British Columbia
Oil & Gas Research and Innovation Society

Farmington Air Quality Monitoring Station Site Report

April 1, 2025 – March 31, 2026

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PROJECT CONTACT INFORMATION

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AIR QUALITY REPORT SUMMARY

The following Air Quality Data summarizes the monitoring results from the Farmington Air Quality Monitoring Station (AQMS) near Farmington, BC for the period of April 1, 2025, until March 31, 2026. The Farmington AQMS has been in operation since December 2017. Parameters monitored include continuous monitoring for Ozone (O_3), Nitrogen Oxide (NO), Nitrogen Dioxide (NO_2), Total Oxides of Nitrogen (NO_x), Sulphur Dioxide (SO_2), Total Reduced Sulphur (TRS), Methane (CH_4), Non-Methane Hydrocarbons (NMHC) and Particulate Matter less than 2.5 microns ($PM_{2.5}$). The recorded (RAW) data is available from the BC Air Data Archive under the station name "Farmington Community Hall". All recorded data has been validated by Tropospheric Measurement Systems Inc. (TMS). This report is based entirely on validated data.

Meteorological parameters for wind speed, direction, temperature, and humidity are also recorded at the Farmington AQMS and results are contained in the BC Ambient Air Quality Archive. This report does not include information about the meteorological parameters monitored.

For the Farmington AQMS Deployment, the following were the significant reporting and operation/al events for the monitoring stations.

Operational times less than 90 percent

- For the April 1st, 2025, to March 31st, 2026, monitoring period there were no operational times less than 90% (CH_4, NMHC and $PM_{2.5}$ capture is based on June 1st – March 31st period). Capture percentages by instrument parameter are summarized below. Reported capture percentages for the previous periods (2018-2025) are included.

Parameter	TRS	SO_2	NO	NO_2	NO_x	O_3	THC	$PM_{2.5}$
Capture (%) (2025-2026)	98	97.7	98	98	98	98.1	94.9	95.6
Capture (%) (2024-2025)	98.1	98.2	97.3	97.3	97.3	98.2	N/A	N/A
Capture (%) (2023-2024)	95.4	97.3	99.2	99.2	99.2	97.5	N/A	N/A
Capture (%) (2022-2023)	94.5	98.8	99.0	99.0	99.0	99.1	N/A	N/A
Capture (%) (2021-2022)	92.6	93.4	93.6	93.6	93.6	93.6	N/A	N/A
Capture (%) (2020-2021)	92.9	95.1	95.1	95.1	95.1	95.1	N/A	N/A
Capture (%) (2019-2020)	92.1	94.1	95.4	95.4	95.4	94.8	N/A	N/A
Capture (%) (2018-2019)	99.4	89.8	97.7	97.7	97.7	70.6	N/A	N/A

Concentrations more than Ambient Air Quality Objectives

- For the June 1st, 2025, to March 31st, 2026, there were nine exceedances of the 24-hour $PM_{2.5}$ CAAQS objective (27 ug/m^3) and 10 exceedances of the 24-hour $PM_{2.5}$ BC AQO objective (25 ug/m^3) These occurred on;

Date/Time	PM25 (ug/m^3)
2025-06-03	31.3
2025-06-07	38.4
2025-06-09	38.6
2025-06-10	167.7
2025-06-11	71.0
2025-06-12	46.6
2025-09-06	25.3
2025-09-07	27.9
2025-09-11	31.5
2026-03-30	29.1

- Parameters measured with no associated objective have objective listed as “n/a”
- Complete list of objectives for British Columbia is available at.
    - https://www2.gov.bc.ca/assets/gov/environment/air-land-water/air/factsheets/bc_aq_objectives_2025.pdf

Parameter	TRS (ppb)	SO_2 (ppb)	NO (ppb)	NO_2 (ppb)	NO_x (ppb)	O_3 (ppb)	NMHC (ppmc)	CH_4 (ppm)	$PM_{2.5}$ (ug/m^3)
Max 1-hr (2025-2026)	2.3	7.2	33.1	23.4	55.2	61.9	0.4	3.3	267.2
Max 1-hr (2024-2025)	4.5	14.3	92.5	23.5	100.4	59.2	N/A	N/A	N/A
Max 1-hr (2023-2024)	4.4	7.2	53.7	27.4	65.0	70.4	N/A	N/A	N/A
Max 1-hr (2022-2023)	1.3	6.9	58.7	28.0	81.7	58.6	N/A	N/A	N/A
Max 1-hr (2021-2022)	3.4	9.2	44.5	22.6	54.7	69.2	N/A	N/A	N/A
Max 1-hr (2020-2021)	36.9	16.7	70.4	24.2	68.3	55.6	N/A	N/A	N/A
Max 1-hr (2019-2020)	2.1	13.9	51.3	22.9	59.6	58.1	N/A	N/A	N/A
Max 1-hr (2018-2019)	2.4	44.5	58.3	47.2	91.5	63.9	N/A	N/A	N/A
1-hour Obj	5 (PCO)	65 (CAAQS & BCAQO)	n/a	42 (CAAQS) 60 (BCAQO)	n/a	82 (N/AAQS)	n/a		
Max 24-hr (2025-2026)	0.7	1.7	6.6	11.4	13.3	46.1	0.2	2.5	167.7
Max 24-hr (2024-2025)	1.0	1.6	18.7	12.7	23.0	45.4	N/A	N/A	N/A
Max 24-hr (2023-2024)	0.6	1.6	13.1	18.4	31.5	43.5	N/A	N/A	N/A
Max 24-hr (2022-2023)	1.1	1.6	12.6	15.1	25.6	42.7	N/A	N/A	N/A
Max 24-hr (2021-2022)	3.1	1.8	8.3	13.2	18.6	43.8	N/A	N/A	N/A
Max 24-hr (2020-2021)	2.5	3.8	4.2	13.0	17.3	46.4	N/A	N/A	N/A
Max 24-hr (2019-2020)	1.9	1.5	10.5	11.0	14.5	47.8	N/A	N/A	N/A
Max 24-hr (2018-2019)	2.1	4.5	15.0	17.8	31.4	51.8	N/A	N/A	N/A
24-hour Obj	2 (PCO)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	25 (BCAQO) 27 (CAAQS)
Max 8-hr (2024-2025)						56.3			
Max 8-hr (2024-2025)						56.8			
Max 8-hr (2023-2024)						62.5			
Max 8-hr (2022-2023)						55.2			
Max 8-hr (2021-2022)						63.5			
Max 8-hr (2020-2021)						52.1			
Max 8-hr (2019-2020)						53.7			
Max 8-hr (2018-2019)						60.4			
8-hour Obj	n/a	n/a	n/a	n/a	n/a	60 (CAAQS)	n/a	n/a	n/a
365 day average (2024-2025)	0.0	0.1	0.6	2.3	3.0	27.6	2.1	0.0	4.4 (June 1 – Mar 31st)
Annual Obj	n/a	10.5 (BCAQO & CAAQS)	n/a	12 (CAAQS) 17 (BCAQO)	n/a	n/a	n/a	n/a	8 (BCAQO) 8.8 (CAAQS)

Monitoring Notes

- Site calibrations and station maintenance occurred on May 20th, 2025, September 26th, 2025, December 18th, 2025, and March 27th, 2026.
- BC Ministry of Environment Site Audits occurred on May 7th, 2025, and March 4th, 2026. Audit results are available *http://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=43336*
- During the May 2025 site visit, at TEI 55i CH_4/NMHC and a BAM 1020 $PM_{2.5}$ analyzers were installed
- During the March 2026 site visit, the meteorological monitoring parameters were added to the main Envista Ultimate data acquisition system

Validation Notes

- Validation is performed using both BC MOE and USEPA validation criteria. Validation is performed on 5-minute average values for each parameter and then used to calculate 1-hour, 24-hour and 8-hour rolling average periods.
- Internal instrument performance checks occur on 25-hour cycles. These checks include challenging the instrument against zero gas and a verified elevated target concentration. These performance checks are reviewed as part of regular data oversight to ensure they are within specification for instrument operation.

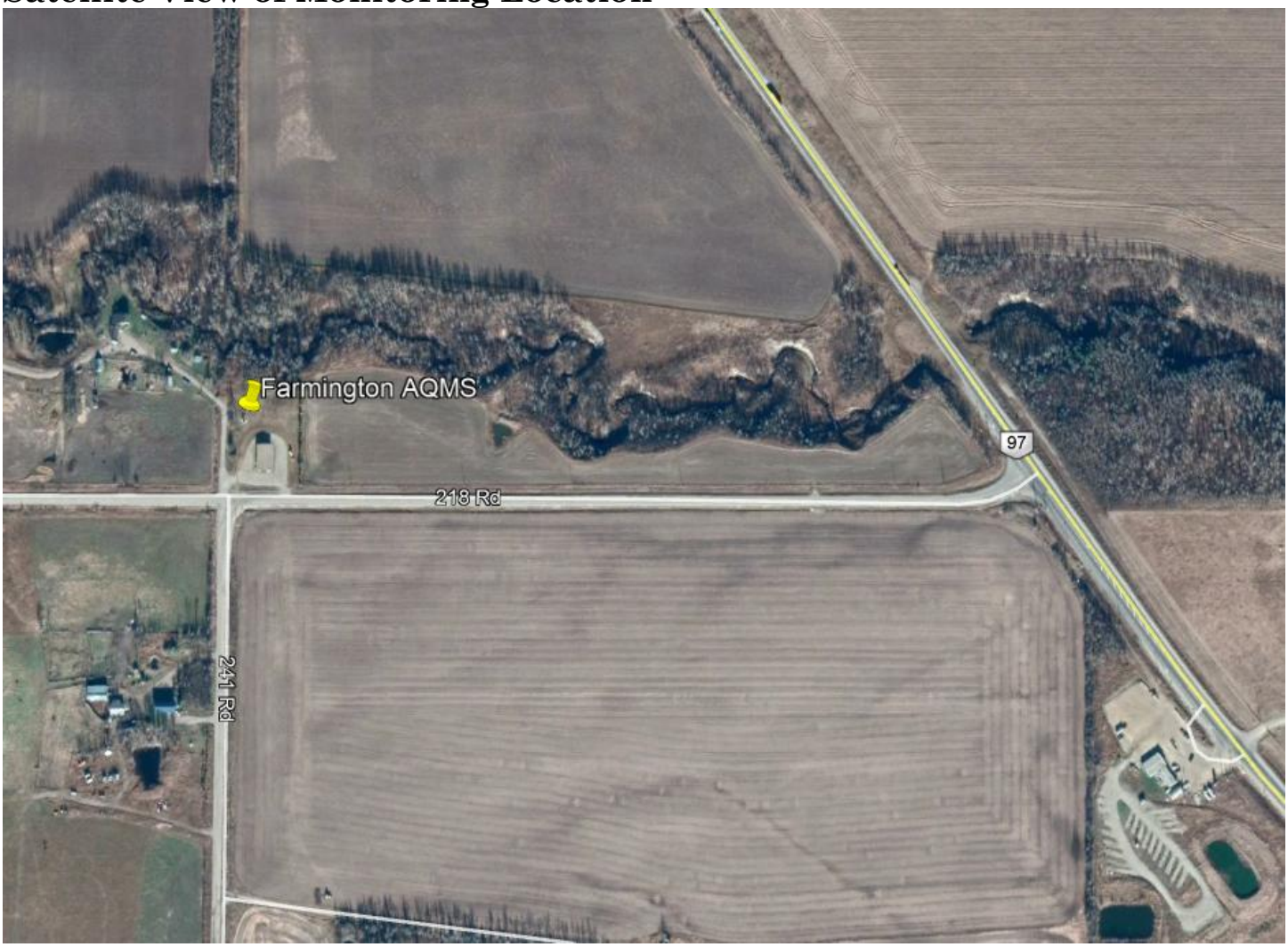
MONITORING SITE LOCATION

The monitoring site location is near the Farmington Community Hall located near Farmington, BC.

The site elevation is approximately 698m, the location is approximately.

55.913292°, -120.531641°

Satellite View of Monitoring Location

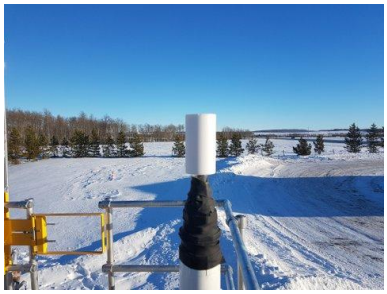


Site View Images

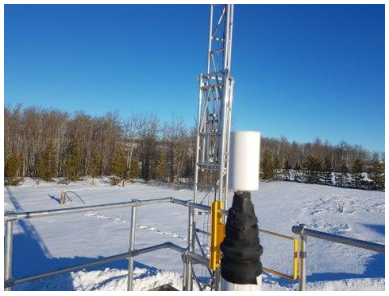
Panoramic

South View

South-East View



East View



North-East View

North View

North-West View

West View

South-West View

MONITORING DATA SUMMARIES

1-Hour Data Summary

Parameter	TRS	SO2	NO	NO2	NOx	O3	NMHC	CH4	PM2.5
Avg (ppb)	0.0	0.1	0.6	2.3	3.0	27.6	0.0	2.1	4.5
Min (ppb)	0.0	0.0	0.0	0.0	0.0	0.7	0.0	1.9	0.0
Max (ppb)	2.3	7.2	33.1	23.4	55.2	61.9	0.4	3.6	267.2
Number #	8582	8556	8587	8587	8587	8595	6915	6915	6983
Capture (%)	98.0	97.7	98.0	98.0	98.0	98.1	94.8	94.8	95.7
Std Dev.	0.0	0.4	1.6	2.7	3.7	11.5	0.0	0.1	14.8
T_{Min}	3-8-2026 08:00	9-26-2025 07:00	11-8-2025 04:00	4-29-2025 18:00	4-29-2025 18:00	7-28-2025 02:00	1-8-2026 05:00	2-4-2026 21:00	6-6-2025 00:00
T_{Max}	7-10-2025 03:00	12-5-2025 22:00	1-5-2026 10:00	2-3-2026 10:00	1-5-2026 10:00	4-12-2025 06:00	7-31-2025 17:00	1-18-2026 20:00	6-9-2025 22:00

24-Hour Data Summary

Parameter	TRS	SO2	NO	NO2	NOx	O3	NMHC	CH4	PM2.5
Avg (ppb)	0.0	0.1	0.6	2.3	3.0	27.6	0.0	2.1	4.4
Min (ppb)	0.0	0.0	0.2	0.0	0.2	5.3	0.0	1.9	0.0
Max (ppb)	0.7	1.7	6.6	11.4	13.3	46.1	0.2	2.5	167.7
Number #	358	356	358	358	358	358	288	288	292
Capture (%)	98.1	97.5	98.1	98.1	98.1	98.1	94.7	94.7	96.1
Std Dev.	0.0	0.3	0.7	1.9	2.4	8.0	0.0	0.1	12.2
T_{Min}	2025-05-08	2025-08-13	2025-06-13	2025-04-29	2025-04-29	2025-11-29	2025-12-06	2026-02-11	2025-07-12
T_{Max}	2025-09-01	2026-03-09	2025-06-11	2026-01-09	2025-11-29	2025-05-03	2025-06-13	2025-11-29	2025-06-10

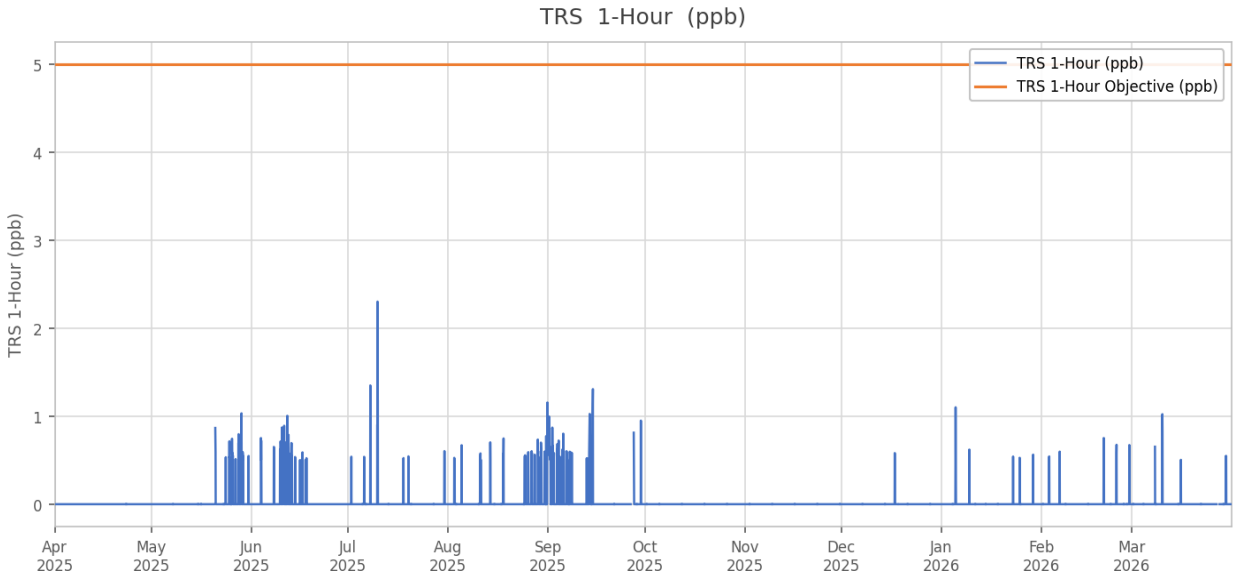
8-Hour Rolling Data Summary

Parameter	O3
Avg (ppb)	27.6
Min (ppb)	1.4
Max (ppb)	56.3
Number #	8612
Capture (%)	98.3
Std Dev.	10.3
T_{Min}	7-28-2025 05:00
T_{Max}	5-2-2025 18:00

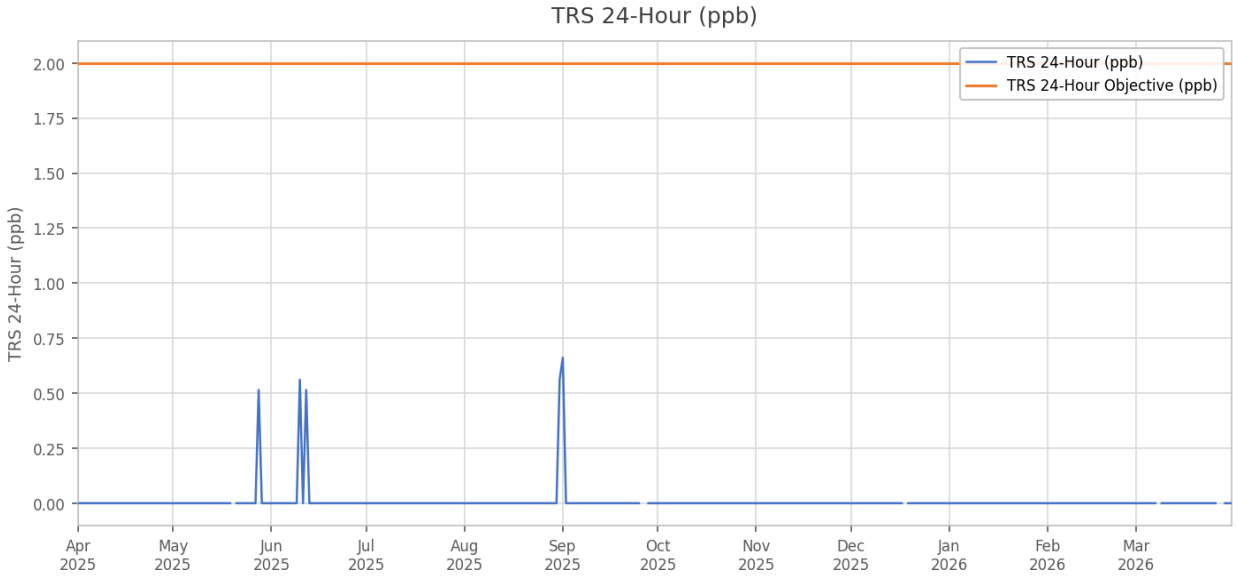
PARAMETER TREND GRAPHS

Total Reduced Sulphur (TRS)

TRS Graph 1-Hour Averages

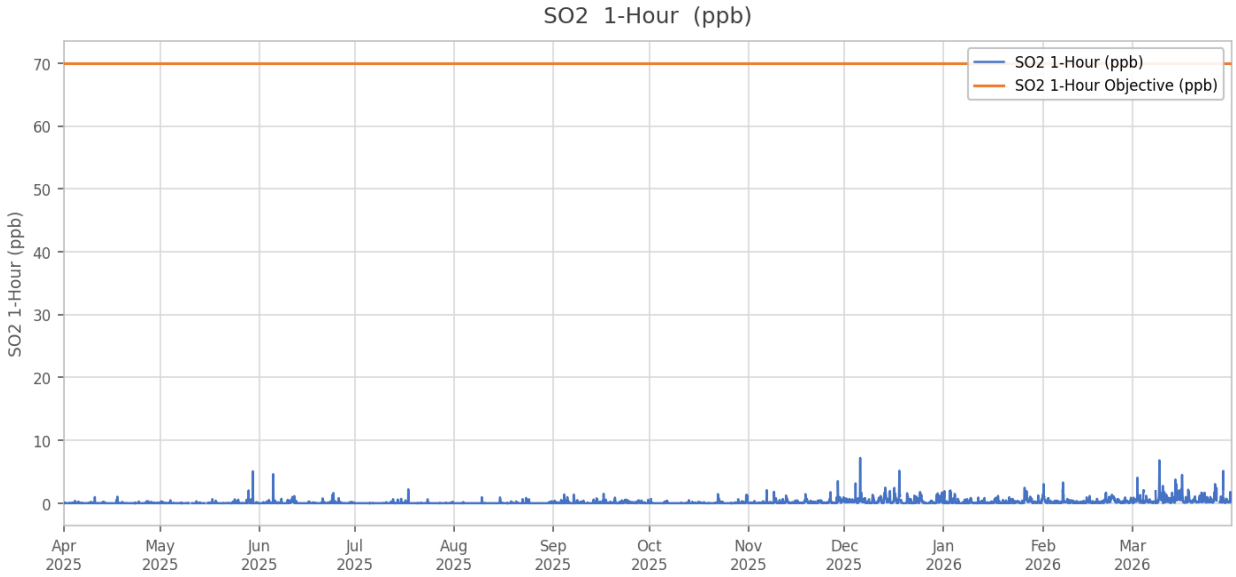


TRS Graph 24-Hour Averages

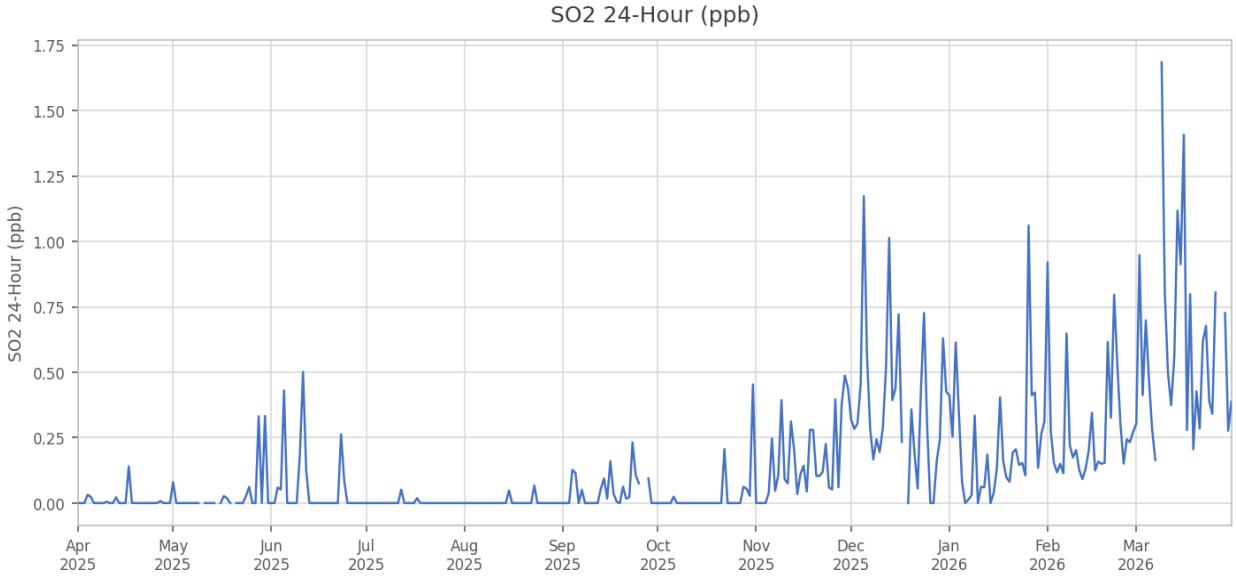


Sulphur Dioxide (SO_2)

SO_2 Graph 1-Hour Averages

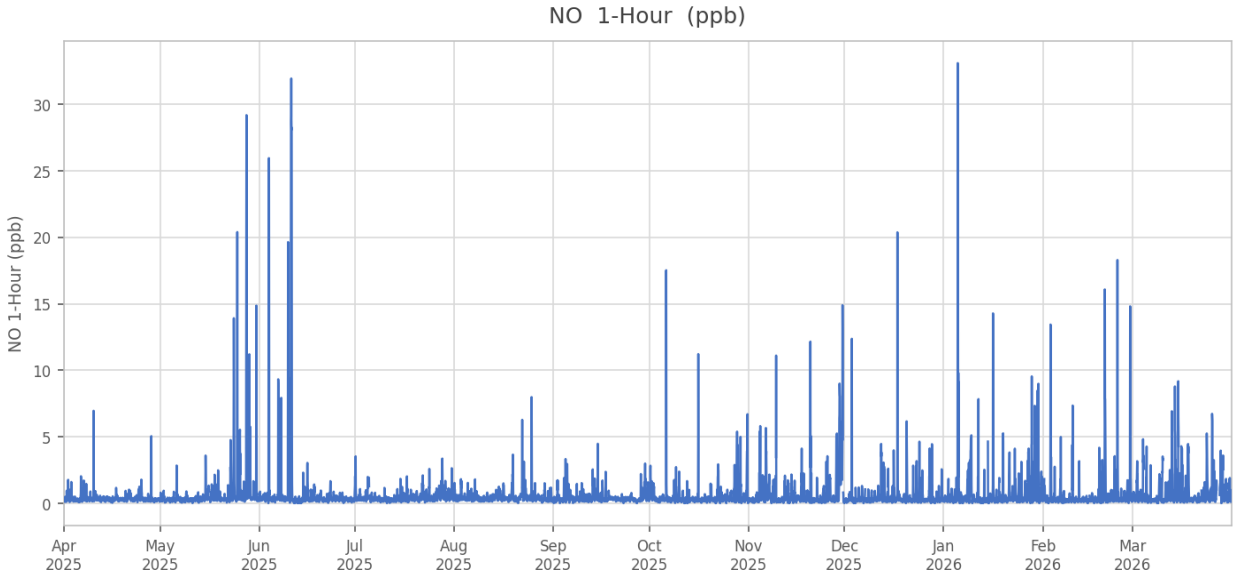


SO_2 Graph 24-Hour Averages

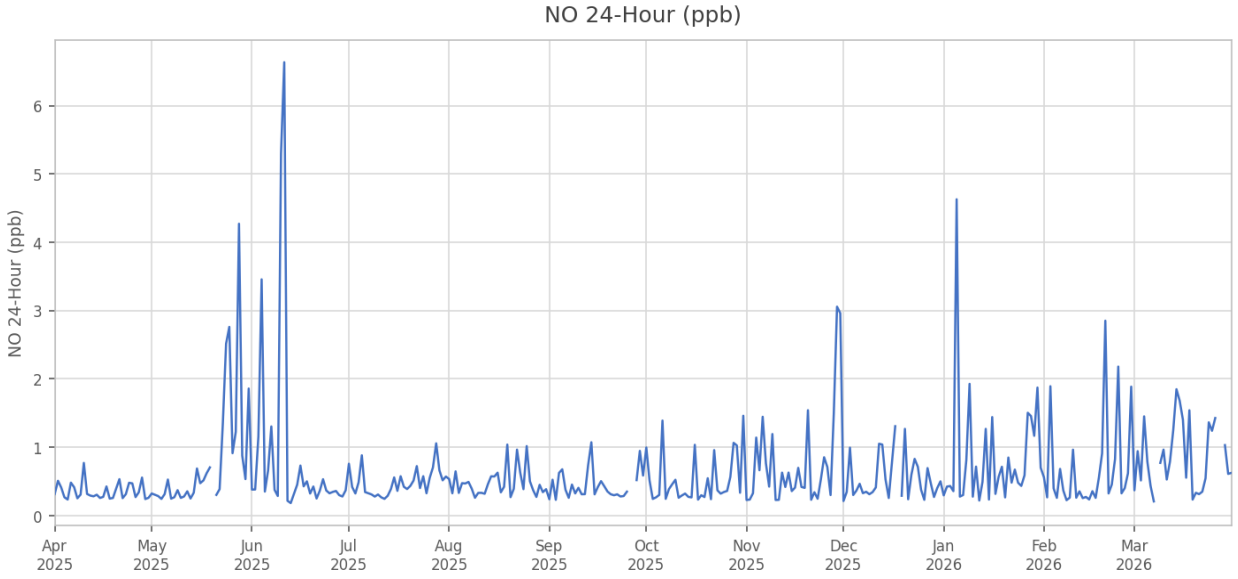


Nitrogen Oxide (NO)

NO Graph 1-Hour Averages

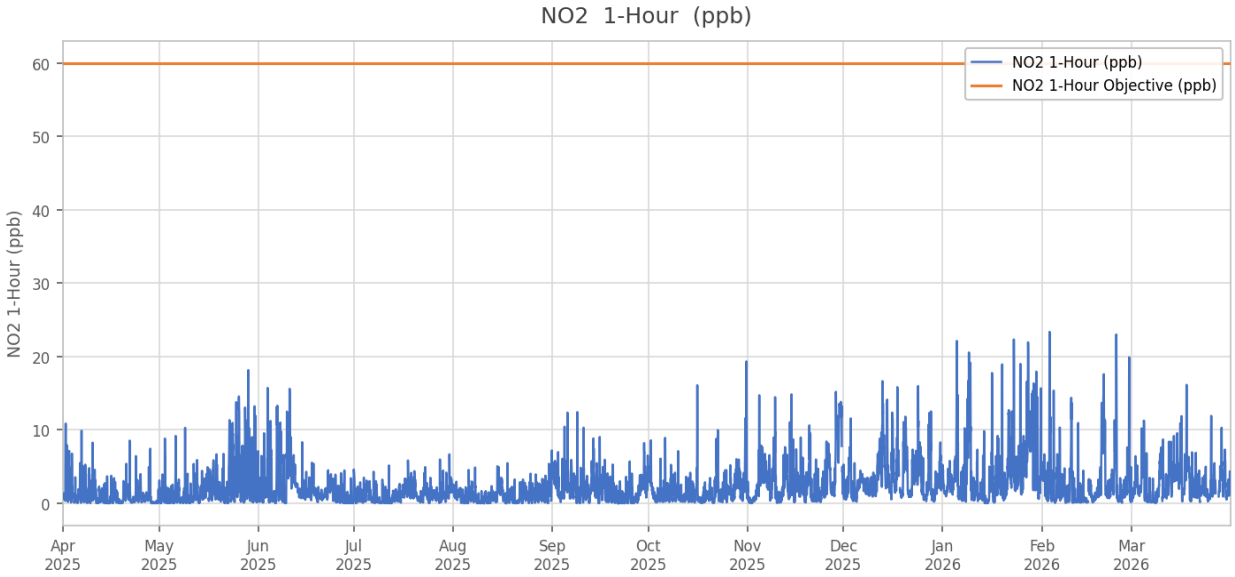


NO Graph 24-Hour Averages

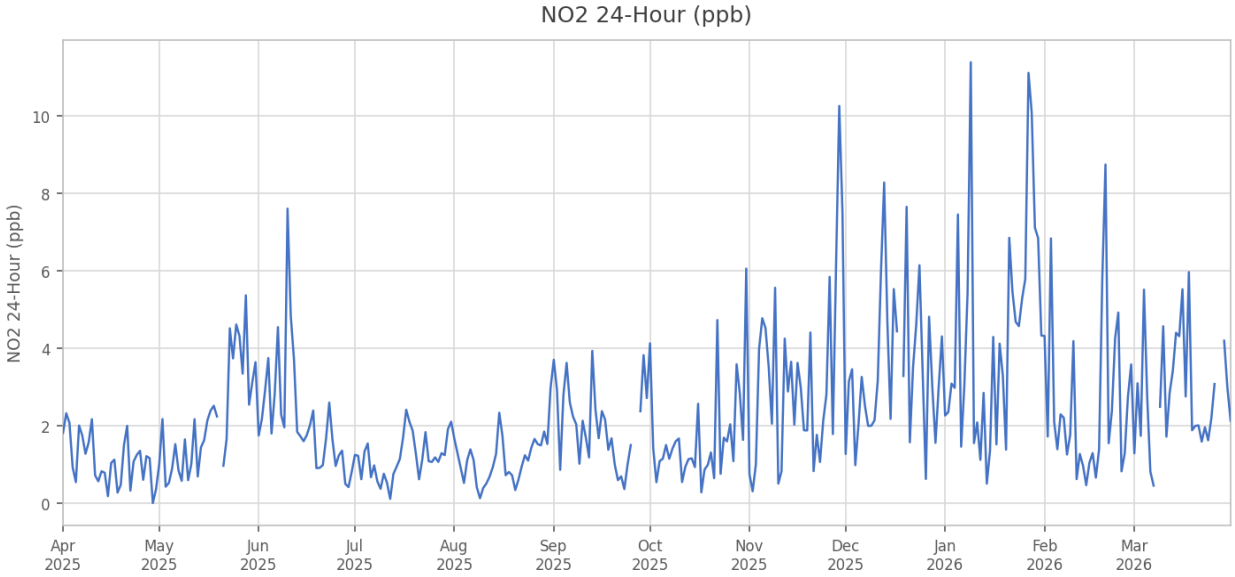


Nitrogen Dioxide (NO_2)

NO_2 Graph 1-Hour Averages

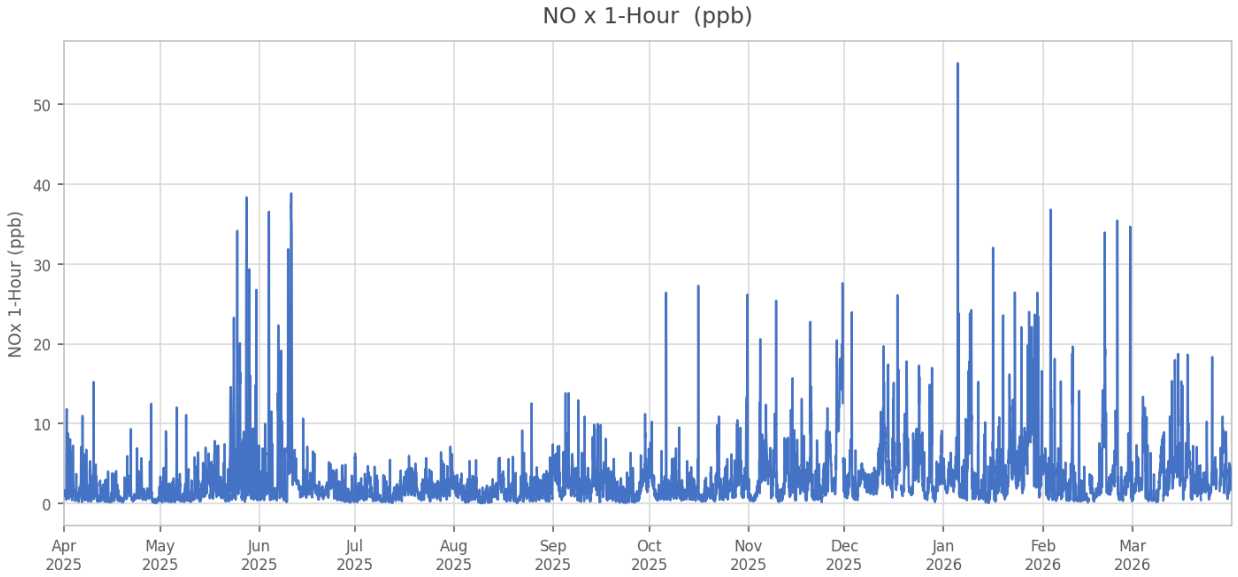


NO_2 Graph 24-Hour Averages

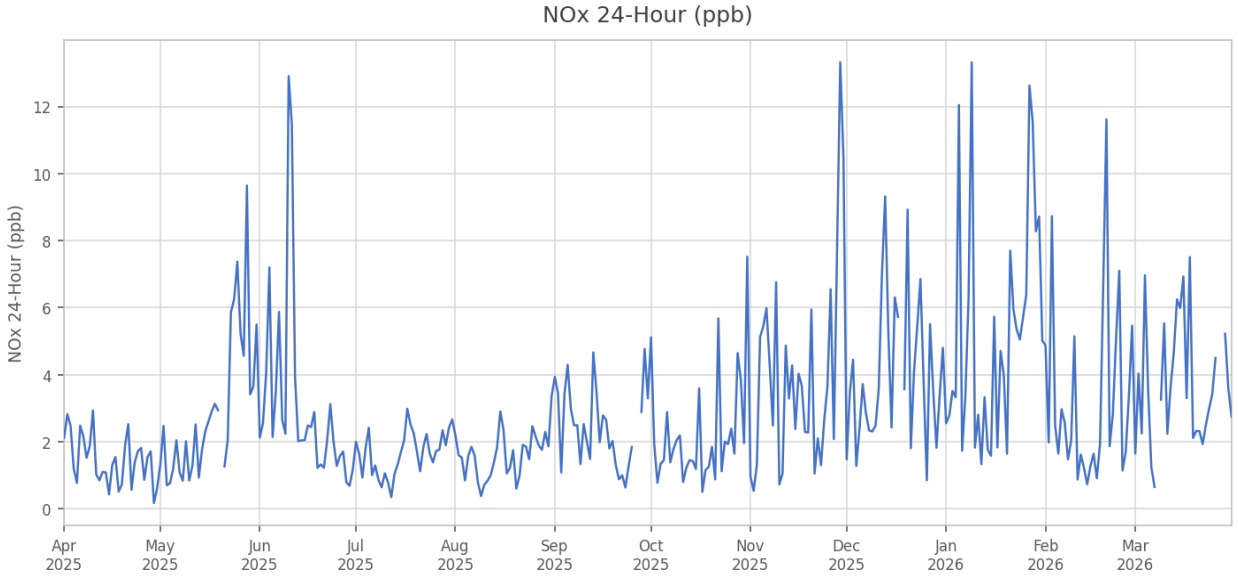


Oxides of Nitrogen (NO_x)

NO_x Graph 1-Hour Averages

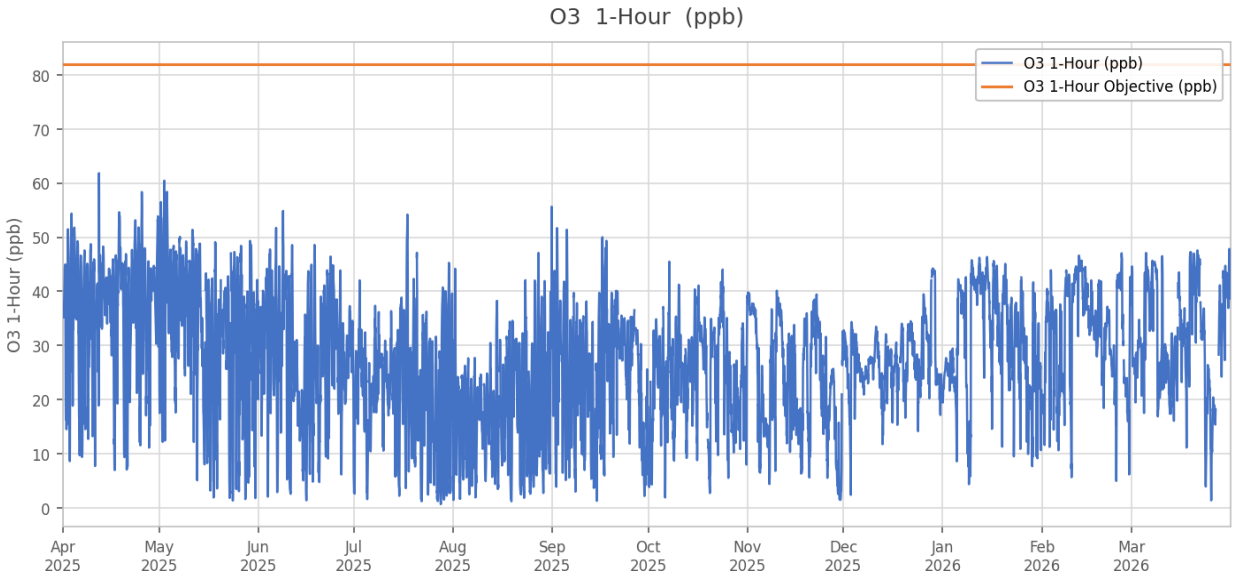


NO_x Graph 24-Hour Averages

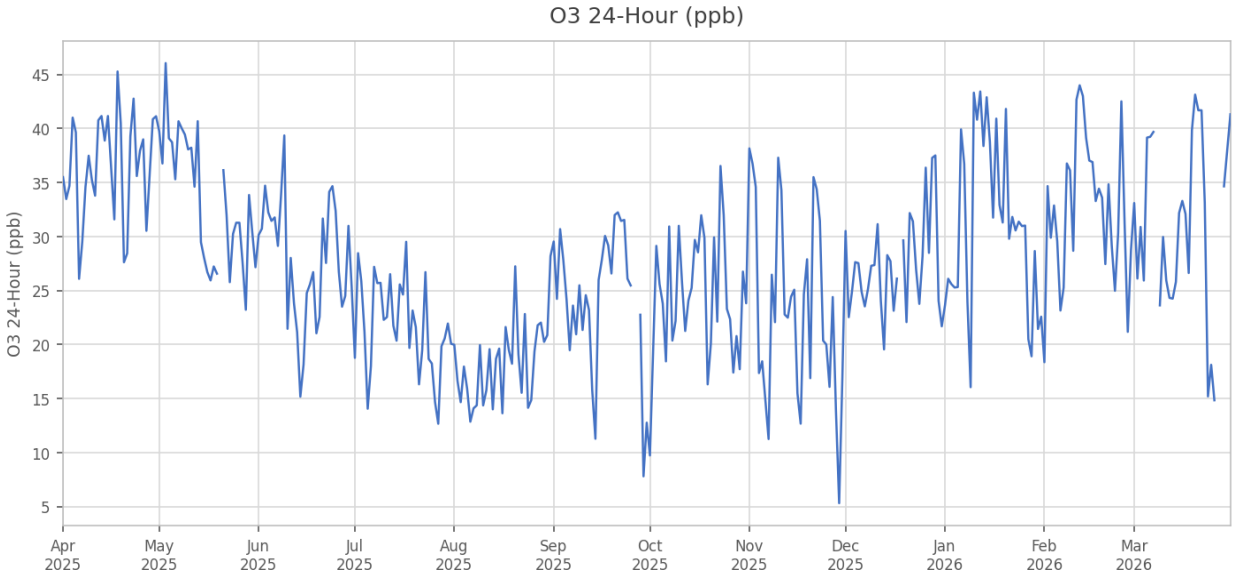


Ozone (O_3)

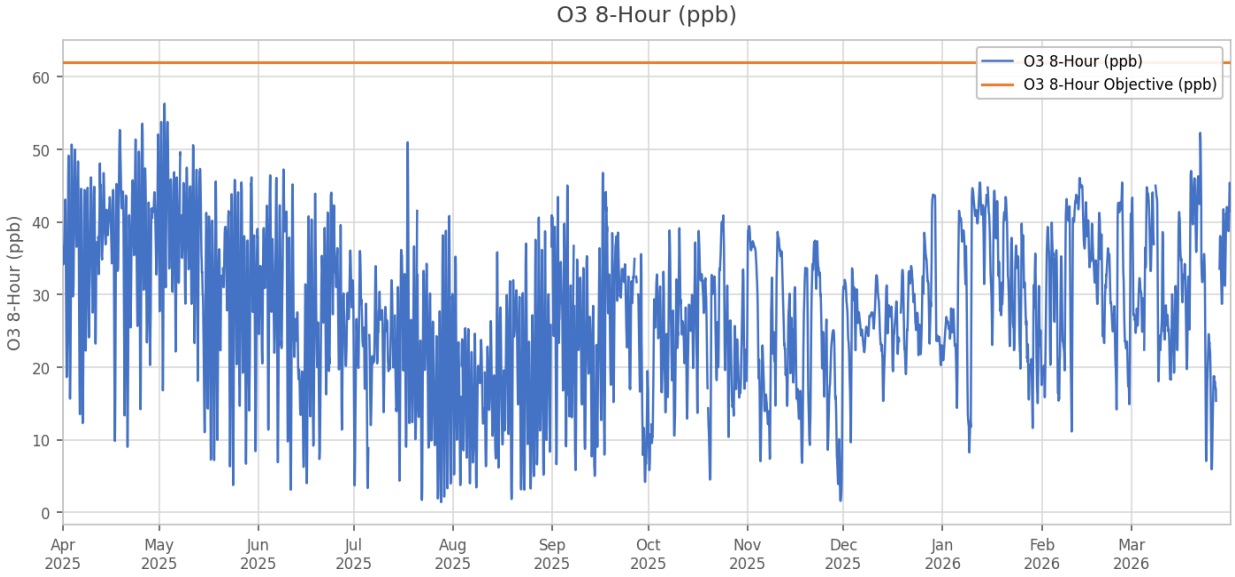
O_3 Graph 1-Hour Averages



O_3 Graph 24-Hour Averages

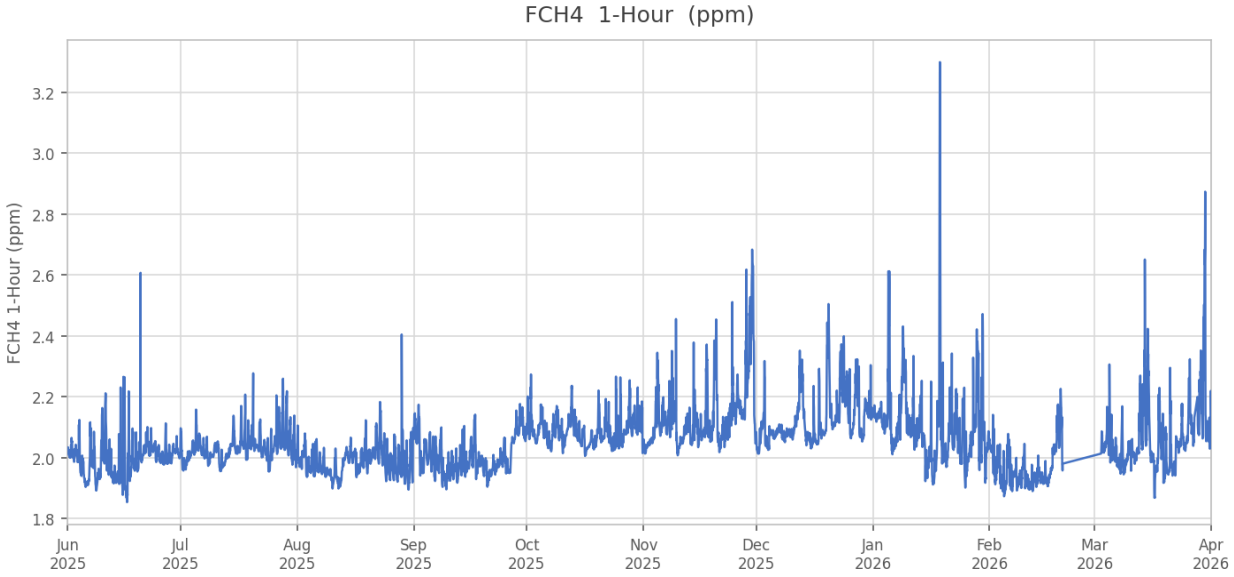


O_3 Graph 8-Hour Rolling Averages

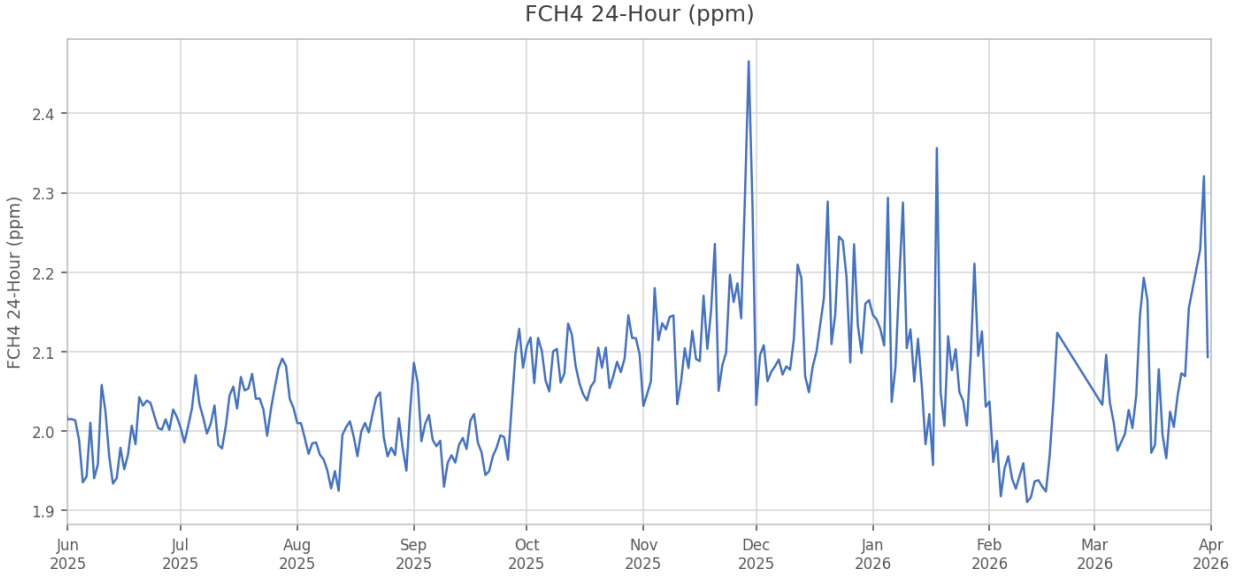


Methane (CH_4)

CH_4 Graph 1-Hour Averages

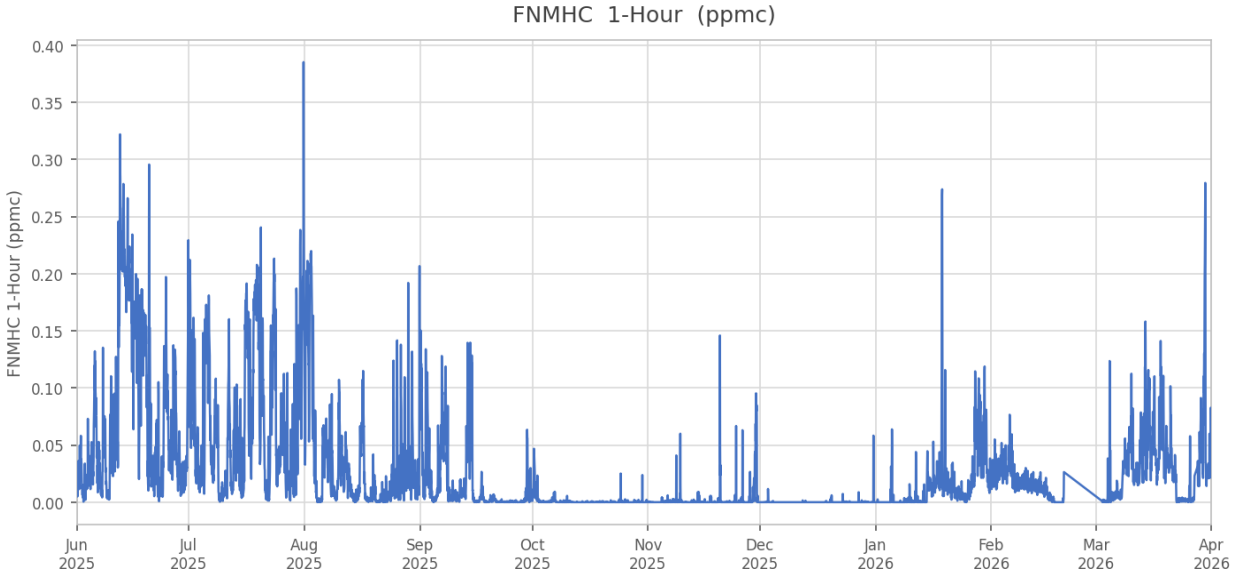


CH_4 Graph 24-Hour Averages

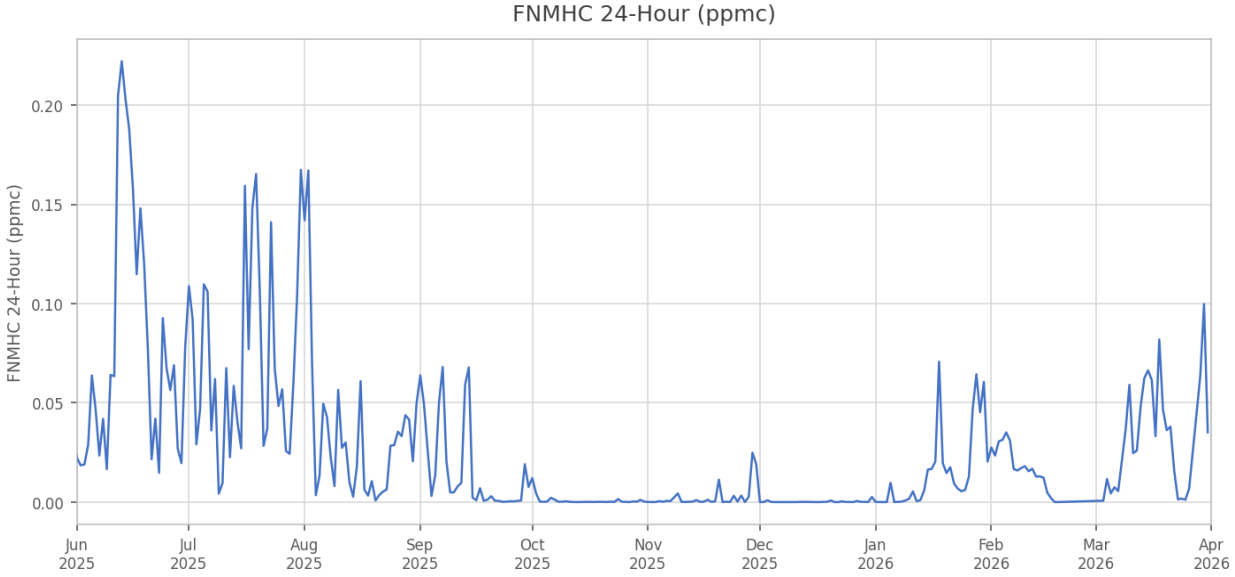


Non-methane Hydrocarbons (NMHC)

NMHC Graph 1-Hour Averages

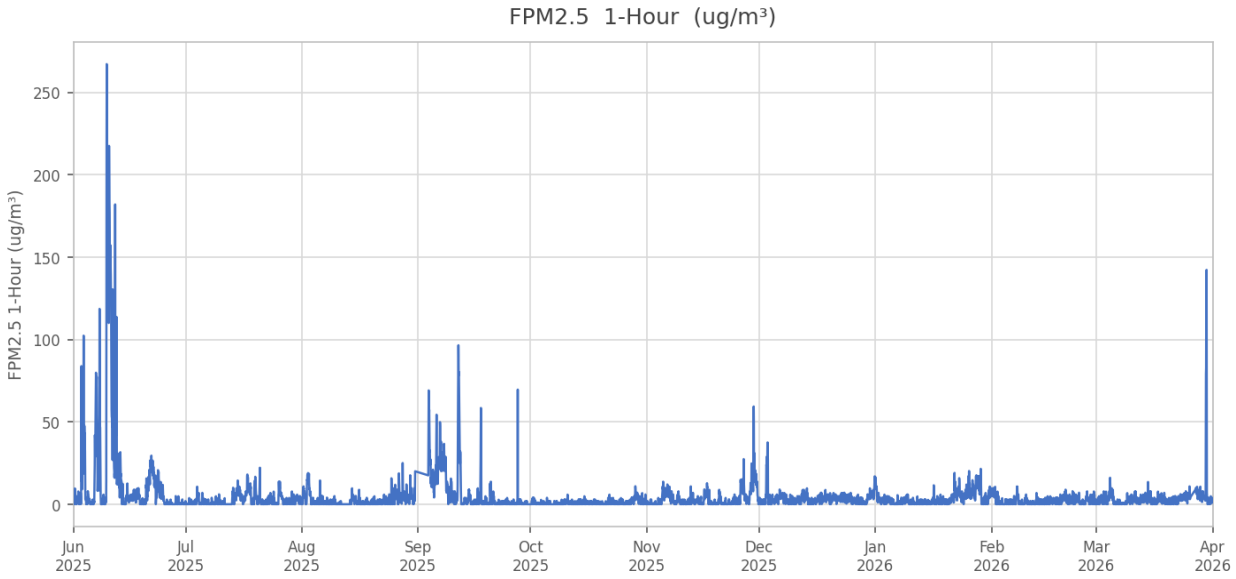


NMHC Graph 24-Hour Averages



Particulate Matter less than 2.5 microns ($PM_{2.5}$)

$PM_{2.5}$ Graph 1-Hour Averages



$PM_{2.5}$ Graph 24-Hour Averages