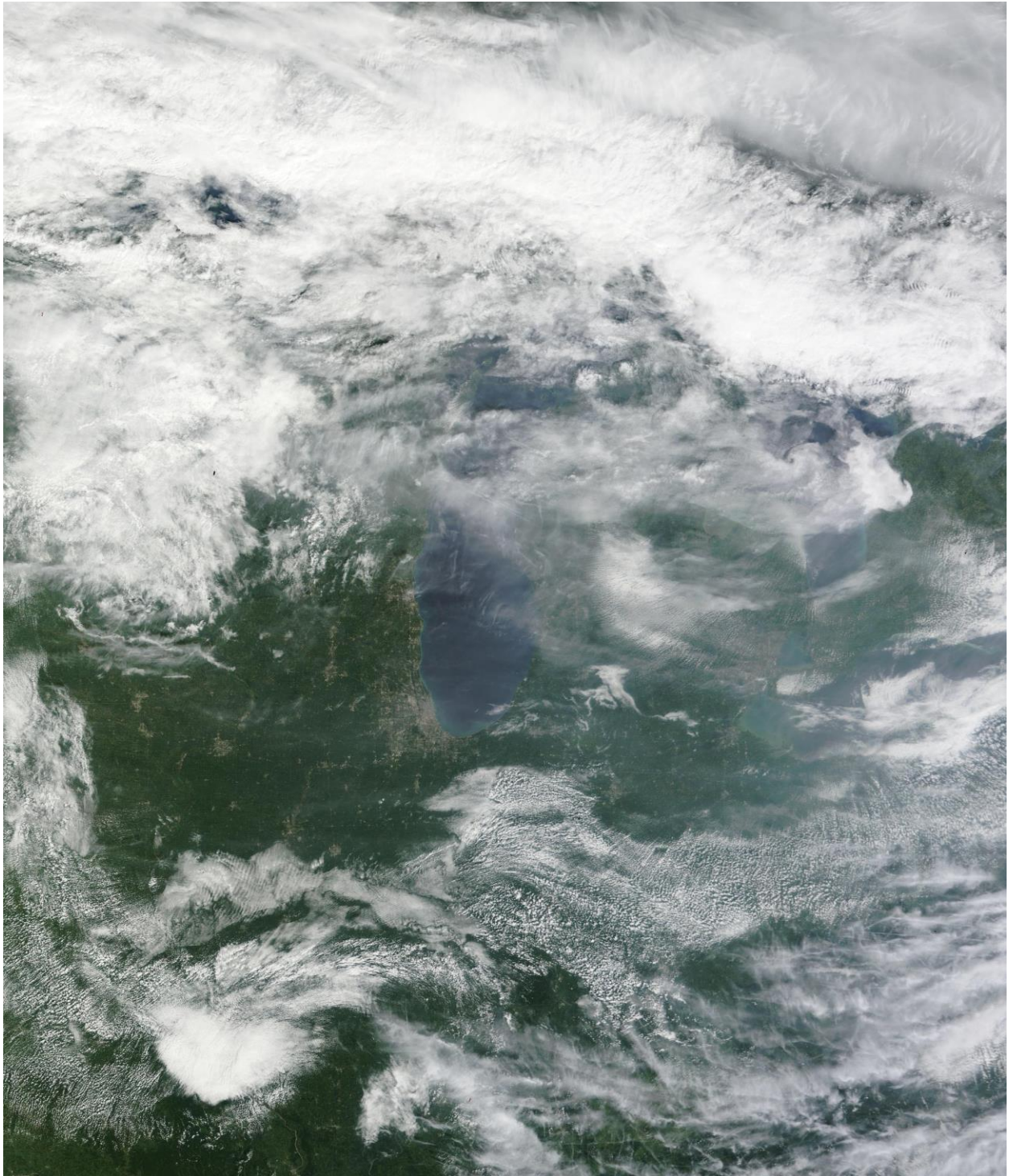


Figure D-42. MODIS Terra true color satellite imagery from August 21, 2023. Image source: NASA Worldview.

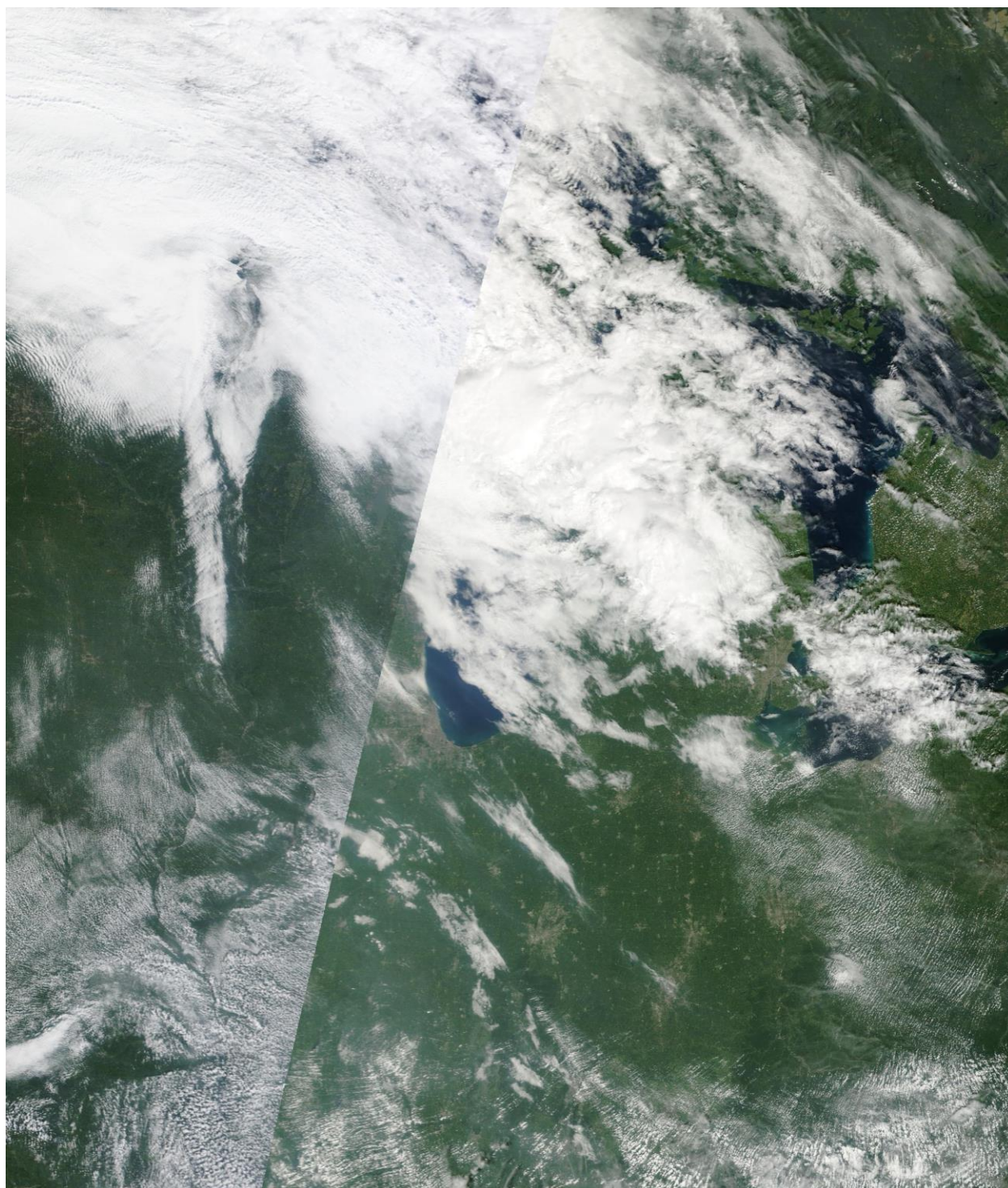


Figure D-43. MODIS Terra true color satellite imagery from August 22, 2023. Image source: NASA Worldview.

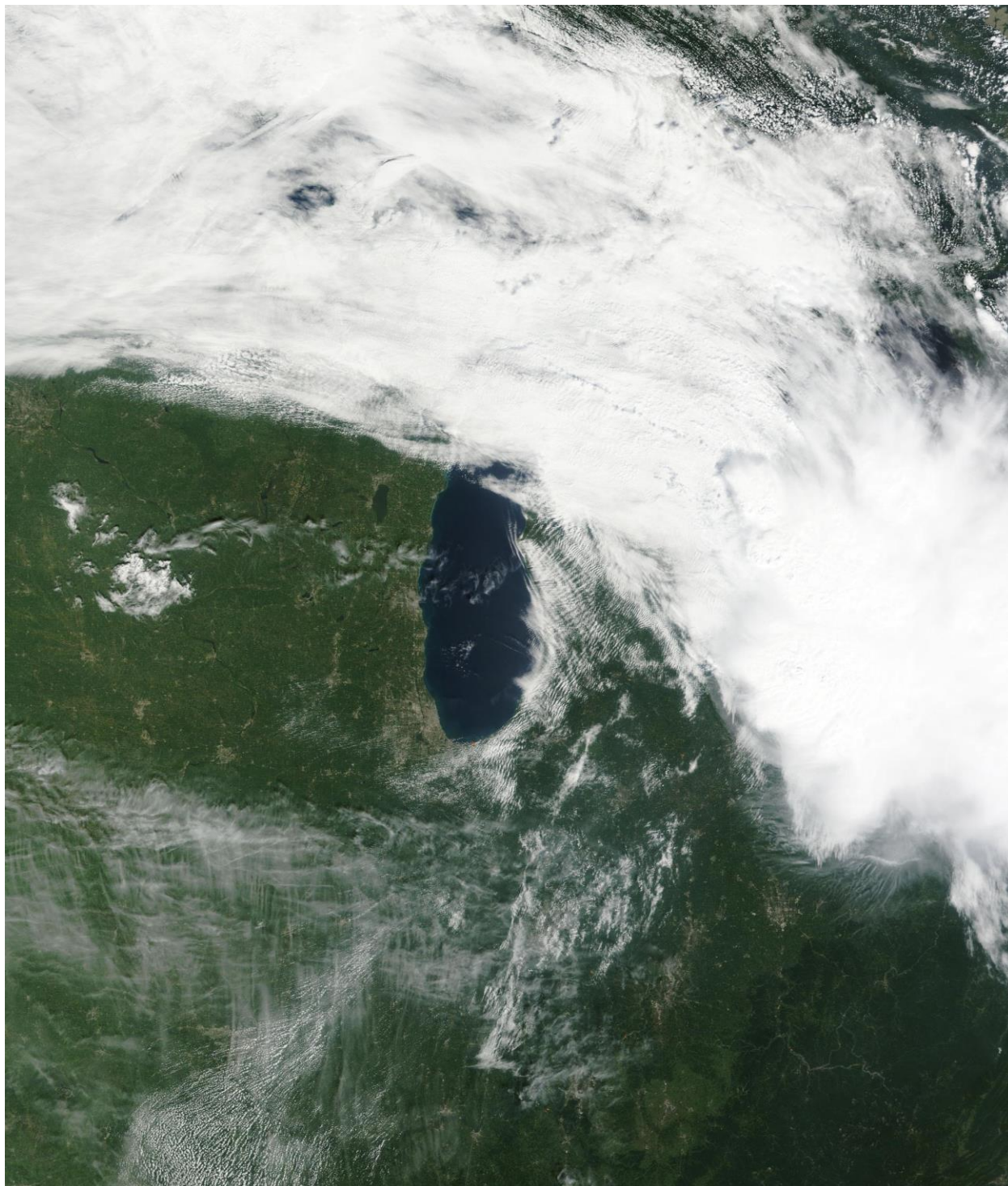


Figure D-44. MODIS Terra true color satellite imagery from August 23, 2023. Image source: NASA Worldview.

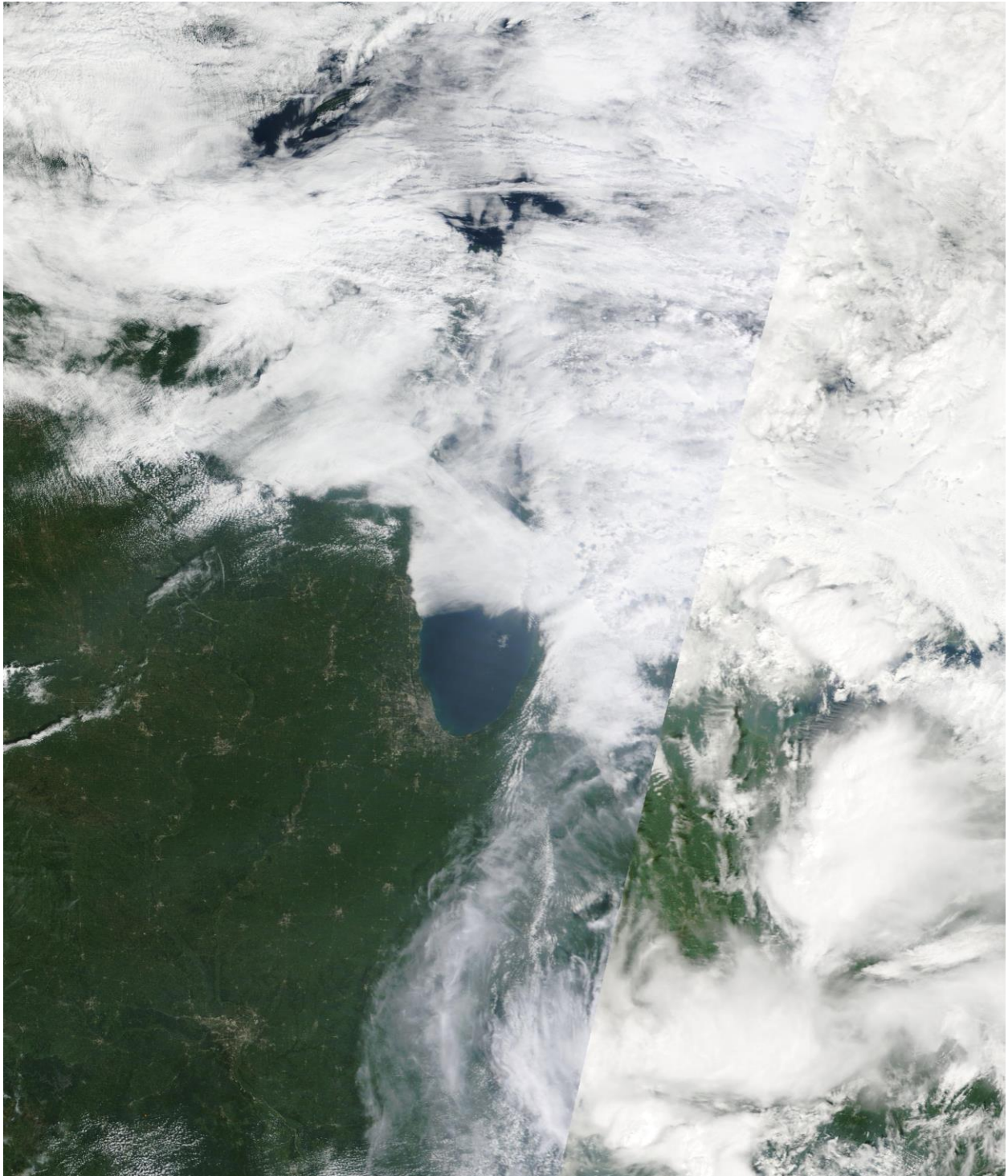


Figure D-45. MODIS Terra true color satellite imagery from August 24, 2023. Image source: NASA Worldview.

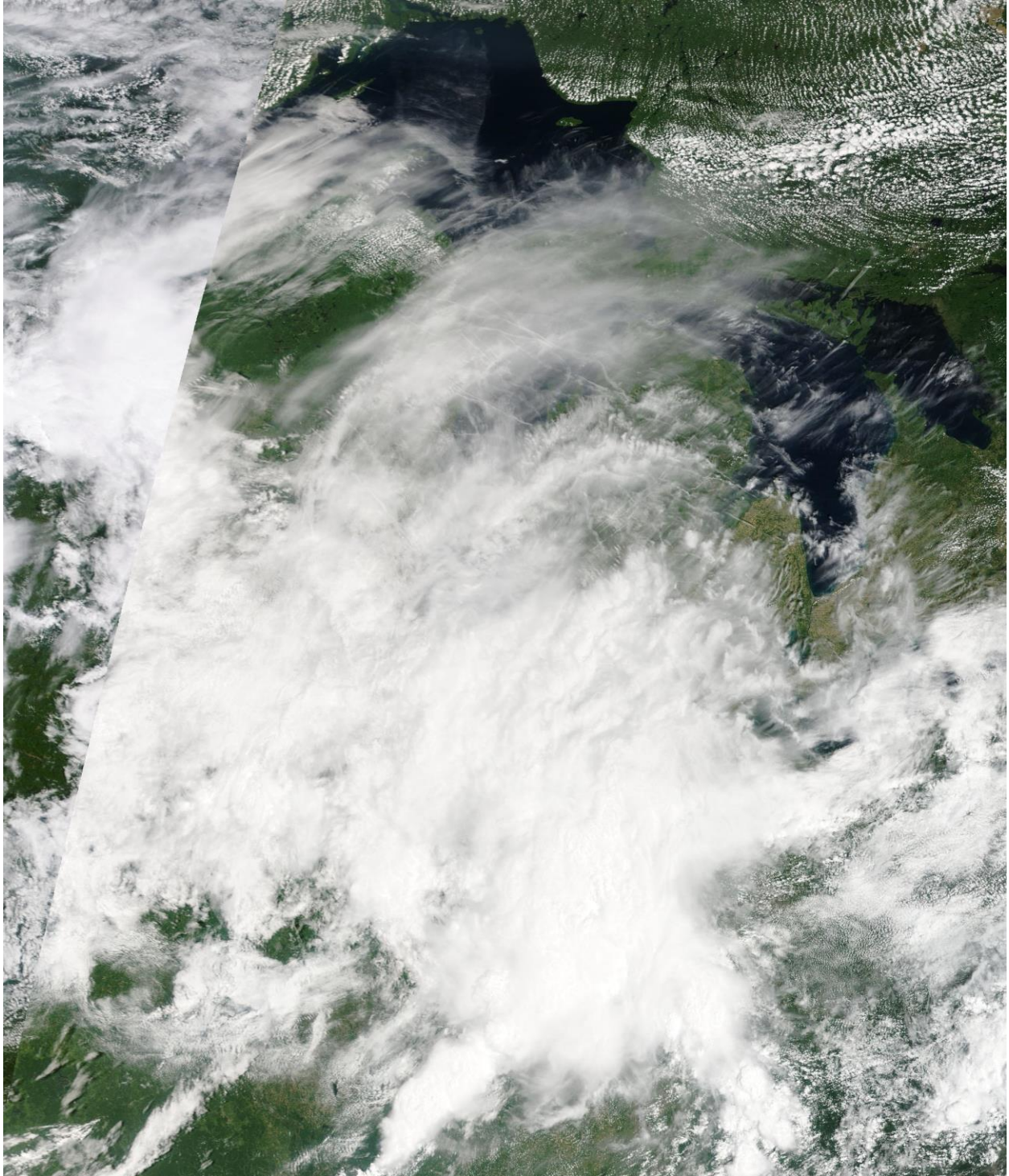


Figure D-46. MODIS Terra true color satellite imagery from July 04, 2024. Image source: NASA Worldview.

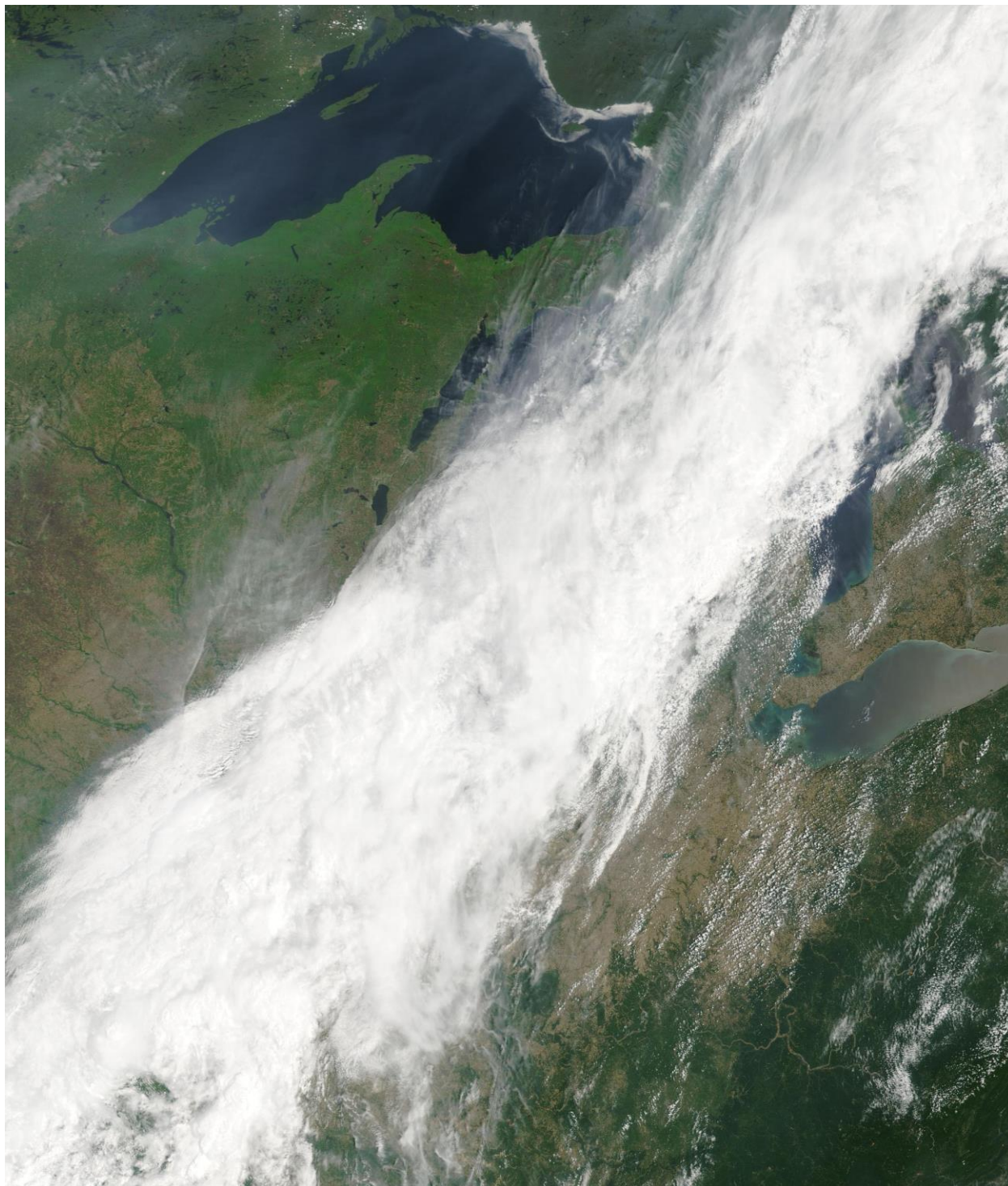


Figure D-47. MODIS Terra true color satellite imagery from June 04, 2025. Image source: NASA Worldview.

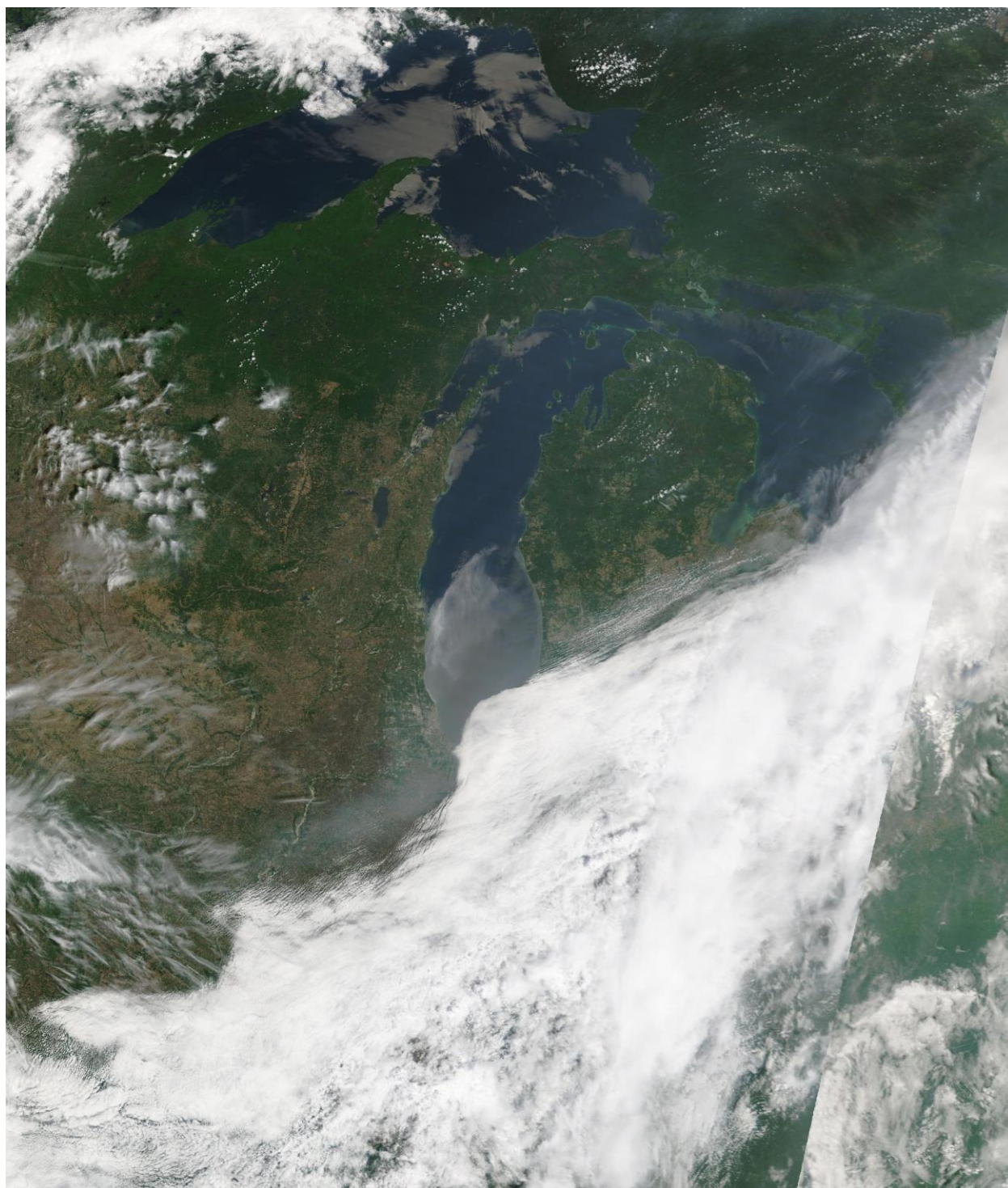


Figure D-48. MODIS Terra true color satellite imagery from June 05, 2025. Image source: NASA Worldview.

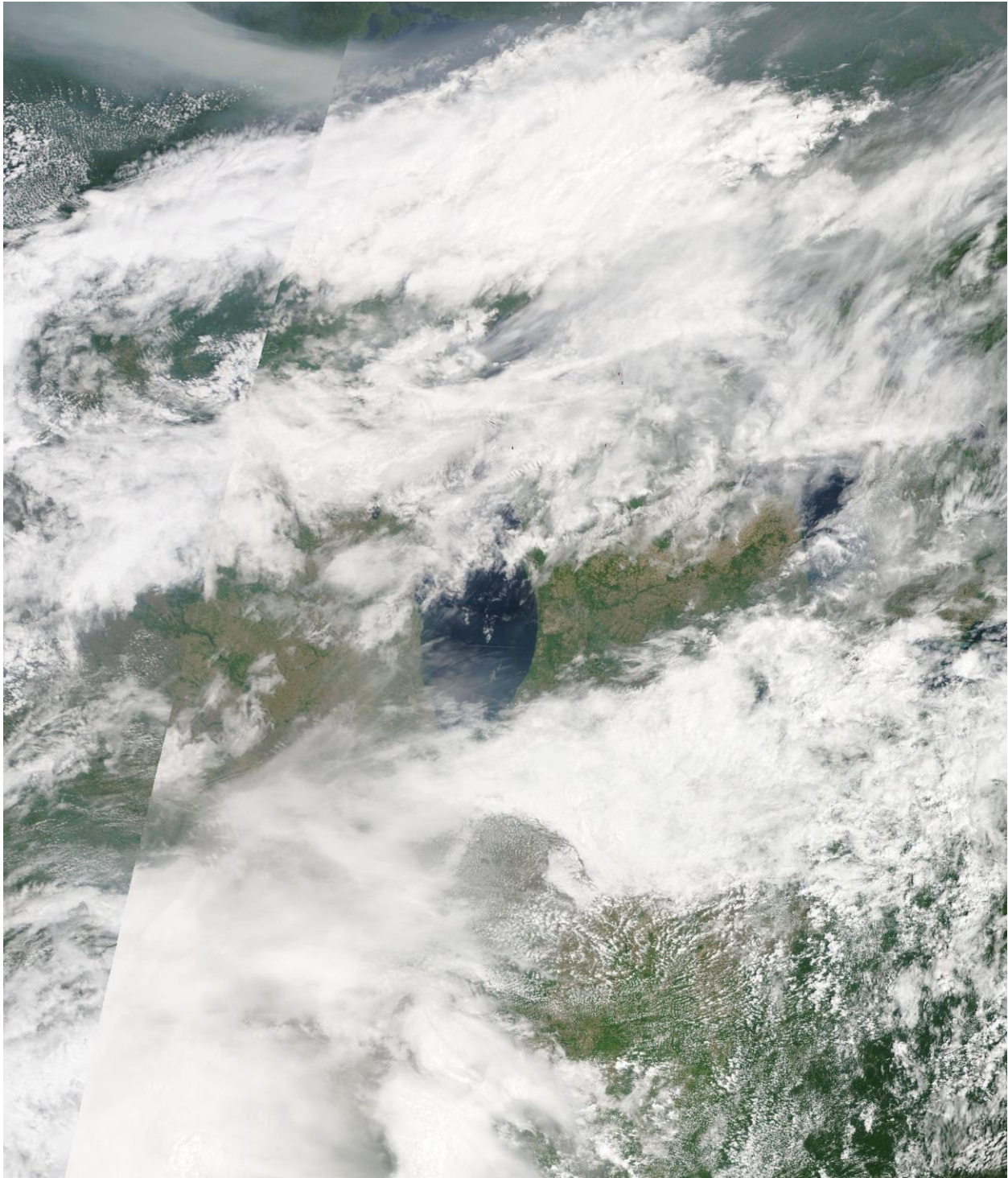


Figure D-49. MODIS Terra true color satellite imagery from June 06, 2025. Image source: NASA Worldview.

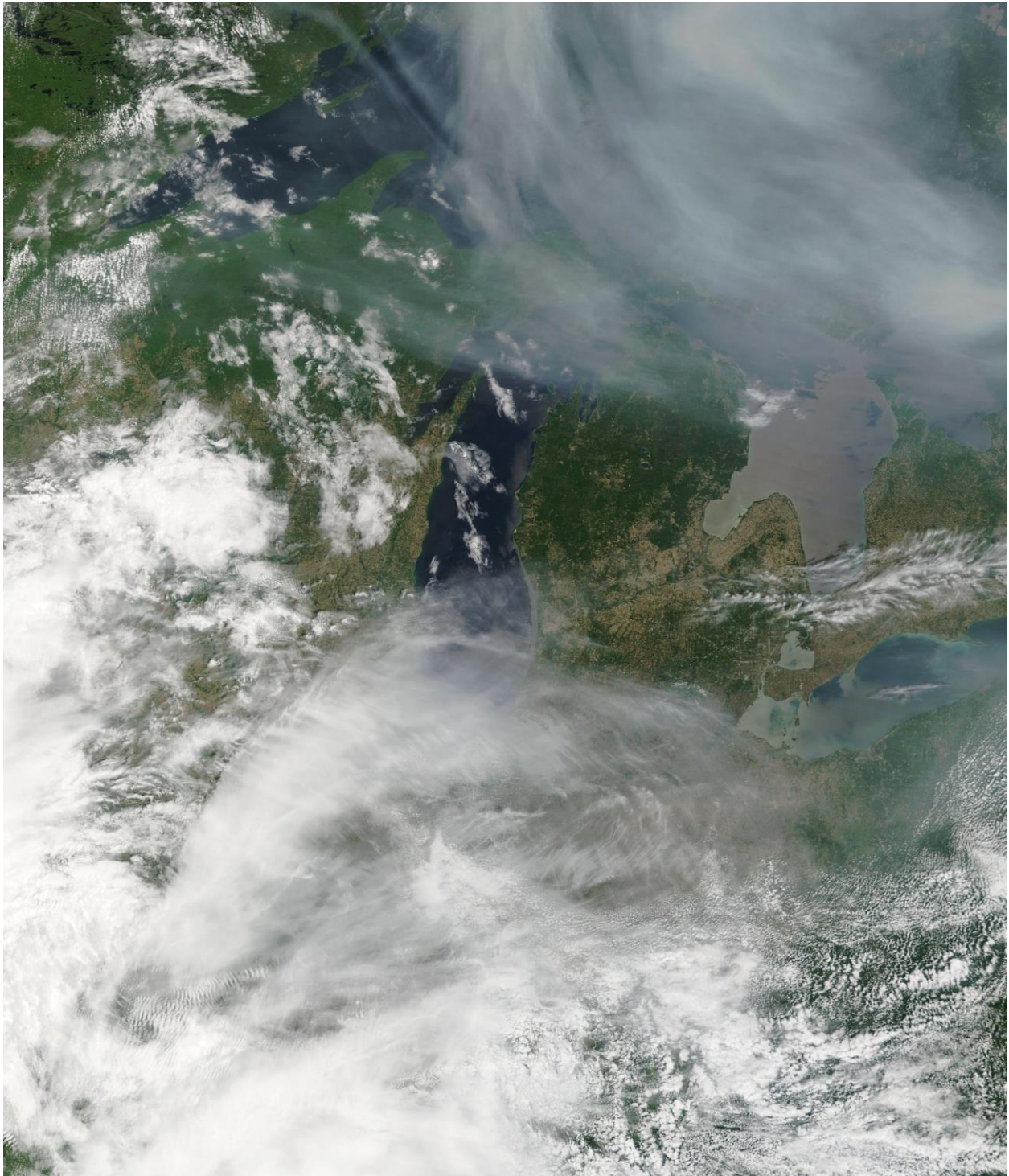


Figure D-50. MODIS Terra true color satellite imagery from June 07, 2025. Image source: NASA Worldview.

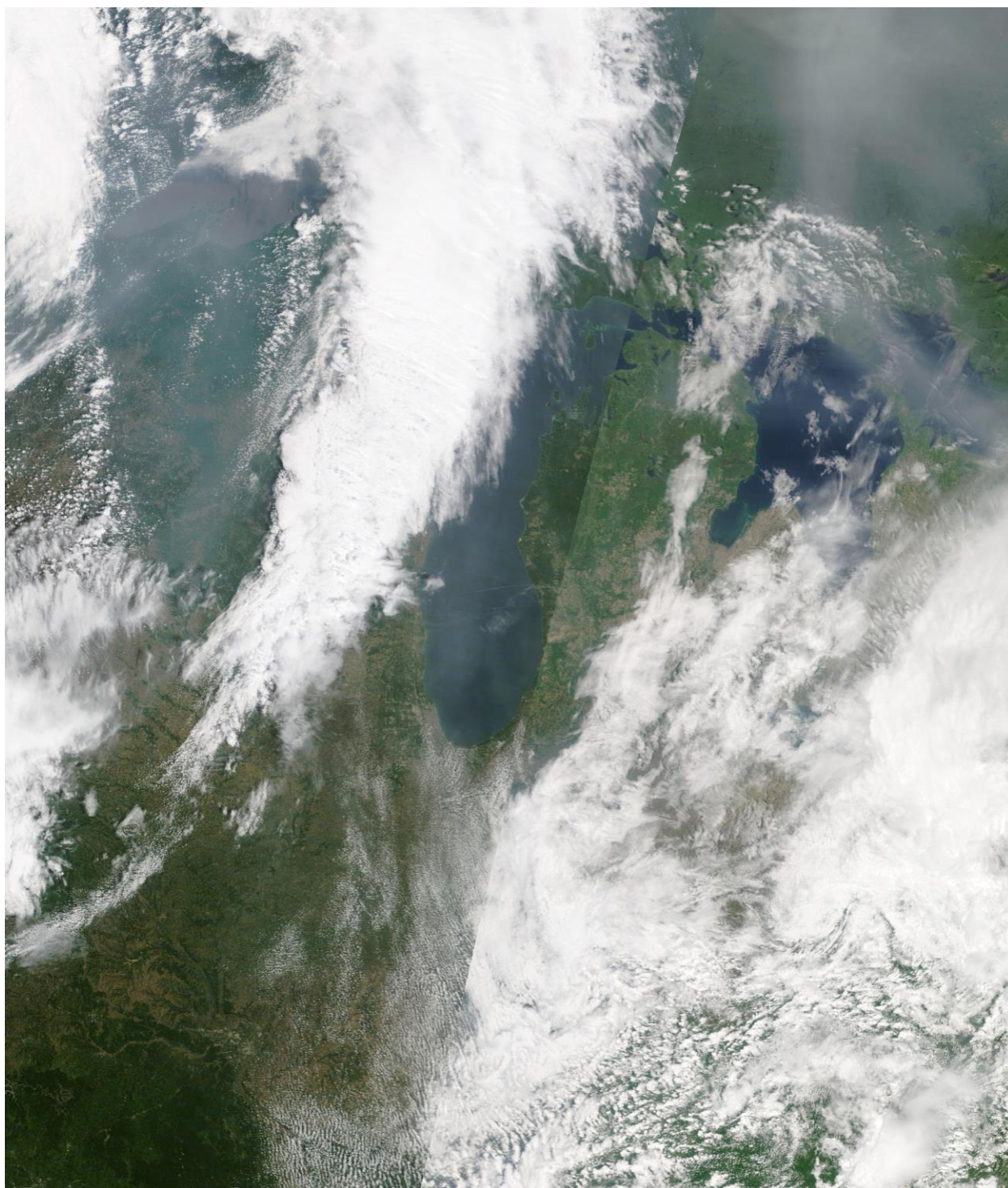


Figure D-51. MODIS Terra true color satellite imagery from June 08, 2025. Image source: NASA Worldview.

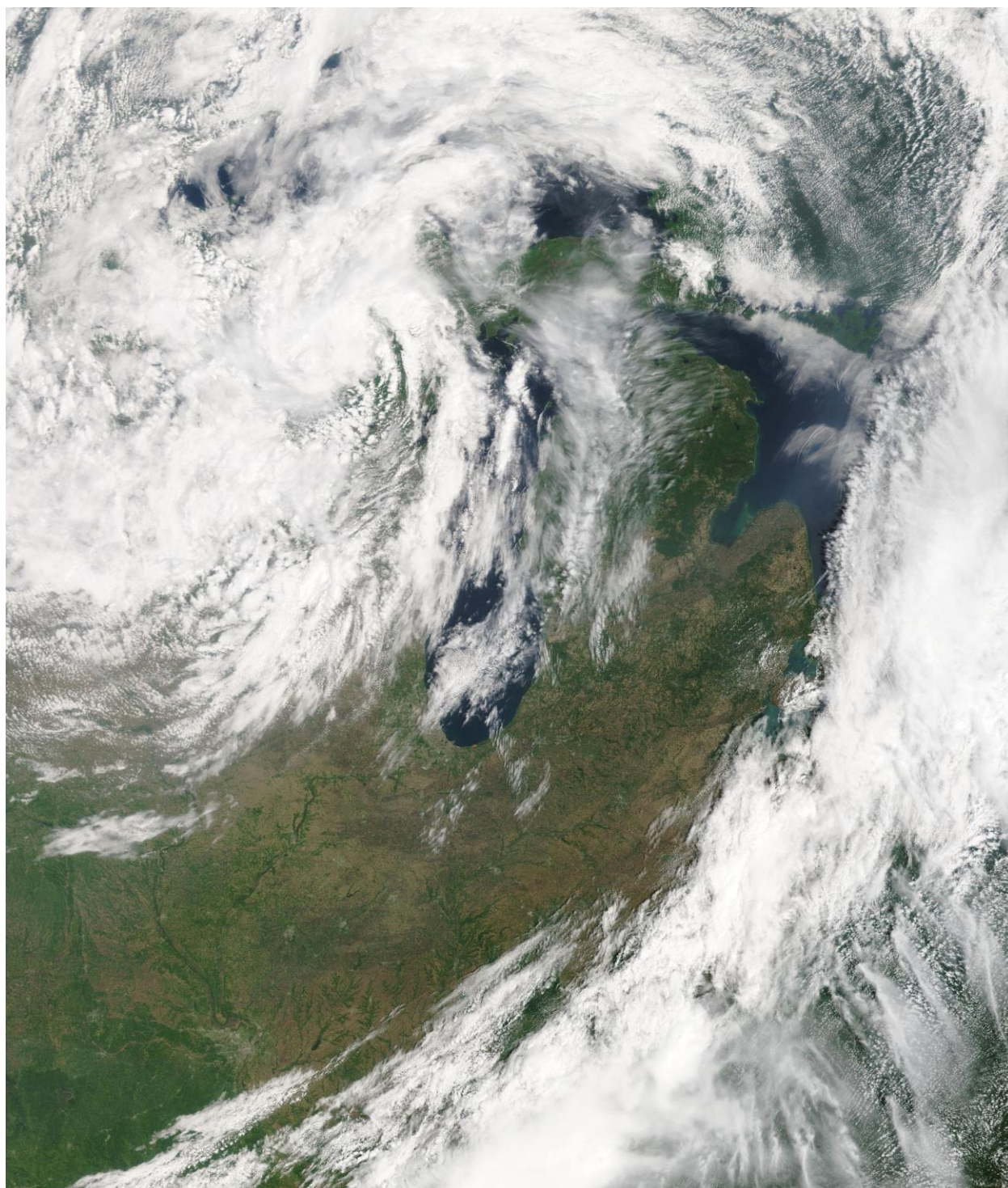


Figure D-52. MODIS Terra true color satellite imagery from June 09, 2025. Image source: NASA Worldview.

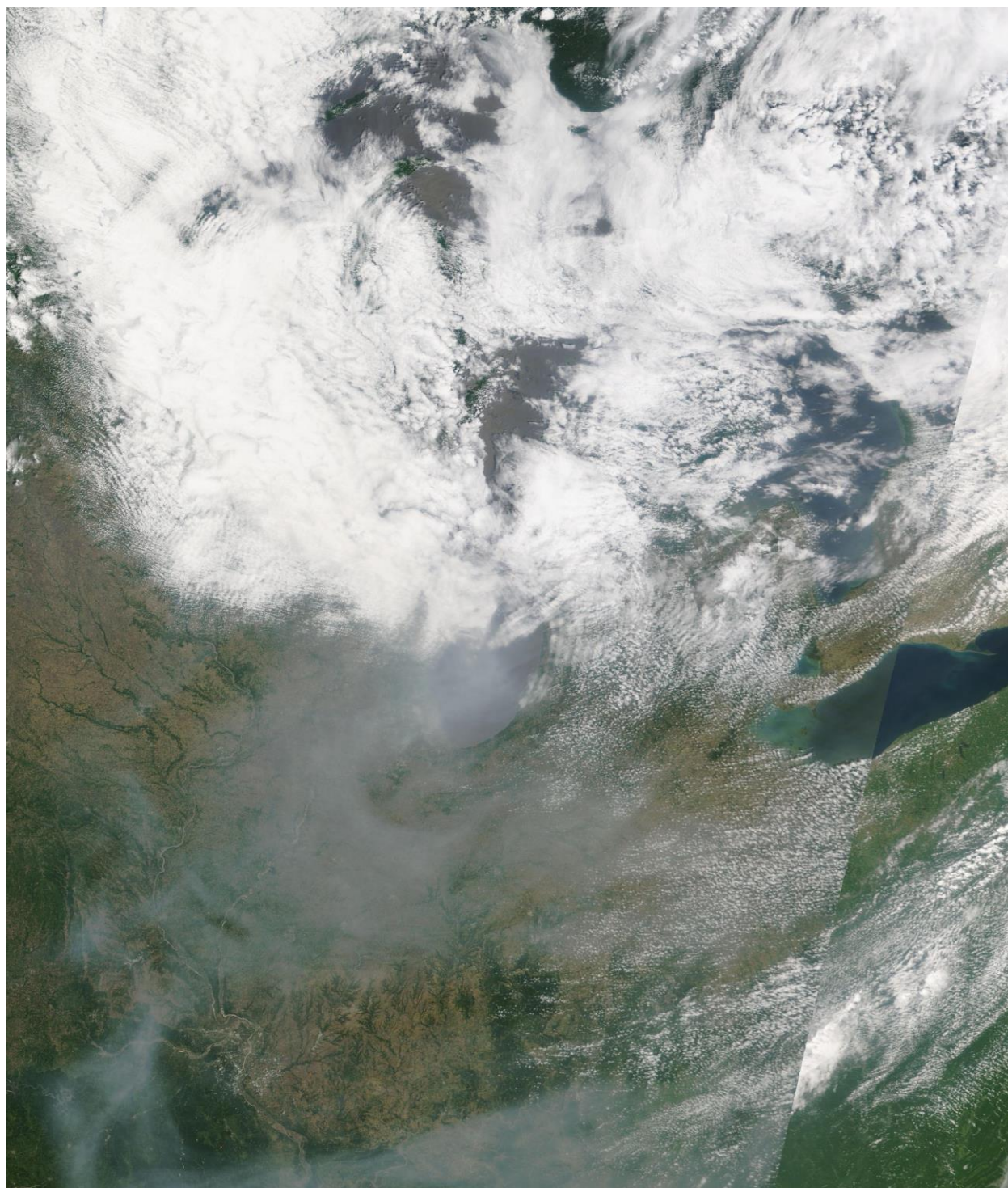


Figure D-53. MODIS Terra true color satellite imagery from June 10, 2025. Image source: NASA Worldview.



Figure D-54. MODIS Terra true color satellite imagery from June 11, 2025. Image source: NASA Worldview.

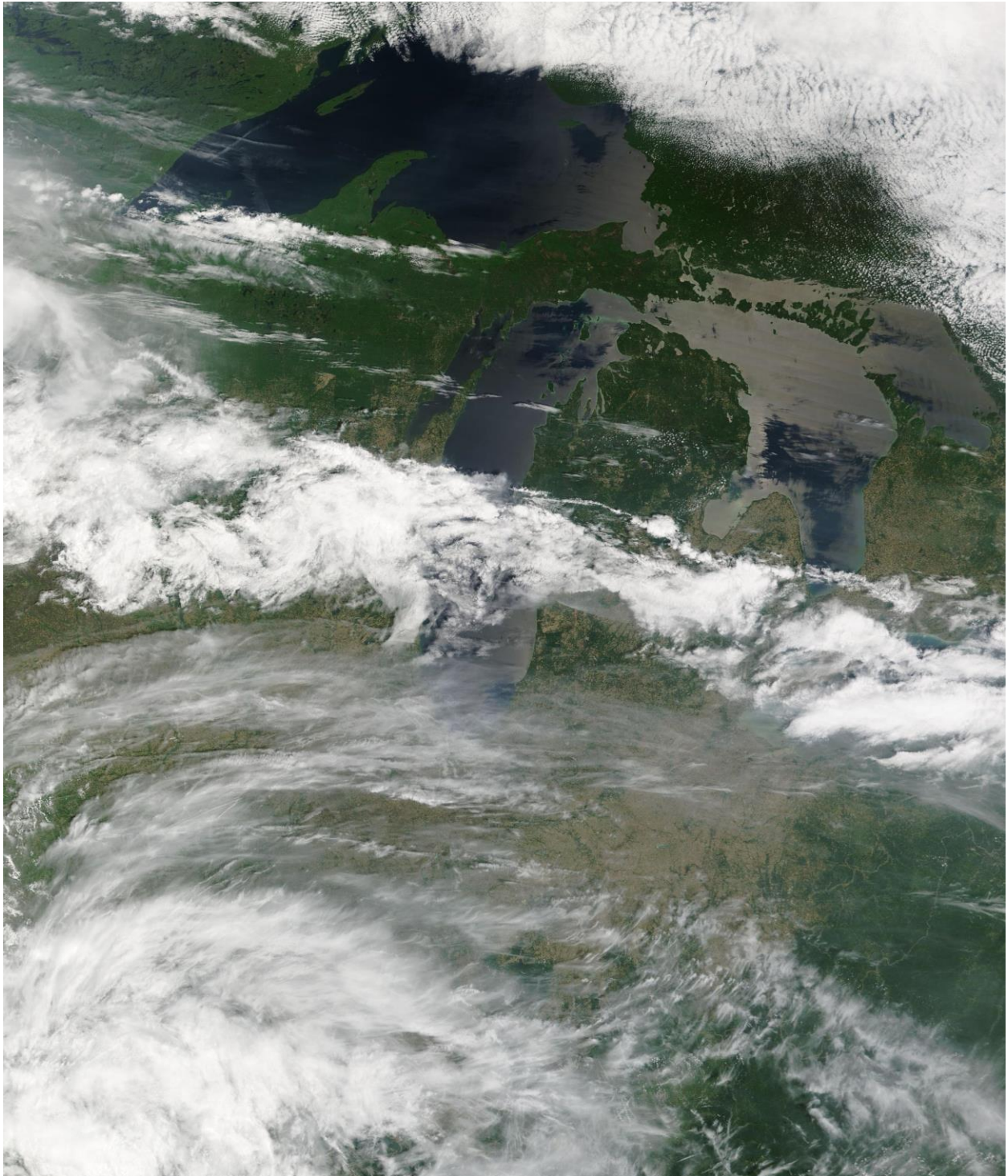


Figure D-55. MODIS Terra true color satellite imagery from June 12, 2025. Image source: NASA Worldview.

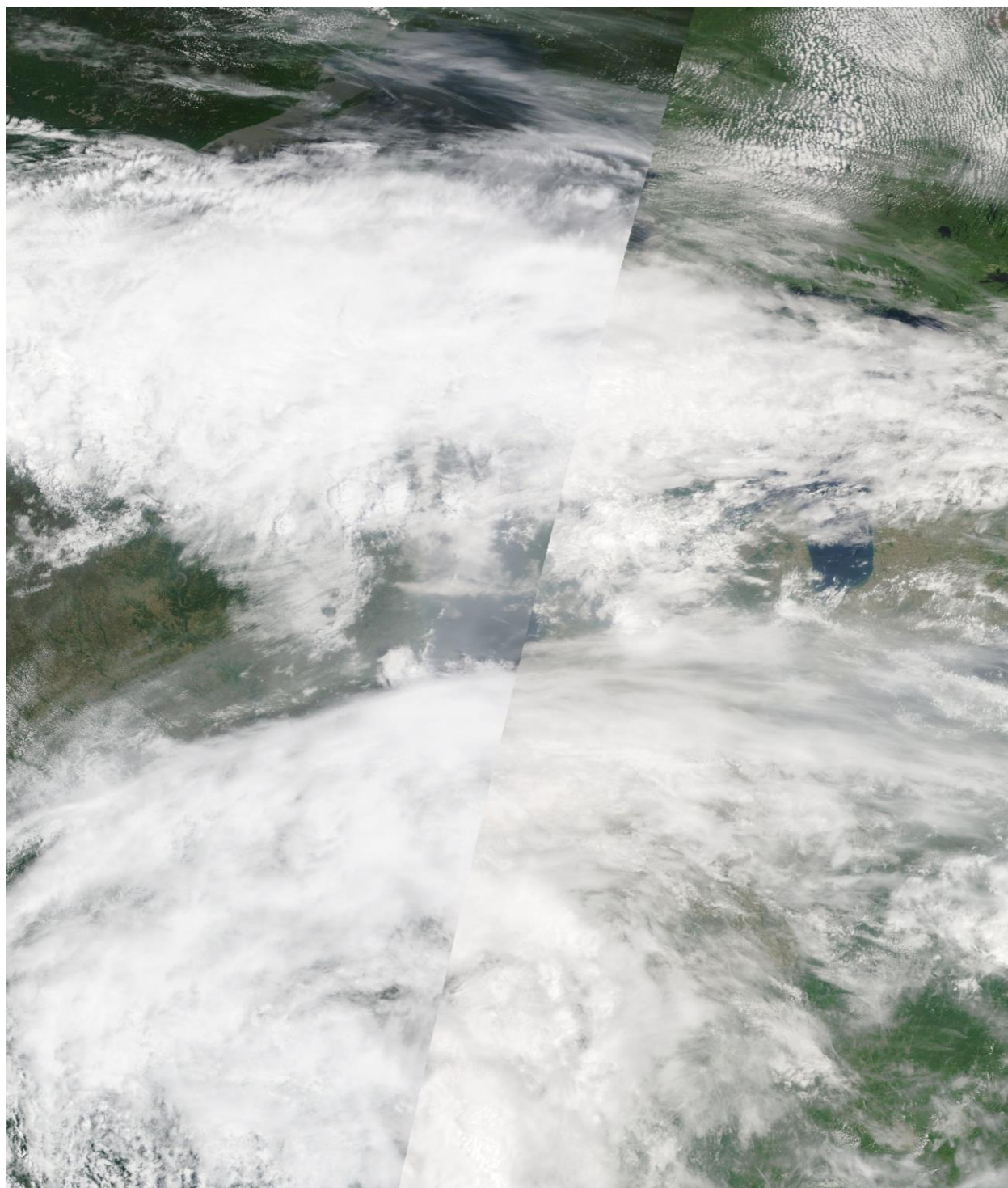


Figure D-56. MODIS Terra true color satellite imagery from June 13, 2025. Image source: NASA Worldview.

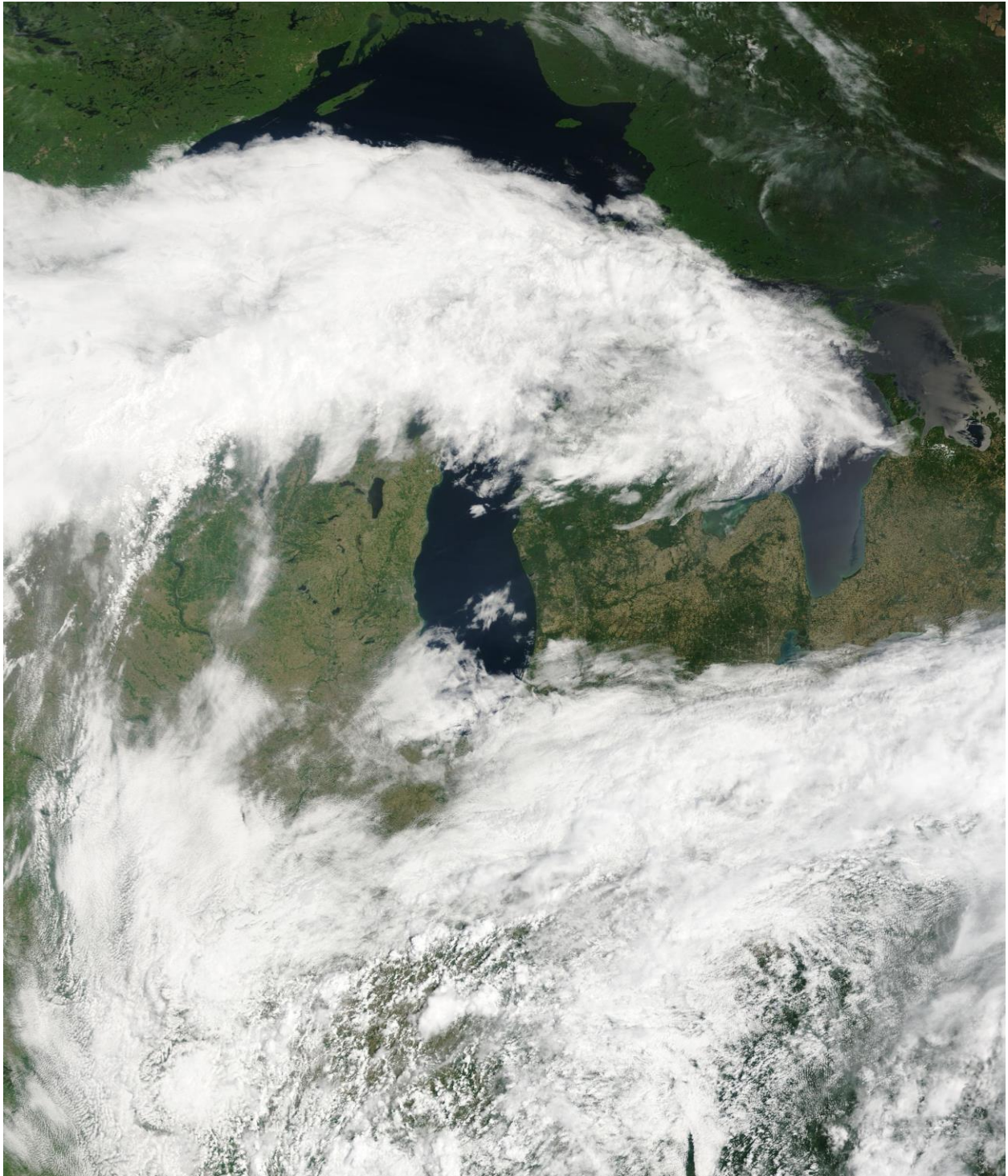


Figure D-57. MODIS Terra true color satellite imagery from June 14, 2025. Image source: NASA Worldview.

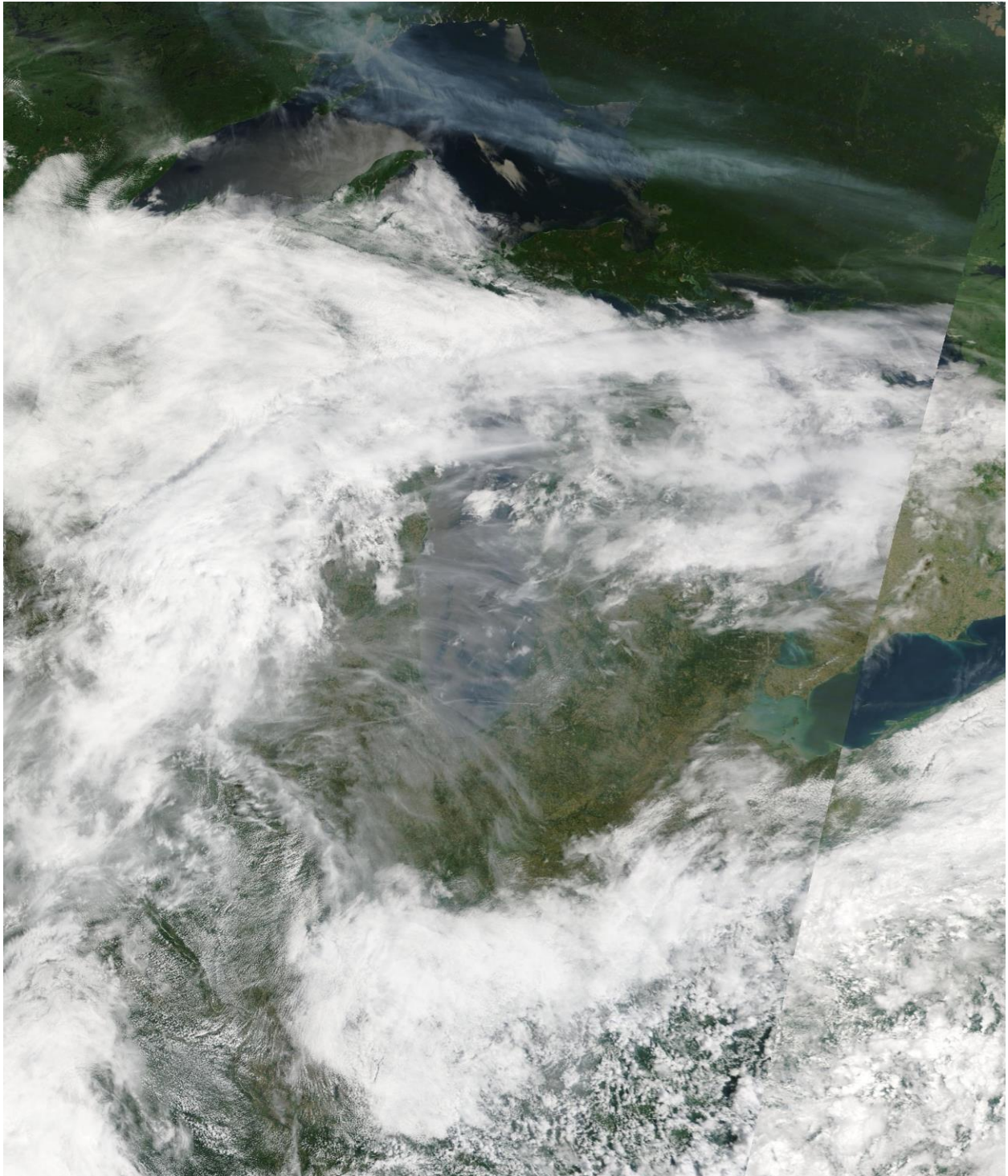


Figure D-58. MODIS Terra true color satellite imagery from June 15, 2025. Image source: NASA Worldview.

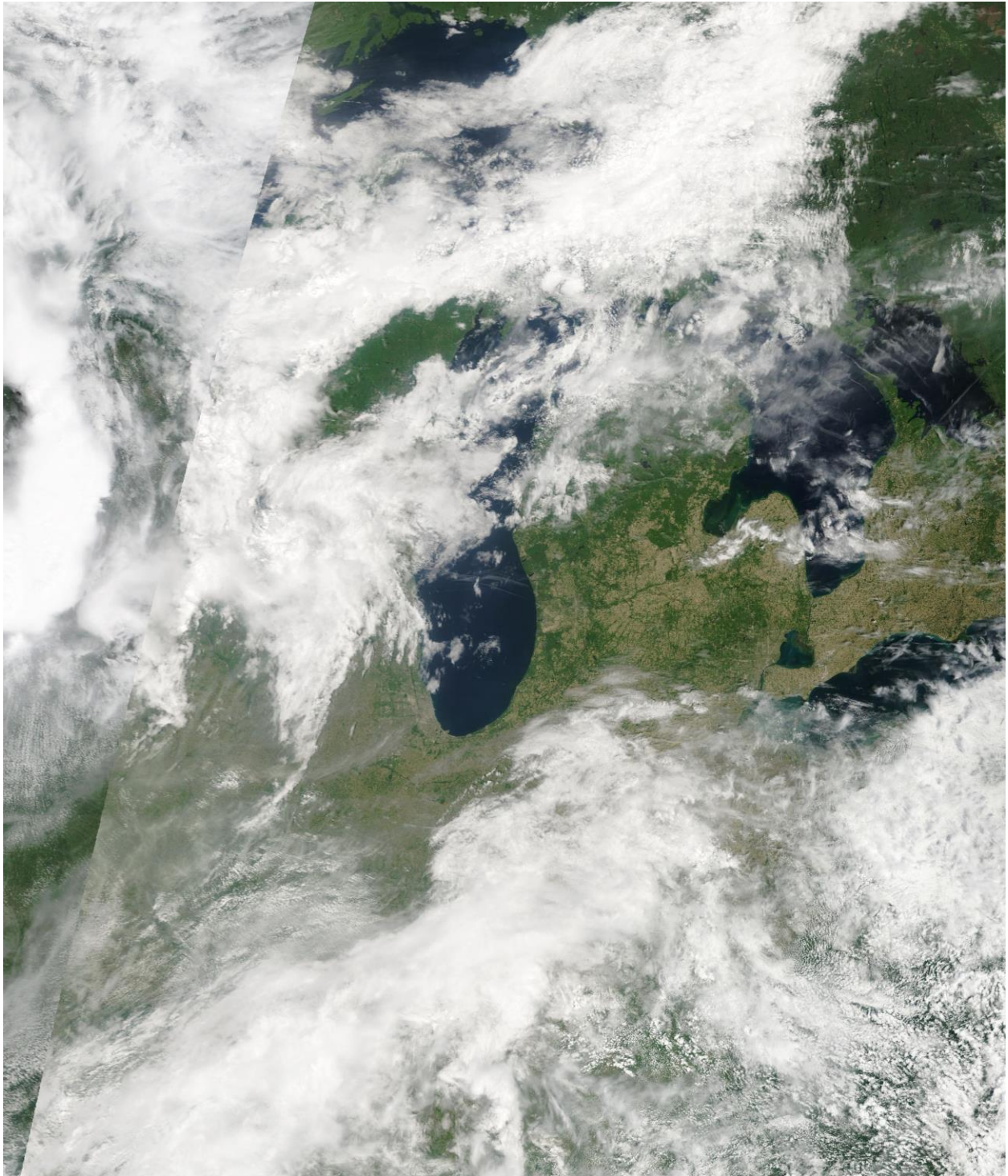


Figure D-59. MODIS Terra true color satellite imagery from June 16, 2025. Image source: NASA Worldview.

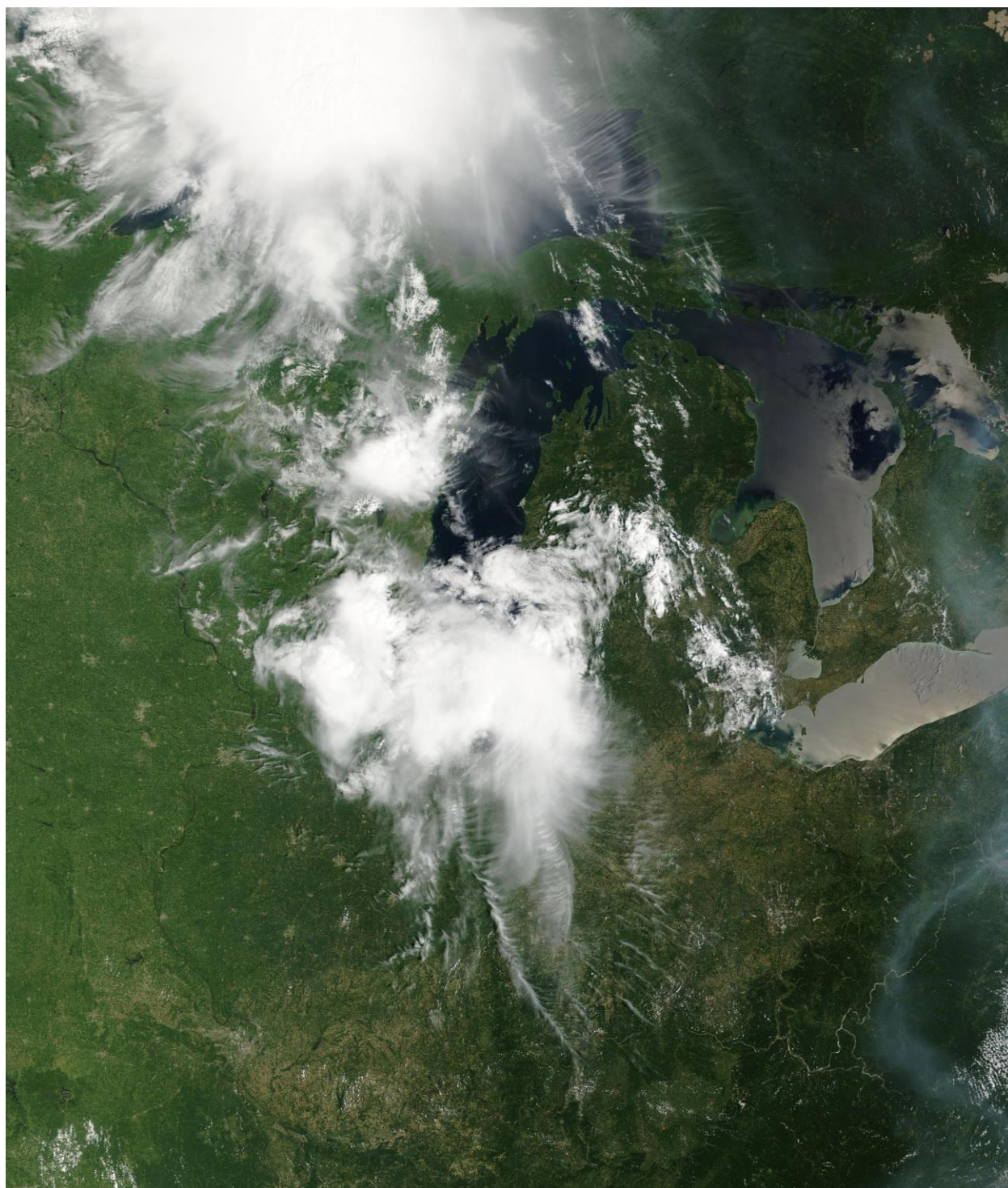


Figure D-60. MODIS Terra true color satellite imagery from July 04, 2025. Image source: NASA Worldview.

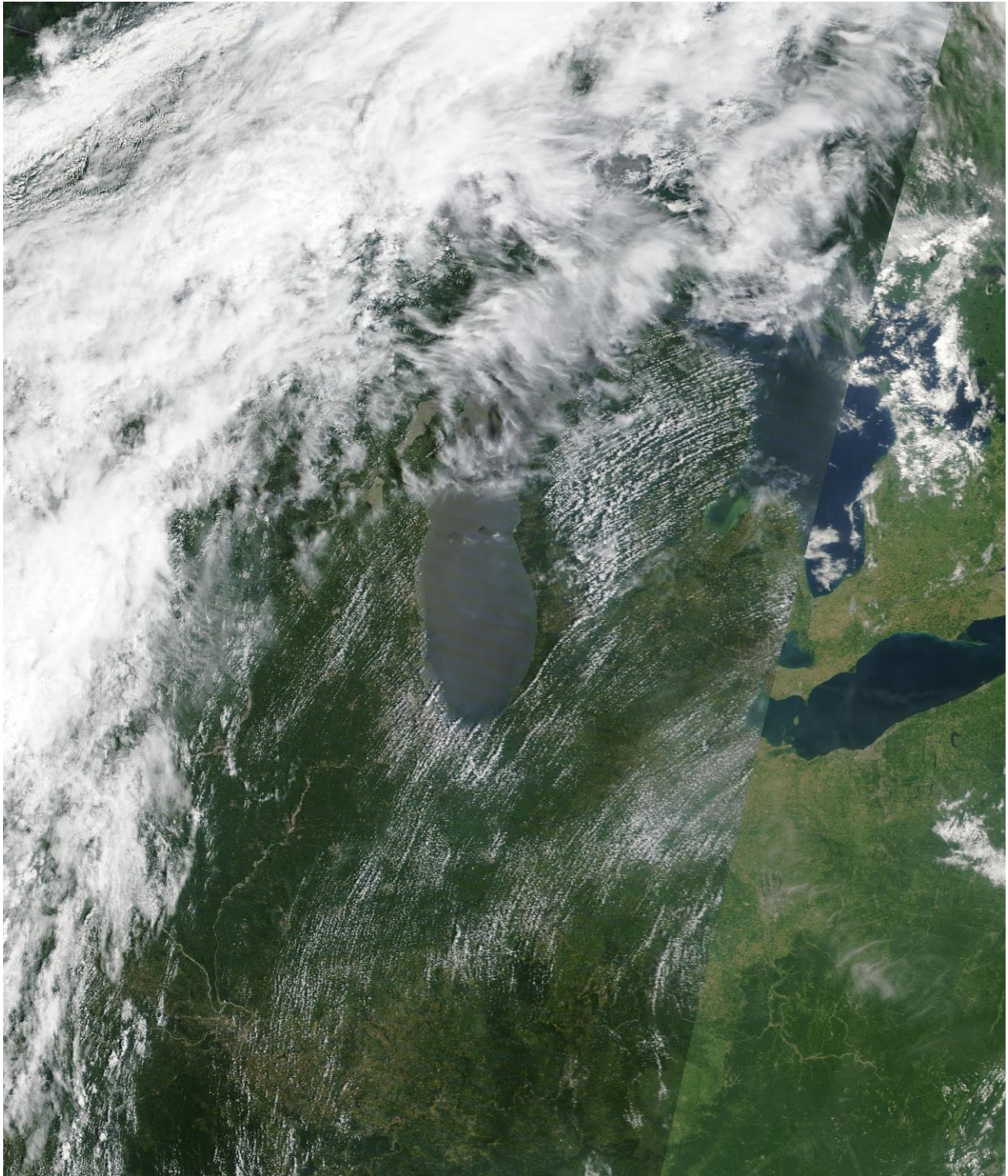


Figure D-61. MODIS Terra true color satellite imagery from July 05, 2025. Image source: NASA Worldview.

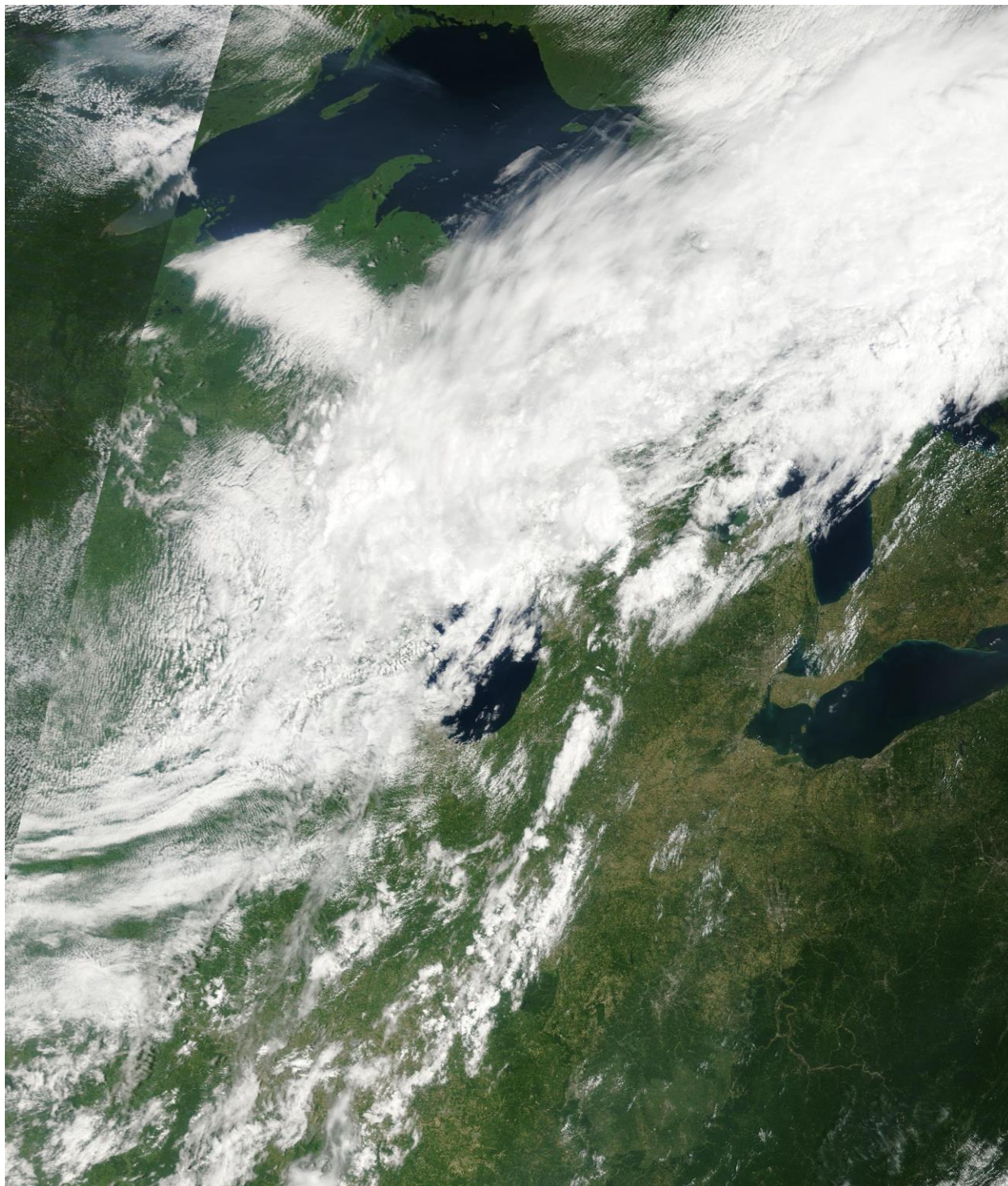


Figure D-62. MODIS Terra true color satellite imagery from July 06, 2025. Image source: NASA Worldview.

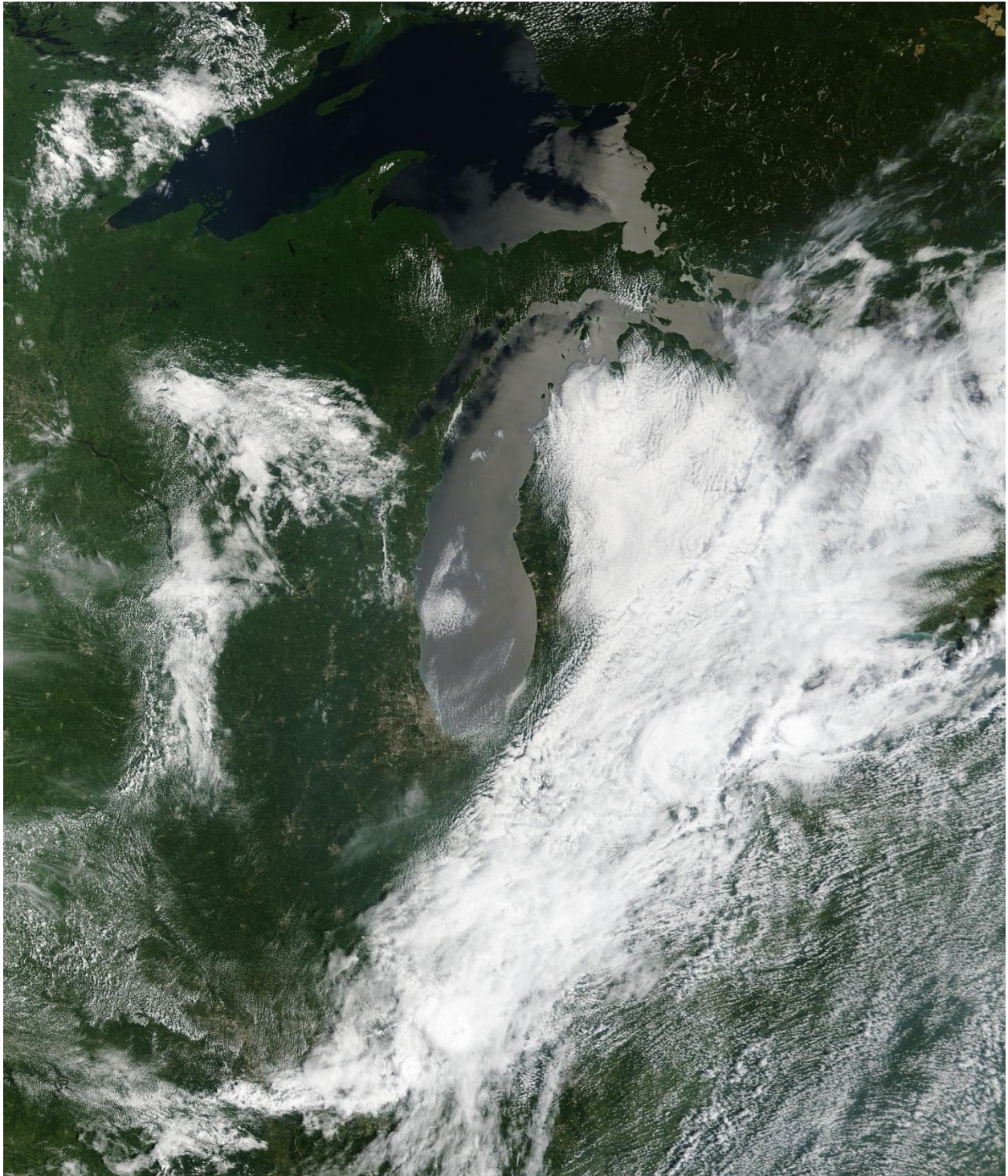


Figure D-63. MODIS Terra true color satellite imagery from July 07, 2025. Image source: NASA Worldview.

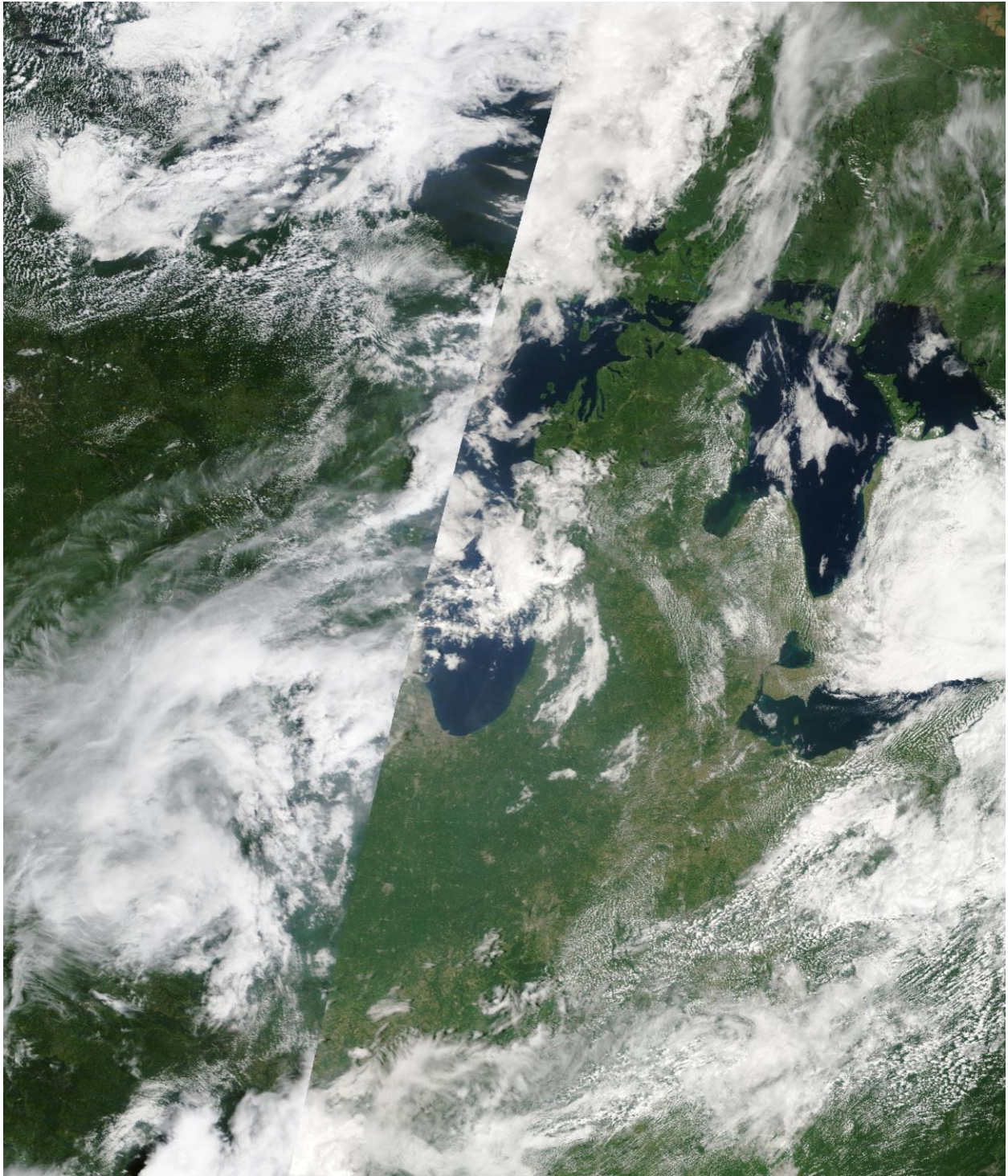


Figure D-64. MODIS Terra true color satellite imagery from July 08, 2025. Image source: NASA Worldview.

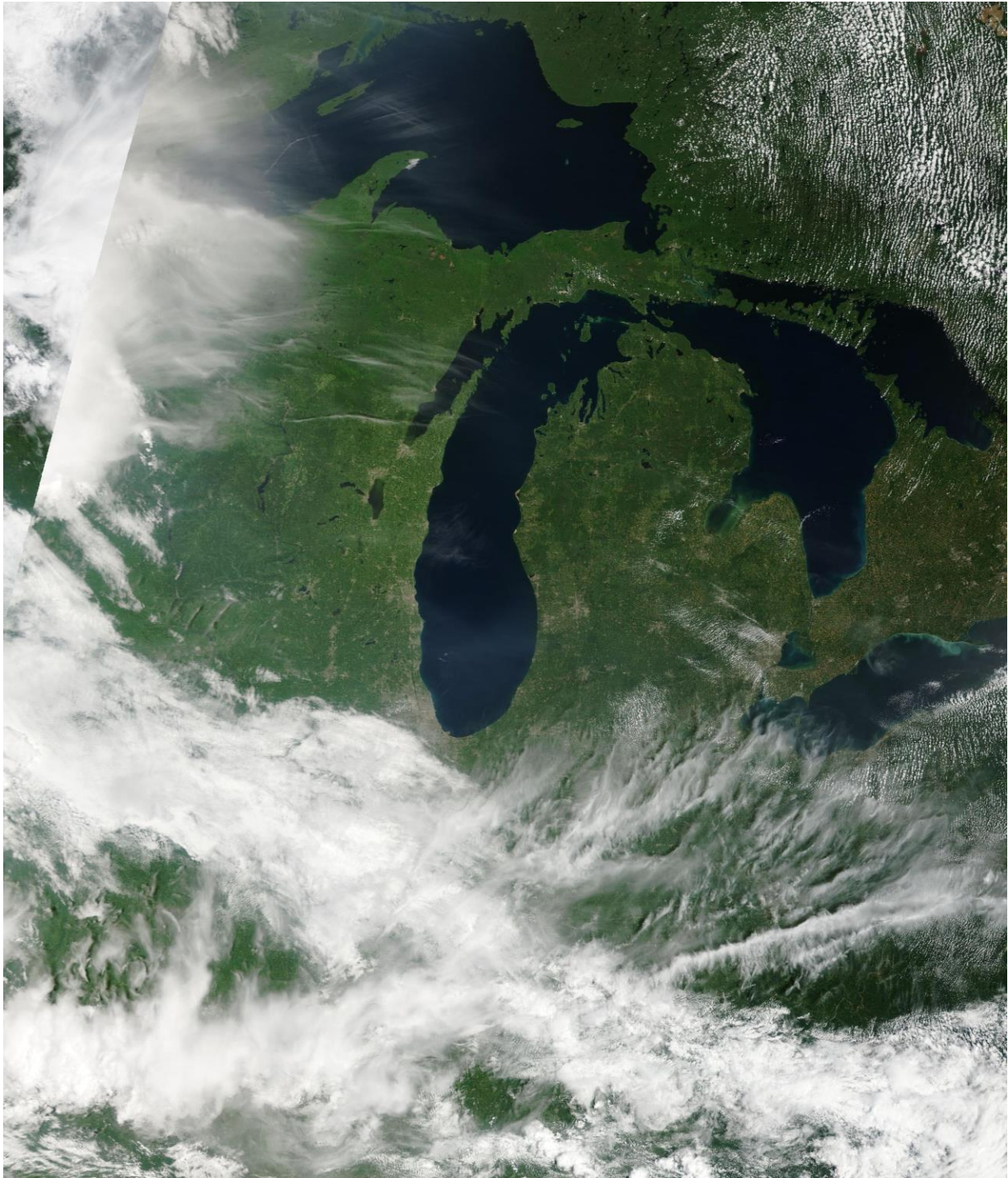


Figure D-65. MODIS Terra true color satellite imagery from July 21, 2025. Image source: NASA Worldview.

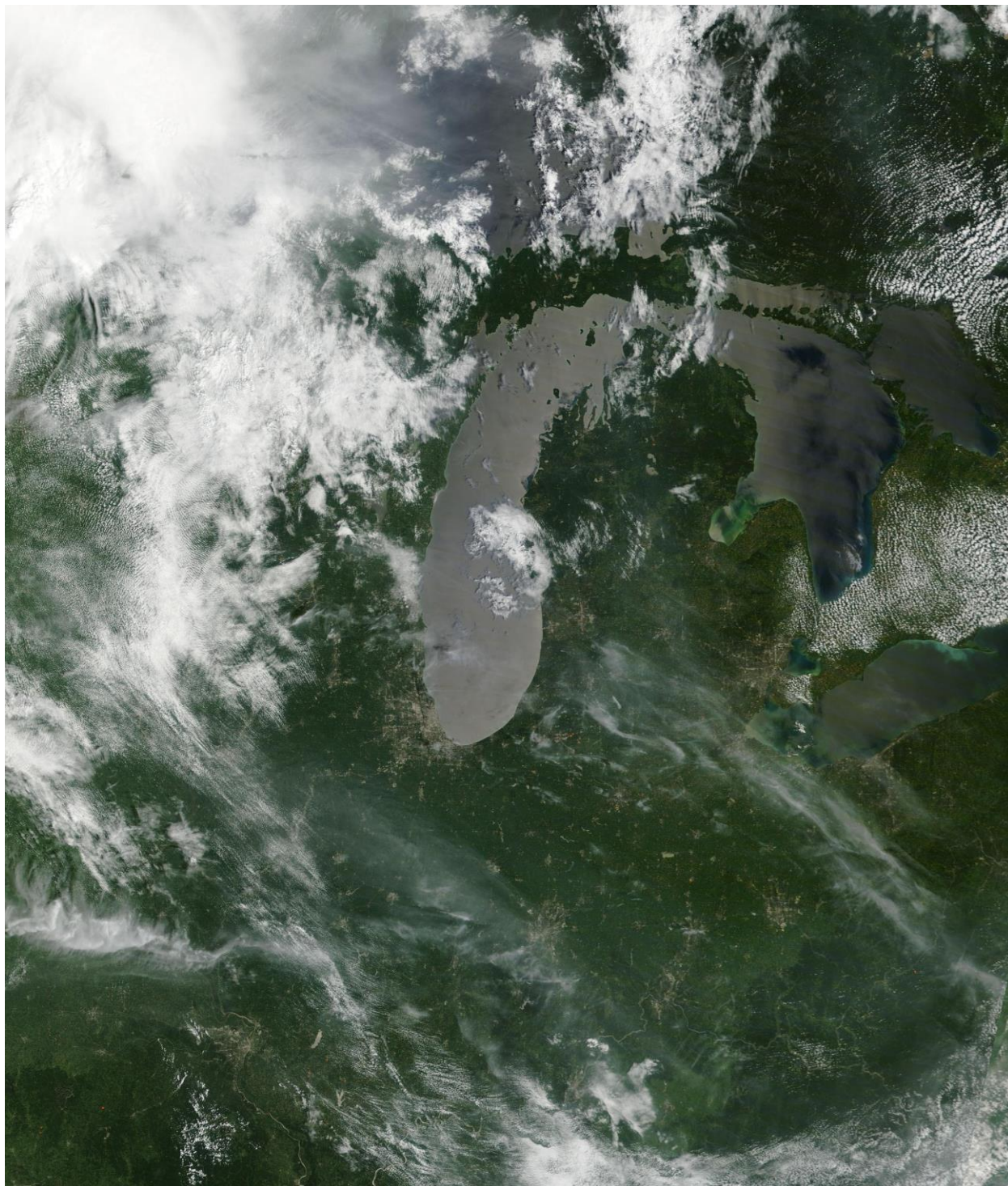


Figure D-66. MODIS Terra true color satellite imagery from July 22, 2025. Image source: NASA Worldview.



Figure D-67. MODIS Terra true color satellite imagery from July 23, 2025. Image source: NASA Worldview.

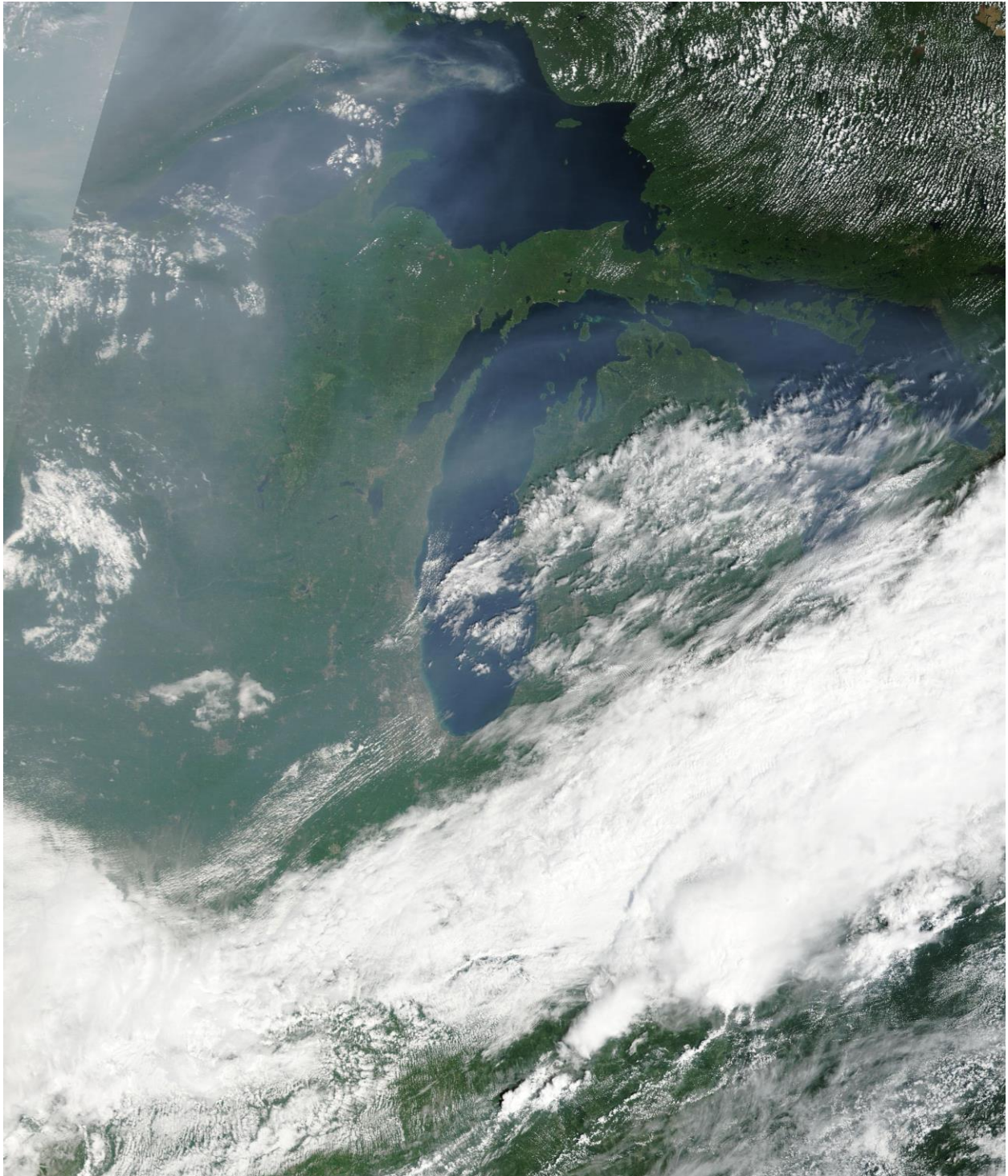


Figure D-68. MODIS Terra true color satellite imagery from July 31, 2025. Image source: NASA Worldview.

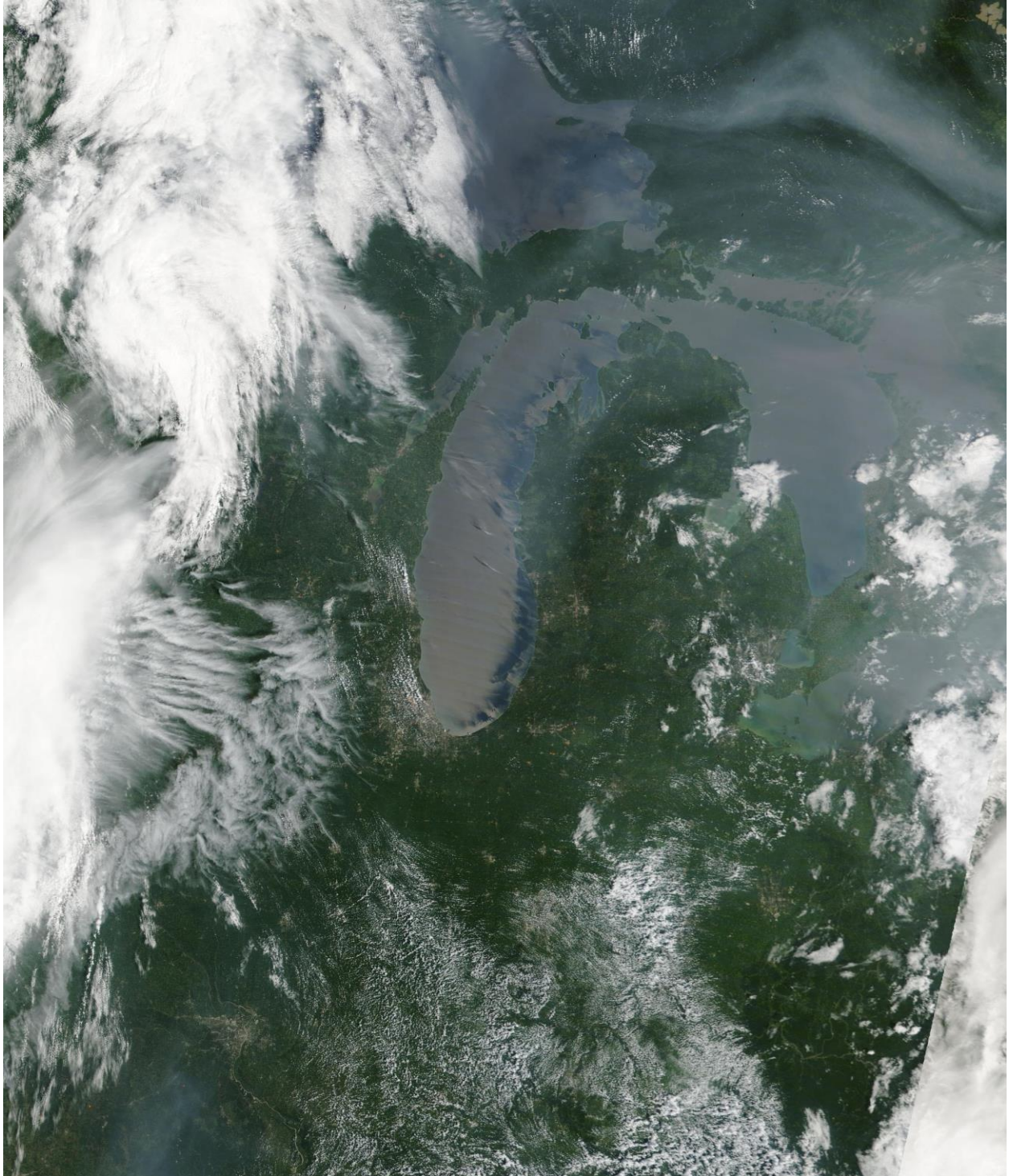


Figure D-69. MODIS Terra true color satellite imagery from August 06, 2025. Image source: NASA Worldview.