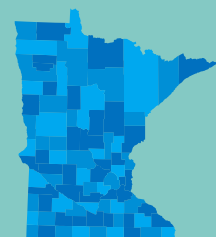


March 2026

# Adjustment to 2022 to 2024 Coarse Particulate Matter Background Used in Air Dispersion Modeling to Account for Wildfire Smoke and Windblown Dust



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This report is available in alternative formats upon request, and online at [www.pca.state.mn.us](http://www.pca.state.mn.us).

**Document number:** aq2-216

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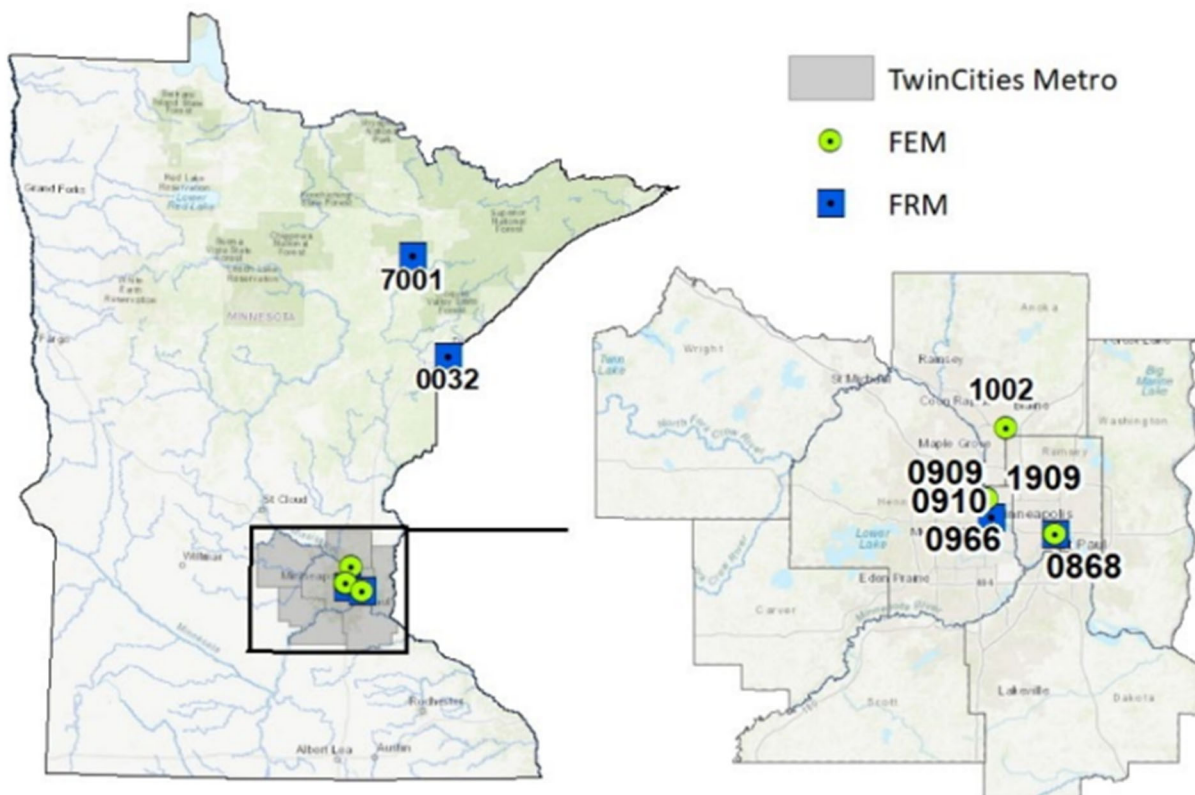
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# Overview

Air dispersion modeling for coarse particulate (PM<sub>10</sub>) requires a background concentration. This value is the first, second, third, or fourth highest monitored value recorded over a 3 year period. This document provides evidence that PM<sub>10</sub> background concentrations were impacted by smoke from wildfires and dust events during 2022 to 2024 and provides background concentrations without the influences of smoke or dust.

While the smoke and dust did not change the attainment status at any locations, the smoke and dust impacted the background concentrations of 24-hour PM<sub>10</sub> used for air dispersion modeling. There were no smoke or dust events large enough to affect PM<sub>10</sub> background in 2022. Smoke from fires located in Canada impacted Minnesota monitors during the spring and summer of 2023 and 2024.

**Figure 1. PM<sub>10</sub> monitoring sites in Minnesota.**



A monitoring site meets the 24-hour PM<sub>10</sub> NAAQS when the level of 150 µg/m<sup>3</sup> is not exceeded more than once per year, on average, over three years. To formulate a model background PM<sub>10</sub> concentration, the MPCA follows the methodology established in EPA’s “PM<sub>10</sub> SIP Development Guidance” (EPA-450/2-86-001, June 1987, Table 6-1). Depending on the total number of samples collected over a three-year period, the daily PM<sub>10</sub> background concentration is calculated as the 1st, 2nd, 3rd, or 4th highest daily PM<sub>10</sub> concentration measured over three years, using the monitor observation frequency described in Table 1.

**Table 1. Monitor value used for PM<sub>10</sub> background calculation**

Number of observations from the monitor	Monitor value used for modeling background
≤ 347	highest monitor value
348 -695	second highest value
696 -1042	third highest value
1043 -1096	fourth highest value

Model background increased by as much as 30 µg/m<sup>3</sup> due to smoke and dust. However, background concentrations at monitors located near sources with significant PM<sub>10</sub> emissions may not have changed at all. Table 2 shows the 24-hour PM<sub>10</sub> model background concentrations for 2022-2024, including and excluding the impacts of smoke and dust.

**Table 2. Summary of 2022-2024 24-hour PM<sub>10</sub> model background and effects of removing days influenced by wildfire smoke and dust**

Monitor name	AQS	Count of observations	Rank used	PM <sub>10</sub> background including wildfire smoke & dust (µg/m <sup>3</sup> )	PM <sub>10</sub> background excluding wildfire smoke & dust (µg/m <sup>3</sup> )
Blaine	270031002	1052	4	80	61
Duluth – Oneanta St	271370032	180	1	94	94
MPLS – Lowrie Ave*	270530909	1084	4	91	89
MPLS – Pacific St*	270530910	1077	4	118	118
MPLS – City of Lakes	270530966	176	1	52	52
MPLS – Bottineau*	270521909	1062	4	83	76
Ramsey Health Center	271230868	1090	4	73	69
Red Rock Road	271230866	170	1	116	116
Virginia	271377001	160	1	414	414

\*Source-specific monitors

# Meteorological and climatological conditions

## 2022

There were no events that impacted PM<sub>10</sub> background values in 2022.

## 2023

Throughout the summer of 2023, drought dominated much of Canada (Figure 4a-4f). The dry conditions set the stage for a record fire season in Canada.

Figure 4a: North American Drought Monitor for April 30, 2023.

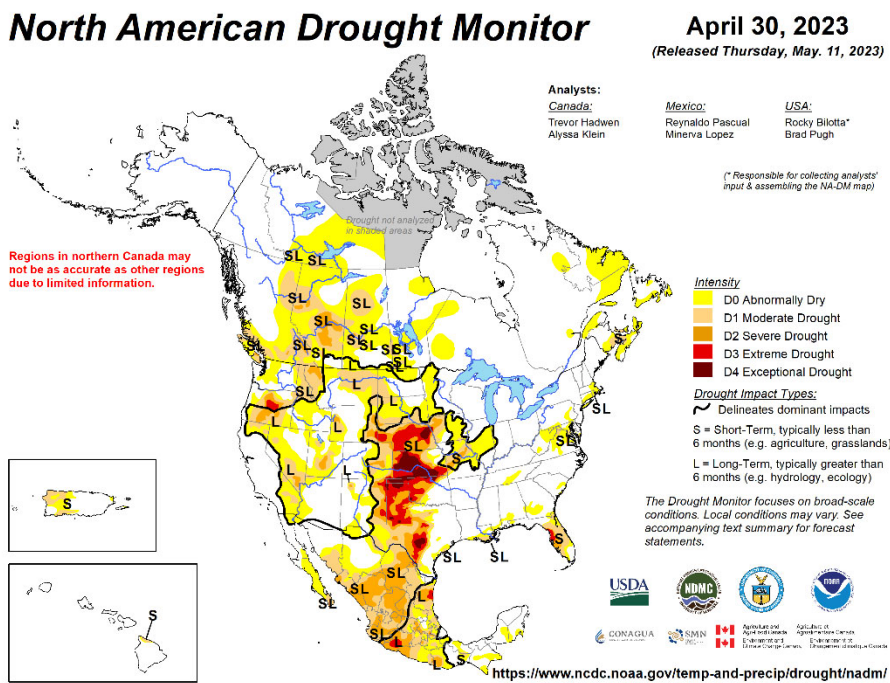


Figure 4b: North American Drought Monitor for May 31, 2023.

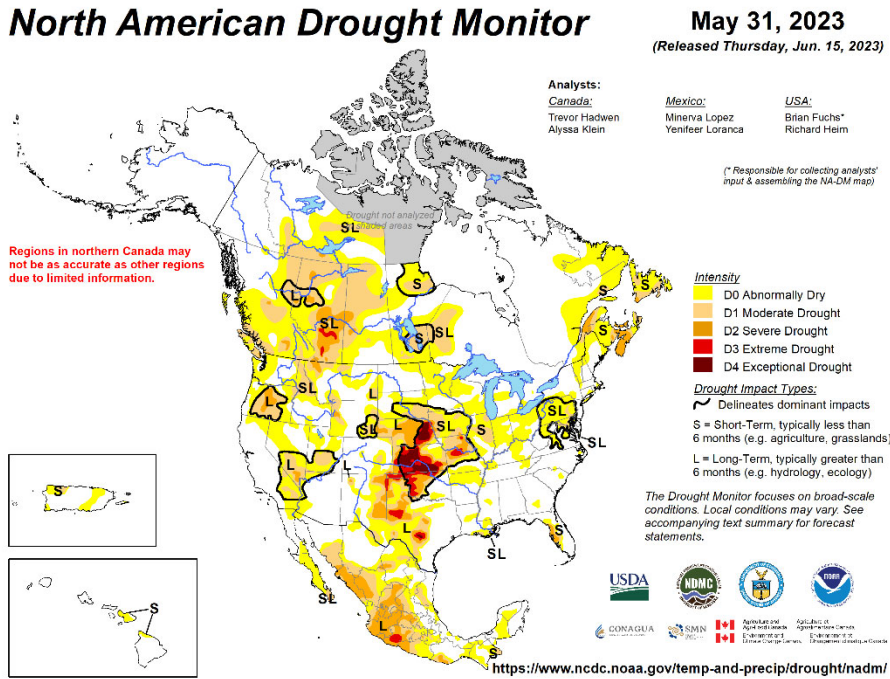


Figure 4c: North American Drought Monitor for June 30, 2023.

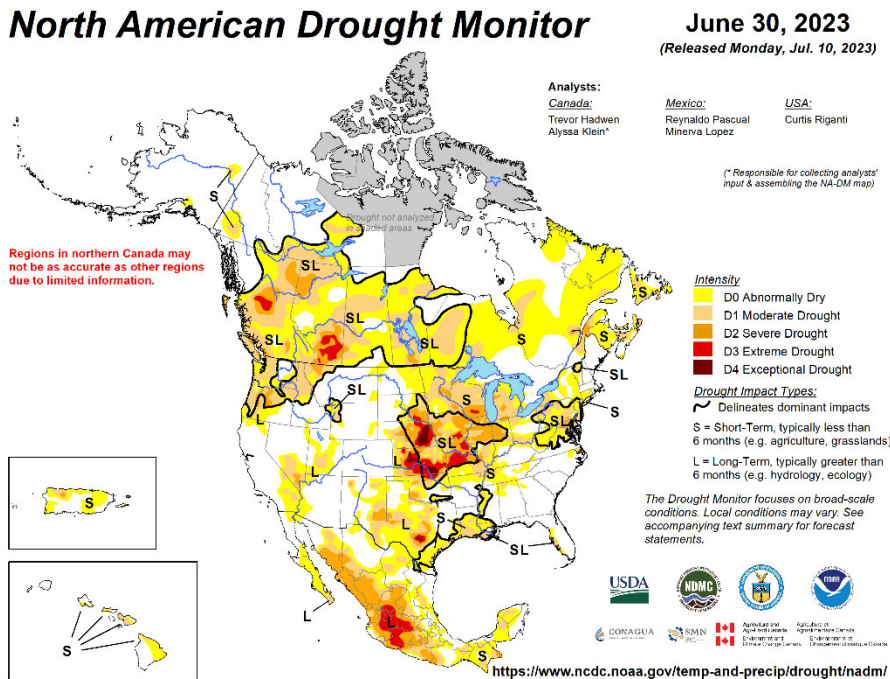


Figure 4d: North American Drought Monitor for July 31, 2023.

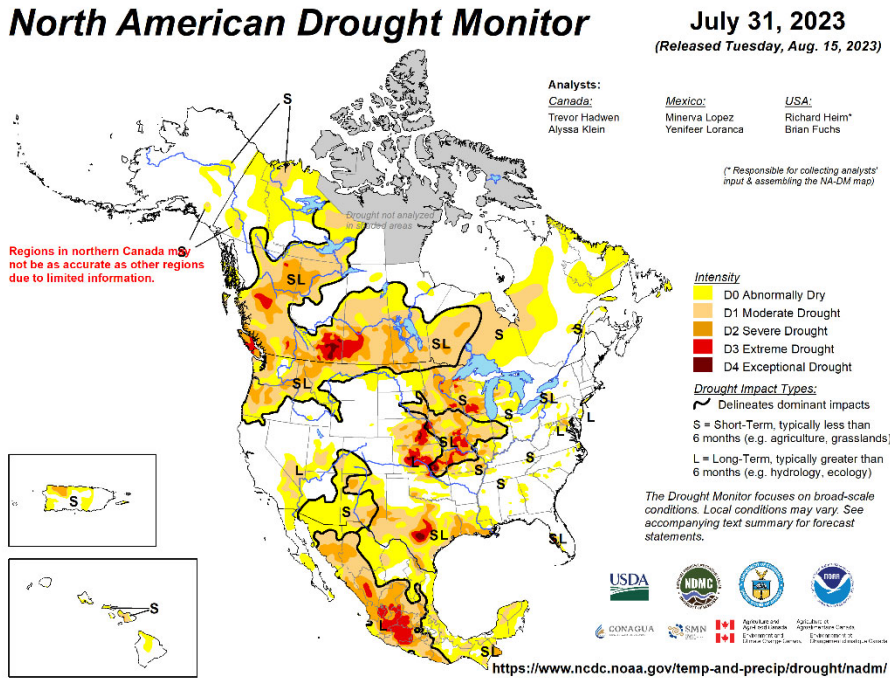


Figure 4e: North American Drought Monitor for August 31, 2023.

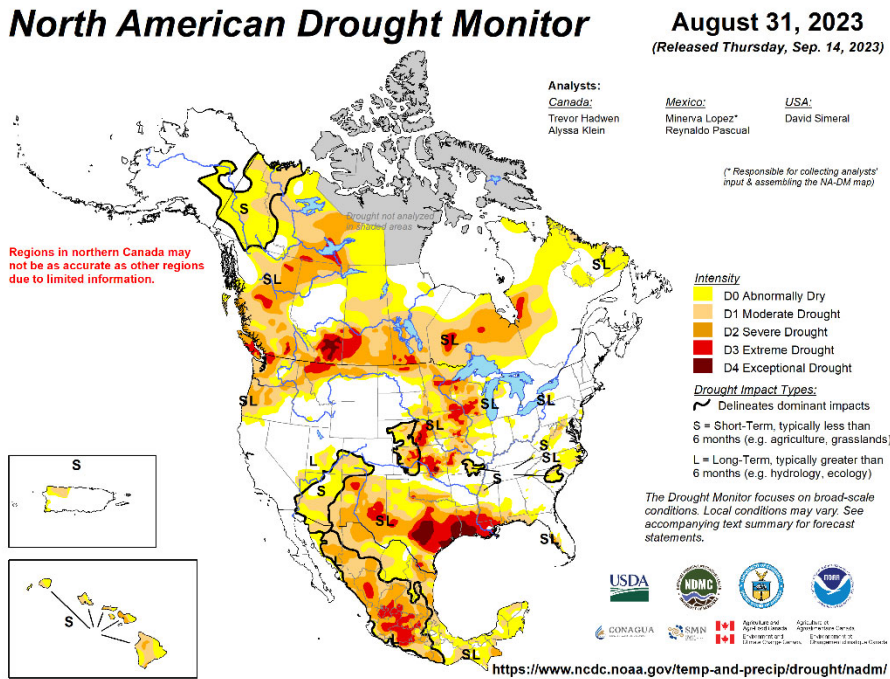


Figure 4f: North American Drought Monitor for September 30, 2023.

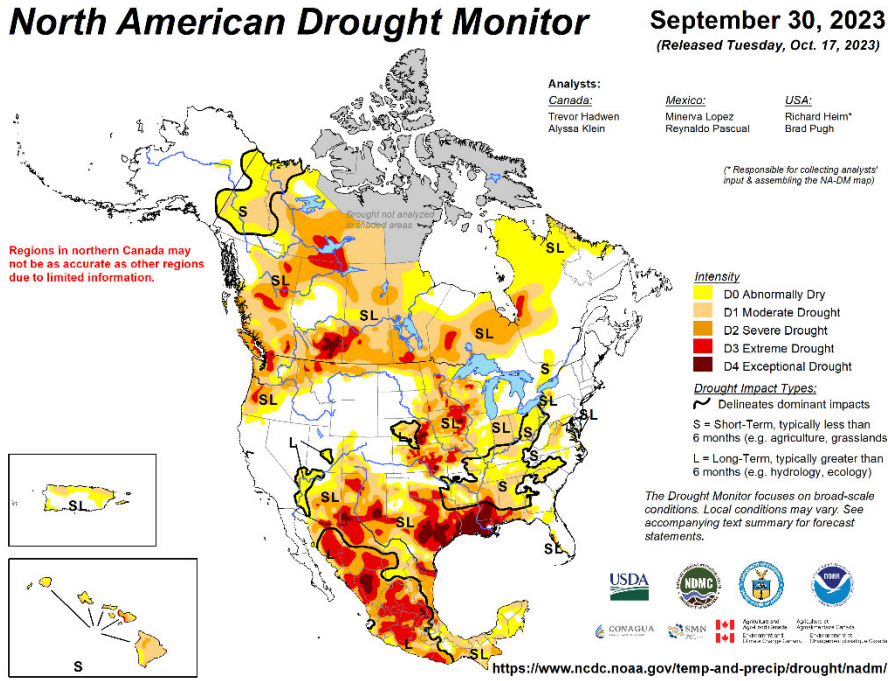




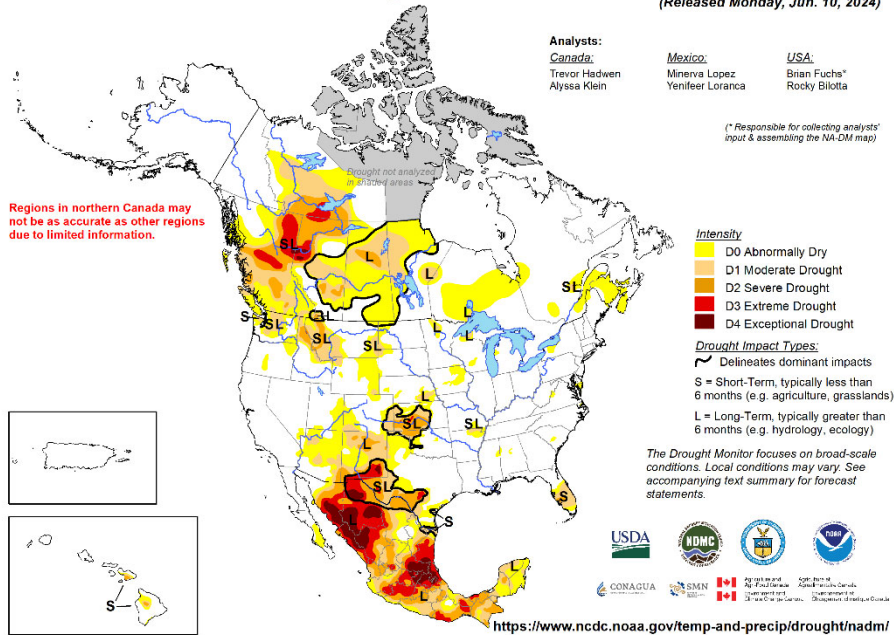
Figure 4b: North American Drought Monitor for May 31, 2024.

# North American Drought Monitor

May 31, 2024  
(Released Monday, Jun. 10, 2024)

**Analysts:**  
**Canada:** Trevor Hadwen, Alyssa Klein  
**Mexico:** Minerva Lopez, Yenifeer Loranca  
**USA:** Brian Fuchs\*, Rocky Blotta\*

(\* Responsible for collecting analysts' input & assembling the NA-DM map)



Regions in northern Canada may not be as accurate as other regions due to limited information.

# Description of wildfires

## Canada wildfires – Summer 2023

The 2023 wildfire season easily set records for the largest area burned in Canada (Figure 14). High wildfire activity occurred across most of Canada, meaning that for much of the summer any wind with a northerly component transported wildfire smoke into Minnesota. Figure 15 shows the weekly wildfire activity, starting on May 15, 2023.

**Figure 14: Number of Fires and Area burned in Canada from 1970 to 2023.**

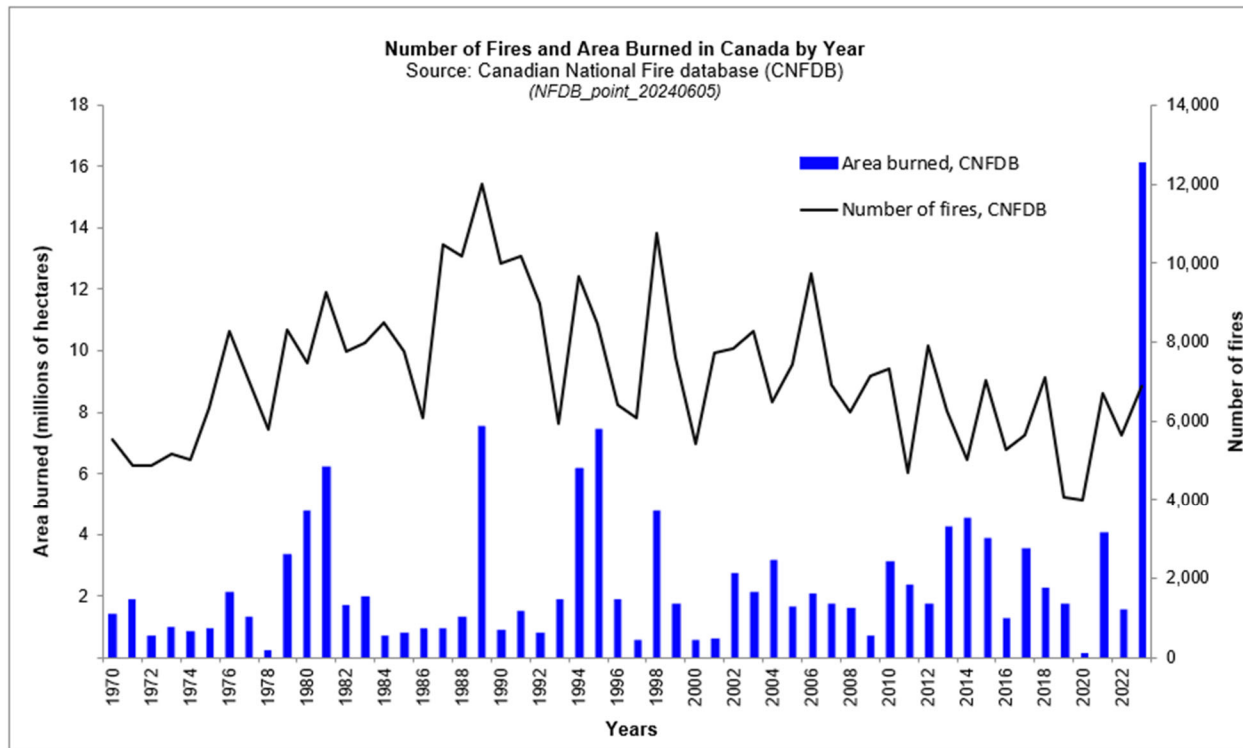


Figure 15a: Active fires and fire perimeters on May 15, 2023.

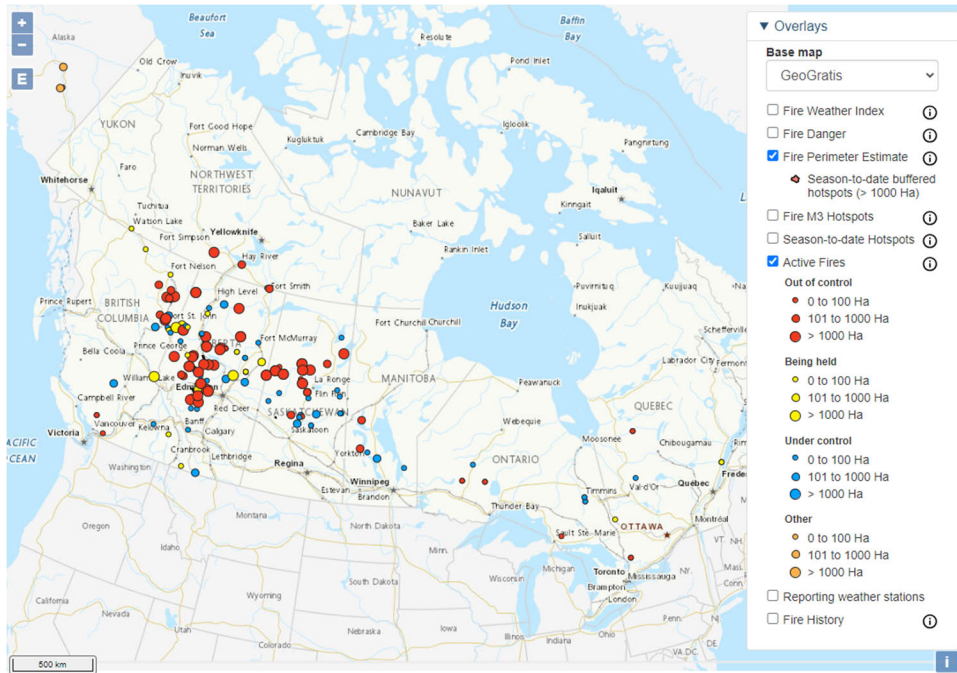


Figure 15b: Active fires and fire perimeters on May 22, 2023.

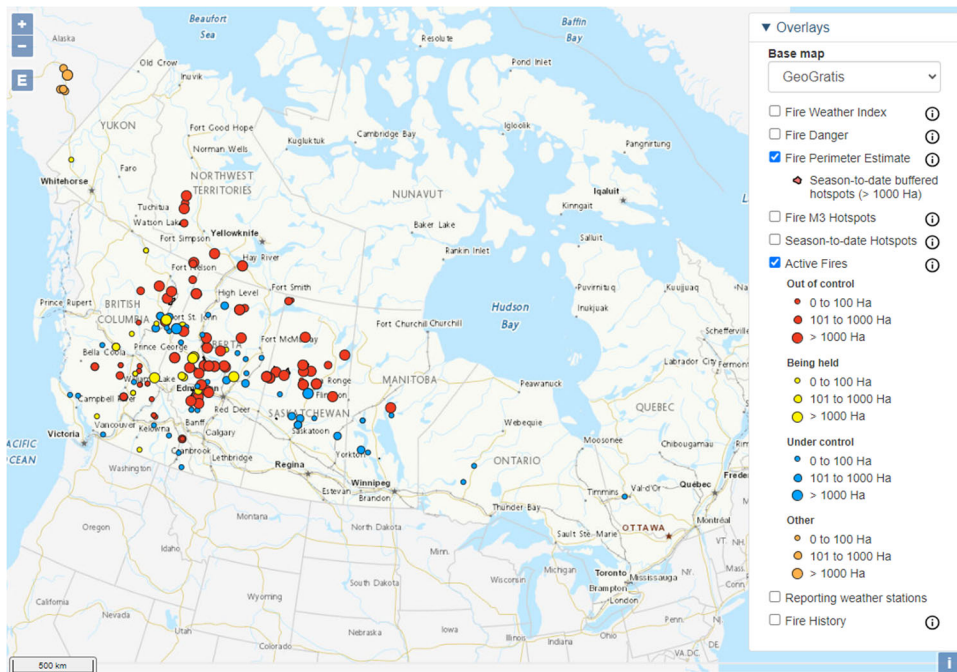


Figure 15c: Active fires and fire perimeters on May 29, 2023.

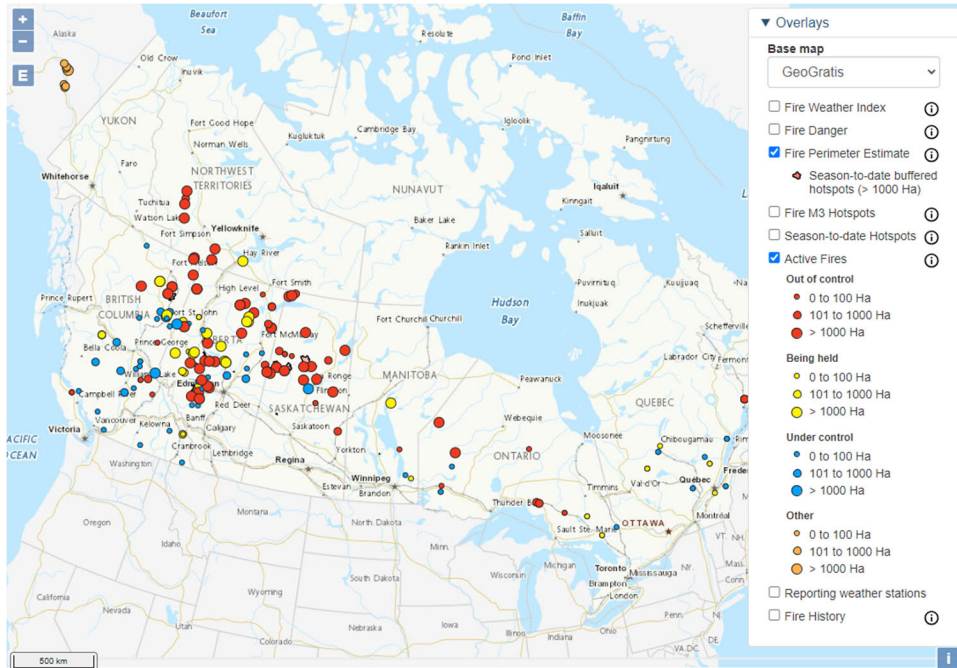


Figure 15d: Active fires and fire perimeters on June 5, 2023.

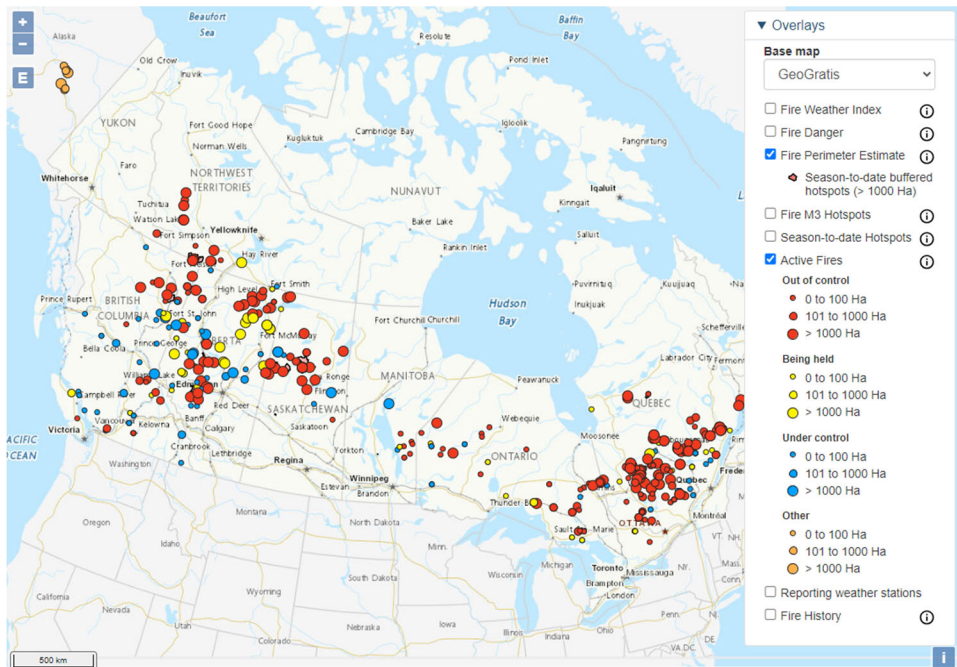


Figure 15e: Active fires and fire perimeters on June 12, 2023.

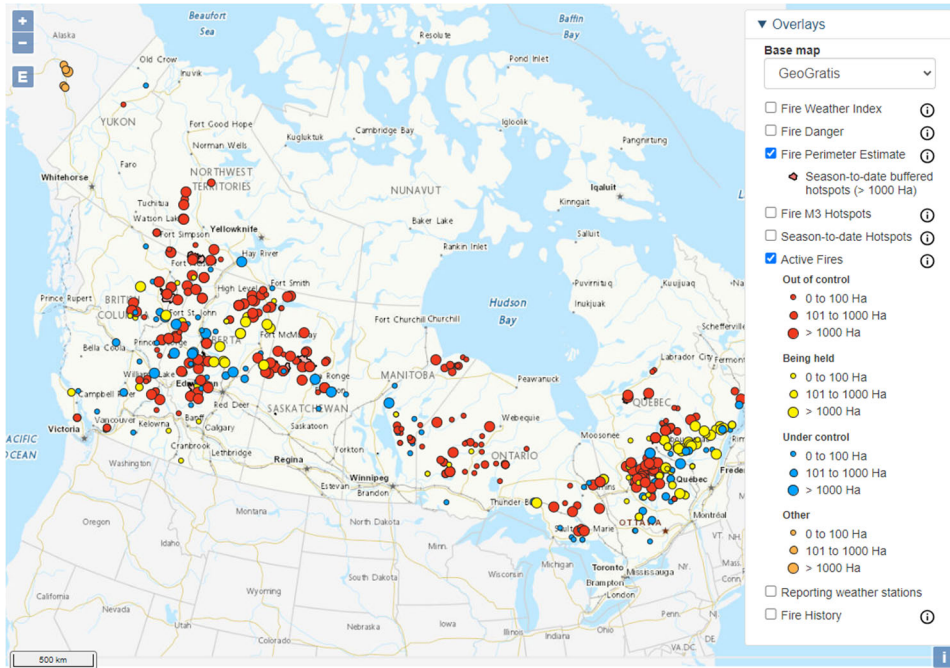


Figure 15f: Active fires and fire perimeters on June 19, 2023.

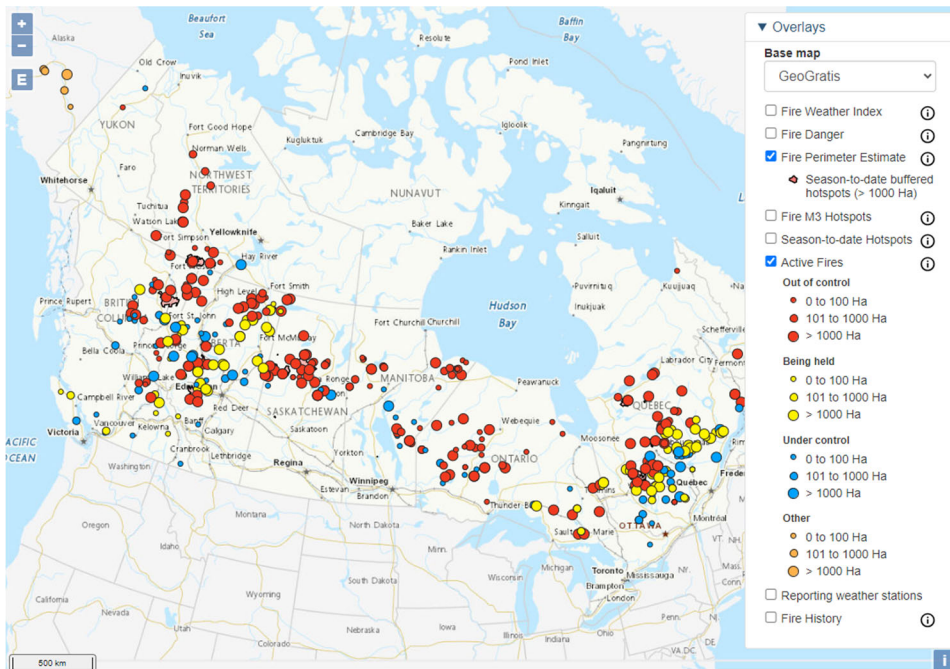


Figure 15g: Active fires and fire perimeters on June 26, 2023.

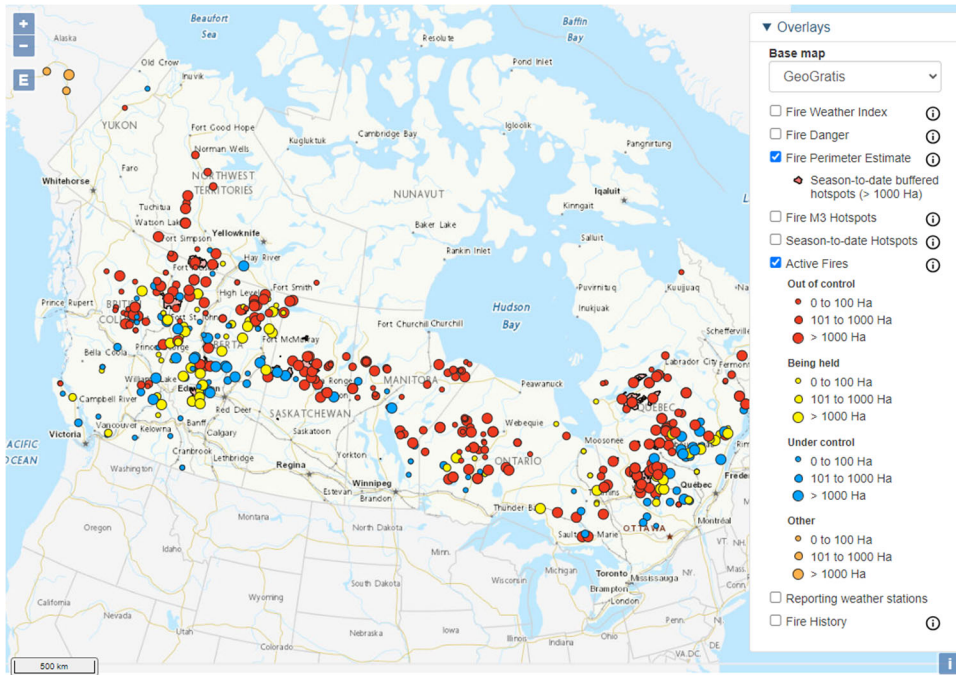


Figure 15h: Active fires and fire perimeters on July 3, 2023.

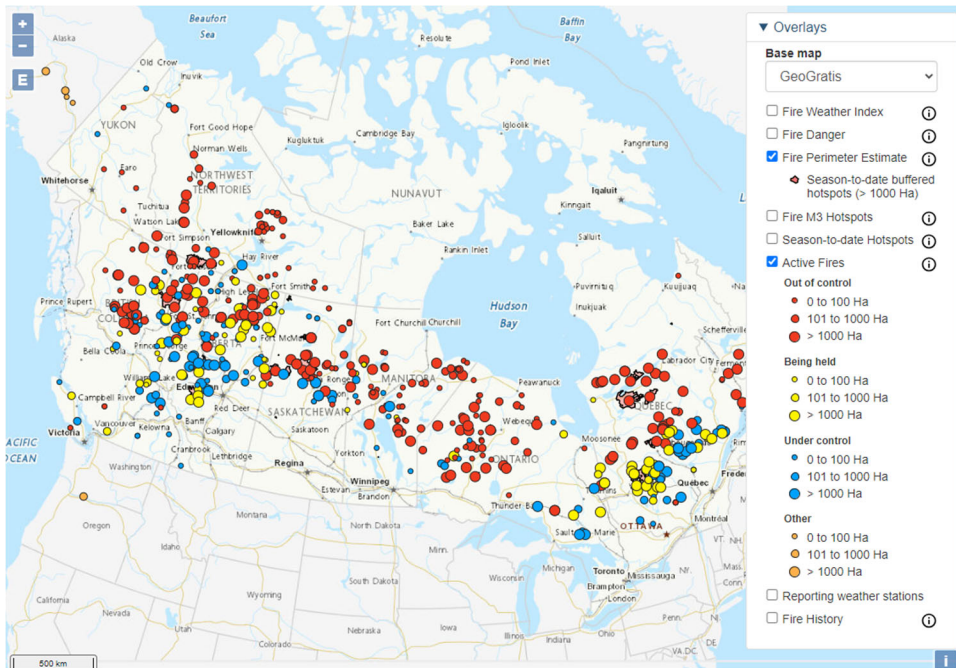


Figure 15i: Active fires and fire perimeters on July 10, 2023.

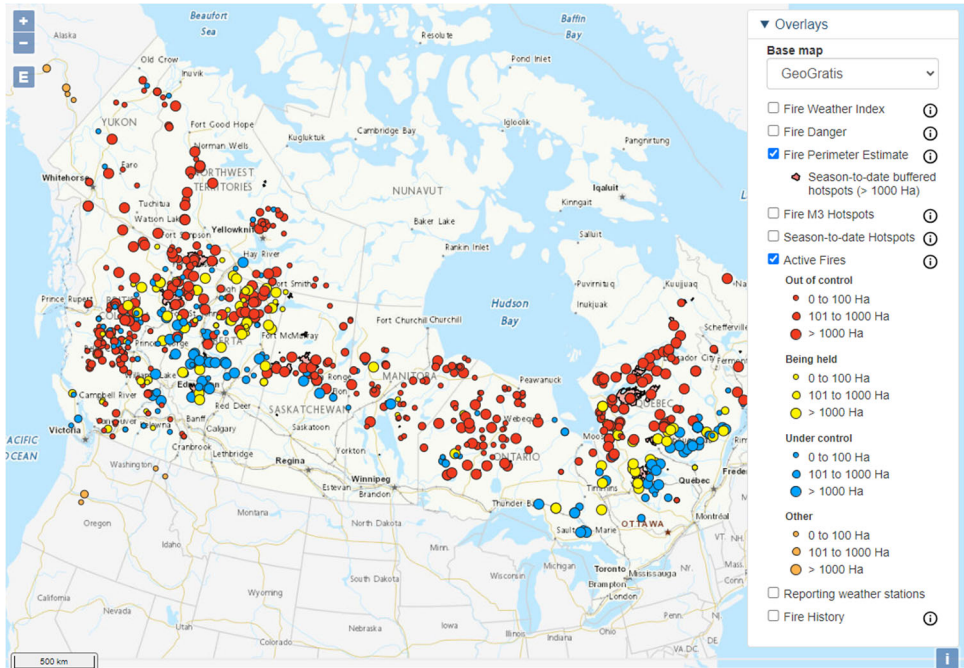


Figure 15j: Active fires and fire perimeters on July 17, 2023.

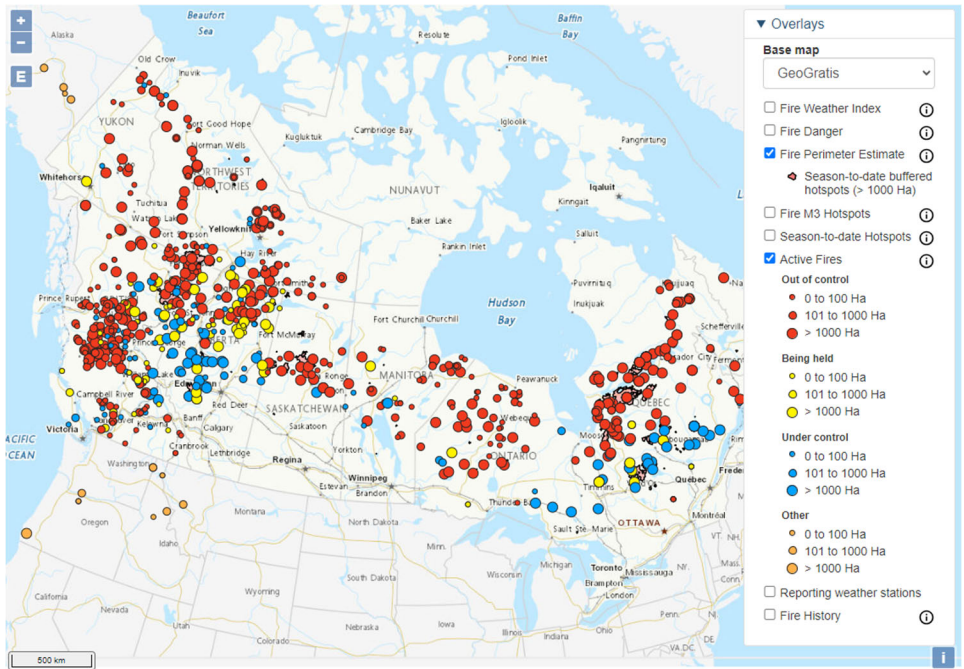


Figure 15k: Active fires and fire perimeters on July 24, 2023.

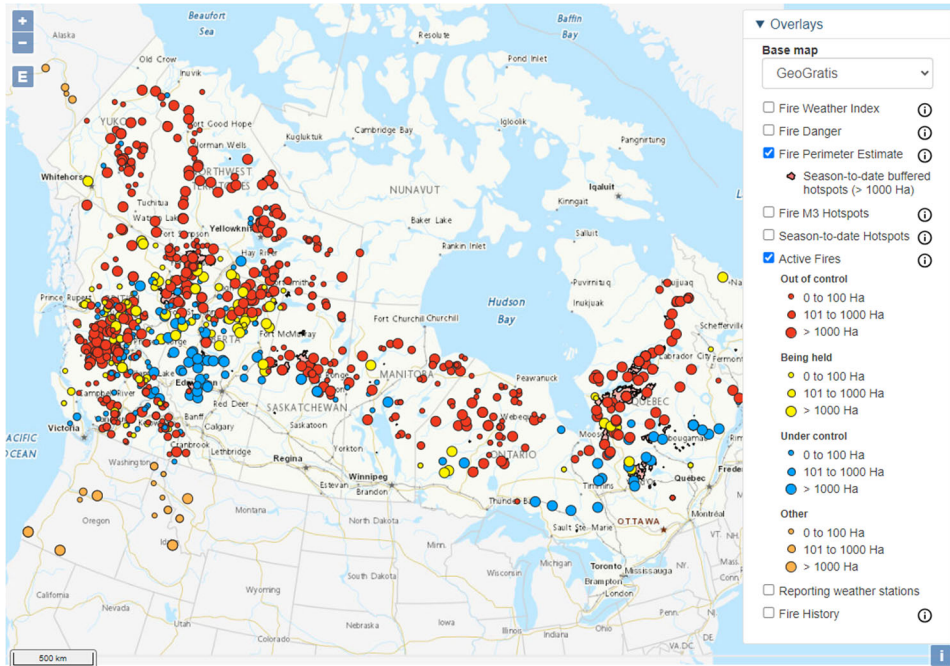


Figure 15l: Active fires and fire perimeters on July 31, 2023.

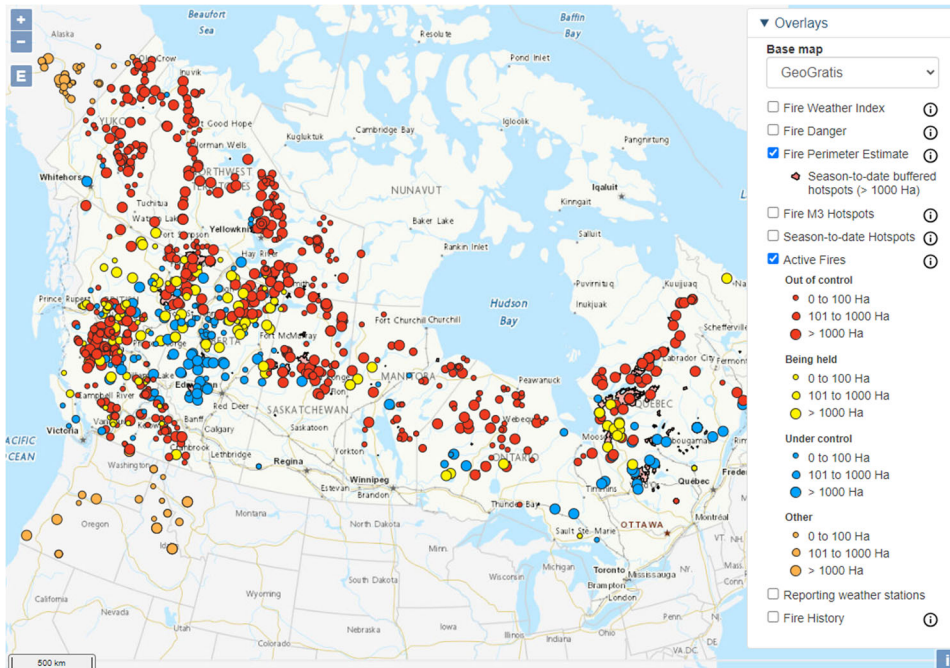


Figure 15m: Active fires and fire perimeters on August 7, 2023.

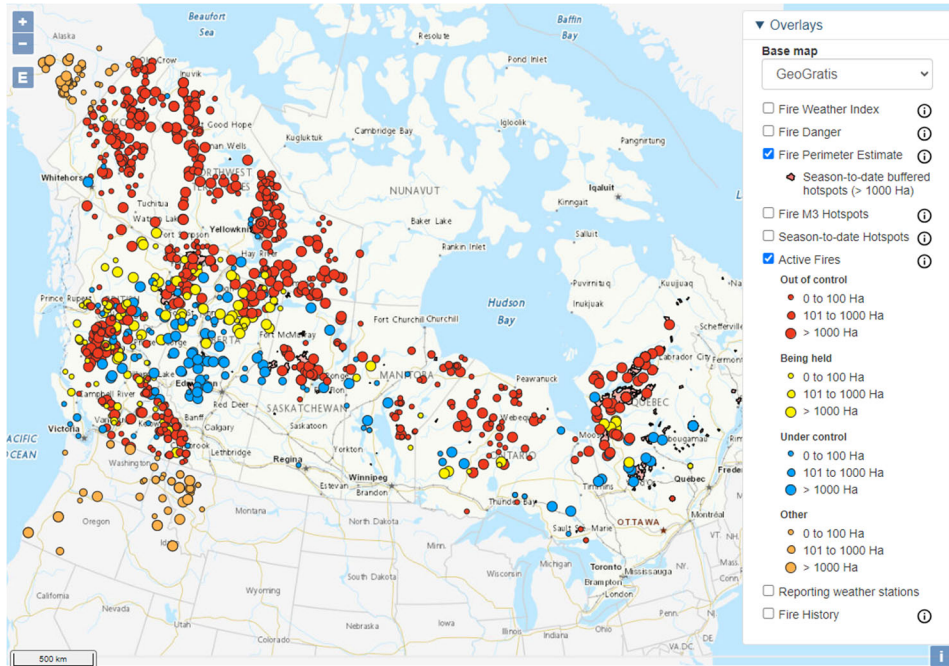


Figure 15n: Active fires and fire perimeters on August 14, 2023.

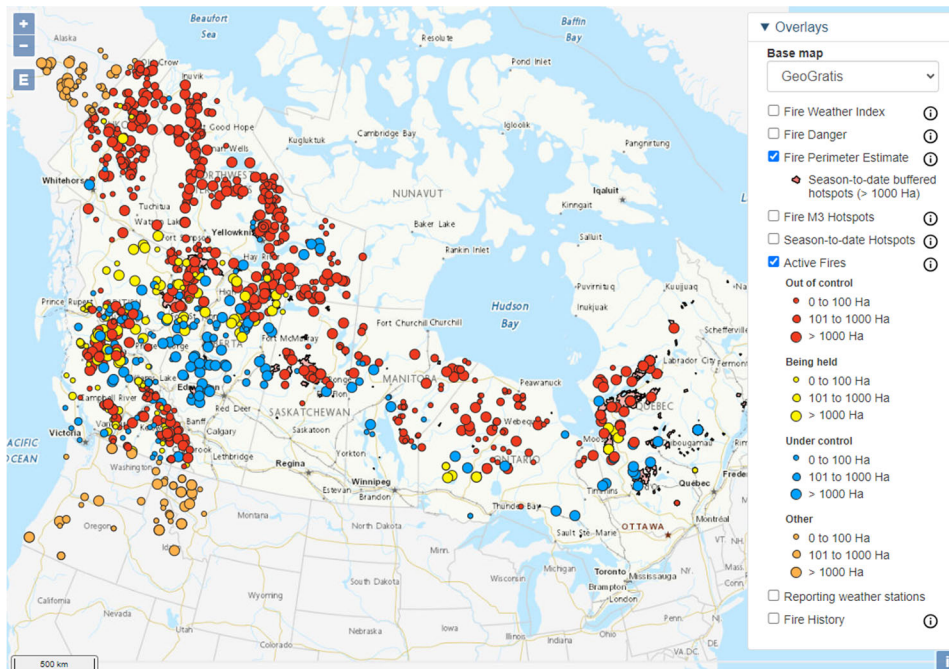


Figure 15o: Active fires and fire perimeters on August 21, 2023.

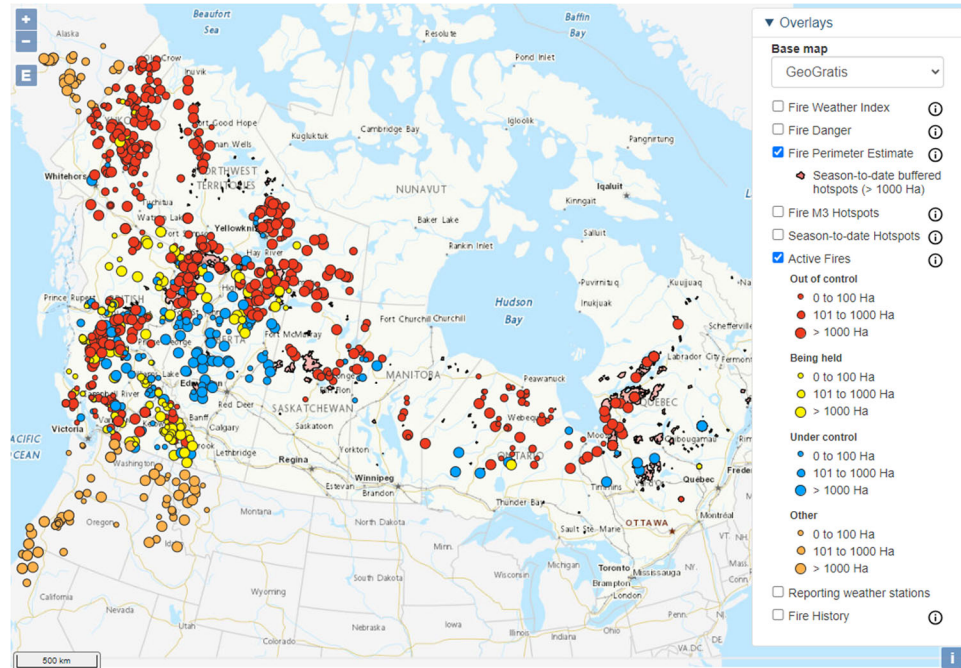


Figure 15p: Active fires and fire perimeters on August 28, 2023.

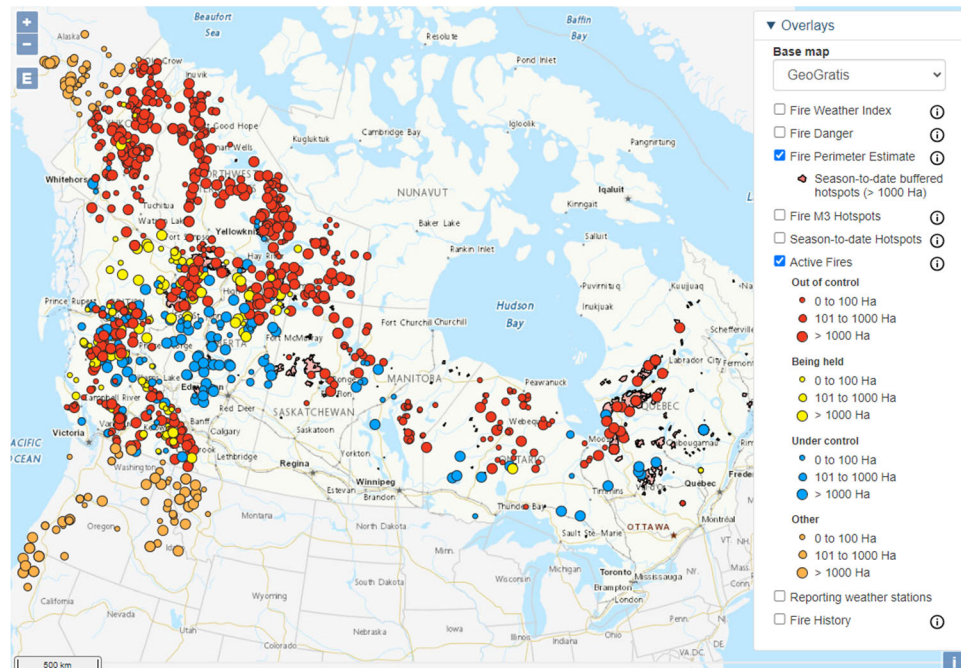


Figure 15q: Active fires and fire perimeters on September 4, 2023.

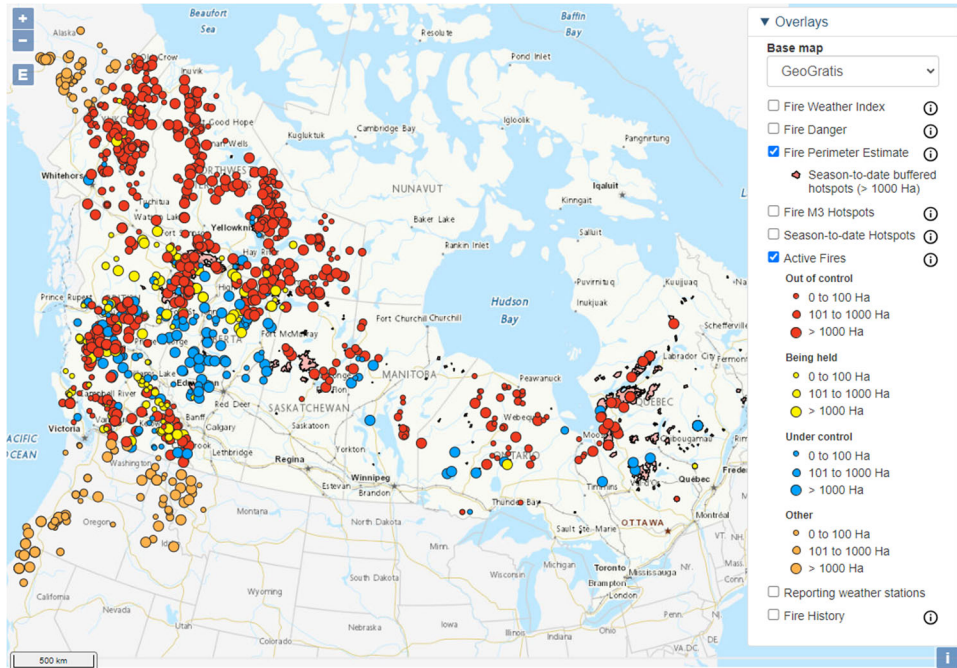


Figure 15r: Active fires and fire perimeters on September 11, 2023.

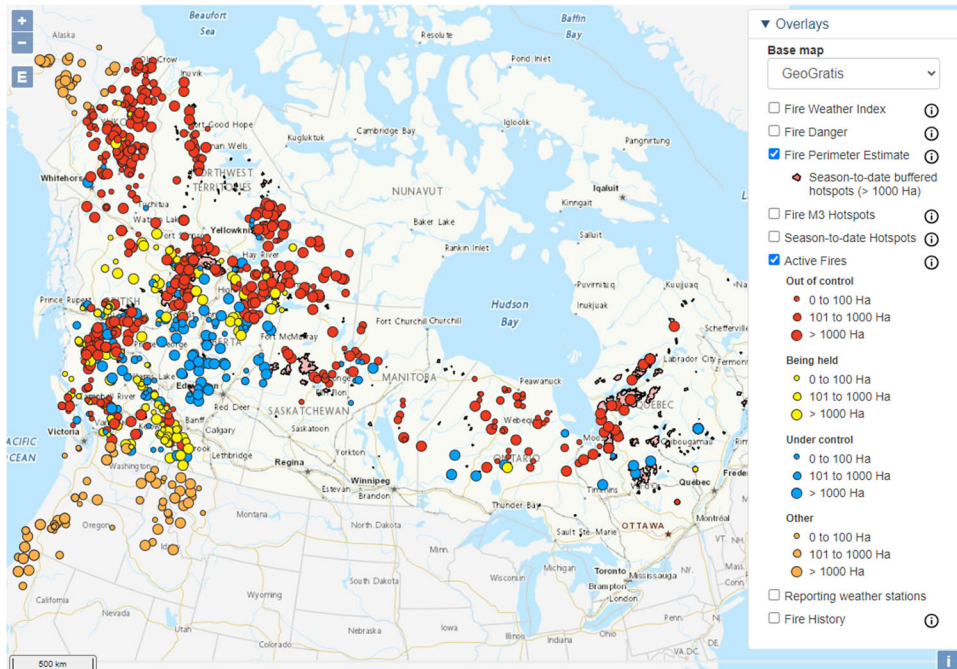
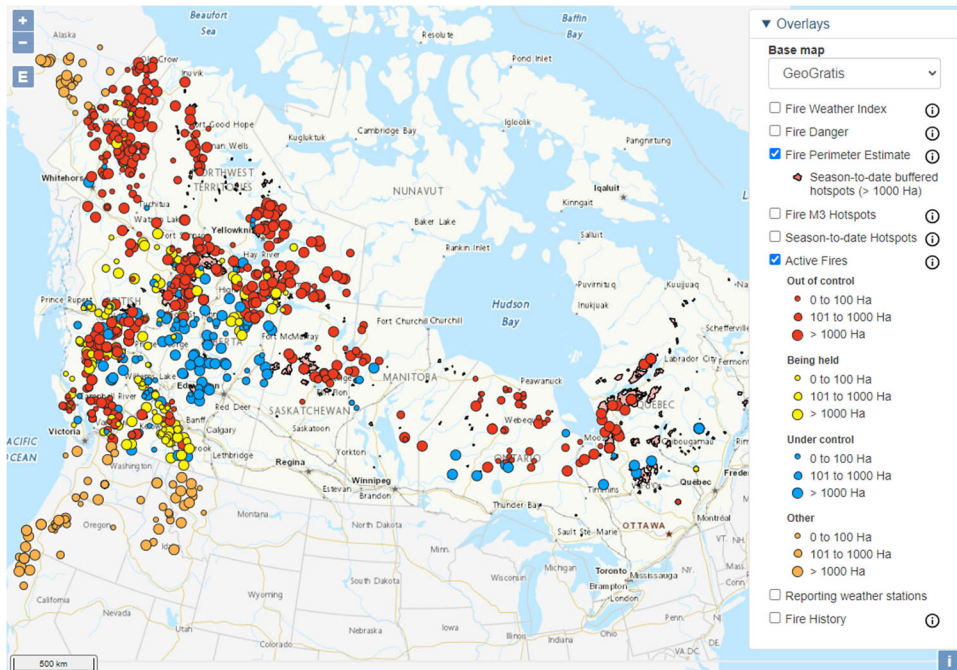


Figure 15: Active fires and fire perimeters on September 18, 2023.



## Canada wildfires – Summer 2024

The 2024 wildfire season had the second greatest area burned since the year 2000, surpassed only by the hyperactive 2023 fire season (Figure 16). Wildfire activity during 2024 was confined to central and western Canada. Figure 17 shows the fire activity responsible for the mid-May 2024 wildfire event.

Figure 16: Number of Fires and Area burned in Canada from 1970 to 2024.

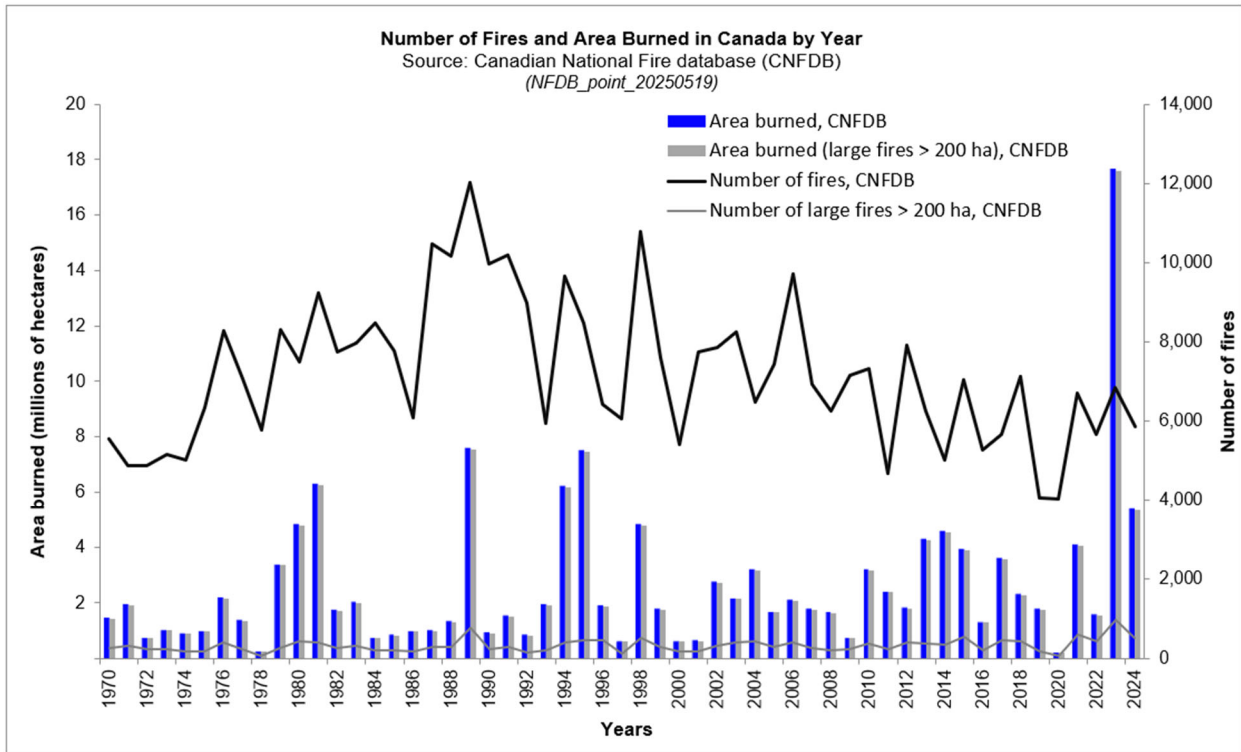
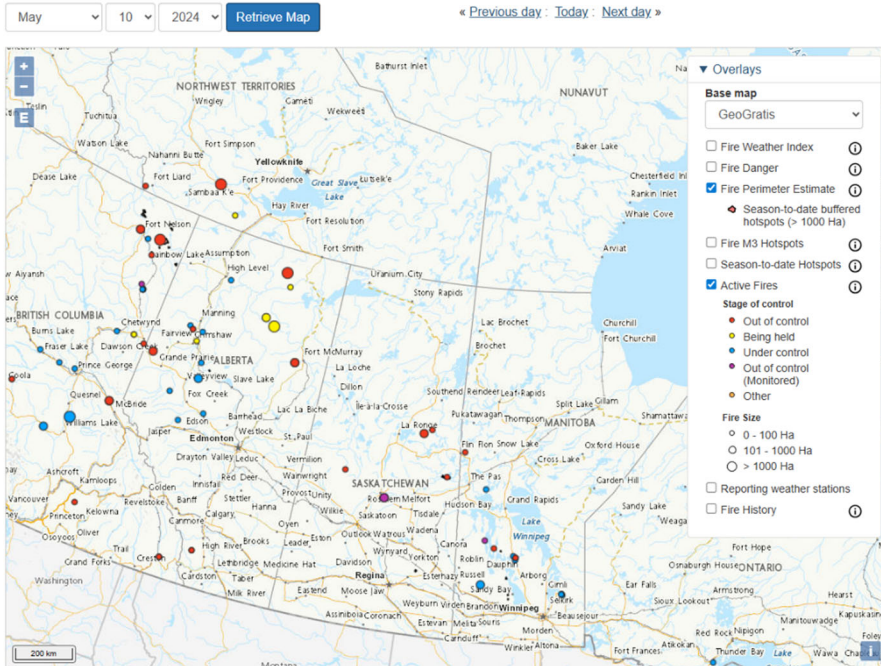


Figure 17: Active fires and fire perimeters on May 10, 2024.



# Daily smoke and dust impacts

## 2022

There were no days in 2022 with significant smoke or dust impacts on PM<sub>10</sub> background.

## 2023

For 2023, there were 14 days with high smoke impacts (Table 3). Smoke from fires located throughout Canada impacted Minnesota monitors from May 16 to September 22. Daily satellite imagery, fire locations, and monitor data for each day from 2023 identified in Table 3 can be found in Appendix B.

**Table 3: List of days for 2023 when 24-hour PM<sub>10</sub> concentrations were influenced by wildfire smoke and dust.**

Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	5/16/2023	65	Wildfire smoke
Fargo NW	380171004	5/17/2023	89	Wildfire smoke
Fargo NW	380171004	5/18/2023	126	Wildfire smoke
Fargo NW	380171004	5/23/2023	55	Wildfire smoke
St. Paul - Downtown	271230868	5/23/2023	66	Wildfire smoke
MPLS - Bottineau	270531909	6/5/2023	63	Wildfire smoke
Blaine	270031002	6/14/2023	109	Wildfire smoke
Fargo NW	380171004	6/14/2023	115	Wildfire smoke
MPLS - Bottineau	270531909	6/14/2023	114	Wildfire smoke
MPLS - Lowrie Ave	270530909	6/14/2023	131	Wildfire smoke
MPLS - Pacific St	270530910	6/14/2023	121	Wildfire smoke
St. Paul - Downtown	271230868	6/14/2023	118	Wildfire smoke
Blaine	270031002	6/27/2023	81	Wildfire smoke
St. Paul - Downtown	271230868	6/27/2023	52	Wildfire smoke
Blaine	270031002	6/28/2023	72	Wildfire smoke
MPLS - Bottineau	270531909	6/28/2023	75	Wildfire smoke
MPLS - Lowrie Ave	270530909	6/28/2023	76	Wildfire smoke
MPLS - Pacific St	270530910	6/28/2023	92	Wildfire smoke
St. Paul - Downtown	271230868	6/28/2023	73	Wildfire smoke
Fargo NW	380171004	8/4/2023	73	Wildfire smoke
Fargo NW	380171004	8/29/2023	80	Wildfire smoke
Fargo NW	380171004	9/5/2023	74	Wildfire smoke
Fargo NW	380171004	9/15/2023	59	Wildfire smoke
Fargo NW	380171004	9/19/2023	67	Wildfire smoke
Fargo NW	380171004	9/20/2023	98	Wildfire smoke

## 2024

**Table 4: List of days for 2024 when 24-hour PM<sub>10</sub> concentrations were influenced by wildfire smoke and dust.**

Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Max hour (µg/m <sup>3</sup> )	Notes
Blaine	270031002	5/12/2024	51.2	145	Wildfire smoke
Fargo NW	380171004	5/12/2024	71.5	141	Wildfire smoke
Marshall	270834210	5/12/2024	64.7	149	Wildfire smoke
MPLS - Bottineau	270531909	5/12/2024	42.0	98	Wildfire smoke
MPLS - Lowrie Ave	270530909	5/12/2024	44.9	103	Wildfire smoke
MPLS - Pacific St	270530910	5/12/2024	43.0	100	Wildfire smoke
St. Paul - Downtown	271230868	5/12/2024	40.4	101	Wildfire smoke
Blaine	270031002	5/13/2024	60.4	135	Wildfire smoke
Marshall	270834210	5/13/2024	102.8	189	Wildfire smoke
MPLS - Bottineau	270531909	5/13/2024	51.5	100	Wildfire smoke
MPLS - Lowrie Ave	270530909	5/13/2024	62.6	123	Wildfire smoke
MPLS - Pacific St	270530910	5/13/2024	47.9	98	Wildfire smoke
St. Paul - Downtown	271230868	5/13/2024	49.9	92	Wildfire smoke
Marshall	270834210	5/14/2024	57.9	105	Wildfire smoke

# Appendix A – Daily wildfire smoke or windblown dust impacts for 2022

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There were no days with smoke or windblown dust impacts on PM<sub>10</sub> during 2022

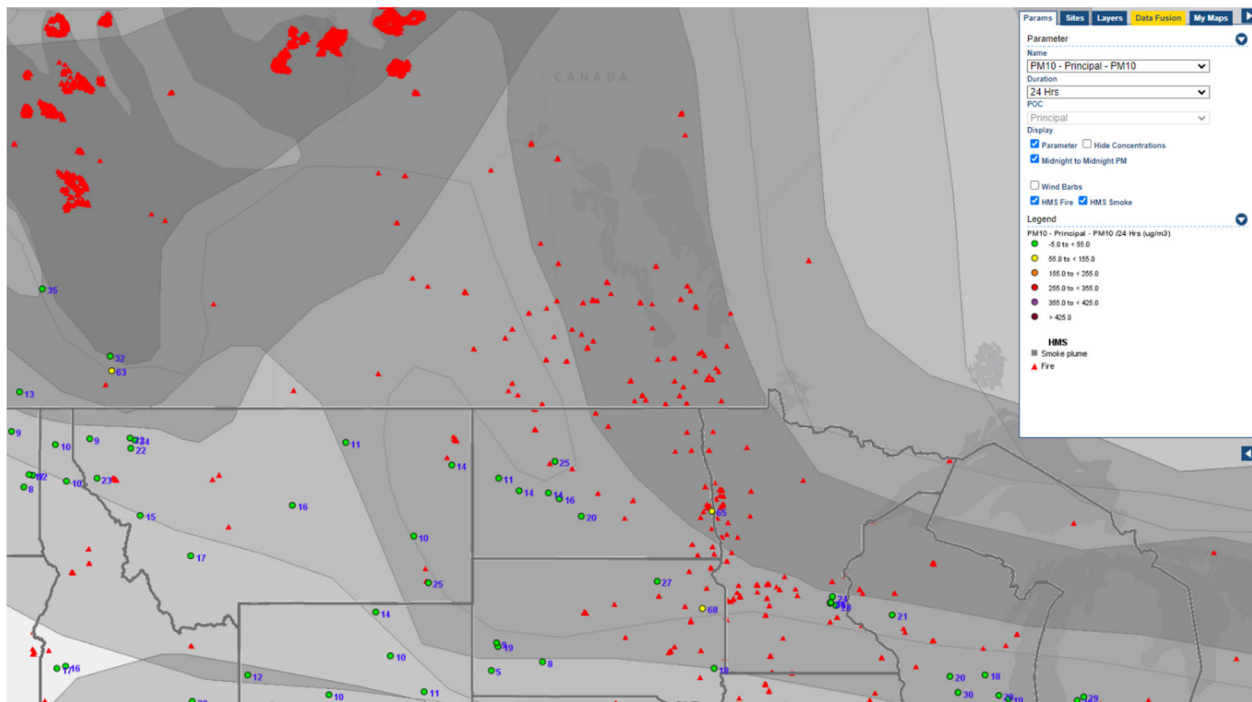
# Appendix B – Daily wildfire smoke or windblown dust impacts for 2023

## 5/16/2023 Impacts

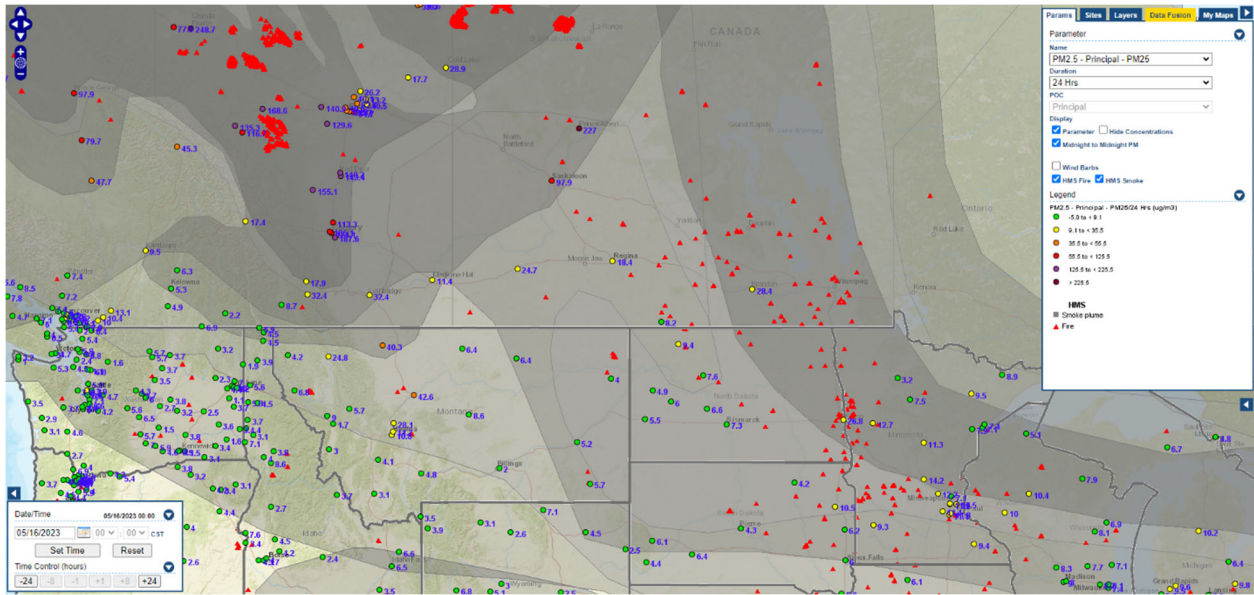
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 16, 2023.

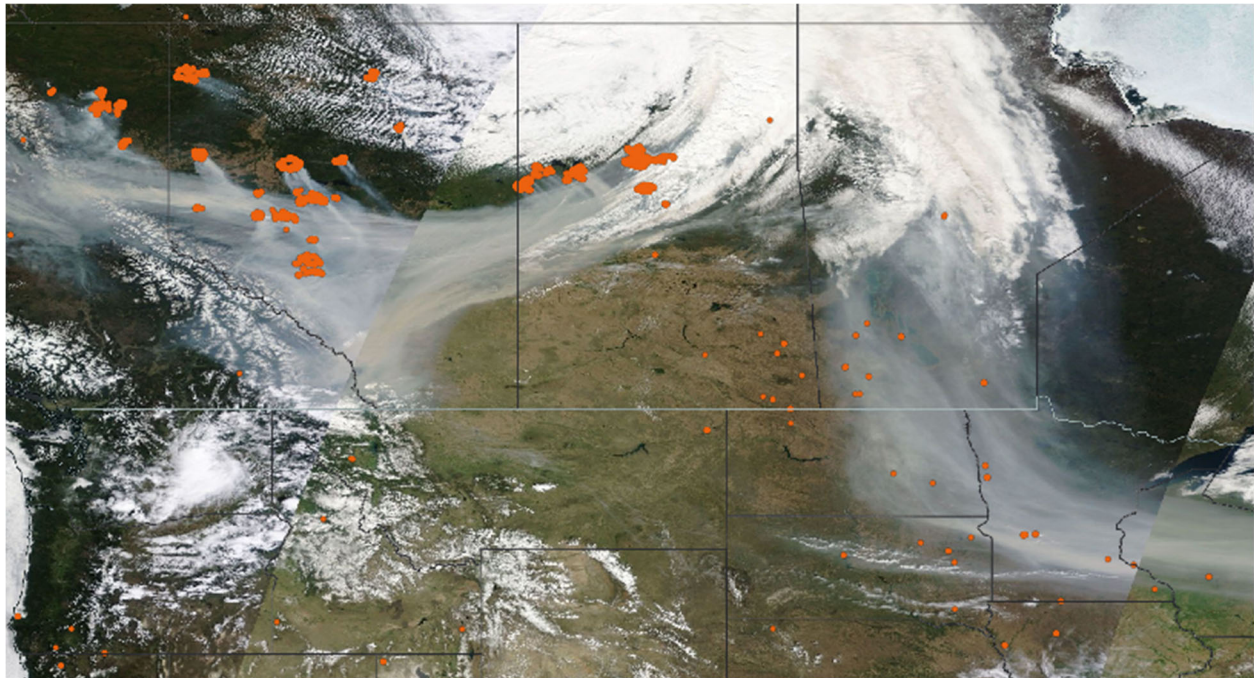
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	5/16/2023	65	Wildfire smoke



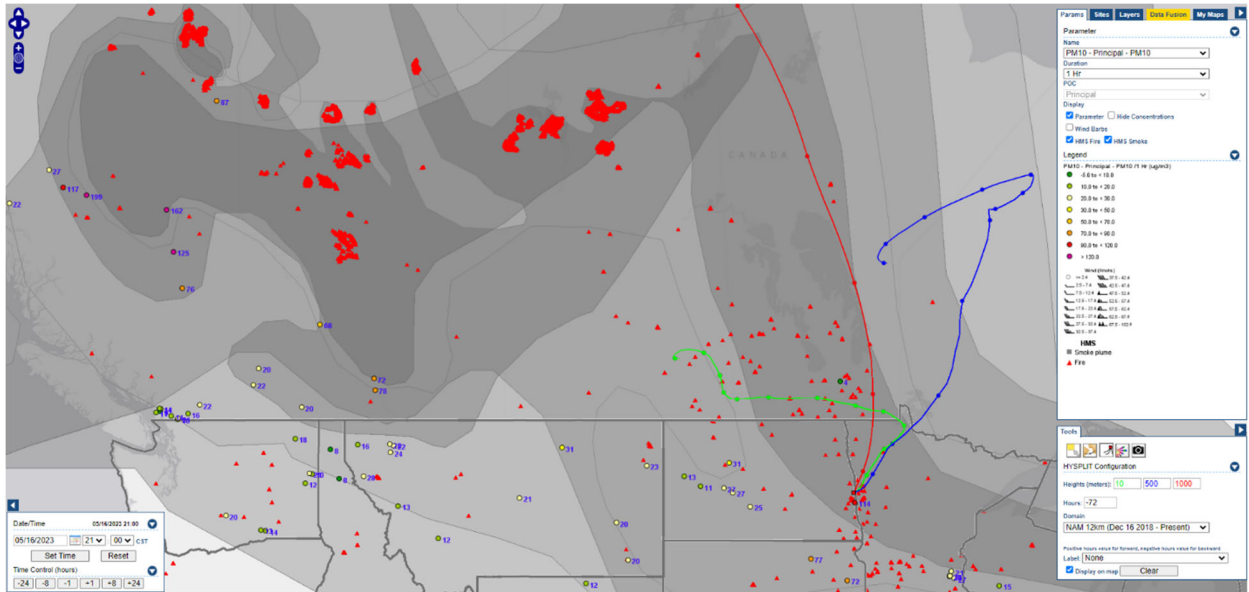
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 16, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 16, 2023.



MODIS visible satellite for May 16, 2023.



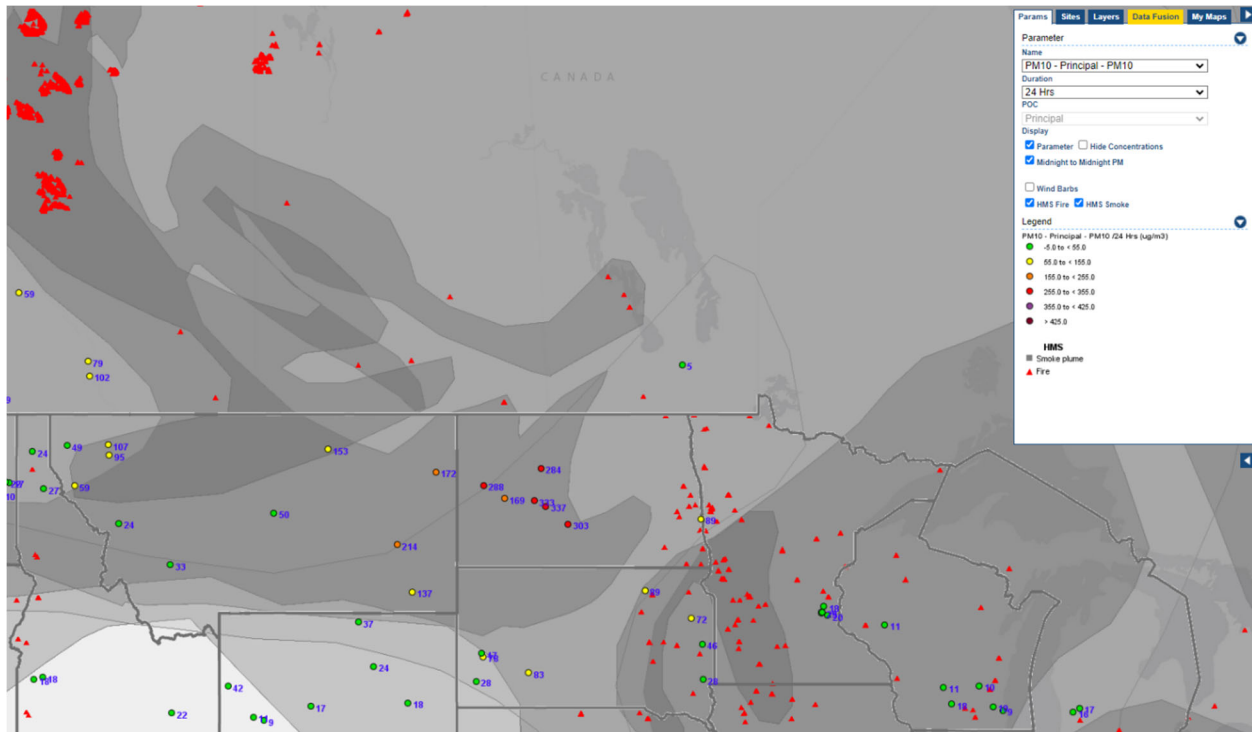
Backward trajectories for May 16, 2023.

# 5/17/2023 Impacts

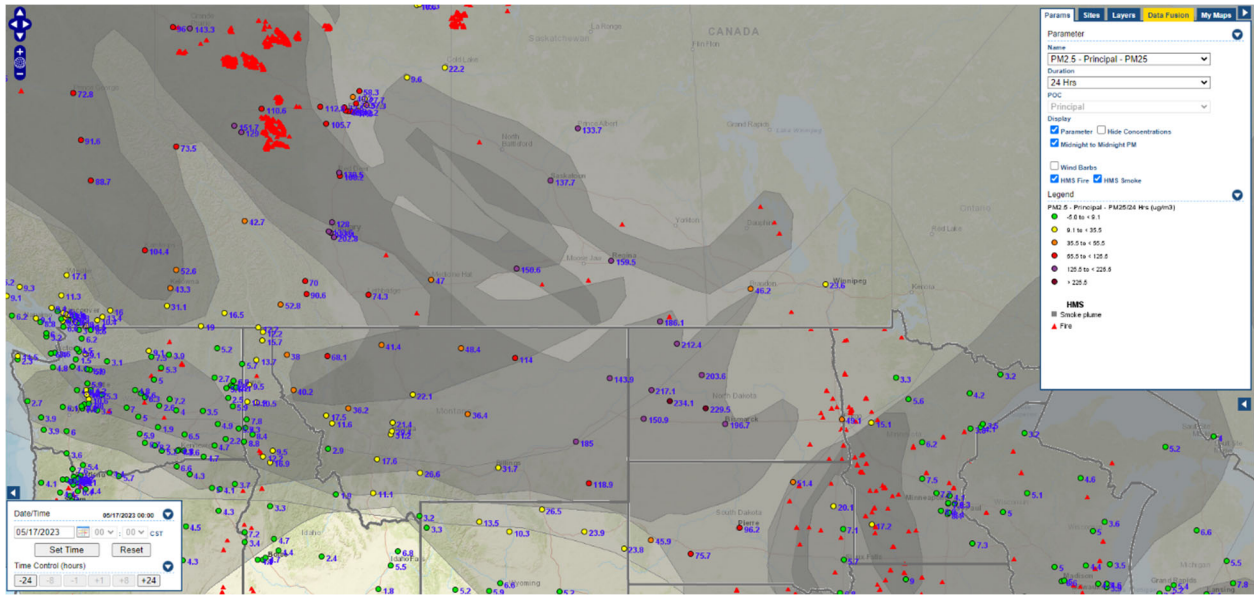
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 17, 2023.

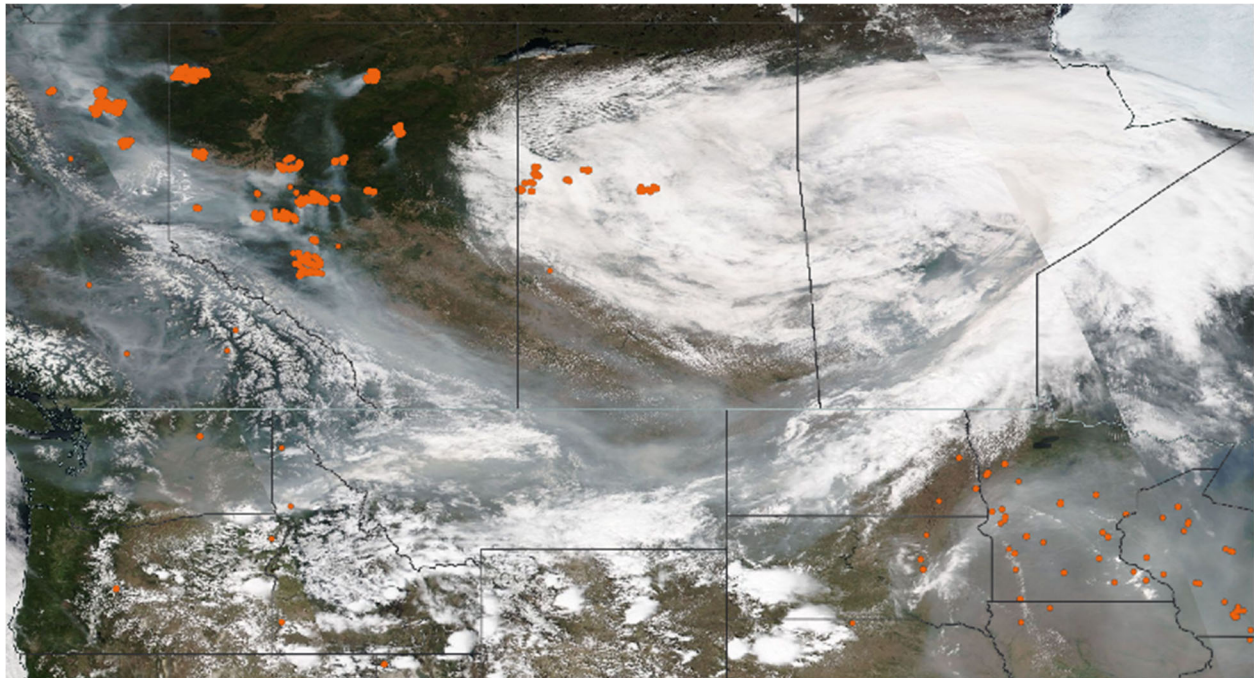
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	5/17/2023	89	Wildfire smoke



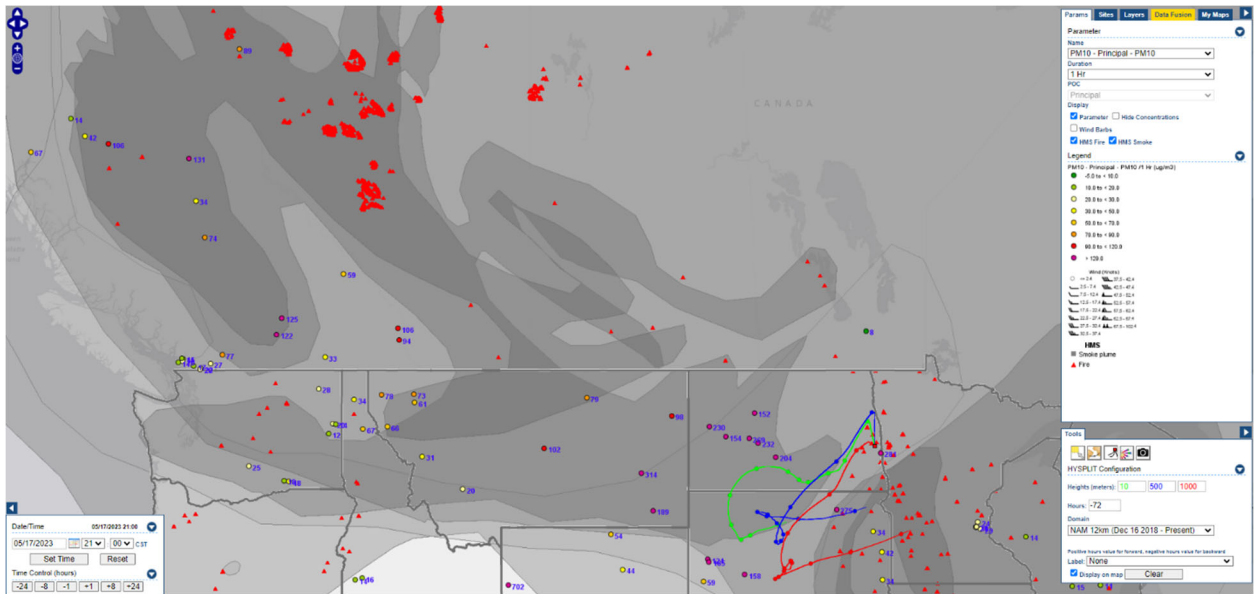
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 17, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 17, 2023.



MODIS visible satellite for May 17, 2023.



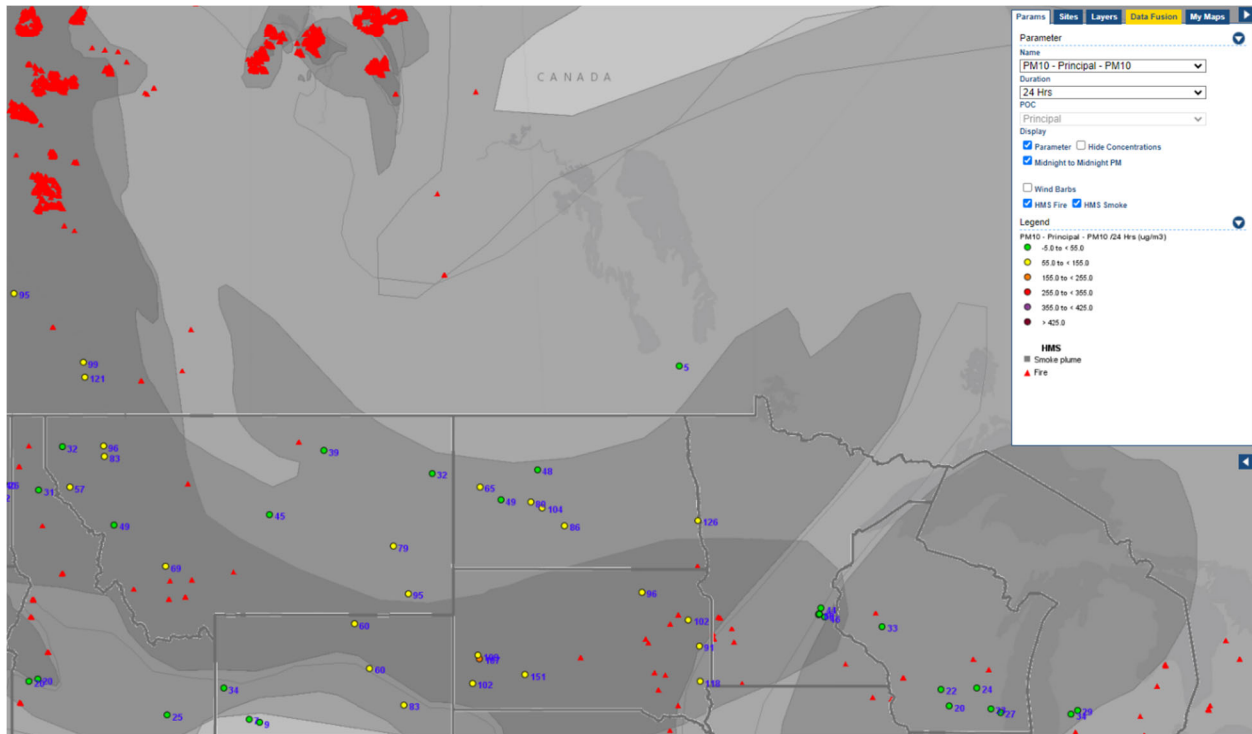
Backward trajectories for May 17, 2023.

# 5/18/2023 Impacts

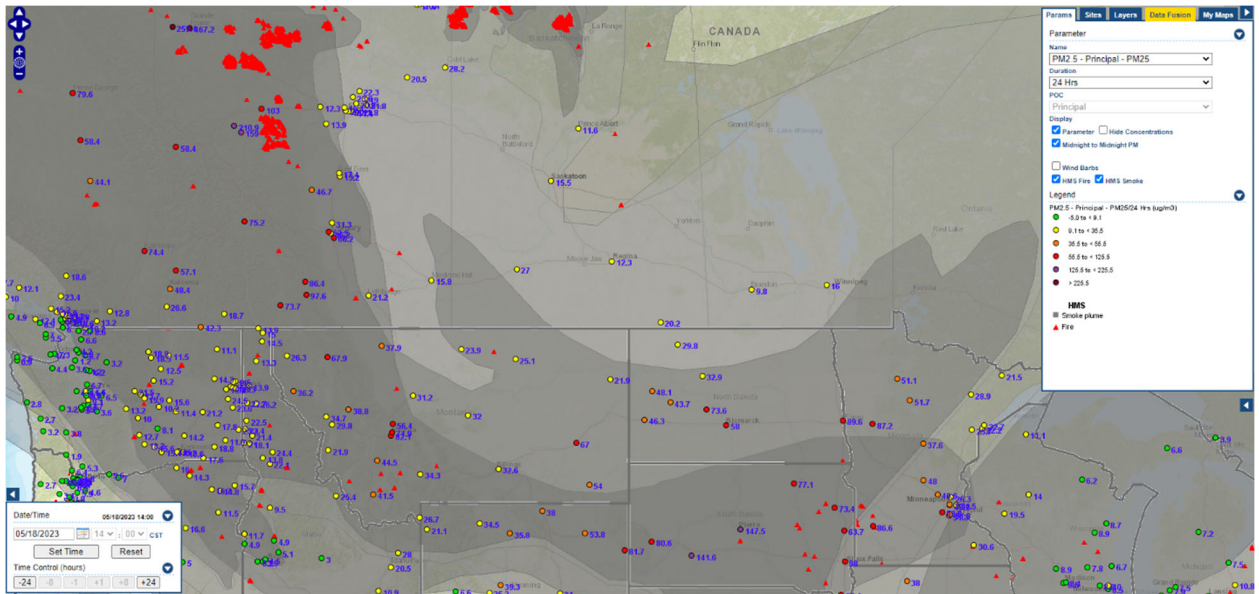
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 18, 2023.

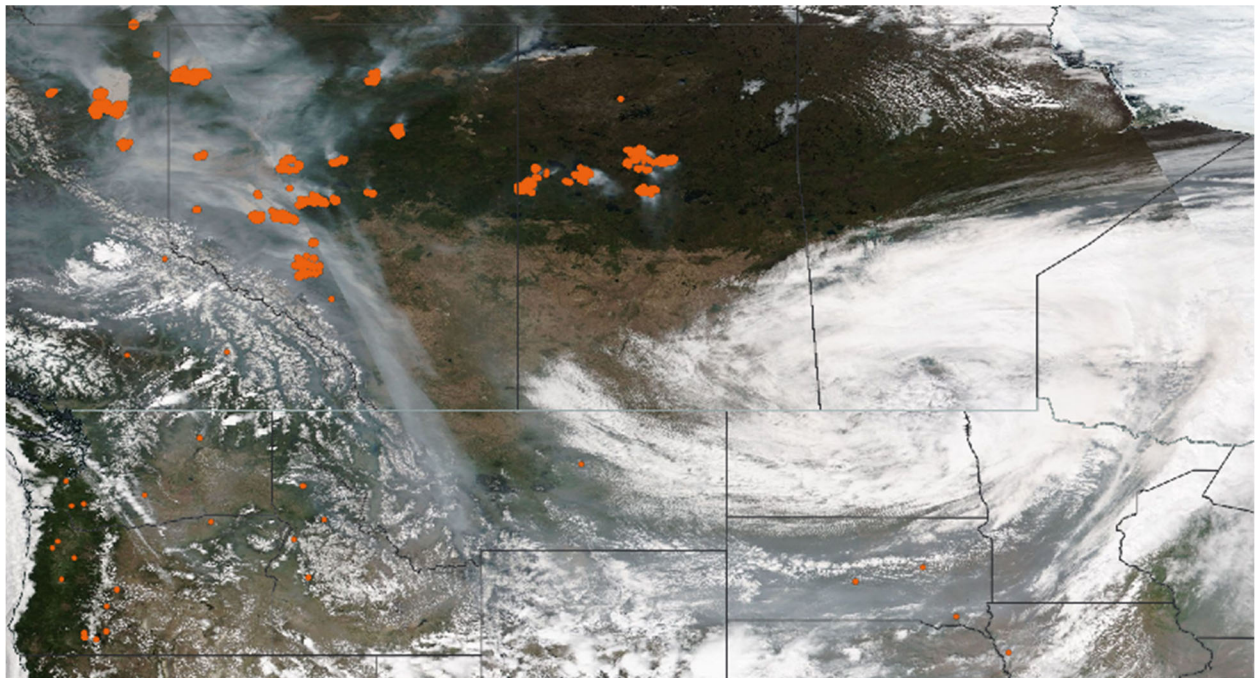
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	5/18/2023	126	Wildfire smoke



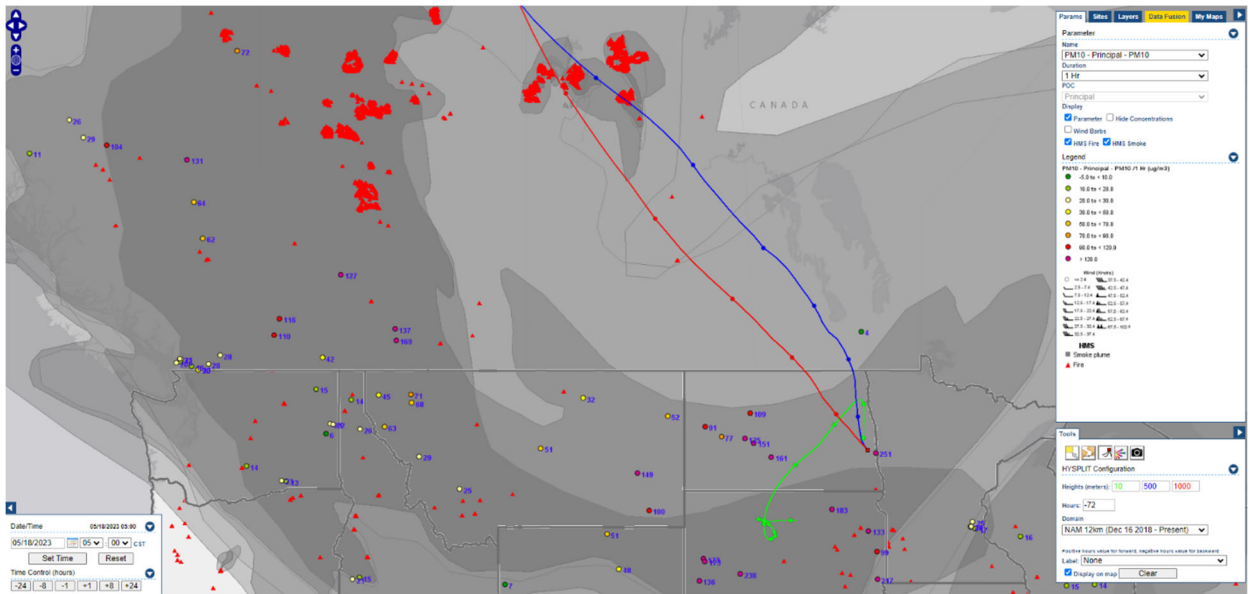
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 18, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 18, 2023.



MODIS visible satellite for May 18, 2023.



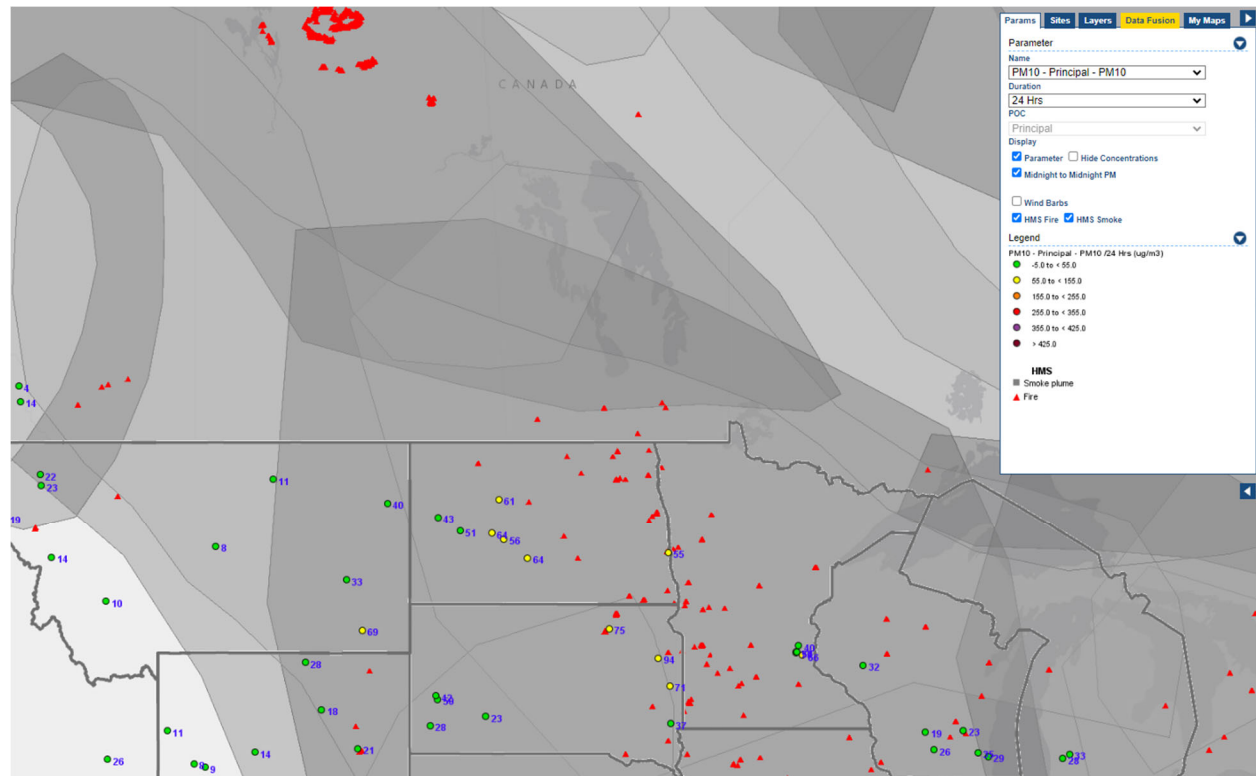
Backward trajectories for May 18, 2023.

# 5/23/2023 Impacts

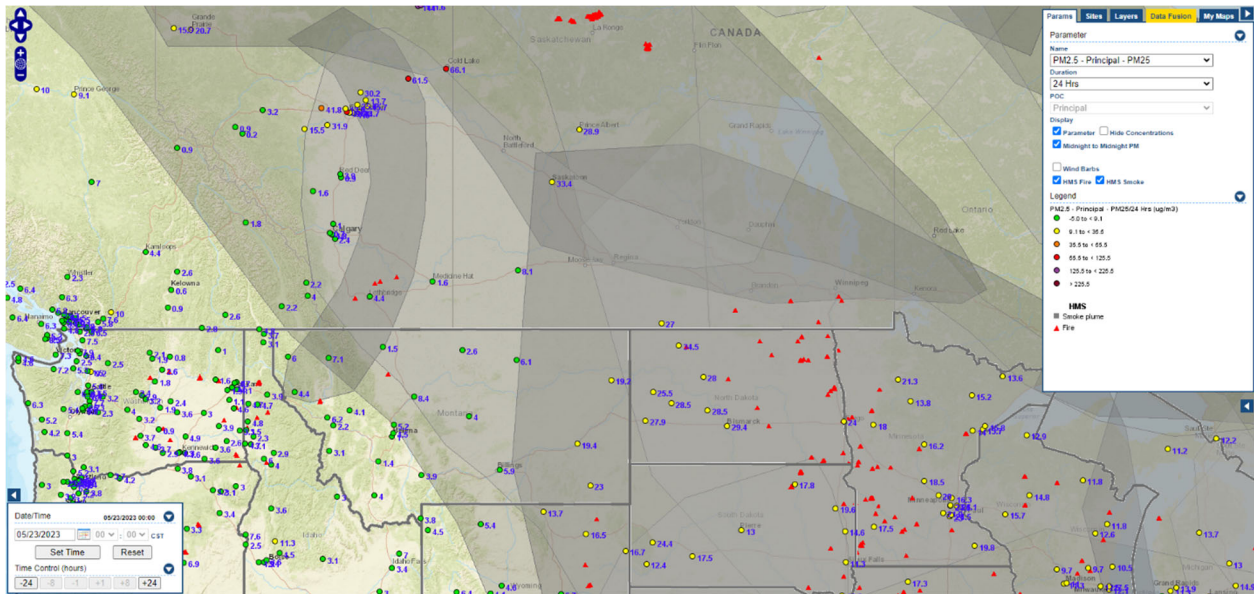
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 23, 2023.

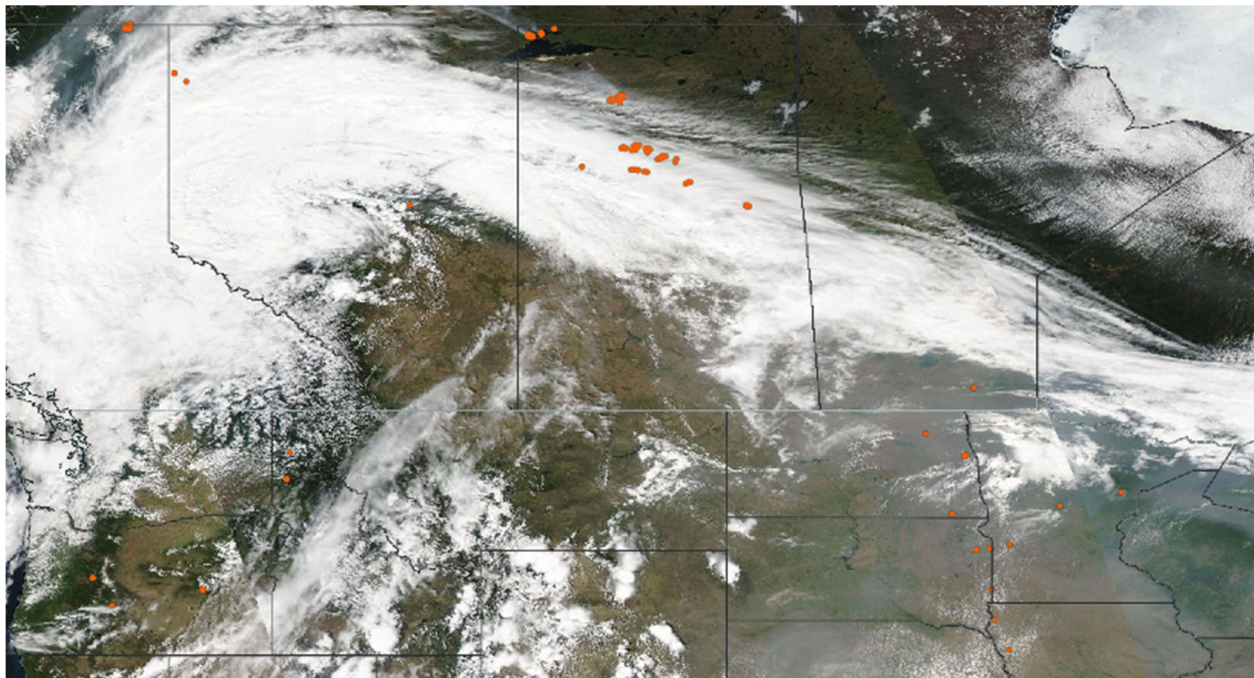
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	5/23/2023	55	Wildfire smoke
St. Paul - Downtown	271230868	5/23/2023	66	Wildfire smoke



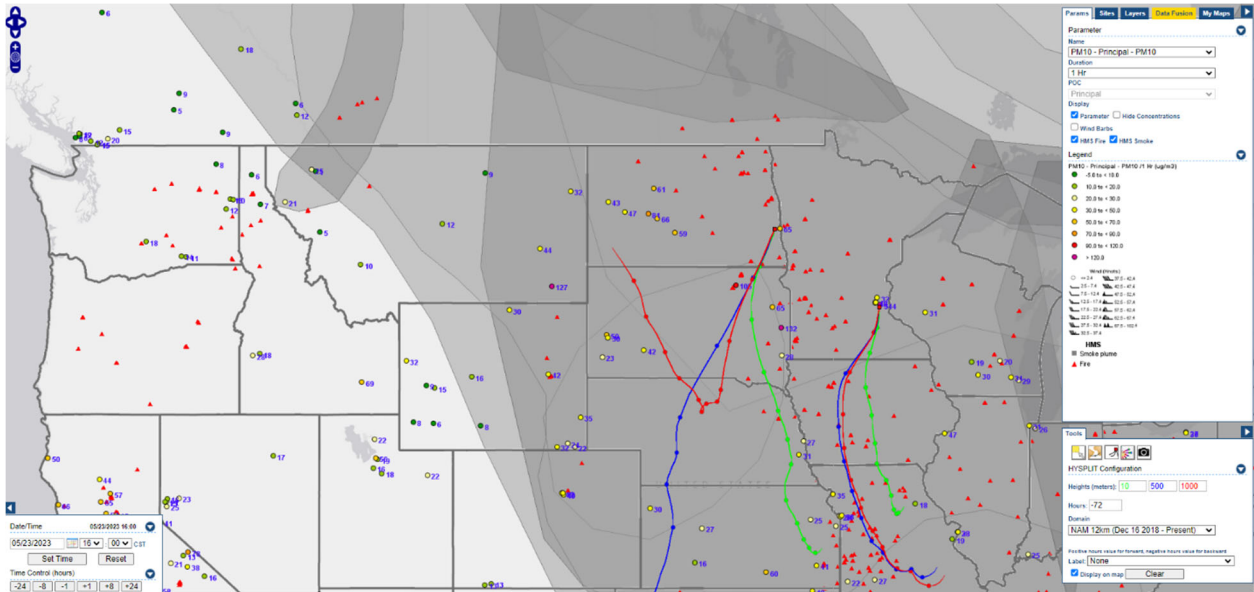
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 23, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 23, 2023.



MODIS visible satellite for May 23, 2023.



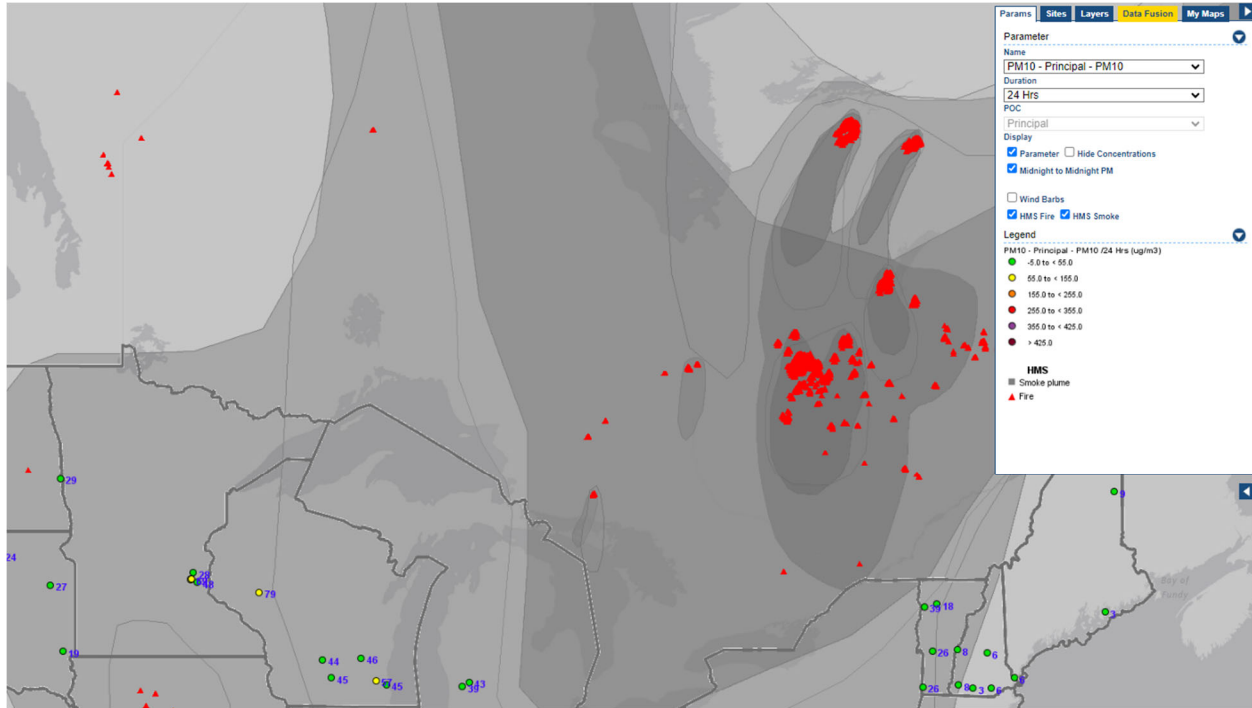
Backward trajectories for May 23, 2023.

# 6/5/2023 Impacts

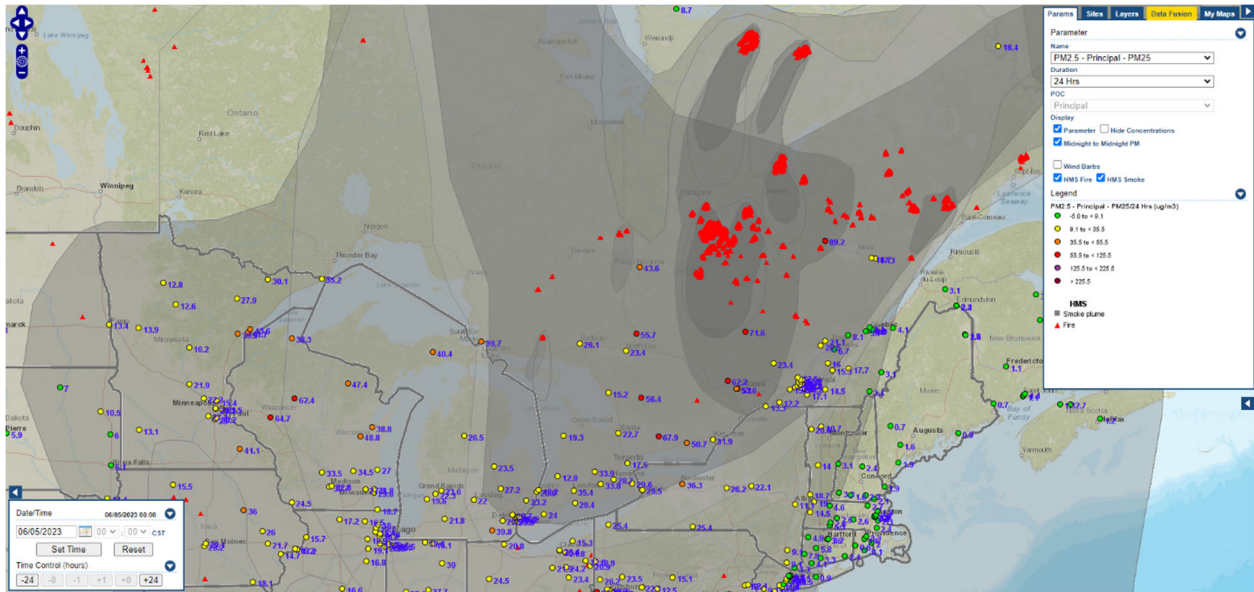
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on June 5, 2023.

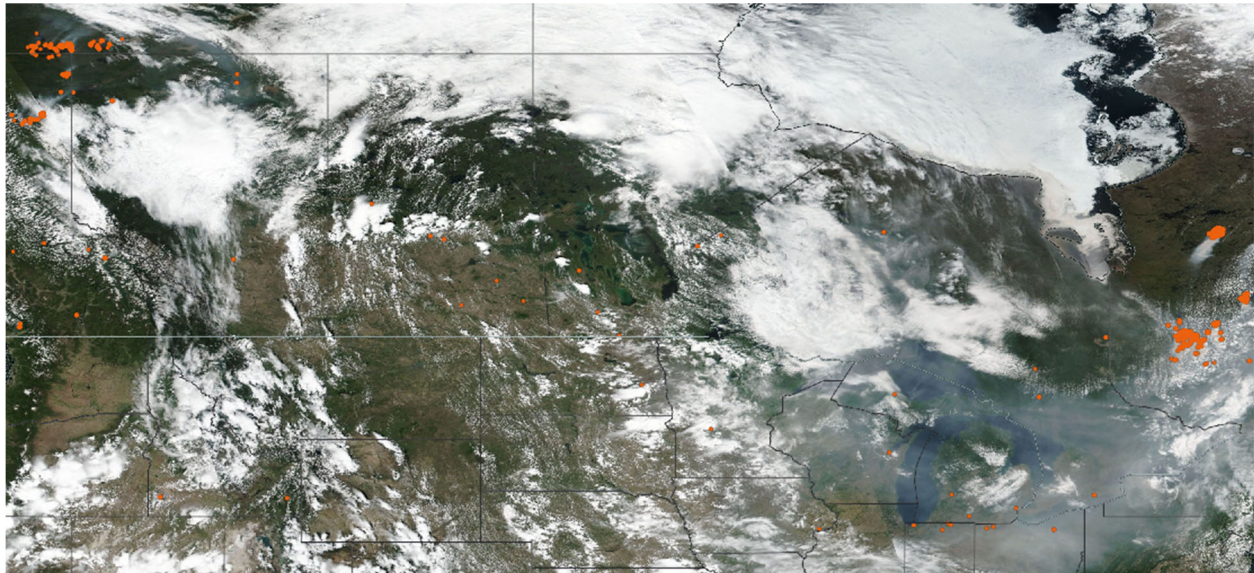
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
MPLS - Bottineau	270531909	6/5/2023	63	Wildfire smoke



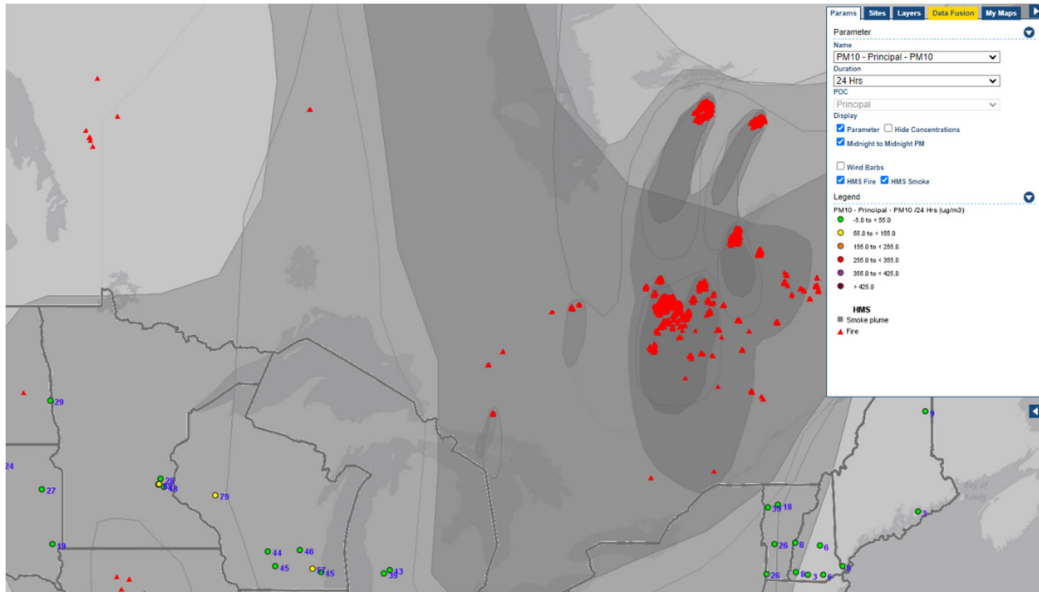
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on June 5, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on June 5, 2023.



MODIS visible satellite for June 5, 2023.



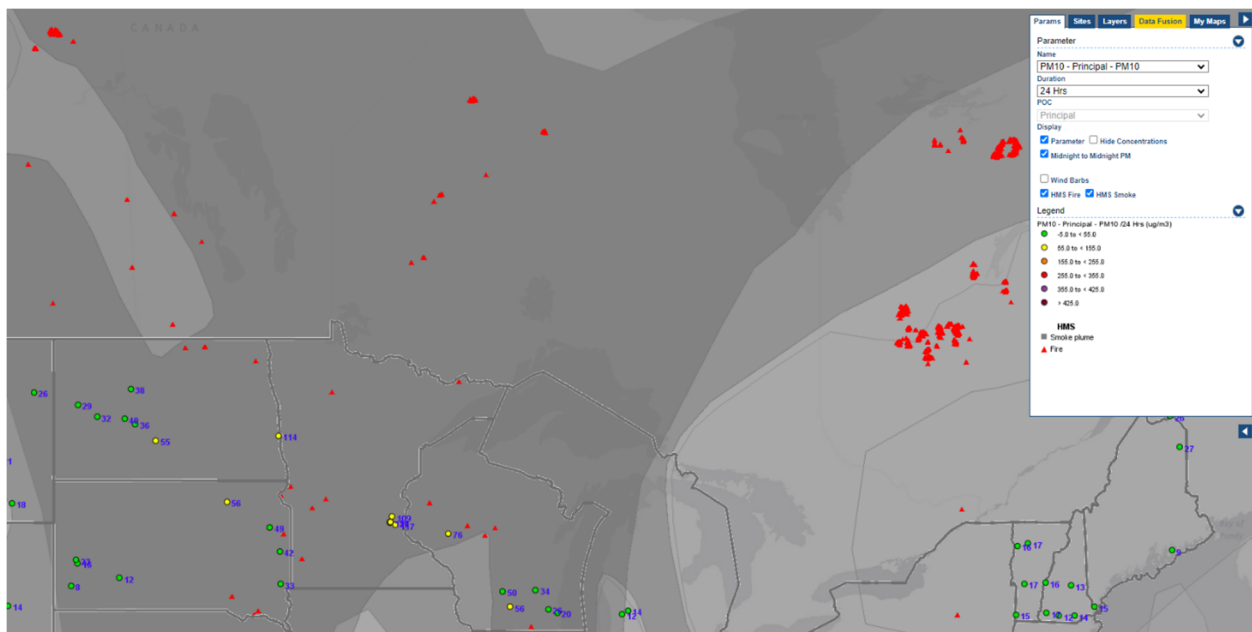
Backward trajectories for June 5, 2023.

## 6/14/2023 Impacts

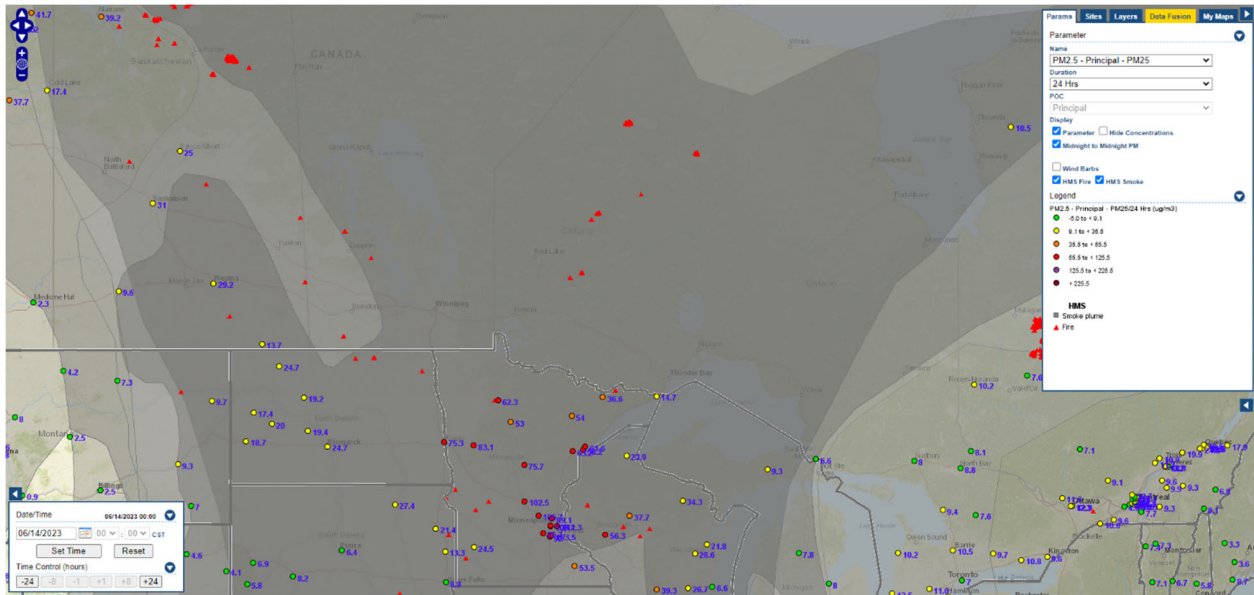
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on June 14, 2023.

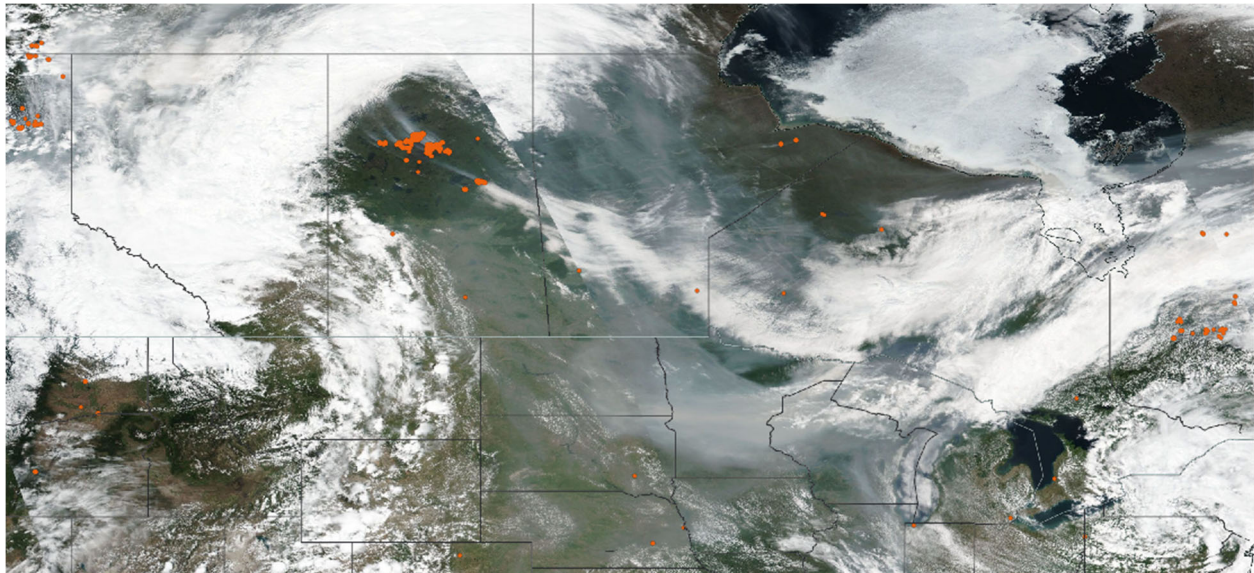
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Blaine	270031002	6/14/2023	109	Wildfire smoke
Fargo NW	380171004	6/14/2023	115	Wildfire smoke
MPLS - Bottineau	270531909	6/14/2023	114	Wildfire smoke
MPLS - Lowrie Ave	270530909	6/14/2023	131	Wildfire smoke
MPLS - Pacific St	270530910	6/14/2023	121	Wildfire smoke
St. Paul - Downtown	271230868	6/14/2023	118	Wildfire smoke



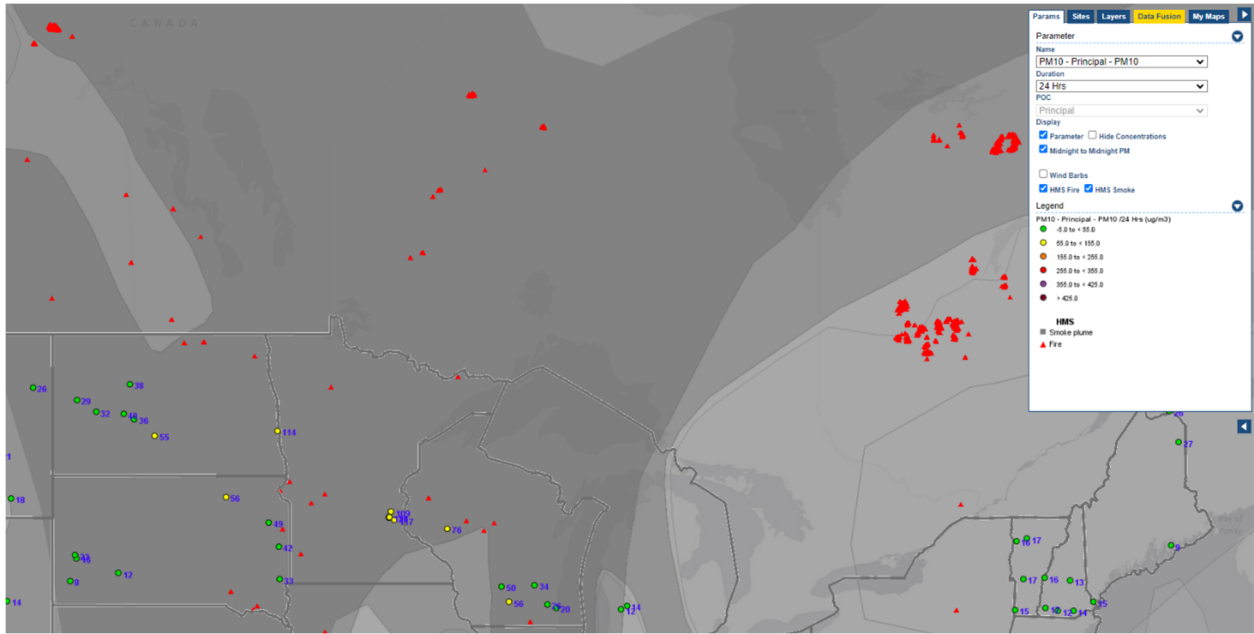
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on June 14, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on June 14, 2023.



MODIS visible satellite for June 14, 2023.



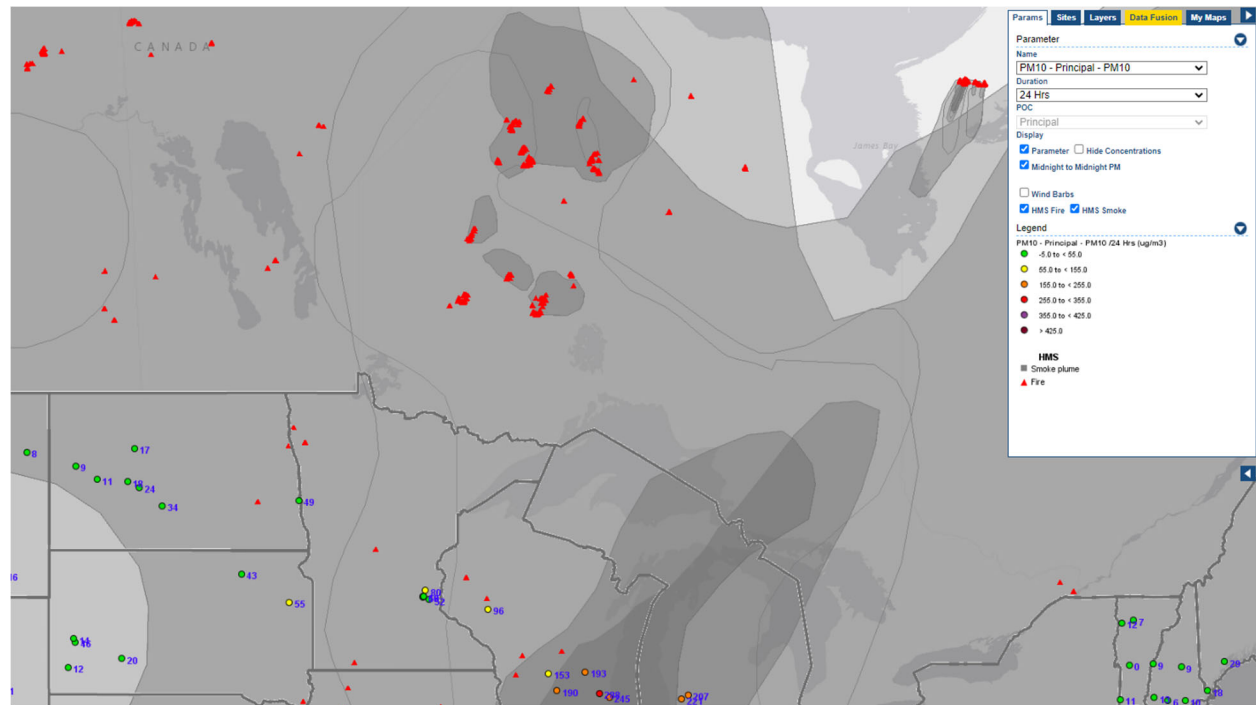
Backward trajectories for June 14, 2023.

# 6/27/2023 Impacts

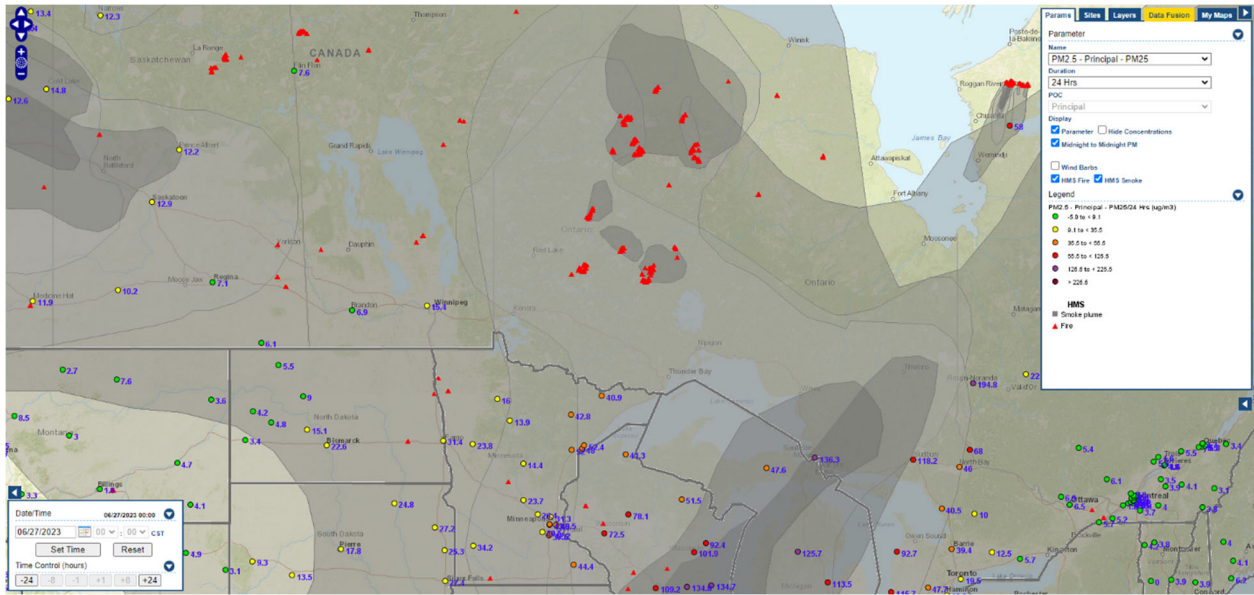
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on June 27, 2023.

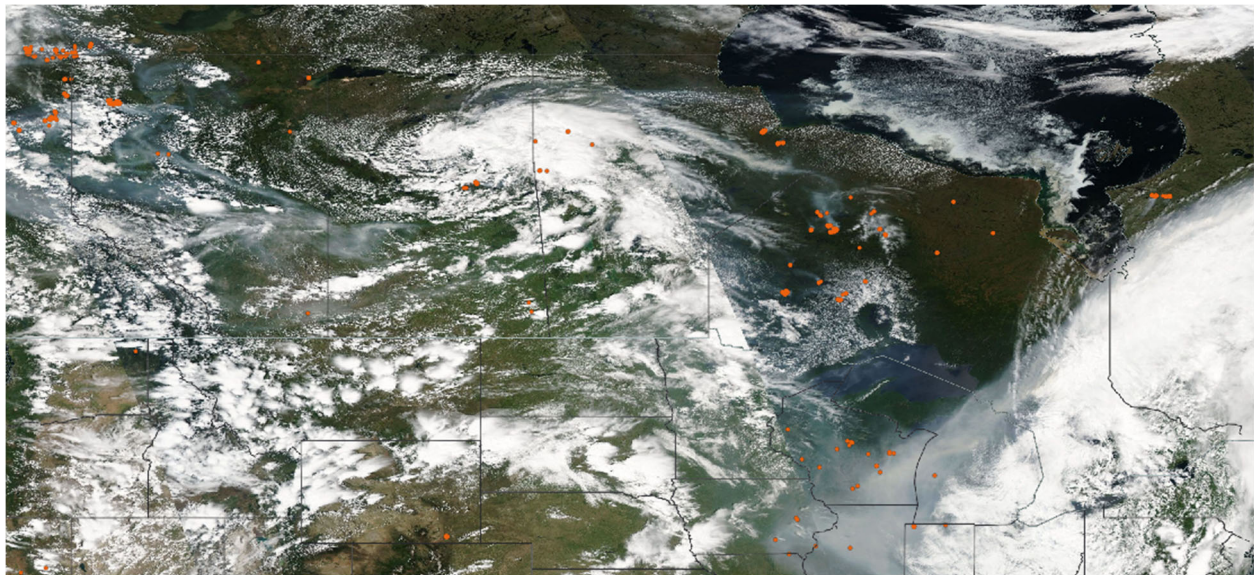
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Blaine	270031002	6/27/2023	81	Wildfire smoke
St. Paul - Downtown	271230868	6/27/2023	52	Wildfire smoke



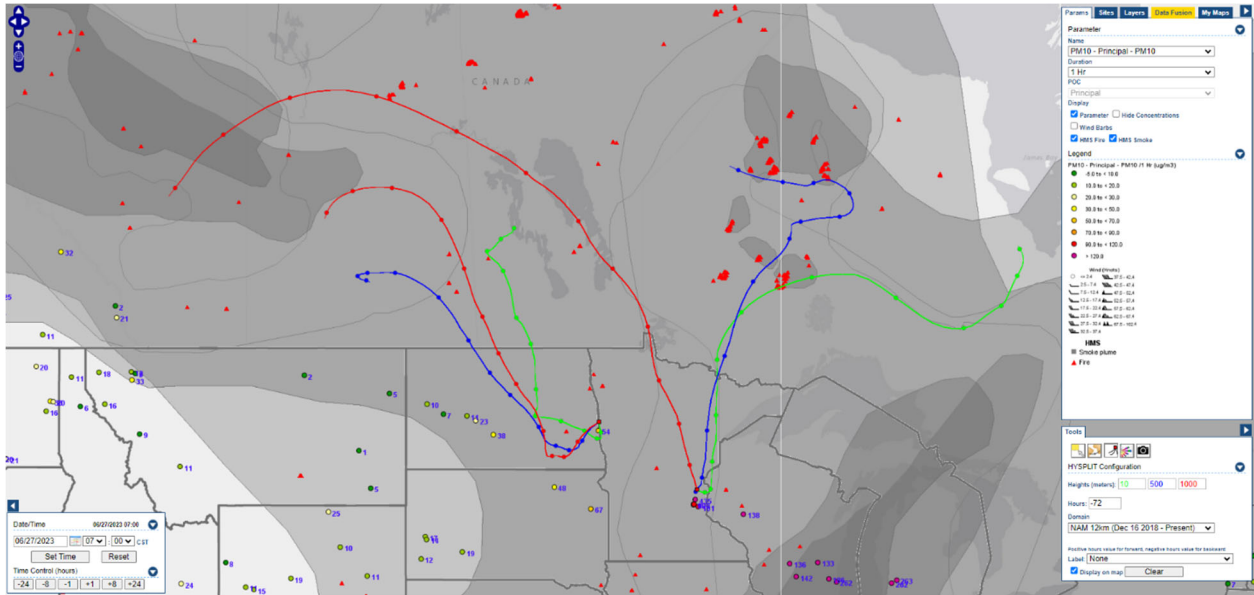
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on June 27, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on June 27, 2023.



MODIS visible satellite for June 27, 2023.



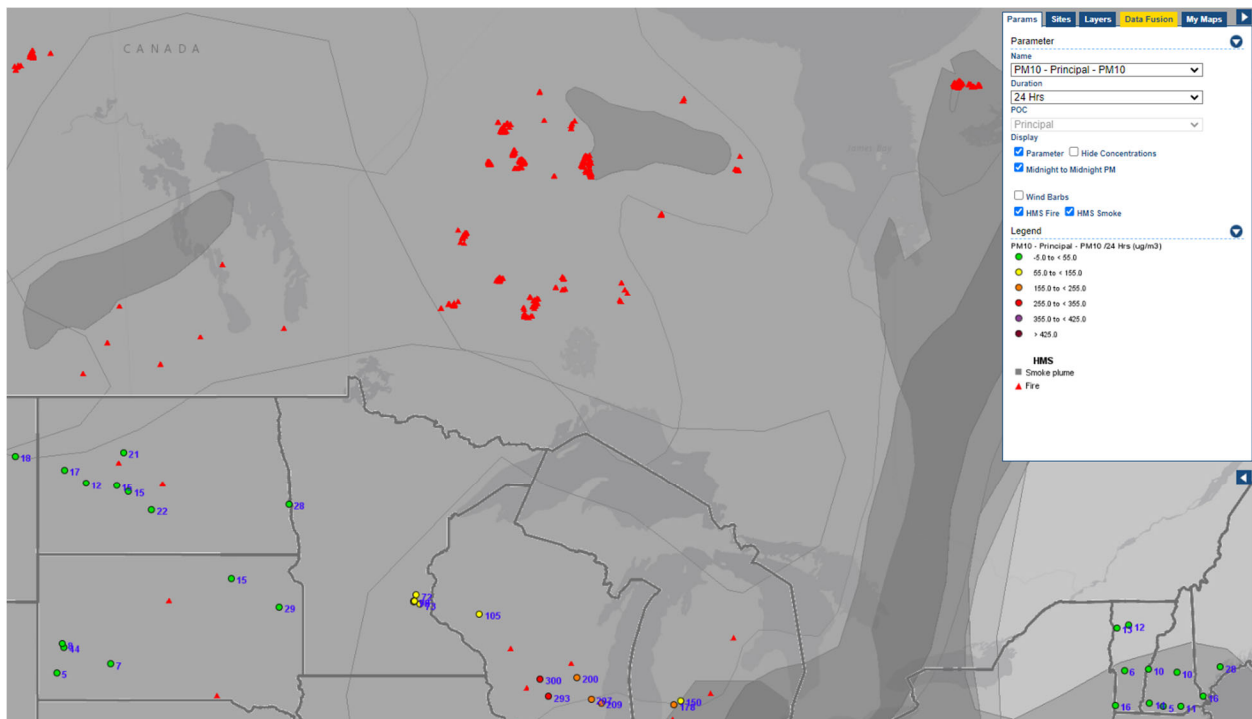
Backward trajectories for June 27, 2023.

# 6/28/2023 Impacts

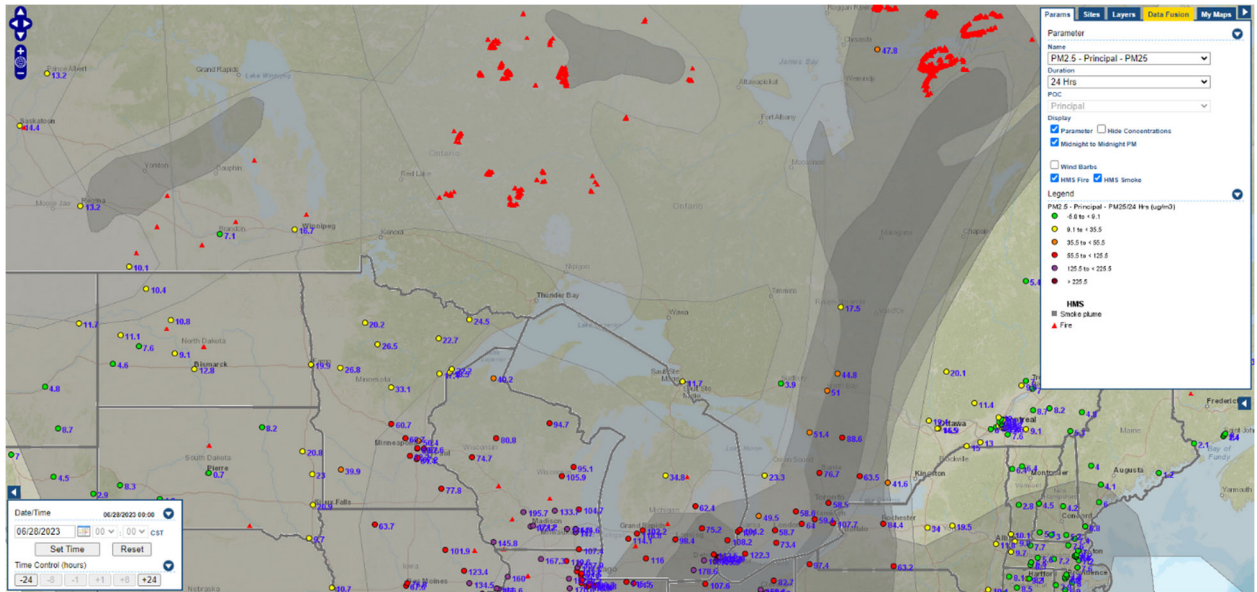
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on June 28, 2023.

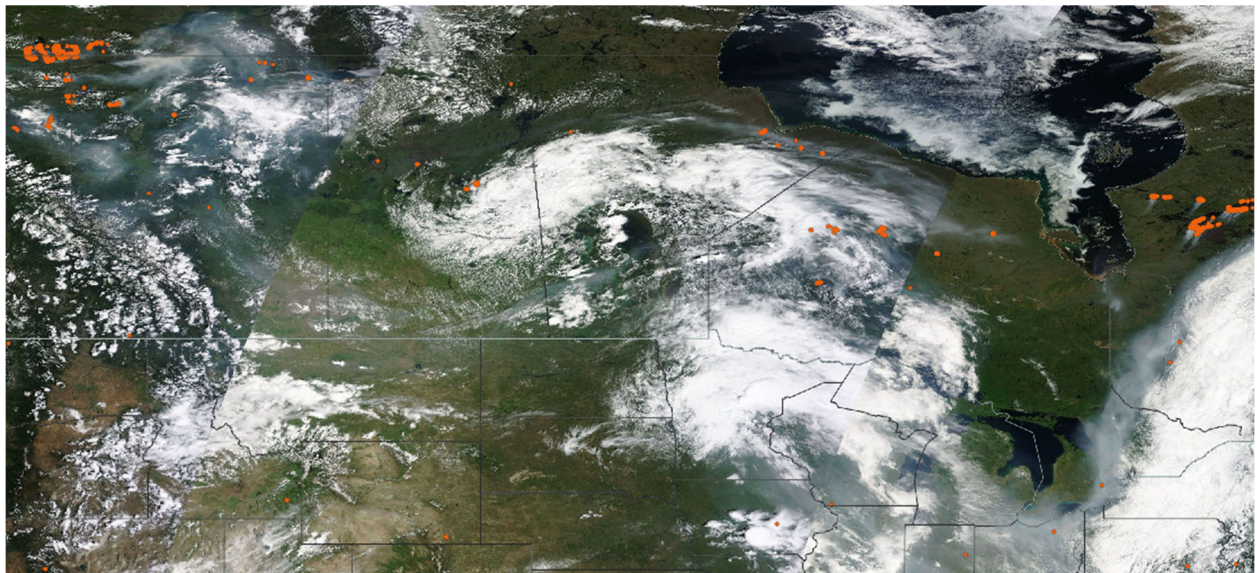
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Blaine	270031002	6/28/2023	72	Wildfire smoke
MPLS - Bottineau	270531909	6/28/2023	75	Wildfire smoke
MPLS - Lowrie Ave	270530909	6/28/2023	76	Wildfire smoke
MPLS - Pacific St	270530910	6/28/2023	92	Wildfire smoke
St. Paul - Downtown	271230868	6/28/2023	73	Wildfire smoke
Blaine	270031002	6/28/2023	72	Wildfire smoke



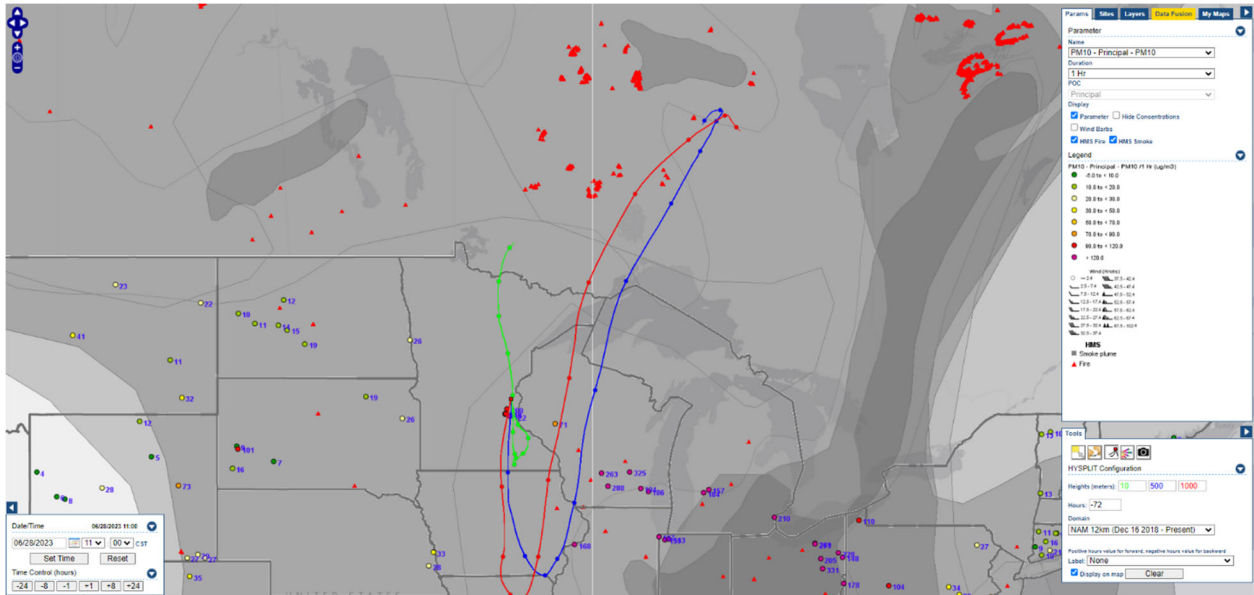
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on June 28, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on June 28, 2023.



MODIS visible satellite for June 28, 2023.



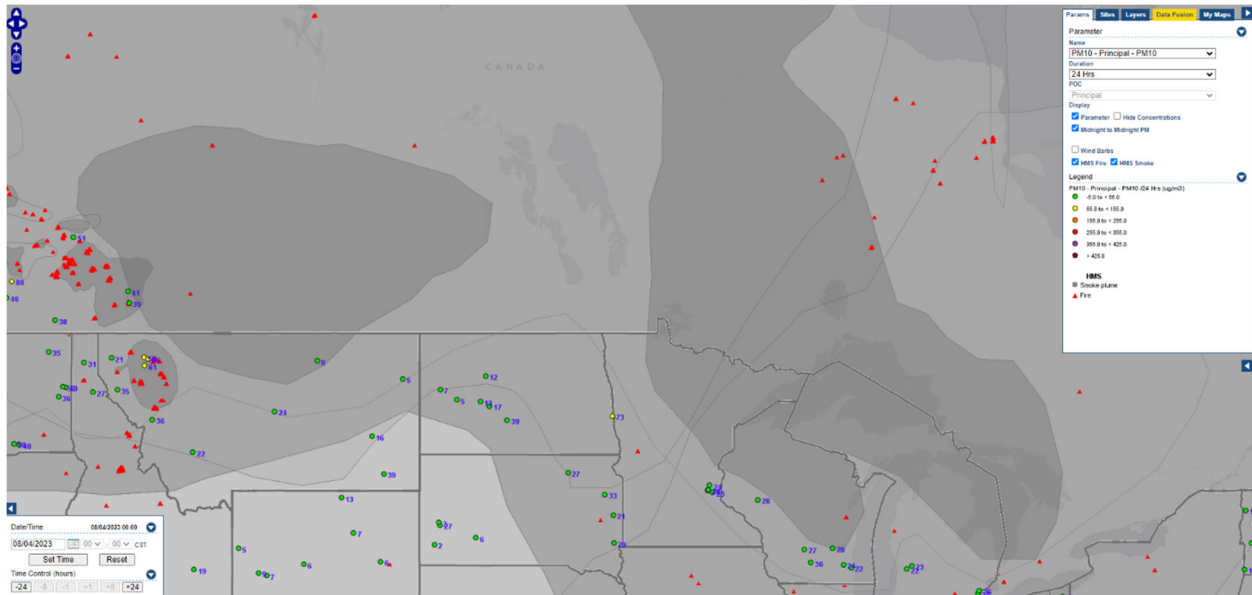
Backward trajectories for June 28, 2023.

# 8/4/2023 Impacts

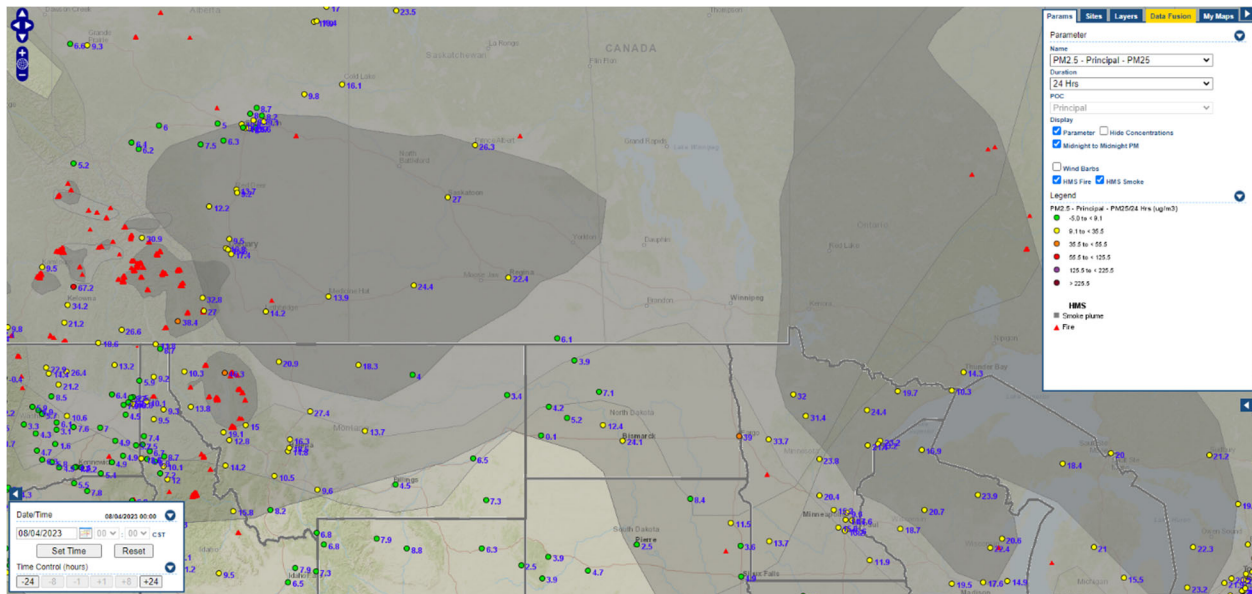
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on August 4, 2023.

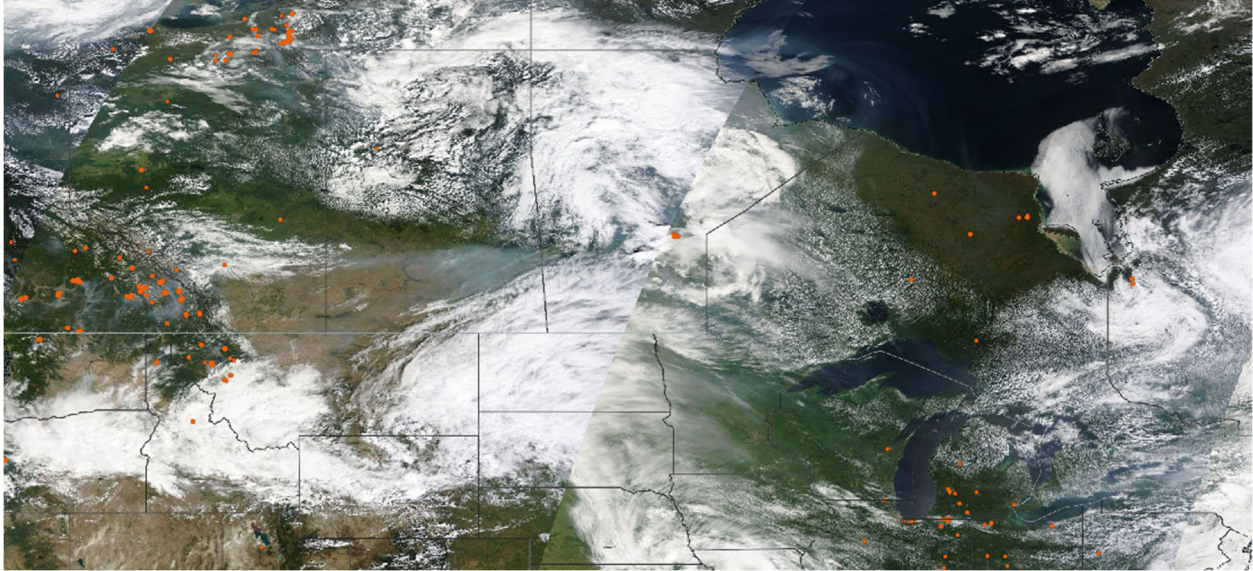
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	8/4/2023	73	Wildfire smoke



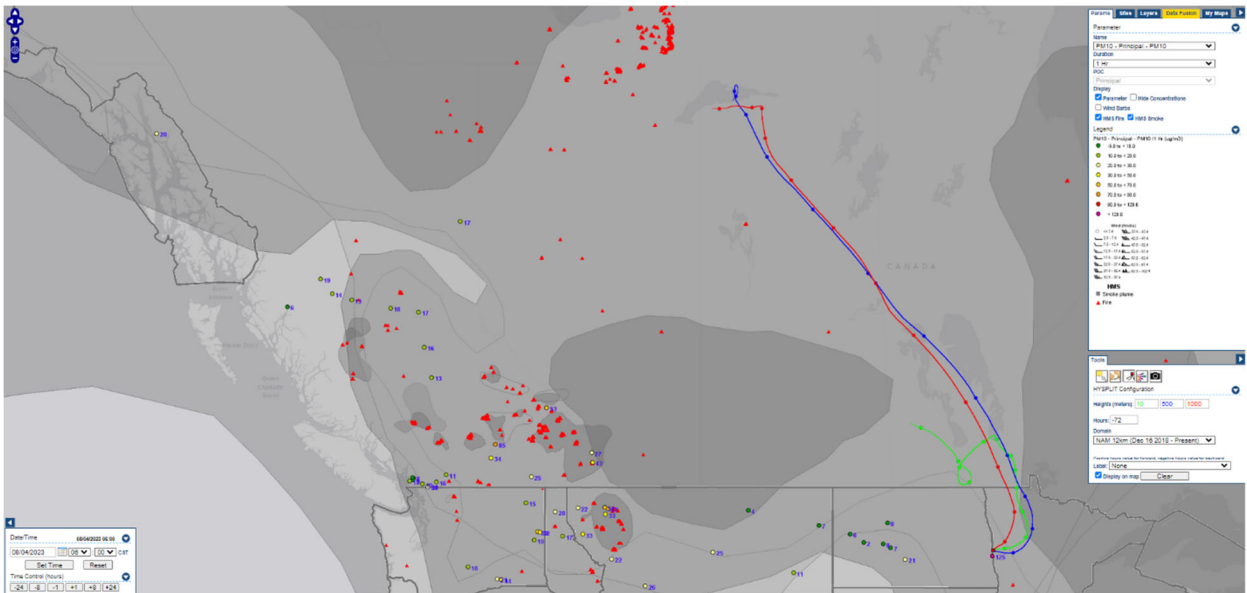
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on August 4, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on August 4, 2023.



MODIS visible satellite for August 4, 2023.



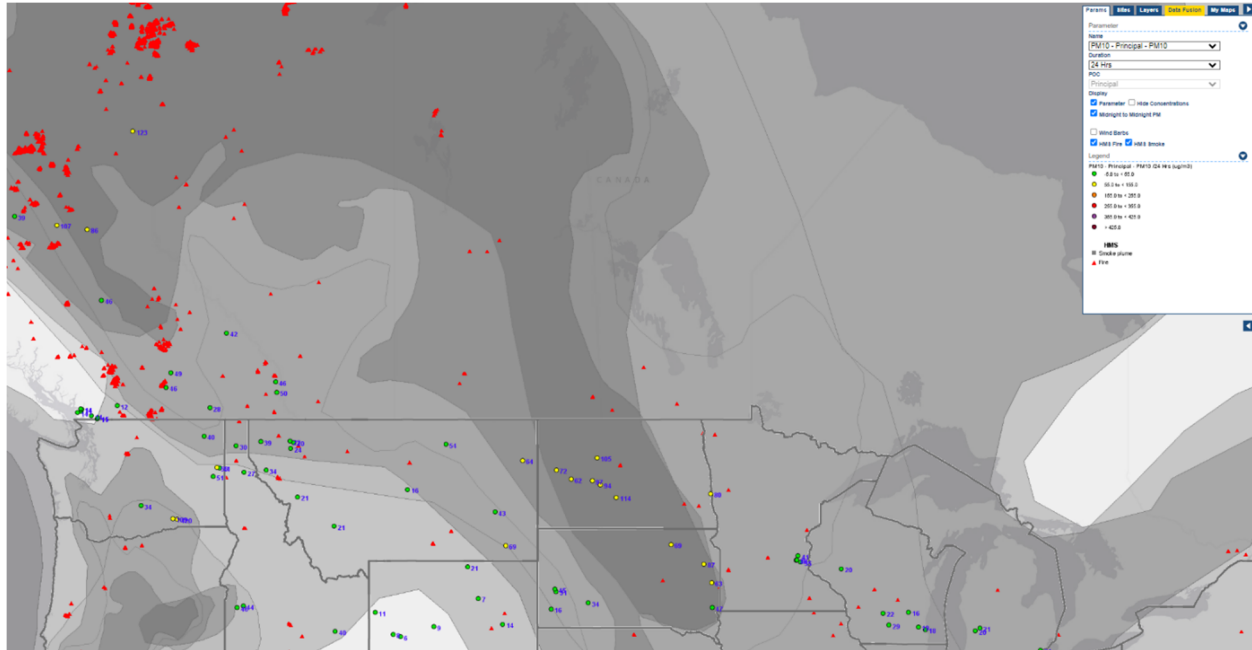
Backward trajectories for August 4, 2023.

# 8/29/2023 Impacts

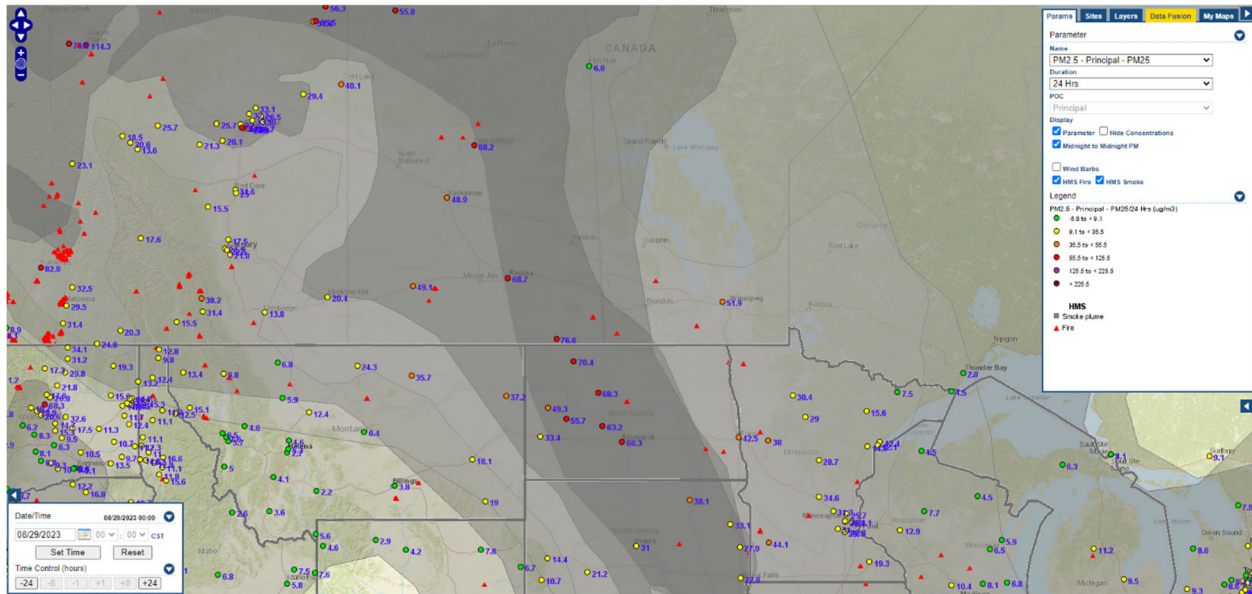
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on August 29, 2023.

Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	8/29/2023	80	Wildfire smoke



Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on August 29, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on August 29, 2023.

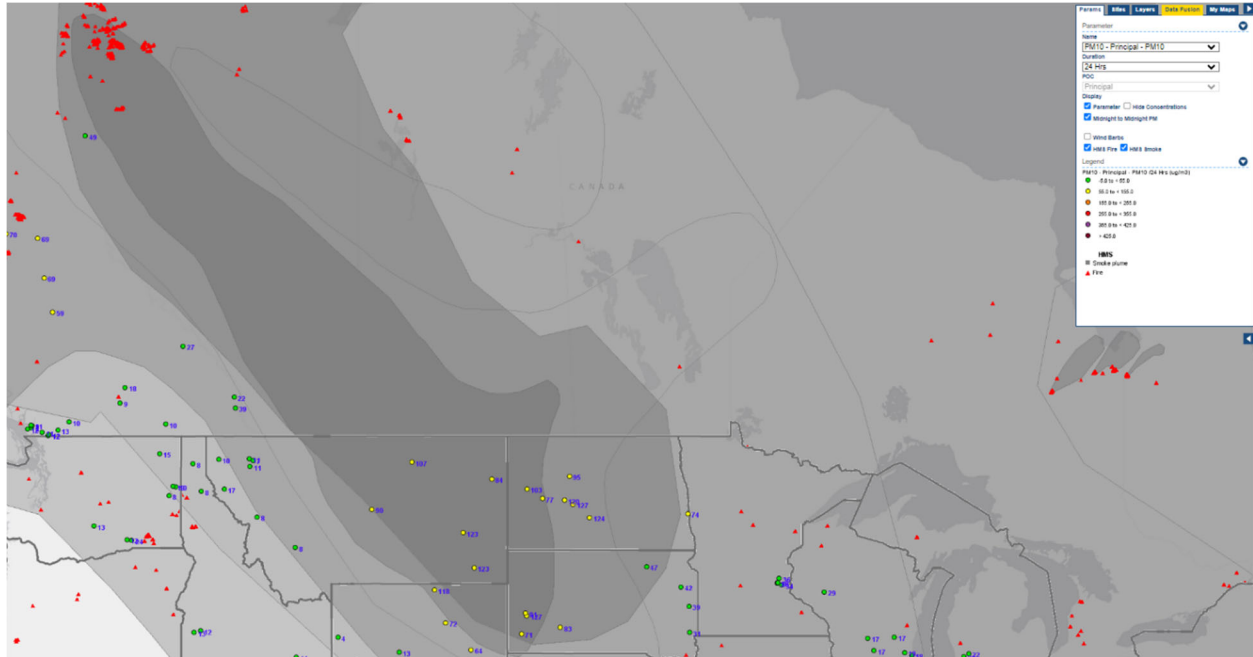


# 9/5/2023 Impacts

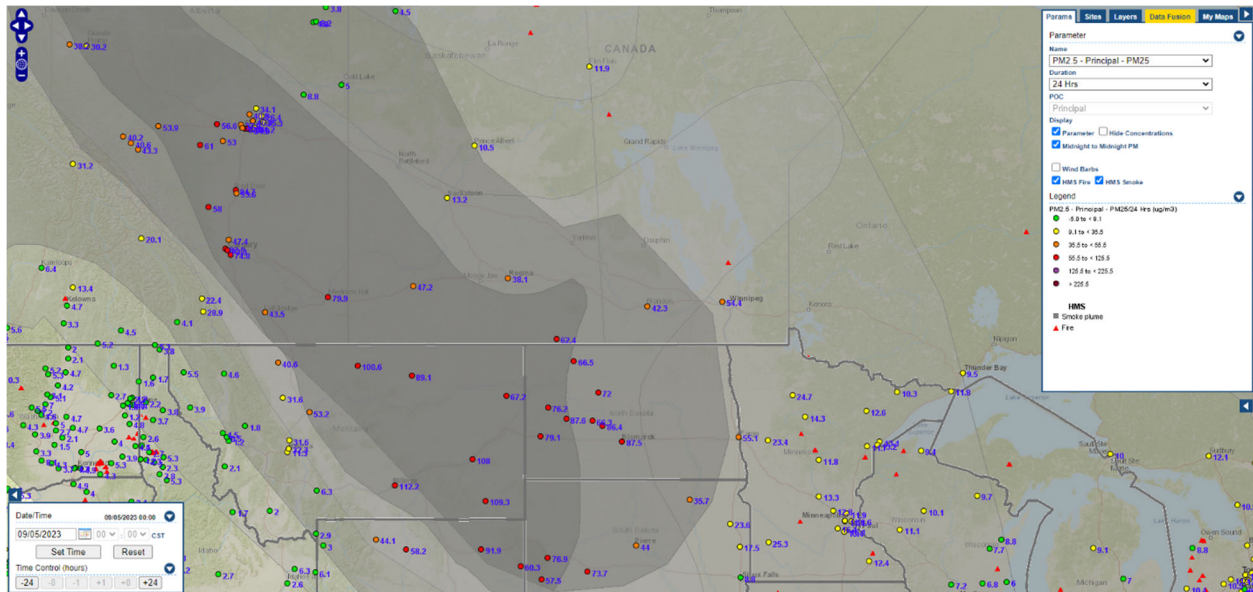
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on September 5, 2023.

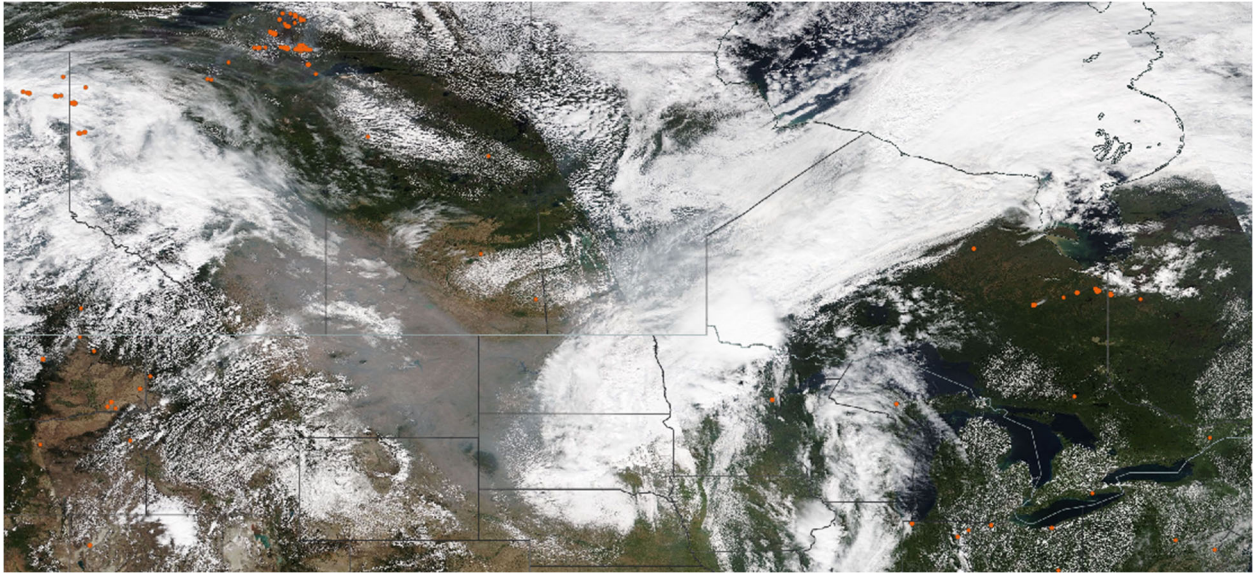
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	9/5/2023	74	Wildfire smoke



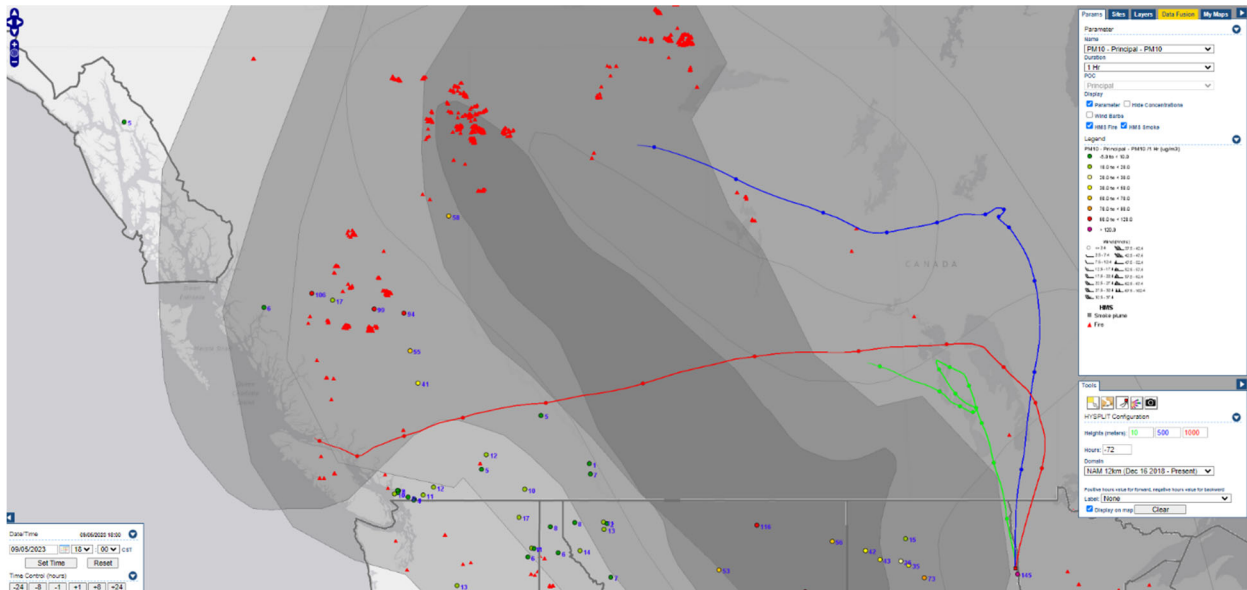
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on September 5, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on September 5, 2023.



MODIS visible satellite for September 5, 2023.

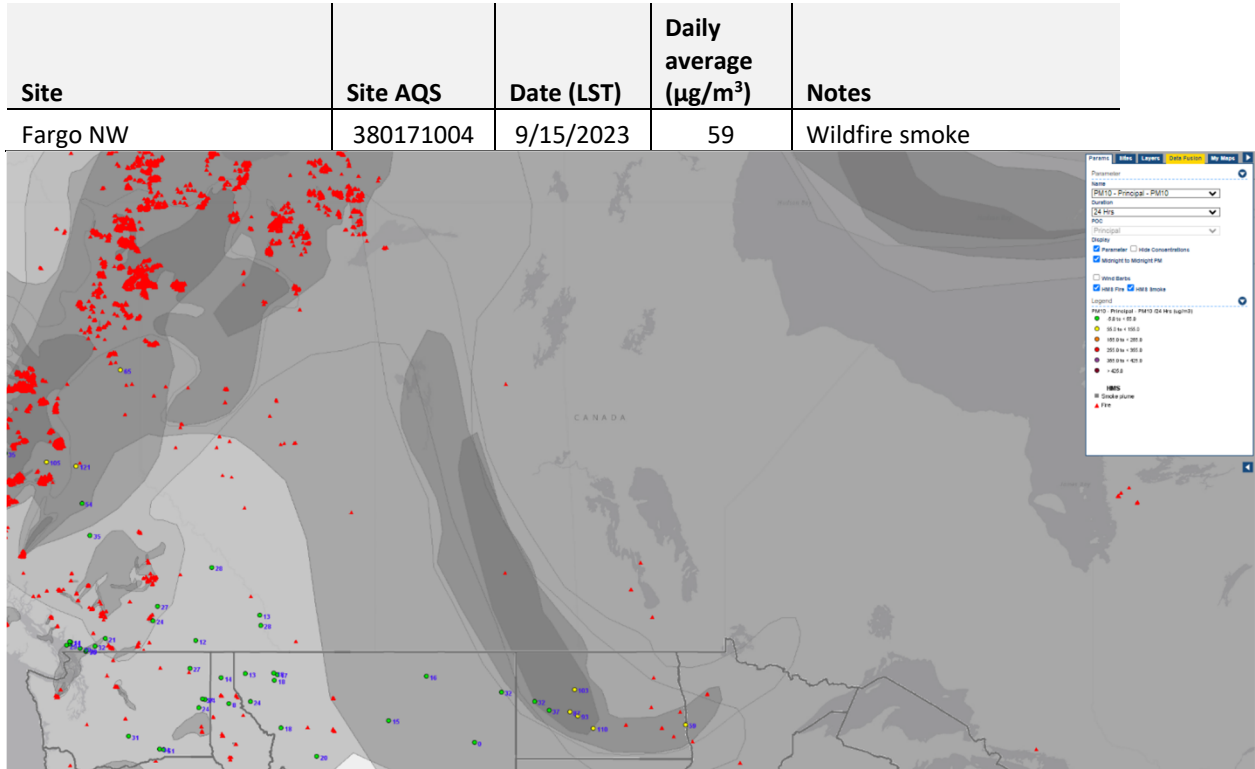


Backward trajectories for September 5, 2023.

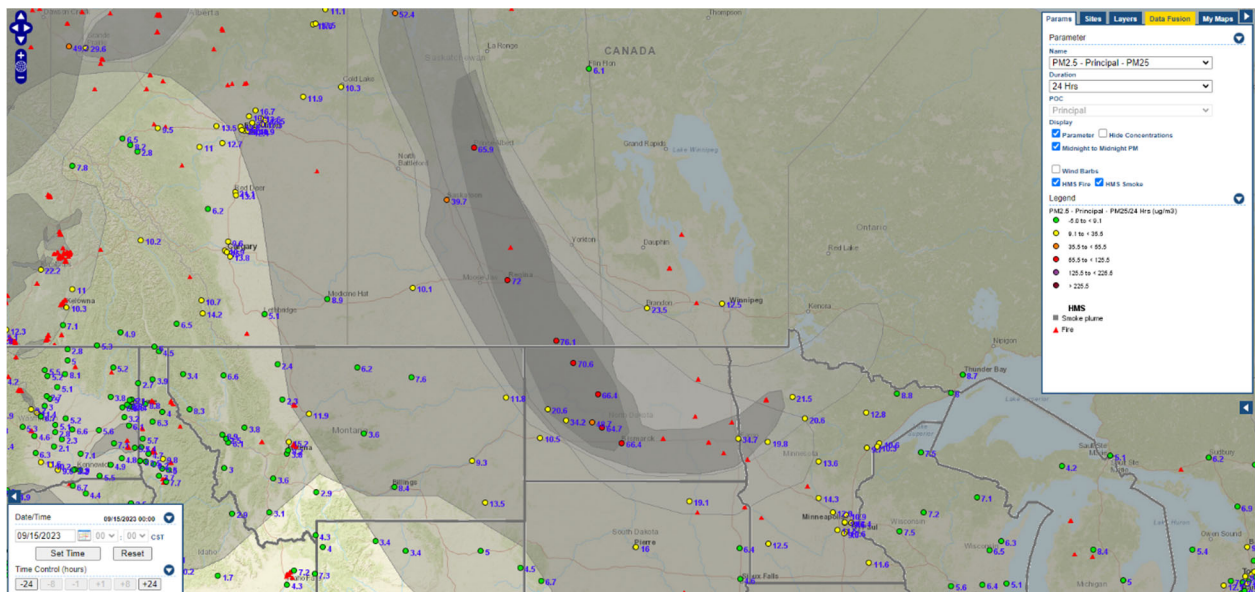
# 9/15/2023 Impacts

Heavy smoke impacts from wildfires over Canada.

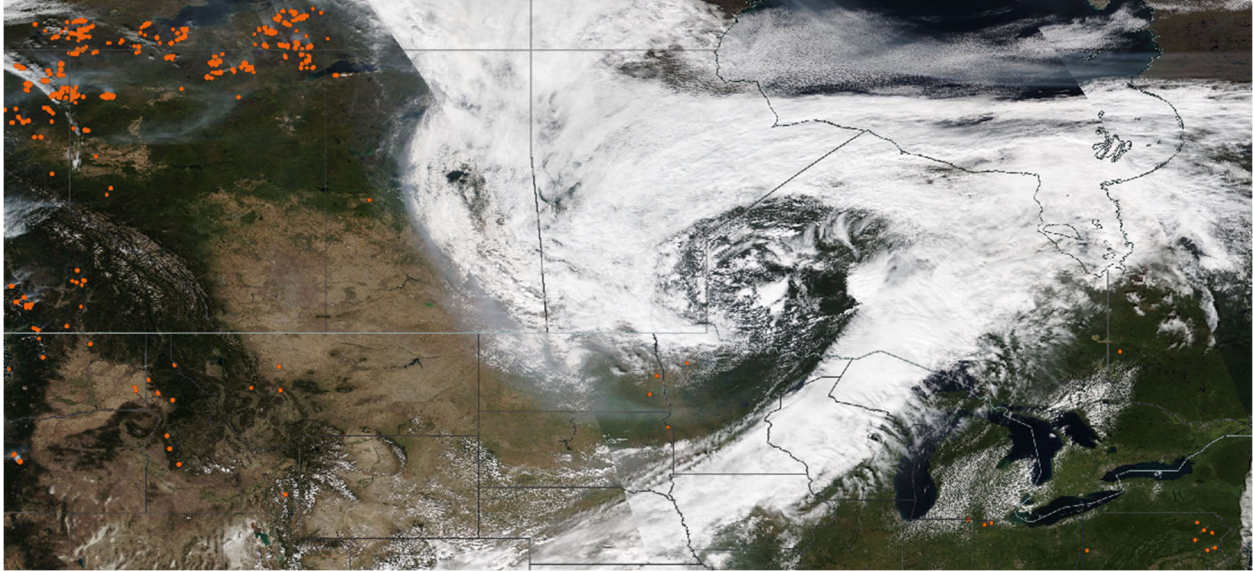
Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on September 15, 2023.



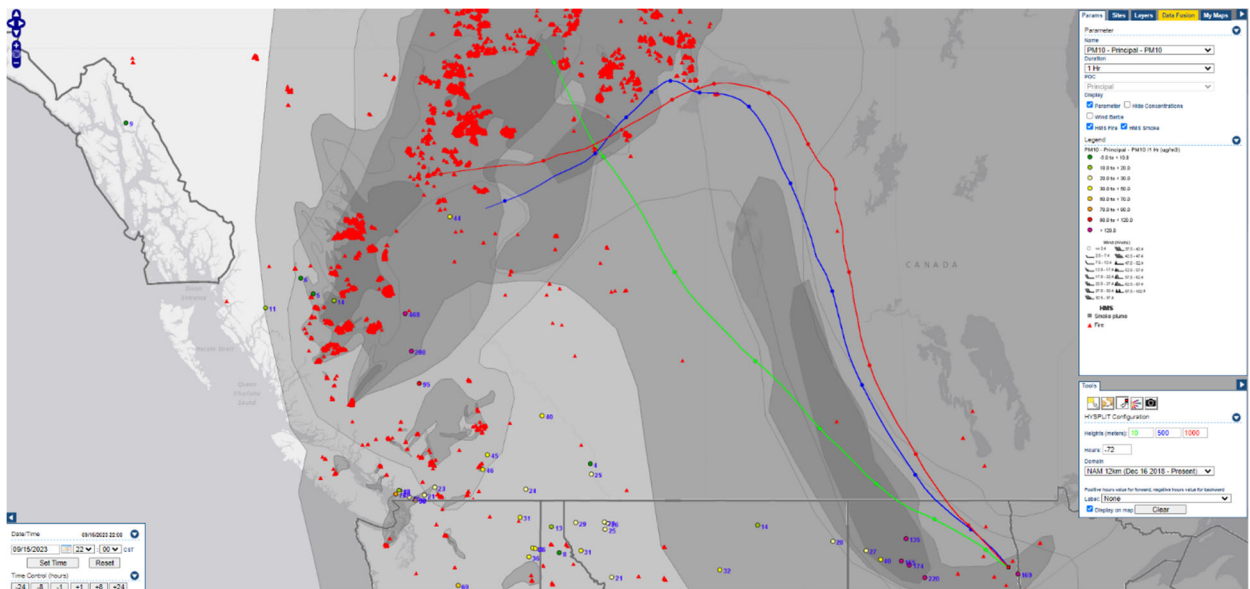
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on September 15, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on September 15, 2023.



MODIS visible satellite for September 15, 2023.



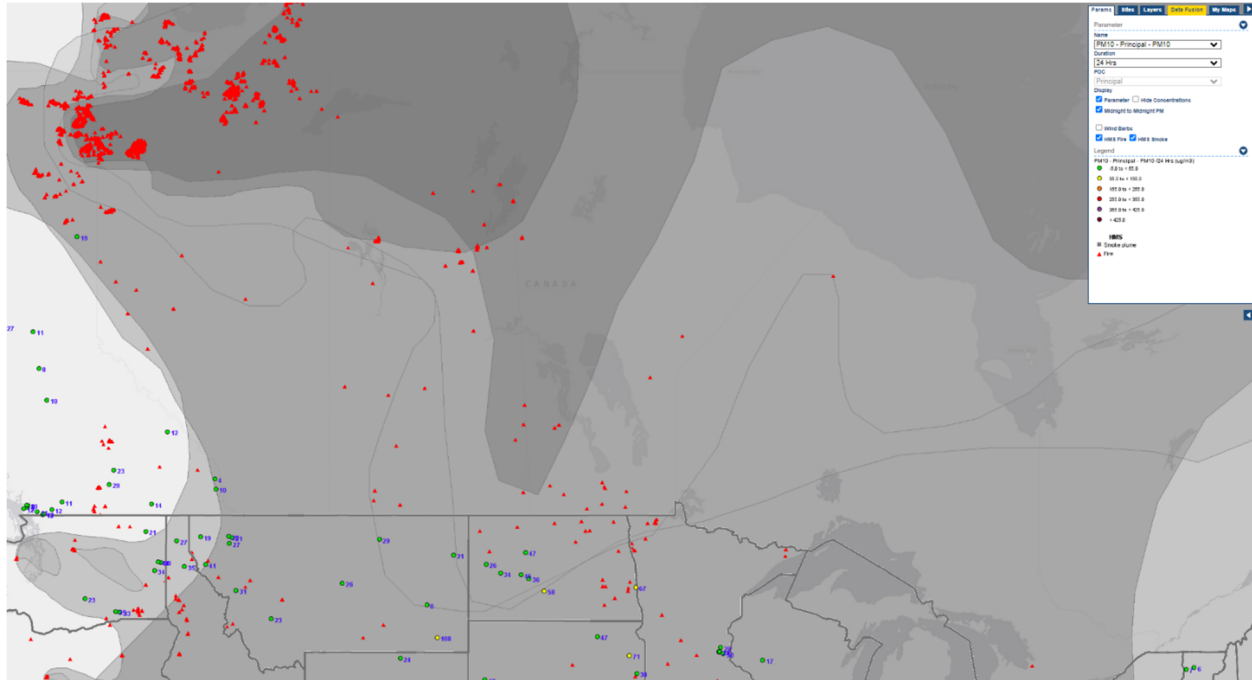
Backward trajectories for September 15, 2023.

# 9/19/2023 Impacts

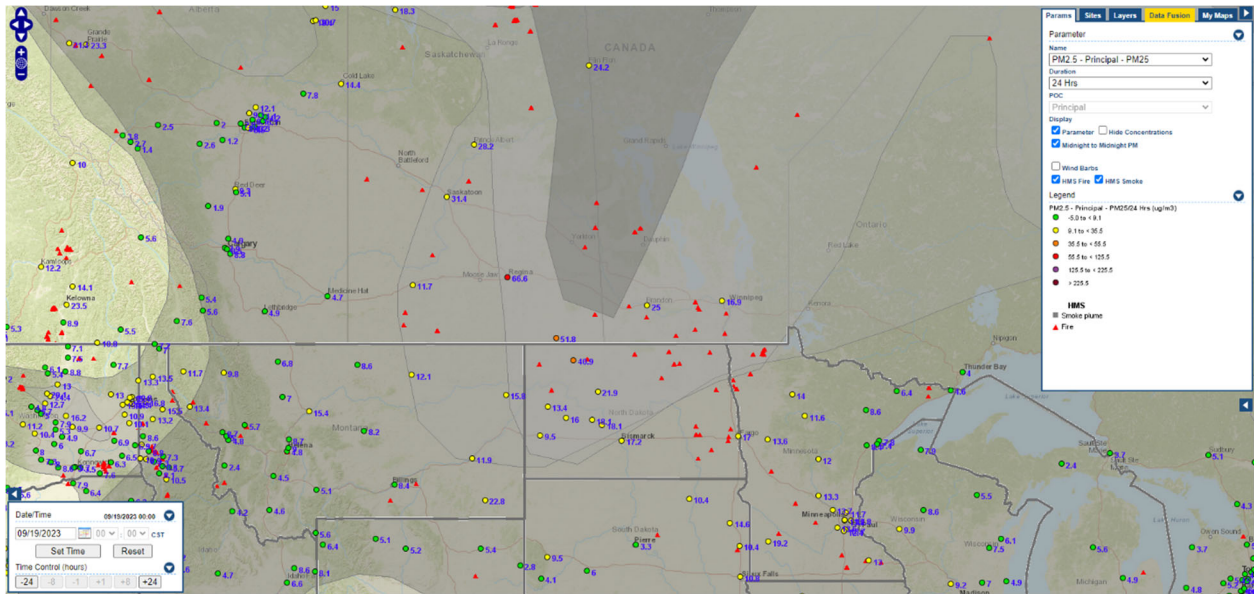
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on September 19, 2023.

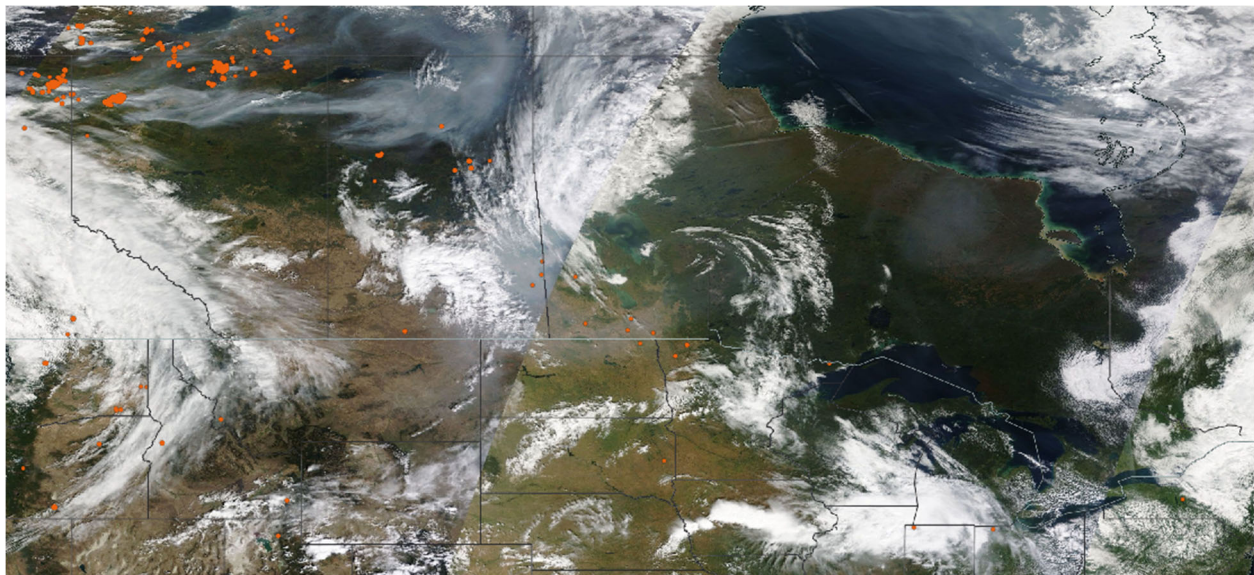
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	9/19/2023	67	Wildfire smoke



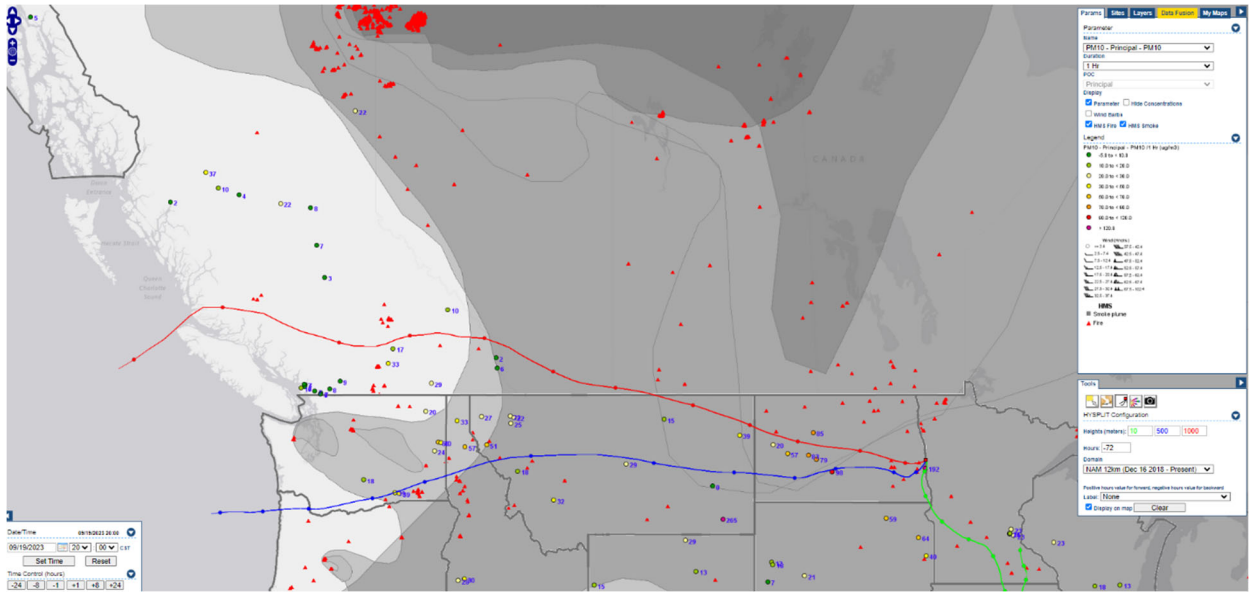
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on September 19, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on September 19, 2023.



MODIS visible satellite for September 19, 2023.



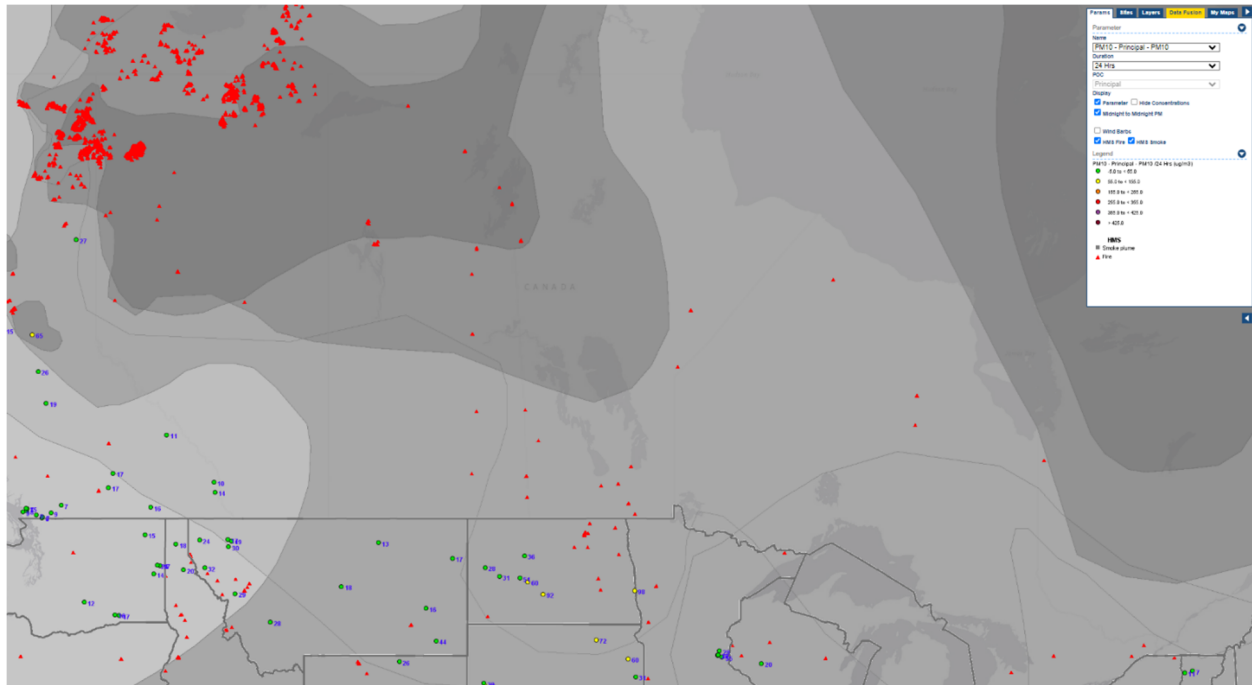
Backward trajectories for September 19, 2023.

# 9/20/2023 Impacts

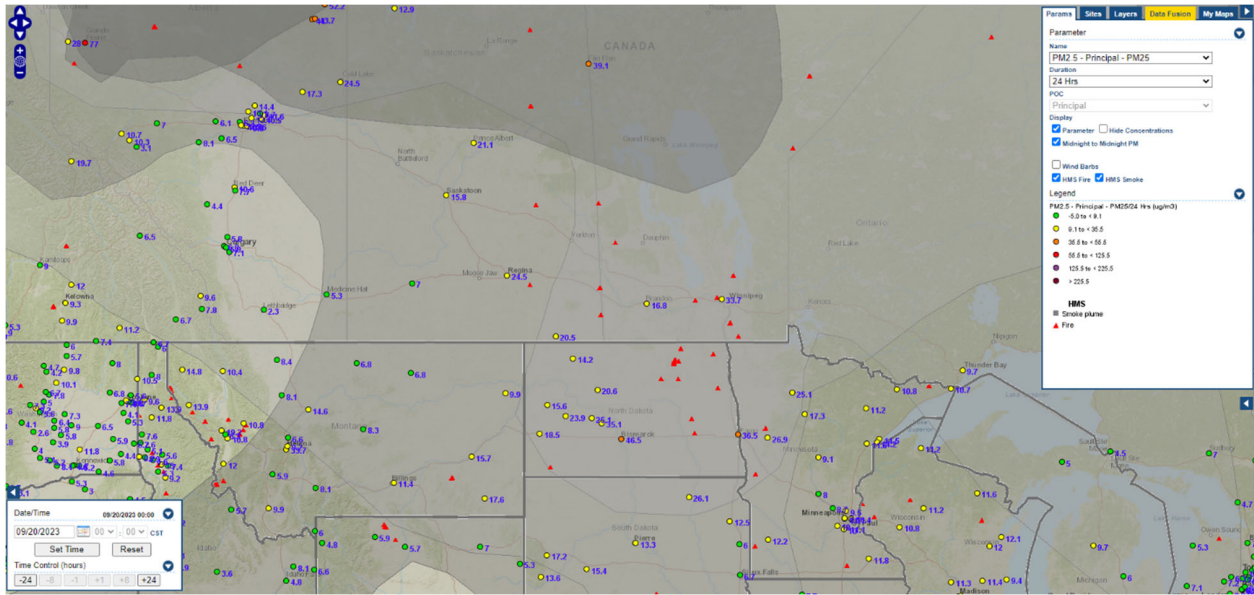
Heavy smoke impacts from wildfires over Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on September 20, 2023.

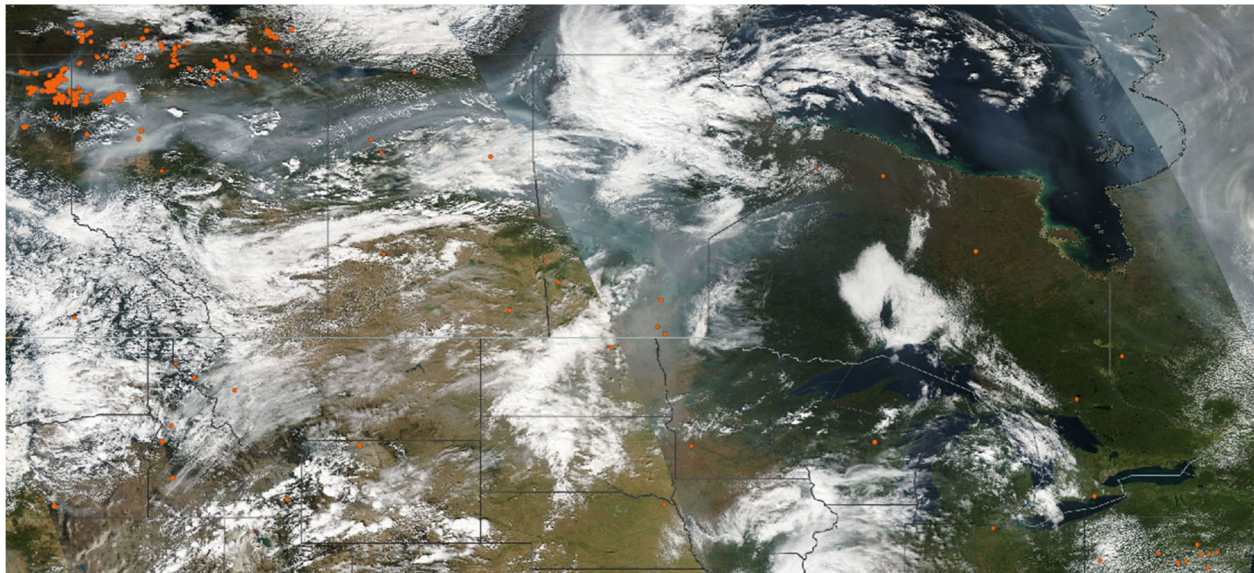
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Notes
Fargo NW	380171004	9/20/2023	98	Wildfire smoke



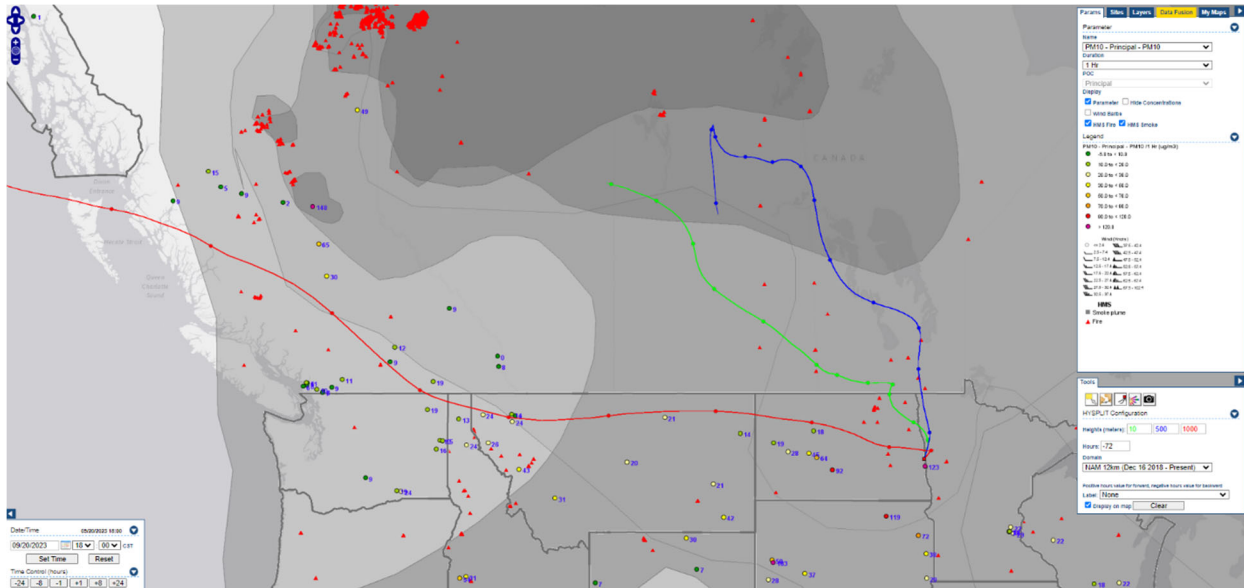
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on September 20, 2023.



Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on September 20, 2023.



MODIS visible satellite for September 20, 2023.



Backward trajectories for September 20, 2023.

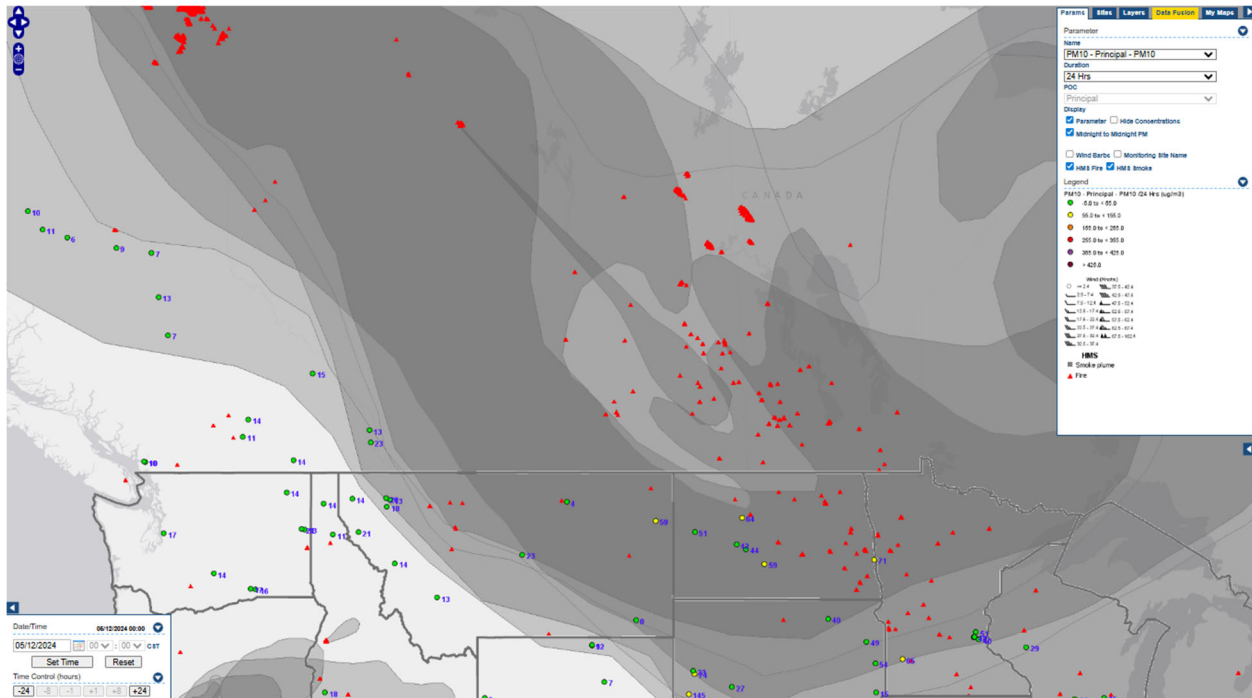
# Appendix C – Daily fire impacts for 2024

## 5/12/2024 Impacts

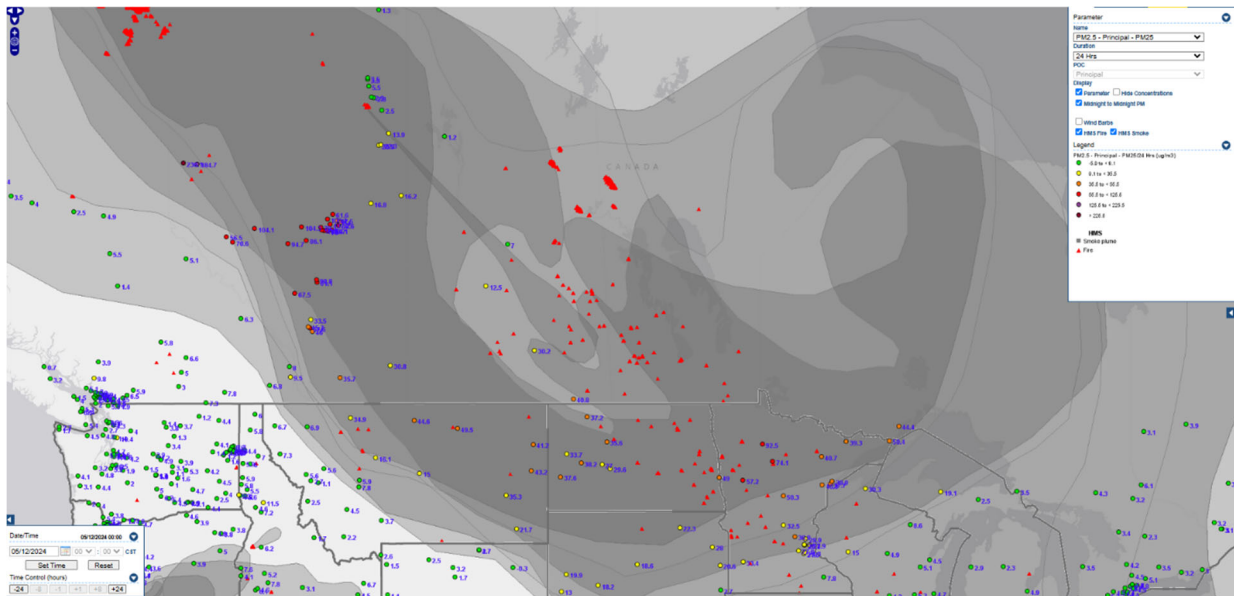
Smoke impacts from wildfires located in Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 12, 2024.

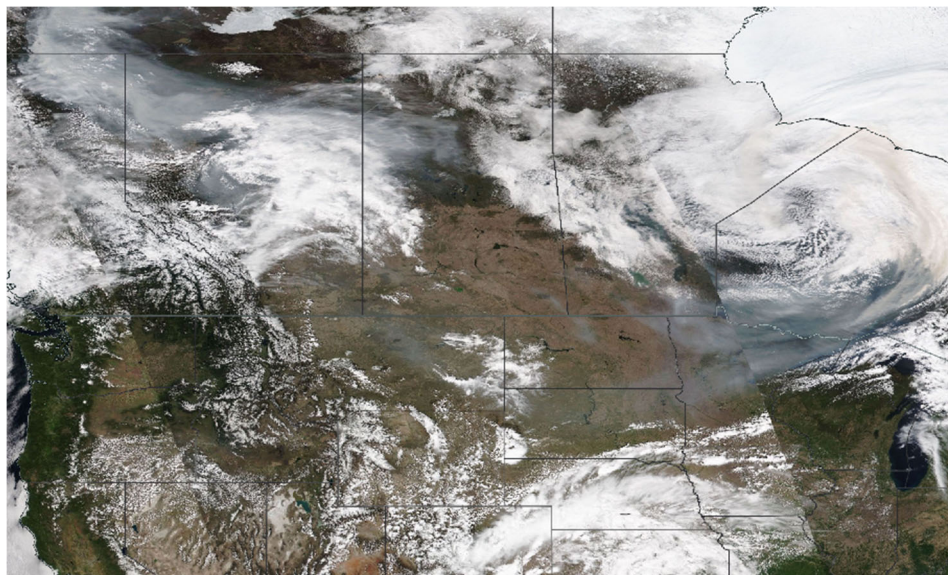
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Max hour (µg/m <sup>3</sup> )	Notes
Blaine	270031002	5/12/2024	51.2	145	Wildfire smoke
Fargo NW	380171004	5/12/2024	71.5	141	Wildfire smoke
Marshall	270834210	5/12/2024	64.7	149	Wildfire smoke
MPLS - Bottineau	270531909	5/12/2024	42.0	98	Wildfire smoke
MPLS - Lowrie Ave	270530909	5/12/2024	44.9	103	Wildfire smoke
MPLS - Pacific St	270530910	5/12/2024	43.0	100	Wildfire smoke
St. Paul - Downtown	271230868	5/12/2024	40.4	101	Wildfire smoke



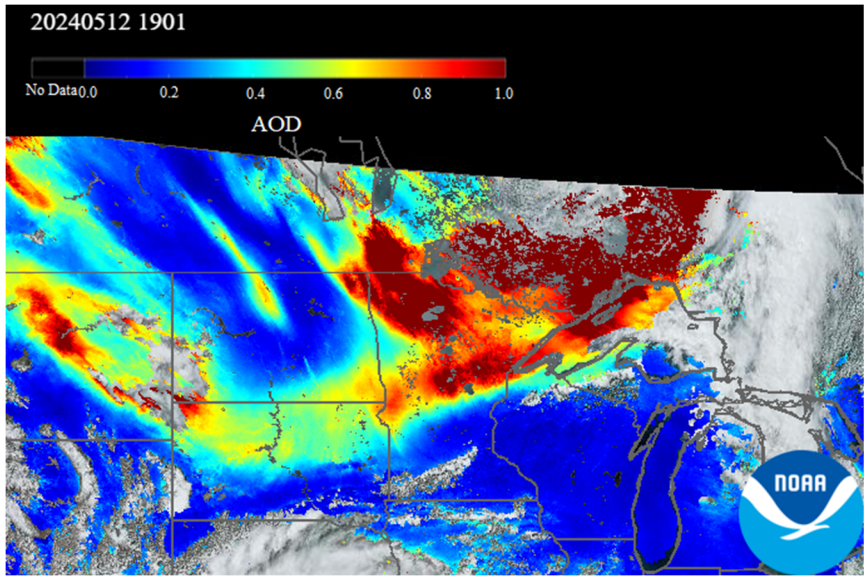
Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 12, 2024.



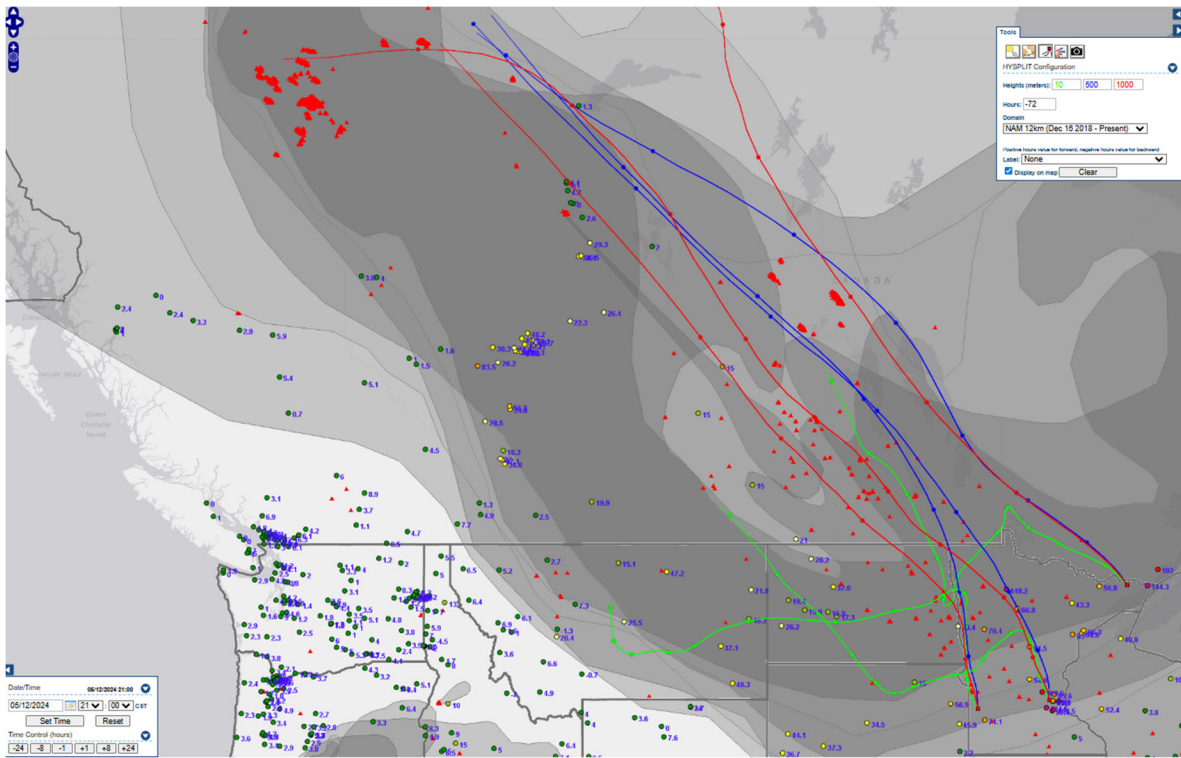
Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 12, 2024.



MODIS visible satellite for May 12, 2024.



Aerosol Optical Depth from GOES EAST for May 12, 2024. Source: Aerosol Watch.



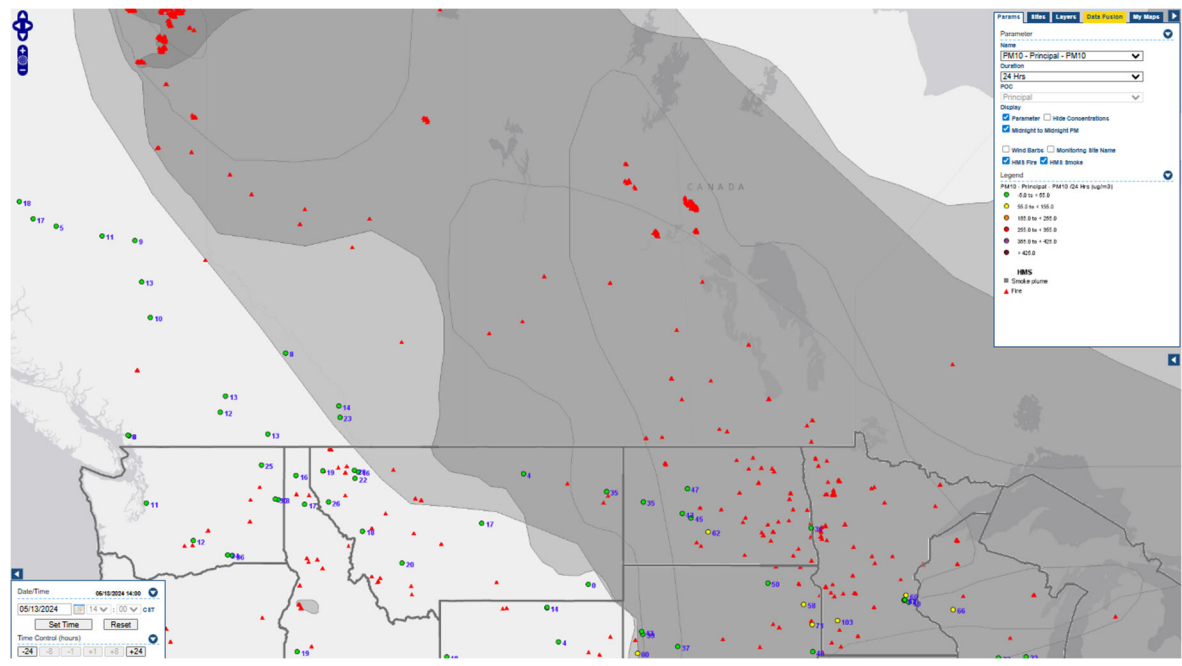
Backward trajectories for May 12, 2024.

# 5/13/2024 Impacts

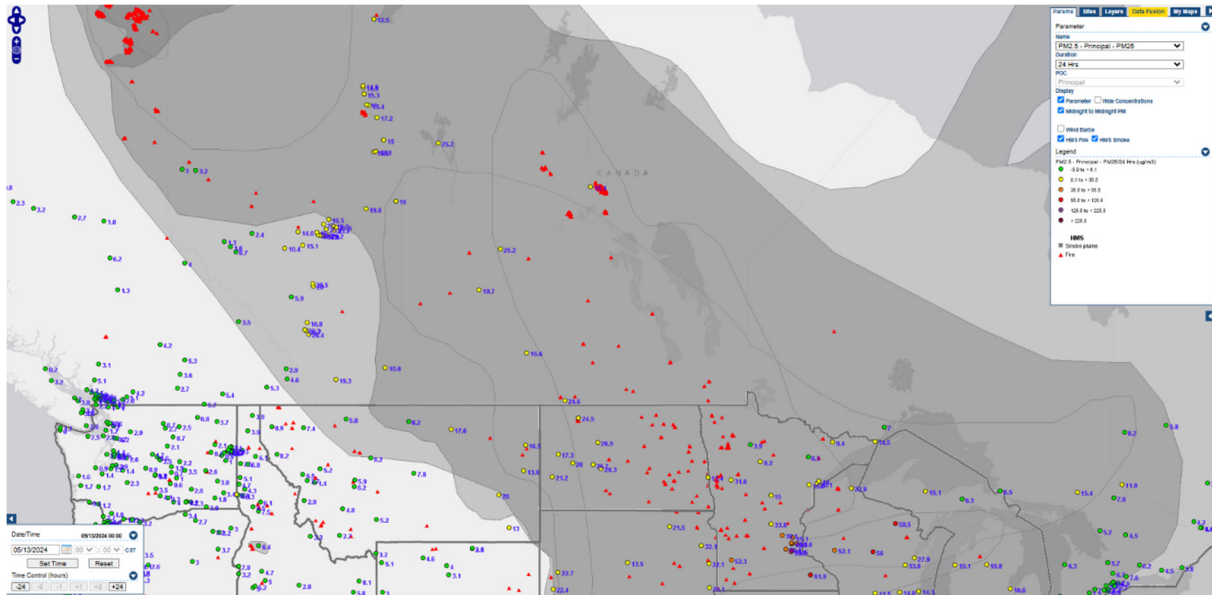
Smoke impacts from wildfires located in Canada.

**Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 13, 2024.**

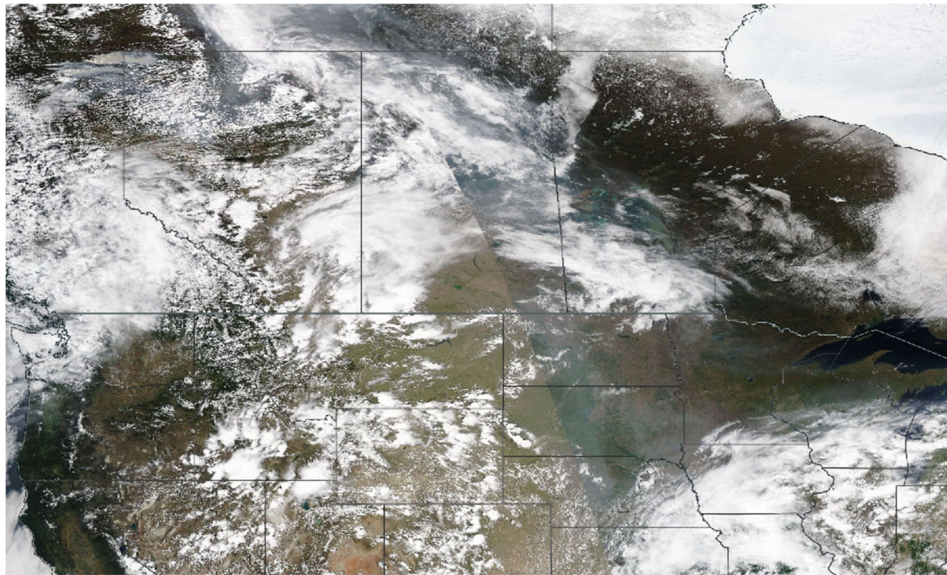
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Max hour (µg/m <sup>3</sup> )	Notes
Blaine	270031002	5/13/2024	60.4	135	Wildfire smoke
Marshall	270834210	5/13/2024	102.8	189	Wildfire smoke
MPLS - Bottineau	270531909	5/13/2024	51.5	100	Wildfire smoke
MPLS - Lowrie Ave	270530909	5/13/2024	62.6	123	Wildfire smoke
MPLS - Pacific St	270530910	5/13/2024	47.9	98	Wildfire smoke
St. Paul - Downtown	271230868	5/13/2024	49.9	92	Wildfire smoke



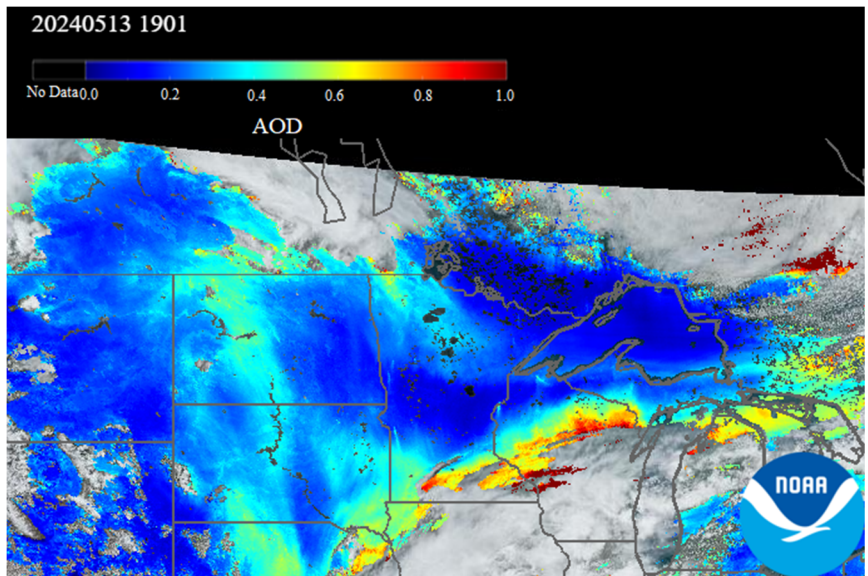
**Analyzed smoke, hotspots, and 24-hour PM<sub>10</sub> on May 13, 2024.**



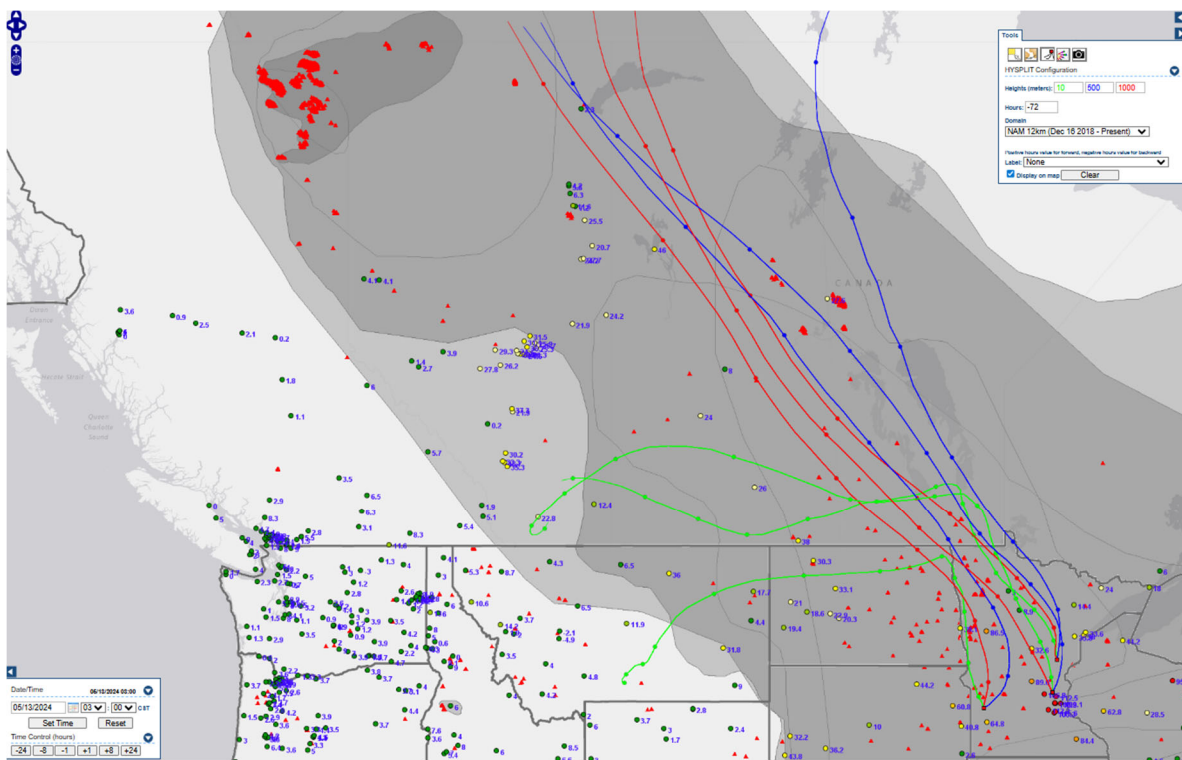
Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 13, 2024.



MODIS visible satellite for May 13, 2024.



Aerosol Optical Depth from GOES EAST for May 13, 2024. Source: Aerosol Watch.



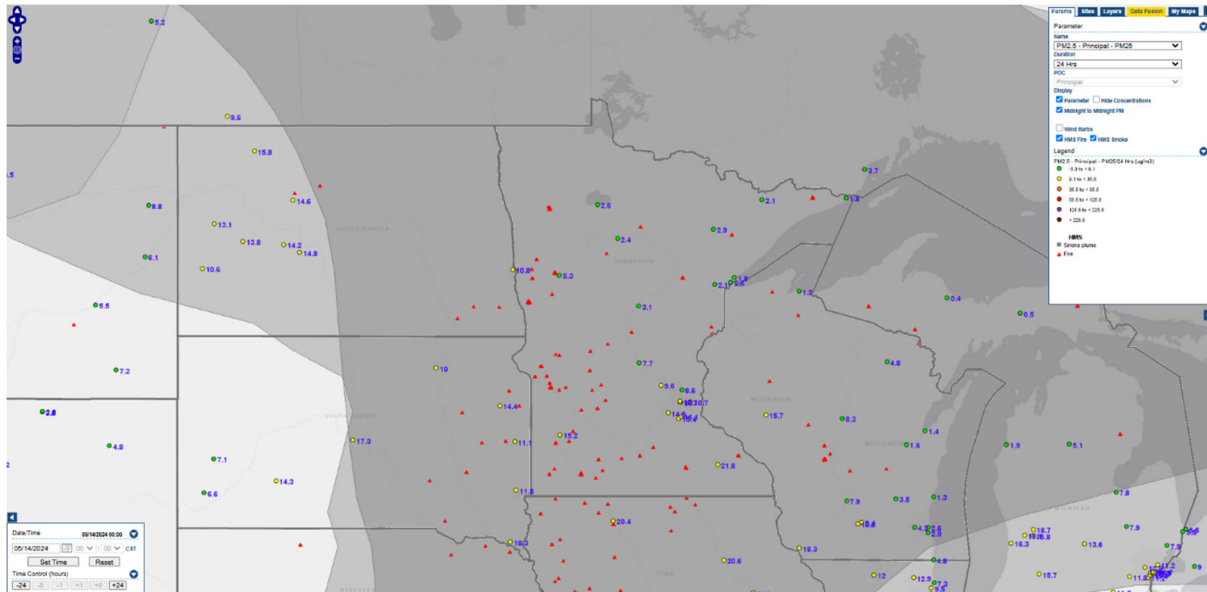
Backward trajectories for May 13, 2024.

# 5/14/2024 Impacts

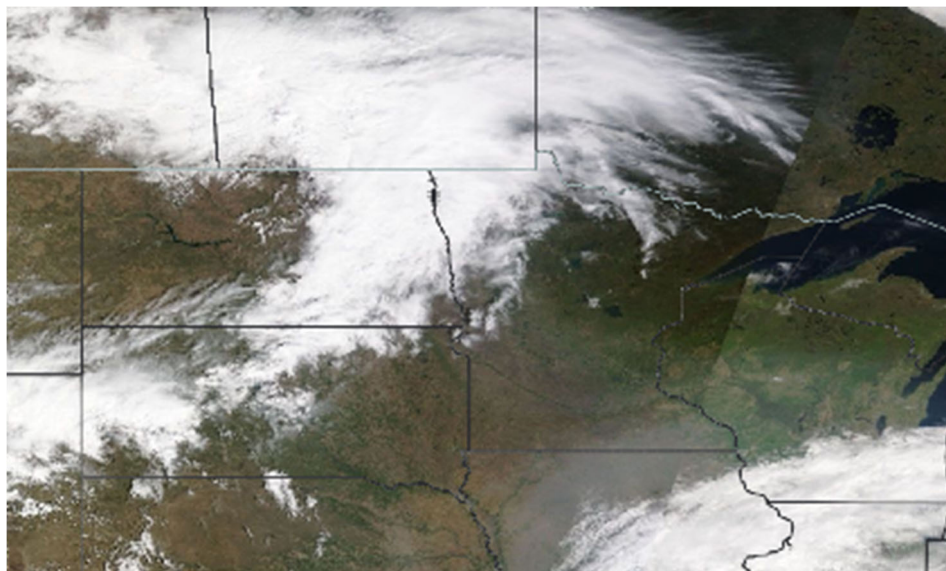
Smoke impacts from wildfires located in Canada.

Monitored 24-hour PM<sub>10</sub> concentrations impacted by smoke on May 14, 2024.

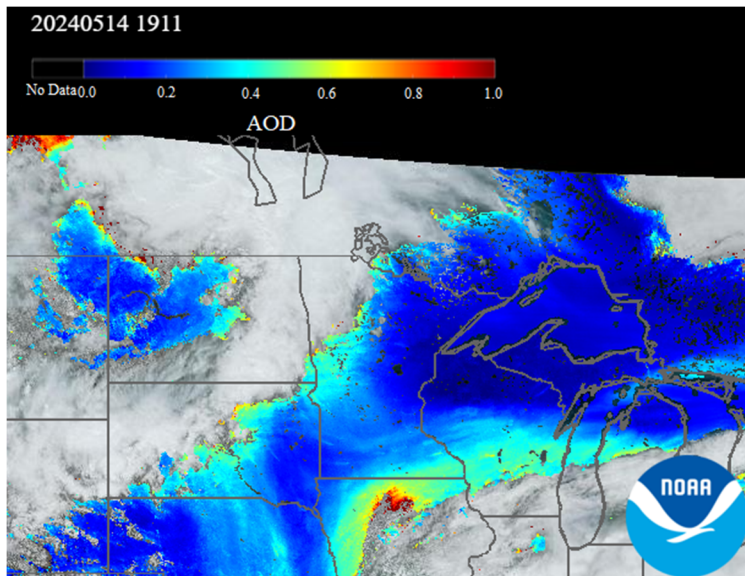
Site	Site AQS	Date (LST)	Daily average (µg/m <sup>3</sup> )	Max hour (µg/m <sup>3</sup> )	Notes
Marshall	270834210	5/14/2024	57.9	105	Wildfire smoke



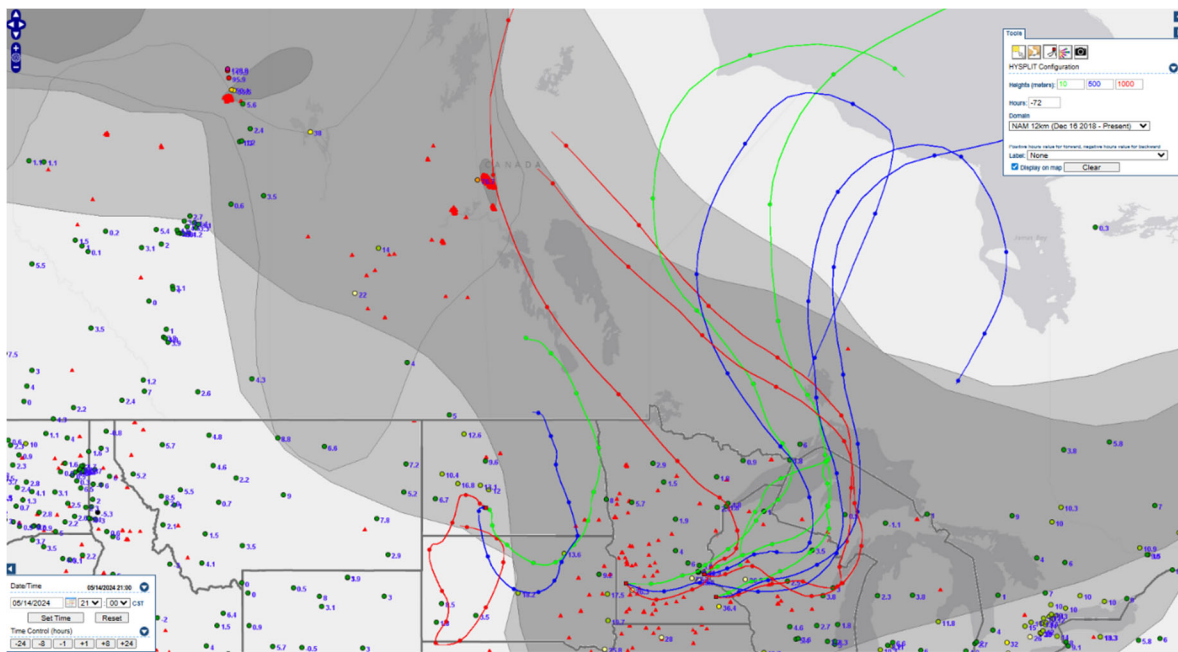
Analyzed smoke, hotspots, and 24-hour PM<sub>2.5</sub> on May 14, 2024.



MODIS visible satellite for May 14, 2024.



Aerosol Optical Depth from GOES EAST for May 14, 2024. Source: Aerosol Watch.



Backward trajectories for May 14, 2024.