



# Peace Airshed Zone Association

## Ambient Air Monitoring Network Summary

### Ambient Air Quality Monitoring Program

### 2024 Annual Report

#### VERSION CONTROL

Version	Date	Issue Type	Filename	Description
V1.0	14-Mar 2024	Draft	2024 draft PAZA Annual report.docx	Issued for review
V1.0	25-Mar 2024	Final	2024 PAZA Annual report.docx	Issued for submission

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March 31, 2025

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Edmonton, Alberta T5K 2J6

Subject: **Peace Airshed Zone Association (PAZA)  
2024 Annual Ambient Air Quality Monitoring Report**

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Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for 2024.  
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PAZA has retained the services of WSP Canada Inc. to conduct continuous ambient monitoring and Dr. Kevin McCullum to provide data validation and reporting.  
This report is submitted by PAZA on behalf of the industrial member companies to satisfy the requirements of the facility Operating Approvals listed in Table A.  
The annual summary report includes the operational summaries and hourly continuous monitoring results. This report was prepared by Dr. Kevin McCullum and reviewed by Mandeep Dhaliwal.

**Continuous Monitoring:**

Detailed Annual Summaries are included in the report for the following stations:

- Henry Pirker (Grande Prairie)
- Smoky Heights
- Beaverlodge
- Valleyview
- Dunes
- Poplar (partial year January to April 2024)
- Milner
- Fox Creek
- Happy Valley (partial year May to December 2024)

**Table A. PAZA members with Facility Operating Approvals**

<b>Company</b>	<b>Facility</b>	<b>LSD</b>	<b>EPEA Approval No.</b>
Advantage Oil & Gas Ltd.	Glacier	05-02-076-13-W6	00262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	00010283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	00067774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	00147709-01-01
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	00247673-00-00
	Gordondale	02-26-068-25-W5	00287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	00010137-02-02
ARC Resources Ltd.	ARC Ante Creek	02-26-068-25-W5	00266694-01-00
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	00252529-00-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Sturgeon/Valleyview	02-02-069-22-W5	00001633-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	00152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	00001464-02-03
Exshaw Oil Corporation	Spirit River	03-10-077-07-W6	00344521-00-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Inception Exploration Ltd.	Gold Creek	03-26-069-05-W6	00335317-00-02
KANATA Energy Group Ltd.	Valhalla	13-21-076-09-W6	00017620-02-02
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	00138884-01-00
Milner Power Limited Partnership	H.R. Milner thermal electric power plant	SE-15-058-08-W6	00009814-03-03
NorthRiver Midstream Inc.	Fourth Creek	16-11-082-09-W6	00000263-01-00
	Gordondale	11-26-079-09-W6	00011495-01-01
	Pouce Coupe/Bonanza	03-23-080-13-W6	00070203-01-01
Pembina Pipeline Corporation	Kakwa River	08-13-063-05 W6	00335342-01-00
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	00011351-02-00
	Spirit River	08-34-077-06-W6	00011096-02-00
Strathcona Resources Ltd.	Jayar Sour Gas Processing Plant	06-08-062-03 W6	03612040-00-00
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
Tidewater Midstream and Infrastructure Ltd.	Pipestone Sour Gas Plant	NW-35-70-9 W6	00403309-00-00
Veresen Energy	Hythe Brainard	11-18-074-12-W6	00010910-02-00
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	00000113-02-00

**Concentrations in excess of the Clean Air Regulations 2024 Summary:**

- 38, 30-min TRS readings above 5 ppb (TRS AAAQG)
- 714, one-hour PM<sub>2.5</sub> reading above 80 µg/m<sup>3</sup> (PM<sub>2.5</sub> AAAQG)
- 96, 24-hour PM<sub>2.5</sub> reading above 29 µg/m<sup>3</sup> (PM<sub>2.5</sub> AAAQO)
- 3, 30-day SO<sub>2</sub> readings above 11ppb (SO<sub>2</sub> AAAQO)
- 3, 30-day dustfall readings above the industrial AAAQG (158mg/100cm<sup>2</sup>/30d)
- 4, 30-day dustfall readings above the residential AAAQG (53mg/100cm<sup>2</sup>/30d)

**Summary of readings above 30-minute TRS (AAAQG of 5 ppb), whole year is shown:**

Reference Number	Station	Pollutant	Date	From MST	To MST	Average ppb	WS km/h	WD degrees
-	Dunes	TRS	01-Jan-24	15:00	15:30	7.7	1.9	170.1
-	Dunes	TRS	01-Jan-24	15:30	16:00	7.9	1.2	27.1
-	Dunes	TRS	01-Jan-24	16:00	16:30	6.2	1.4	148.4
-	Dunes	TRS	01-Jan-24	16:30	17:00	5.2	1.4	3.4
-	Dunes	TRS	23-Jan-24	15:00	15:30	22.6	1.3	162.7
-	Dunes	TRS	23-Jan-24	15:30	16:00	18.2	2.3	69.8
-	Dunes	TRS	25-Jan-24	04:00	04:30	5.7	1.2	172.6
-	Dunes	TRS	25-Jan-24	04:30	05:00	6.1	2.7	215.2
-	Dunes	TRS	25-Jan-24	05:00	05:30	6	1.4	216.8
-	Dunes	TRS	25-Jan-24	05:30	06:00	6	2.5	34.5
-	Dunes	TRS	25-Jan-24	06:00	06:30	5.9	1.6	30.1
-	Dunes	TRS	26-Jan-24	02:30	03:00	6.3	2.5	202
-	Dunes	TRS	30-Jan-24	00:30	01:00	5.6	3.3	172.8
-	Dunes	TRS	30-Jan-24	01:00	01:30	5.5	1.9	146.7
-	Dunes	TRS	30-Jan-24	01:30	02:00	6.4	4.2	138.3
-	Dunes	TRS	01-Jun-24	06:30	07:00	6.1	2.6	208.2
-	Dunes	TRS	01-Jun-24	07:00	07:30	6.5	4.5	188.2
-	Dunes	TRS	31-Aug-24	22:30	23:00	5.2	3.5	176
-	Dunes	TRS	23-Sep-24	03:30	04:00	5.5	1.9	242.4
e-reported	Dunes	TRS	29-Dec-24	16:30	17:00	6.1	1.9	128.9
-	Happy Valley	TRS	24-Aug-24	20:30	21:00	5.2	2.7	165.3
-	Happy Valley	TRS	24-Aug-24	21:00	21:30	5.5	5	166.6
-	Happy Valley	TRS	12-Sep-24	04:00	04:30	5.6	8.5	143.3
-	Happy Valley	TRS	12-Sep-24	18:30	19:00	7.2	6.8	138.4
-	Happy Valley	TRS	12-Sep-24	19:00	19:30	6.5	7	141.5
e-reported	Happy Valley	TRS	30-Oct-24	02:30	03:00	7.2	1.7	198.9
e-reported	Happy Valley	TRS	30-Oct-24	03:00	03:30	8	1.4	258.8
e-reported	Happy Valley	TRS	30-Oct-24	06:00	06:30	5.7	2.8	220.2
e-reported	Happy Valley	TRS	10-Dec-24	21:00	21:30	21.7	2.2	188.9
e-reported	Happy Valley	TRS	10-Dec-24	21:30	22:00	6.8	4.5	132
e-reported	Happy Valley	TRS	18-Dec-24	19:00	19:30	5.8	2.1	178.9
-	Poplar	TRS	29-Jan-24	21:00	21:30	6.0	-	-
-	Poplar	TRS	30-Jan-24	16:30	17:00	9.5	-	-
-	Poplar	TRS	02-Feb-24	18:30	19:00	5.7	-	-
-	Poplar	TRS	21-Feb-24	10:00	10:30	14.5	-	-
-	Poplar	TRS	21-Feb-24	10:30	11:00	19.8	-	-
-	Poplar	TRS	21-Feb-24	11:00	11:30	14.0	-	-
e-reported	Smoky Heights	TRS	25-Nov-24	06:00	06:30	5	9.7	95.7

**Summary of readings above one-hour PM<sub>2.5</sub> (AAAQG of 80 µg/m<sup>3</sup>):**

Reference Number	Station	Pollutant	Date	From MST	To MST	Average µg/m <sup>3</sup>	WS km/h	WD degrees
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	03:00	04:00	689.8	9.1	49
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	04:00	05:00	1125	10.1	24
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	05:00	06:00	1043.2	6.6	357
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	06:00	07:00	1025.1	5.9	326
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	07:00	08:00	1169.9	7	354
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	08:00	09:00	1203.1	3.9	335
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	09:00	10:00	1307.6	7.5	6
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	10:00	11:00	1317.9	2.2	69
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	11:00	12:00	1323.2	1.1	100
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	12:00	13:00	1315.6	4.3	236
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	13:00	14:00	1270.3	2.1	210
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	14:00	15:00	1200.5	4.7	104
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	15:00	16:00	1164.9	1.4	29
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	16:00	17:00	1167.5	2.9	49
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	17:00	18:00	1113.9	2.9	57
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	18:00	19:00	995.7	3.5	137
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	19:00	20:00	872.8	5.6	102
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	20:00	21:00	857.7	7.2	96
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	21:00	22:00	870.1	6.2	76
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	22:00	23:00	871.8	5.3	70
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	23:00	00:00	862.6	3.2	95
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	00:00	01:00	799.3	6.1	77
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	01:00	02:00	751.5	0.9	121
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	02:00	03:00	733.7	2.1	95
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	03:00	04:00	780.3	1.3	162
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	04:00	05:00	770.4	1.3	112
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	05:00	06:00	739.2	0.6	46
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	06:00	07:00	620.1	3.4	144
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	07:00	08:00	399.6	5.5	217
430029	Beaverlodge	PM <sub>2.5</sub>	06-Jul-24	12:00	13:00	93.9	7.4	168
430029	Beaverlodge	PM <sub>2.5</sub>	06-Jul-24	13:00	14:00	85	3.7	169
430029	Beaverlodge	PM <sub>2.5</sub>	19-Jul-24	15:00	16:00	123.8	13.1	268
430029	Beaverlodge	PM <sub>2.5</sub>	19-Jul-24	16:00	17:00	192.6	12	338
430029	Beaverlodge	PM <sub>2.5</sub>	19-Jul-24	17:00	18:00	260.8	18.5	268
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	96.2	14.1	85
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	101.1	14.6	85
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	108.7	19.8	83
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	113.6	22.8	91
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	96.6	25.7	83
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	13:00	14:00	89	27.9	83
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	17:00	18:00	89.2	23.9	91
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	80.3	0.7	143
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	82.6	8.8	334
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	92.2	3.5	273
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	88.4	8.4	1
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	104.9	9.7	291
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	10:00	11:00	90.6	17.3	216
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	11:00	12:00	83.6	6.7	286
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	12:00	13:00	93.9	1.5	59
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	13:00	14:00	98.3	8.9	9
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	14:00	15:00	92.9	7.3	92



Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	15:00	16:00	81.8	2.6	74
431645	Beaverlodge	PM <sub>2.5</sub>	11-Aug-24	11:00	12:00	81.6	4.8	226
431645	Beaverlodge	PM <sub>2.5</sub>	11-Aug-24	12:00	13:00	81.7	9	199
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	08:00	09:00	80.8	5.2	162
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	09:00	10:00	97.6	6.1	176
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	10:00	11:00	116.6	8.6	210
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	11:00	12:00	127.8	11.1	212
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	12:00	13:00	85.6	11.4	211
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	13:00	14:00	86.7	17.9	222
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	14:00	15:00	143	13.1	178
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	15:00	16:00	141.6	15.4	162
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	16:00	17:00	139.7	16.5	168
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	17:00	18:00	110.6	8.7	202
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	19:00	20:00	85.3	3.8	147
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	20:00	21:00	81.4	10.6	214
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	22:00	23:00	80.8	5.5	29
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	06:00	07:00	94.8	6.9	297
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	07:00	08:00	353.6	14	290
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	08:00	09:00	454.7	17.5	299
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	09:00	10:00	417.9	13.3	289
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	10:00	11:00	296.6	20.8	282
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	11:00	12:00	207.7	21.4	279
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	12:00	13:00	186.9	21.2	275
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	13:00	14:00	185.1	16	298
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	14:00	15:00	152.4	18.7	304
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	15:00	16:00	262.8	19.8	320
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	16:00	17:00	381.7	18.7	314
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	284.3	16	296
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	206.6	16.2	297
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	19:00	20:00	99.5	10.1	296
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	21:00	22:00	81.8	5.7	291
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	22:00	23:00	101.8	5.8	335
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	23:00	00:00	272.4	4.7	325
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	00:00	01:00	225	4.3	291
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	01:00	02:00	370.5	2.9	331
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	02:00	03:00	580.1	5.1	349
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	03:00	04:00	469.5	2	309
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	04:00	05:00	496.5	3.1	314
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	05:00	06:00	457.2	3	306
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	06:00	07:00	419.6	3.3	38
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	07:00	08:00	382.3	1.5	89
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	08:00	09:00	261.7	2.6	177
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	09:00	10:00	88.1	4.9	210
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	23:00	00:00	91.3	1.6	223
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	00:00	01:00	112.8	2	73
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	01:00	02:00	212.2	2.4	75
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	02:00	03:00	250.9	3.2	65
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	03:00	04:00	252.6	2.1	167
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	04:00	05:00	151.1	1.6	13
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	07:00	08:00	83.3	4.6	313
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	08:00	09:00	95.4	7.9	292
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	09:00	10:00	117.3	6.6	314
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	10:00	11:00	106.2	4.6	335

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	11:00	12:00	83.7	2.6	353
431645	Beaverlodge	PM <sub>2.5</sub>	21-Aug-24	10:00	11:00	88.7	15.8	318
431645	Beaverlodge	PM <sub>2.5</sub>	21-Aug-24	11:00	12:00	104.2	15.5	323
431645	Beaverlodge	PM <sub>2.5</sub>	21-Aug-24	12:00	13:00	80.9	18.8	309
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	12:00	13:00	180.4	21.9	273
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	13:00	14:00	243.2	25	265
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	14:00	15:00	269.9	13.7	291
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	15:00	16:00	282.2	13.9	298
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	16:00	17:00	265.8	14.4	296
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	17:00	18:00	261.7	5.4	278
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	18:00	19:00	256.3	13.8	291
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	19:00	20:00	271.9	13	299
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	20:00	21:00	197	14.7	296
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	21:00	22:00	159.2	12.3	287
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	22:00	23:00	182.8	4.9	193
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	23:00	00:00	187.2	3.2	145
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	00:00	01:00	165.6	1.1	134
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	01:00	02:00	131.9	1.7	209
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	02:00	03:00	134.6	4.1	62
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	03:00	04:00	106.9	2.9	184
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	04:00	05:00	101.9	3.5	35
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	05:00	06:00	102.6	1.8	152
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	10:00	11:00	90.6	2.1	204
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	11:00	12:00	234.2	15.3	253
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	12:00	13:00	273.4	25.3	257
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	13:00	14:00	256	22.6	260
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	14:00	15:00	219.3	24.7	251
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	15:00	16:00	151.2	22.1	273
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	16:00	17:00	139.2	16.3	288
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	17:00	18:00	153.8	11	300
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	18:00	19:00	154.4	4.9	332
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	19:00	20:00	163.3	4.7	6
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	20:00	21:00	153.1	9.3	318
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	21:00	22:00	135.8	10.2	311
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	22:00	23:00	123.8	2.9	213
432733	Beaverlodge	PM <sub>2.5</sub>	08-Sep-24	23:00	00:00	95.7	1.9	151
432733	Beaverlodge	PM <sub>2.5</sub>	08-Sep-24	00:00	01:00	86.4	3.5	69
432733	Beaverlodge	PM <sub>2.5</sub>	08-Sep-24	18:00	19:00	88.1	16.9	351
432733	Beaverlodge	PM <sub>2.5</sub>	08-Sep-24	19:00	20:00	105.1	16.7	354
425176	Dunes	PM <sub>2.5</sub>	21-Feb-24	11:00	12:00	151.1	3	190
427956	Dunes	PM <sub>2.5</sub>	11-May-24	02:00	03:00	443	7.1	19
427956	Dunes	PM <sub>2.5</sub>	11-May-24	03:00	04:00	668.3	3.4	29
427956	Dunes	PM <sub>2.5</sub>	11-May-24	04:00	05:00	690.2	1.6	332
427956	Dunes	PM <sub>2.5</sub>	11-May-24	05:00	06:00	749.5	0.4	352
427956	Dunes	PM <sub>2.5</sub>	11-May-24	06:00	07:00	803.1	1.2	332
427956	Dunes	PM <sub>2.5</sub>	11-May-24	07:00	08:00	954.2	0.9	297
427956	Dunes	PM <sub>2.5</sub>	11-May-24	08:00	09:00	996.1	1.2	216
427956	Dunes	PM <sub>2.5</sub>	11-May-24	09:00	10:00	997	0	327
427956	Dunes	PM <sub>2.5</sub>	11-May-24	10:00	11:00	997	0.6	53
427956	Dunes	PM <sub>2.5</sub>	11-May-24	11:00	12:00	996.8	0.8	177
427956	Dunes	PM <sub>2.5</sub>	11-May-24	12:00	13:00	854.5	1.3	93
427956	Dunes	PM <sub>2.5</sub>	11-May-24	13:00	14:00	800.7	2.1	203
427956	Dunes	PM <sub>2.5</sub>	11-May-24	14:00	15:00	779.2	1.4	145

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
427956	Dunes	PM <sub>2.5</sub>	11-May-24	15:00	16:00	749.6	2.3	183
427956	Dunes	PM <sub>2.5</sub>	11-May-24	16:00	17:00	481.5	2.6	197
427956	Dunes	PM <sub>2.5</sub>	11-May-24	17:00	18:00	435.1	1.4	289
427956	Dunes	PM <sub>2.5</sub>	11-May-24	18:00	19:00	499.1	0.8	13
427956	Dunes	PM <sub>2.5</sub>	11-May-24	19:00	20:00	486	0.3	283
427956	Dunes	PM <sub>2.5</sub>	11-May-24	20:00	21:00	486.3	0.4	252
427956	Dunes	PM <sub>2.5</sub>	11-May-24	21:00	22:00	479.5	0.2	256
427956	Dunes	PM <sub>2.5</sub>	11-May-24	22:00	23:00	441.9	0.2	237
427956	Dunes	PM <sub>2.5</sub>	12-May-24	23:00	00:00	399.1	0.3	244
427956	Dunes	PM <sub>2.5</sub>	12-May-24	00:00	01:00	390.7	0.2	313
427956	Dunes	PM <sub>2.5</sub>	12-May-24	01:00	02:00	389.9	0.5	305
427956	Dunes	PM <sub>2.5</sub>	12-May-24	02:00	03:00	394.2	0.8	300
427956	Dunes	PM <sub>2.5</sub>	12-May-24	03:00	04:00	408	0.4	226
427956	Dunes	PM <sub>2.5</sub>	12-May-24	04:00	05:00	404.2	0.5	280
427956	Dunes	PM <sub>2.5</sub>	12-May-24	05:00	06:00	417.9	0.7	279
427956	Dunes	PM <sub>2.5</sub>	12-May-24	06:00	07:00	484.9	2	212
427956	Dunes	PM <sub>2.5</sub>	12-May-24	07:00	08:00	466.7	1.5	216
427956	Dunes	PM <sub>2.5</sub>	12-May-24	08:00	09:00	97.2	6.3	254
430030	Dunes	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	81.8	4.3	87
430030	Dunes	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	81.2	5.2	75
431737	Dunes	PM <sub>2.5</sub>	13-Aug-24	09:00	10:00	130.2	5.2	273
431737	Dunes	PM <sub>2.5</sub>	13-Aug-24	10:00	11:00	130.1	5.5	279
431737	Dunes	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	101.1	8	327
431737	Dunes	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	92.6	5.8	307
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	23:00	00:00	97.8	1.8	338
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	03:00	04:00	93.3	1.1	255
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	04:00	05:00	127.7	1.7	236
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	05:00	06:00	130.6	1.8	228
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	06:00	07:00	121.1	0.7	251
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	07:00	08:00	135.8	1.2	271
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	08:00	09:00	179.8	1.5	297
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	09:00	10:00	133.1	1.6	214
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	20:00	21:00	93.6	3.7	27
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	21:00	22:00	96.8	1.7	339
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	22:00	23:00	94.6	0.9	333
431737	Dunes	PM <sub>2.5</sub>	15-Aug-24	23:00	00:00	97.8	0.5	260
431737	Dunes	PM <sub>2.5</sub>	15-Aug-24	00:00	01:00	91.2	0.3	217
431737	Dunes	PM <sub>2.5</sub>	15-Aug-24	01:00	02:00	87.2	0.4	262
431737	Dunes	PM <sub>2.5</sub>	15-Aug-24	02:00	03:00	84.2	0.6	264
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	14:00	15:00	85.4	4.5	278
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	15:00	16:00	113.4	3.6	312
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	16:00	17:00	191.3	2.8	319
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	17:00	18:00	170.6	1.5	293
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	18:00	19:00	157.2	0.7	148
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	19:00	20:00	153.2	1.1	225
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	20:00	21:00	152.3	2.5	232
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	21:00	22:00	151.3	3.8	210
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	22:00	23:00	153.1	4.3	210
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	23:00	00:00	146.2	3.3	210
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	00:00	01:00	147.2	3.1	204
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	01:00	02:00	144.6	1	219
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	02:00	03:00	137.3	0.2	315
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	03:00	04:00	137.9	2.3	199

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	04:00	05:00	132.1	1.2	219
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	05:00	06:00	120.3	1.4	203
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	06:00	07:00	105.3	2.1	187
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	07:00	08:00	94.9	1.7	205
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	13:00	14:00	90.9	5.8	255
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	14:00	15:00	91.4	6.9	239
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	15:00	16:00	104.7	5	276
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	20:00	21:00	86.5	0.7	190
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	22:00	23:00	90.2	1.2	212
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	07:00	08:00	139.9	5.3	164
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	08:00	09:00	108.7	4.5	160
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	10:00	11:00	135.8	5.1	160
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	20:00	21:00	95.4	1.4	154
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	21:00	22:00	118	1.3	159
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	22:00	23:00	215.5	1	153
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	23:00	00:00	187.6	0.4	64
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	00:00	01:00	124	1.2	156
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	01:00	02:00	177.1	1.8	159
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	02:00	03:00	151.2	0.6	158
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	03:00	04:00	113	0.3	212
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	04:00	05:00	162.1	1.4	166
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	05:00	06:00	184.7	1.1	138
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	06:00	07:00	154.2	0.5	165
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	07:00	08:00	170.4	0.9	162
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	08:00	09:00	161.1	1.6	137
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	09:00	10:00	130.3	1.8	142
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	10:00	11:00	119.5	2.2	131
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	11:00	12:00	105	1.9	126
424784	Fox Creek	PM <sub>2.5</sub>	07-Feb-24	15:00	16:00	93.5	2.2	348
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	04:00	05:00	279.7	3.3	325
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	05:00	06:00	308.7	2.8	325
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	06:00	07:00	431.5	1	277
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	07:00	08:00	579.4	2.1	294
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	08:00	09:00	803.3	3.2	324
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	09:00	10:00	811	3.2	348
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	10:00	11:00	817.4	2.2	288
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	11:00	12:00	801.2	2.3	22
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	12:00	13:00	739.7	3.6	54
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	13:00	14:00	595.8	4.1	28
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	14:00	15:00	463.8	5.6	55
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	15:00	16:00	357.9	5.2	60
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	16:00	17:00	366.3	5.5	50
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	17:00	18:00	406.5	4.3	47
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	18:00	19:00	418	2.4	25
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	19:00	20:00	409.2	0.7	305
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	20:00	21:00	398.4	0.8	199
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	21:00	22:00	375.1	1.7	183
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	22:00	23:00	364.9	2.2	169
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	23:00	00:00	349.7	1.2	205
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	00:00	01:00	337.3	0.8	244
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	01:00	02:00	326.8	0.7	226
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	02:00	03:00	306.2	0.8	200
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	03:00	04:00	282	0.8	196

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	04:00	05:00	264.3	1.1	176
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	05:00	06:00	247.3	1.1	182
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	06:00	07:00	236.6	1.1	185
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	07:00	08:00	234.6	4.5	211
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	08:00	09:00	249	3	186
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	09:00	10:00	261.5	4.4	317
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	10:00	11:00	289.5	8.7	294
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	11:00	12:00	243.4	6.7	351
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	12:00	13:00	149.8	7.7	28
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	13:00	14:00	96	7.2	48
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	01:00	02:00	81.1	0.7	225
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	02:00	03:00	81.5	1.1	219
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	03:00	04:00	87.6	1.7	192
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	04:00	05:00	90.8	0.1	235
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	05:00	06:00	95.1	0.7	202
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	06:00	07:00	101.4	0.9	192
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	07:00	08:00	123.8	0.9	198
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	145.1	4.5	115
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	23:00	10:00	113.3	9.3	139
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	100.1	12	125
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	93.6	13.2	127
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	83.7	13.8	125
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	00:00	01:00	87.9	13.6	129
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	01:00	02:00	106.9	12.8	140
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	02:00	03:00	109.3	13.8	143
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	03:00	04:00	107.9	11	164
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	04:00	05:00	96.7	2.7	189
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	05:00	06:00	84.8	1.9	220
431842	Fox Creek	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	84.9	6.3	1
431842	Fox Creek	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	95.6	5	352
431842	Fox Creek	PM <sub>2.5</sub>	15-Aug-24	09:00	10:00	116.5	2.7	140
431842	Fox Creek	PM <sub>2.5</sub>	15-Aug-24	10:00	11:00	125.9	2.2	140
431842	Fox Creek	PM <sub>2.5</sub>	15-Aug-24	11:00	12:00	97.2	2.8	126
436123	Fox Creek	PM <sub>2.5</sub>	13-Dec-24	20:00	21:00	91.1	2.6	156
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	00:00	01:00	126.8	7.7	342
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	01:00	02:00	1003.4	13	28
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	02:00	03:00	1321.6	2.1	198
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	03:00	04:00	1354	4.3	231
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	04:00	05:00	1362	4.6	248
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	05:00	06:00	1378.5	8.3	260
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	06:00	07:00	1351.8	6.9	252
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	07:00	08:00	1280.5	5.7	254
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	08:00	09:00	1011.3	6.2	269
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	09:00	10:00	858.3	4.3	276
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	10:00	11:00	814.3	1.5	303
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	11:00	12:00	733.3	4.9	20
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	12:00	13:00	737	3.5	68
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	13:00	14:00	596.6	6.1	86
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	14:00	15:00	487.3	8.8	96
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	15:00	16:00	502.8	10.3	101
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	16:00	17:00	633.5	8.1	134
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	17:00	18:00	936.9	9.8	182
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	18:00	19:00	837.5	5.8	156

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	19:00	20:00	787.9	5	112
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	20:00	21:00	731.1	5.1	116
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	21:00	22:00	659.3	5.4	162
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	22:00	23:00	650.7	10.7	182
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	23:00	00:00	675.6	16.7	193
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	00:00	01:00	662.4	14.8	198
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	01:00	02:00	584.7	18.1	193
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	02:00	03:00	546.4	18.1	198
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	03:00	04:00	525.9	15.6	206
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	04:00	05:00	375.2	6.4	230
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	05:00	06:00	191.1	7	240
430031	Happy Valley	PM <sub>2.5</sub>	06-Jul-24	05:00	06:00	112	1	230
430031	Happy Valley	PM <sub>2.5</sub>	06-Jul-24	06:00	07:00	134.2	3.4	159
430031	Happy Valley	PM <sub>2.5</sub>	06-Jul-24	07:00	08:00	134.3	3.2	253
430031	Happy Valley	PM <sub>2.5</sub>	06-Jul-24	23:00	00:00	94.1	4.9	147
430031	Happy Valley	PM <sub>2.5</sub>	07-Jul-24	00:00	01:00	88.2	6	54
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	05:00	06:00	93.2	6	101
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	14:00	15:00	93.1	19.4	287
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	15:00	16:00	173.2	18.1	291
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	23:00	17:00	194.4	15.4	283
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	17:00	18:00	152.3	8.7	182
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	19:00	20:00	246.7	12.2	259
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	20:00	21:00	268.5	3.7	156
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	21:00	22:00	170.8	9.5	196
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	10:00	11:00	95.7	3.6	299
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	11:00	12:00	108.9	4.9	28
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	12:00	13:00	103.1	3.9	34
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	13:00	14:00	84.5	4.4	330
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	17:00	18:00	82.9	10.2	49
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	18:00	19:00	100.6	10.7	43
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	19:00	20:00	86.6	6.7	62
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	20:00	21:00	97.2	3	119
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	21:00	22:00	97.9	1.2	179
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	22:00	23:00	88.6	1	209
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	23:00	00:00	89.2	1.4	226
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	19:00	20:00	81	16	68
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	20:00	21:00	85.6	12	71
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	21:00	22:00	90.5	5.1	102
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	22:00	23:00	91.9	6.4	104
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	23:00	00:00	100.7	7	107
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	00:00	01:00	118	11.5	110
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	01:00	02:00	139.9	10.6	109
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	02:00	03:00	162.1	9.3	106
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	196	4.9	89
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	224	3	21
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	228.3	2.1	248
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	212.8	1.4	261
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	07:00	08:00	214	1.1	67
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	208.4	2.2	85
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	204.5	4.4	5
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	10:00	11:00	185.5	4.1	31
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	11:00	12:00	149	4.2	133
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	12:00	13:00	117.3	6.4	147

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	13:00	14:00	81.9	3.7	179
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	14:00	15:00	81.9	5.2	44
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	15:00	16:00	91.1	11.3	76
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	16:00	17:00	91.1	6.1	7
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	17:00	18:00	80.8	5.2	84
431646	Happy Valley	PM <sub>2.5</sub>	10-Aug-24	05:00	06:00	118.9	2.6	266
431646	Happy Valley	PM <sub>2.5</sub>	10-Aug-24	06:00	07:00	83.7	1.1	285
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	03:00	04:00	118	1.8	312
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	05:00	06:00	155.6	2.1	273
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	06:00	07:00	221.8	0.7	186
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	07:00	08:00	222.5	0.9	178
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	08:00	09:00	119.8	6.1	262
431646	Happy Valley	PM <sub>2.5</sub>	12-Aug-24	05:00	06:00	81	5.7	244
431646	Happy Valley	PM <sub>2.5</sub>	12-Aug-24	06:00	07:00	95.2	5.4	245
431646	Happy Valley	PM <sub>2.5</sub>	12-Aug-24	07:00	08:00	120.5	6.6	248
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	07:00	08:00	182.1	17.6	256
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	08:00	09:00	287.3	19.8	257
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	09:00	10:00	247	17.2	258
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	10:00	11:00	228.7	15.5	271
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	11:00	12:00	210.3	13.6	276
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	12:00	13:00	249.8	17.5	278
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	13:00	14:00	232.7	20.5	288
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	14:00	15:00	208.7	20.1	283
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	15:00	16:00	229	18.4	276
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	16:00	17:00	378.5	18.2	276
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	474	16.7	274
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	440.4	16.1	274
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	19:00	20:00	347.9	12.2	276
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	20:00	21:00	327.9	8.5	268
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	21:00	22:00	303.7	8.8	278
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	22:00	23:00	279.1	8.4	282
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	23:00	00:00	284.3	6.4	270
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	00:00	01:00	313.3	9	280
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	01:00	02:00	366.3	5.8	274
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	02:00	03:00	376.2	9.2	284
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	03:00	04:00	386.9	7.2	285
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	04:00	05:00	371.9	5.6	255
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	05:00	06:00	352.3	4	269
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	06:00	07:00	367	4.5	256
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	07:00	08:00	284.7	4.2	257
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	08:00	09:00	229.8	5.1	256
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	09:00	10:00	186.3	3.7	276
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	10:00	11:00	137.4	4.2	290
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	11:00	12:00	118.2	4.4	336
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	12:00	13:00	91.8	4.3	333
431646	Happy Valley	PM <sub>2.5</sub>	15-Aug-24	01:00	02:00	92.6	1.7	272
431646	Happy Valley	PM <sub>2.5</sub>	18-Aug-24	22:00	23:00	97.9	3.7	113
431646	Happy Valley	PM <sub>2.5</sub>	21-Aug-24	10:00	11:00	81.6	15.6	45
431646	Happy Valley	PM <sub>2.5</sub>	21-Aug-24	11:00	12:00	96.4	18.1	49
431646	Happy Valley	PM <sub>2.5</sub>	23-Aug-24	22:00	23:00	95.4	3.6	256
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	06:00	07:00	271.6	14.1	252
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	07:00	08:00	262.4	11.5	247
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	08:00	09:00	214.7	10.5	241

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	09:00	10:00	222.8	11.6	244
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	15:00	16:00	168.5	11.6	244
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	16:00	17:00	142	13.6	251
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	17:00	18:00	124.5	8.1	243
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	18:00	19:00	182.7	5.2	237
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	19:00	20:00	197.7	7.4	246
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	20:00	21:00	213.2	10.2	240
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	21:00	22:00	258.3	10.6	242
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	22:00	23:00	215.2	11.2	244
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	23:00	00:00	135.1	9.6	243
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	00:00	01:00	122.8	10.3	245
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	01:00	02:00	93.4	11.1	251
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	02:00	03:00	93.2	6.5	239
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	03:00	04:00	119	6.9	234
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	04:00	05:00	131.3	6.5	236
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	05:00	06:00	262.3	7.4	246
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	06:00	07:00	275	8.2	250
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	07:00	08:00	247.5	8.2	244
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	08:00	09:00	212.3	18	250
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	09:00	10:00	147.5	22.5	252
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	10:00	11:00	112.9	23.3	254
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	18:00	19:00	103.5	6	240
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	19:00	20:00	143.5	5.8	252
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	20:00	21:00	128.5	4.8	243
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	21:00	22:00	93.7	8.6	246
432735	Happy Valley	PM <sub>2.5</sub>	08-Sep-24	18:00	19:00	95.4	6.2	312
423467	Henry Pirker	PM <sub>2.5</sub>	01-Jan-24	00:00	01:00	136.7	1.4	265
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	02:00	03:00	714.1	6.8	21
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	03:00	04:00	974.4	2	29
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	04:00	05:00	1031.9	2.5	299
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	05:00	06:00	1092.6	3.4	344
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	06:00	07:00	1094.8	2.7	321
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	07:00	08:00	1001	3.7	313
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	08:00	09:00	1119.2	3	307
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	09:00	10:00	1194.3	1.8	286
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	10:00	11:00	1218.1	0.8	142
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	11:00	12:00	1029.6	3.3	134
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	12:00	13:00	927.1	1.6	110
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	13:00	14:00	878.6	4.3	168
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	14:00	15:00	876.2	3.2	148
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	15:00	16:00	810.1	3.9	129
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	16:00	17:00	769.8	1.2	232
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	17:00	18:00	762.1	2.6	300
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	18:00	19:00	726.4	1.2	22
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	19:00	20:00	722.2	0.9	101
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	20:00	21:00	715.6	1.3	78
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	21:00	22:00	689.6	2	90
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	22:00	23:00	551.2	2.8	102
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	23:00	00:00	572.7	1.9	156
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	00:00	01:00	573.2	0.1	183
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	01:00	02:00	585.6	1.5	319
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	02:00	03:00	519.1	2.5	296
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	03:00	04:00	479.7	1.4	290



Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	04:00	05:00	470.8	3.6	308
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	05:00	06:00	505.9	3.4	305
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	06:00	07:00	535.8	2.8	300
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	07:00	08:00	445.2	3	256
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	08:00	09:00	225	10.4	238
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	09:00	10:00	81	5	28
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	10:00	11:00	85.9	2.9	38
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	11:00	12:00	85.2	1.1	35
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	12:00	13:00	89.4	5	159
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	13:00	14:00	109.5	3	167
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	14:00	15:00	95.2	6.2	73
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	21:00	22:00	86.3	4.5	97
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	22:00	23:00	89.1	4.9	100
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	23:00	00:00	81.9	4.7	117
430032	Henry Pirker	PM <sub>2.5</sub>	19-Jul-24	18:00	19:00	86.6	8.1	271
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	07:00	08:00	88.6	1.1	313
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	97.6	7.2	272
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	109.7	2.1	338
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	114.3	6.4	287
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	106.4	5	306
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	111.4	4.4	331
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	13:00	14:00	80.3	3.7	321
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	16:00	17:00	89.4	5.1	277
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	02:00	03:00	82.6	5.3	285
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	87.6	2.4	71
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	90.7	2.7	67
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	96.9	2	271
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	111	1.5	247
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	102	7.3	12
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	87.8	9.4	171
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	08:00	09:00	153.6	3	40
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	09:00	10:00	228.7	4.8	50
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	10:00	11:00	217.6	5.2	50
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	11:00	12:00	129	4.9	31
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	12:00	13:00	101.7	4	58
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	13:00	14:00	85.1	5.8	22
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	15:00	16:00	82.6	10.8	14
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	16:00	17:00	151.2	12.9	5
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	147.9	9.4	11
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	140.3	8.7	25
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	19:00	20:00	99.6	6.4	65
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	22:00	23:00	117.1	11.3	64
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	23:00	00:00	224.5	12.2	75
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	00:00	01:00	181.6	12.7	84
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	01:00	02:00	166.8	12.2	77
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	02:00	03:00	192	13.5	79
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	03:00	04:00	210.8	2.5	297
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	04:00	05:00	218.9	3.1	292
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	05:00	06:00	202.6	1.4	243
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	06:00	07:00	178.1	1.5	240
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	07:00	08:00	193	2.2	226
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	08:00	09:00	226.6	1.5	271
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	09:00	10:00	190.8	2.1	227

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	10:00	11:00	93	4.3	197
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	20:00	21:00	119.3	5.3	26
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	21:00	22:00	122.5	2.7	31
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	22:00	23:00	122.9	1.7	341
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	23:00	00:00	124	2	315
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	00:00	01:00	123	1	327
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	01:00	02:00	123.6	2.2	298
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	02:00	03:00	117.8	2.3	323
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	03:00	04:00	113.1	2.1	277
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	04:00	05:00	110.2	3.3	294
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	05:00	06:00	113.6	1.9	312
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	06:00	07:00	103.1	0.2	294
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	07:00	08:00	98.5	1.4	299
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	12:00	13:00	85.9	4.9	181
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	13:00	14:00	139.9	3.1	117
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	14:00	15:00	184.9	6.5	77
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	15:00	16:00	244.7	10	56
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	16:00	17:00	263.7	8.3	61
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	17:00	18:00	256.6	10.4	82
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	18:00	19:00	270.6	3.7	89
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	19:00	20:00	288.1	1.6	239
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	20:00	21:00	258.7	5	209
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	21:00	22:00	221	5.5	213
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	22:00	23:00	194.5	5.5	202
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	23:00	00:00	193.4	4.8	220
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	00:00	01:00	187.7	1.9	204
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	01:00	02:00	190.6	1.6	353
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	02:00	03:00	192.1	0.3	11
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	03:00	04:00	191.7	0.5	225
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	04:00	05:00	178.6	1.4	151
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	05:00	06:00	132.9	2.7	274
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	06:00	07:00	93.4	1.6	199
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	11:00	12:00	131.1	6.6	204
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	12:00	13:00	193.4	6.2	190
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	13:00	14:00	229.4	3.4	174
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	14:00	15:00	201.7	5	168
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	15:00	16:00	136.8	4.7	125
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	16:00	17:00	115.8	5.3	92
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	17:00	18:00	112.8	10.6	57
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	18:00	19:00	122.2	12.2	68
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	19:00	20:00	151.6	11.5	67
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	20:00	21:00	165.8	7.2	97
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	21:00	22:00	150.1	3.5	154
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	22:00	23:00	133.8	3.6	142
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	23:00	00:00	114.8	4.5	145
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	00:00	01:00	90.2	1.8	151
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	01:00	02:00	85.7	0.8	126
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	02:00	03:00	84.9	0.7	59
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	03:00	04:00	90.9	2.1	140
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	04:00	05:00	93.3	0.7	305
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	05:00	06:00	92.7	0.3	56
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	06:00	07:00	86.5	0.9	178
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	07:00	08:00	89.7	1.3	60

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	08:00	09:00	83	1	201
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	09:00	10:00	84.3	1.4	245
427960	Milner	PM <sub>2.5</sub>	11-May-24	18:00	19:00	205.9	2.9	50
427960	Milner	PM <sub>2.5</sub>	11-May-24	19:00	20:00	524.7	5.1	70
427960	Milner	PM <sub>2.5</sub>	11-May-24	20:00	21:00	630.1	3.3	63
427960	Milner	PM <sub>2.5</sub>	11-May-24	21:00	22:00	575.2	4.3	43
427960	Milner	PM <sub>2.5</sub>	11-May-24	22:00	23:00	568.2	4.1	53
427961	Milner	PM <sub>2.5</sub>	12-May-24	23:00	00:00	533.3	1.3	360
427961	Milner	PM <sub>2.5</sub>	12-May-24	00:00	01:00	511.4	1.7	32
427961	Milner	PM <sub>2.5</sub>	12-May-24	01:00	02:00	506.6	1.4	287
427961	Milner	PM <sub>2.5</sub>	12-May-24	02:00	03:00	501.3	1	314
427961	Milner	PM <sub>2.5</sub>	12-May-24	03:00	04:00	471.5	0.9	346
427961	Milner	PM <sub>2.5</sub>	12-May-24	04:00	05:00	390.5	0.4	273
427961	Milner	PM <sub>2.5</sub>	12-May-24	05:00	06:00	359.1	0.7	309
427961	Milner	PM <sub>2.5</sub>	12-May-24	06:00	07:00	316.5	3.7	242
427961	Milner	PM <sub>2.5</sub>	12-May-24	07:00	08:00	202.1	2	231
427961	Milner	PM <sub>2.5</sub>	12-May-24	08:00	09:00	114.8	4.7	249
436262	Milner	PM <sub>2.5</sub>	18-Dec-24	04:00	05:00	92.1	2.8	82
436262	Milner	PM <sub>2.5</sub>	18-Dec-24	05:00	06:00	99.9	4.2	71
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	09:00	10:00	88.4	6.1	47
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	10:00	11:00	98.6	4.8	44
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	11:00	12:00	103.4	4.9	69
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	12:00	13:00	99.4	2.5	78
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	13:00	14:00	102.4	1.1	158
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	14:00	15:00	117	1.9	224
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	15:00	16:00	119.4	1.9	221
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	16:00	17:00	111.7	7.1	265
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	17:00	18:00	98.9	8.5	267
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	18:00	19:00	92.4	3.3	253
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	19:00	20:00	105.1	2.3	254
427959	Smoky Heights	PM <sub>2.5</sub>	10-May-24	19:00	20:00	132.3	40.2	269
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	01:00	02:00	583.1	13.8	25
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	02:00	03:00	990	6.8	346
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	03:00	04:00	990	7.5	316
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	04:00	05:00	990	8.8	335
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	05:00	06:00	990	8.3	338
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	13:00	14:00	876.3	5.2	84
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	14:00	15:00	553.5	2.6	68
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	15:00	16:00	677.8	4.9	144
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	16:00	17:00	861.3	2.7	296
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	17:00	18:00	841.1	1.9	348
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	18:00	19:00	800.3	2.3	25
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	19:00	20:00	664	1.7	79
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	20:00	21:00	378	0.9	269
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	21:00	22:00	274.7	2.1	302
427959	Smoky Heights	PM <sub>2.5</sub>	11-May-24	22:00	23:00	307.8	2.3	245
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	23:00	00:00	394.5	4.1	207
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	00:00	01:00	384.6	2.1	254
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	01:00	02:00	344.5	3.7	268
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	02:00	03:00	275.6	4.7	252
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	03:00	04:00	248.2	4.5	247
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	04:00	05:00	242.1	5.8	245
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	05:00	06:00	280.9	6.7	221

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	06:00	07:00	292.7	7.9	212
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	07:00	08:00	304.1	6.7	239
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	08:00	09:00	89.4	16.8	260
430033	Smoky Heights	PM <sub>2.5</sub>	06-Jul-24	06:00	07:00	83.8	1.7	6
430033	Smoky Heights	PM <sub>2.5</sub>	15-Jul-24	13:00	14:00	84.1	10.5	257
430033	Smoky Heights	PM <sub>2.5</sub>	15-Jul-24	15:00	16:00	80.2	22.2	250
430033	Smoky Heights	PM <sub>2.5</sub>	19-Jul-24	19:00	20:00	140.6	17.7	302
430033	Smoky Heights	PM <sub>2.5</sub>	19-Jul-24	20:00	21:00	138.7	2.3	139
430033	Smoky Heights	PM <sub>2.5</sub>	19-Jul-24	21:00	22:00	110.3	9.9	183
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	00:00	01:00	111.3	9.7	14
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	01:00	02:00	127.4	10.4	27
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	23:00	03:00	119.5	7	21
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	105.5	7.8	13
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	94.2	7	21
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	81.4	6.2	356
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	12:00	13:00	116.1	17.4	300
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	13:00	14:00	94	16	297
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	14:00	15:00	80.8	12.8	296
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	16:00	17:00	99.5	15.6	306
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	17:00	18:00	103.7	16.2	301
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	18:00	19:00	144.9	10.3	300
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	19:00	20:00	213.7	14.6	290
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	20:00	21:00	204.2	9.3	306
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	21:00	22:00	192.7	9.3	310
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	22:00	23:00	165.3	7.6	291
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	23:00	00:00	206.8	10.2	286
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	00:00	01:00	201.9	10	256
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	01:00	02:00	167.6	8	265
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	02:00	03:00	194.1	7.3	277
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	03:00	04:00	163.3	5.9	280
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	04:00	05:00	176.6	5.9	266
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	05:00	06:00	182.4	5.4	254
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	06:00	07:00	193.3	4.3	279
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	11:00	12:00	187.8	8.1	224
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	12:00	13:00	160.7	9.9	220
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	18:00	19:00	129.7	14	25
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	19:00	20:00	105.7	10.7	36
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	20:00	21:00	88.2	6.3	35
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	21:00	22:00	83.6	4	32
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	22:00	23:00	80.4	3.2	1
431647	Smoky Heights	PM <sub>2.5</sub>	15-Aug-24	11:00	12:00	110.5	5.9	55
431647	Smoky Heights	PM <sub>2.5</sub>	15-Aug-24	12:00	13:00	108.3	4.8	51
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	12:00	13:00	81.8	18	248
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	13:00	14:00	163.2	29	265
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	14:00	15:00	152.5	22	264
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	15:00	16:00	184.9	18.4	255
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	16:00	17:00	232.9	12.7	239
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	17:00	18:00	251.8	8.9	245
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	18:00	19:00	223.8	9.2	226
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	19:00	20:00	203.2	10	205
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	20:00	21:00	183	7.8	226
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	21:00	22:00	167.9	4.6	258
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	22:00	23:00	143.4	8.2	243

Reference Number	Station	Pollutant	Date	From MST	To MST	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	23:00	00:00	117.8	10.7	254
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	00:00	01:00	112.4	10.4	248
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	01:00	02:00	103.1	11.3	270
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	02:00	03:00	97.9	7.2	238
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	03:00	04:00	97.7	5.9	223
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	04:00	05:00	105.9	9.4	206
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	05:00	06:00	116.7	8.1	242
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	06:00	07:00	103.4	8.8	243
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	07:00	08:00	109.5	7.6	225
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	08:00	09:00	89.3	8.3	229
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	12:00	13:00	122.7	14.8	222
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	13:00	14:00	114.6	21.3	261
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	20:00	21:00	96.8	6.3	258
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	22:00	23:00	81.2	7.3	260
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	23:00	00:00	83	5.6	259
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	00:00	01:00	88	6.4	214
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	01:00	02:00	90.1	5.3	231
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	02:00	03:00	90.2	0.6	262
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	03:00	04:00	84.5	4	217
435577	Smoky Heights	PM <sub>2.5</sub>	24-Nov-24	09:00	10:00	121.6	1.6	250
435577	Smoky Heights	PM <sub>2.5</sub>	24-Nov-24	10:00	11:00	141.7	1.1	175
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	03:00	04:00	83.9	3	16
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	05:00	06:00	224.7	3.4	296
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	06:00	07:00	753.9	4.6	103
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	07:00	08:00	338.6	1.9	163
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	08:00	09:00	98.5	2.8	129
435588	Smoky Heights	PM <sub>2.5</sub>	26-Nov-24	04:00	05:00	84.1	11.2	229

**Summary of readings above 24-hr PM<sub>2.5</sub> (AAAQO of 29  $\mu\text{g}/\text{m}^3$ ):**

Reference Number	Station	Pollutant	Date	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
425328	Beaverlodge	PM <sub>2.5</sub>	24-Jan-24	29.3	2.2	23
427955	Beaverlodge	PM <sub>2.5</sub>	11-May-24	949.9	5.6	23
427955	Beaverlodge	PM <sub>2.5</sub>	12-May-24	236.1	16.8	250
430029	Beaverlodge	PM <sub>2.5</sub>	06-Jul-24	38.5	5.3	71
430029	Beaverlodge	PM <sub>2.5</sub>	19-Jul-24	40.4	9.1	314
430029	Beaverlodge	PM <sub>2.5</sub>	21-Jul-24	58.4	17.9	83
430029	Beaverlodge	PM <sub>2.5</sub>	22-Jul-24	76	8.5	79
431645	Beaverlodge	PM <sub>2.5</sub>	10-Aug-24	36.6	5.2	134
431645	Beaverlodge	PM <sub>2.5</sub>	11-Aug-24	50	5.2	211
431645	Beaverlodge	PM <sub>2.5</sub>	12-Aug-24	86.8	7.6	183
431645	Beaverlodge	PM <sub>2.5</sub>	13-Aug-24	187.9	11.4	294
431645	Beaverlodge	PM <sub>2.5</sub>	14-Aug-24	181.9	7.9	282
431645	Beaverlodge	PM <sub>2.5</sub>	15-Aug-24	87.7	6.6	352
431645	Beaverlodge	PM <sub>2.5</sub>	21-Aug-24	34.4	10.6	310
432733	Beaverlodge	PM <sub>2.5</sub>	06-Sep-24	123.6	8.5	279
432733	Beaverlodge	PM <sub>2.5</sub>	07-Sep-24	138.4	8.4	269
432733	Beaverlodge	PM <sub>2.5</sub>	08-Sep-24	60.4	7.6	338
427956	Dunes	PM <sub>2.5</sub>	11-May-24	632.9	1.5	321
427956	Dunes	PM <sub>2.5</sub>	12-May-24	145.2	4.7	261
430030	Dunes	PM <sub>2.5</sub>	06-Jul-24	34.5	3	311
430030	Dunes	PM <sub>2.5</sub>	21-Jul-24	42.3	5.4	83
430030	Dunes	PM <sub>2.5</sub>	22-Jul-24	42.3	3.3	190
431737	Dunes	PM <sub>2.5</sub>	13-Aug-24	52.8	4.4	289

Reference Number	Station	Pollutant	Date	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
431737	Dunes	PM <sub>2.5</sub>	14-Aug-24	67.5	2.6	257
431737	Dunes	PM <sub>2.5</sub>	15-Aug-24	38.4	2.3	224
432734	Dunes	PM <sub>2.5</sub>	06-Sep-24	70	2.6	237
432734	Dunes	PM <sub>2.5</sub>	07-Sep-24	94.2	2.5	230
432734	Dunes	PM <sub>2.5</sub>	08-Sep-24	42.7	2.6	314
424247	Fox Creek	PM <sub>2.5</sub>	24-Jan-24	67.8	3.2	157
424320	Fox Creek	PM <sub>2.5</sub>	25-Jan-24	79.5	3	190
424784	Fox Creek	PM <sub>2.5</sub>	07-Feb-24	31	3.7	128
429594	Fox Creek	PM <sub>2.5</sub>	11-May-24	422.2	3.7	353
429594	Fox Creek	PM <sub>2.5</sub>	12-May-24	156.5	3.1	344
430782	Fox Creek	PM <sub>2.5</sub>	20-Jul-24	30.3	2.8	132
430782	Fox Creek	PM <sub>2.5</sub>	21-Jul-24	82.3	9	127
430782	Fox Creek	PM <sub>2.5</sub>	22-Jul-24	44.2	8.3	138
430782	Fox Creek	PM <sub>2.5</sub>	23-Jul-24	37.4	6.7	3
430782	Fox Creek	PM <sub>2.5</sub>	25-Jul-24	30	7	313
431842	Fox Creek	PM <sub>2.5</sub>	13-Aug-24	35.5	4.8	307
431842	Fox Creek	PM <sub>2.5</sub>	15-Aug-24	49	3.8	139
431842	Fox Creek	PM <sub>2.5</sub>	16-Aug-24	32	4.4	118
432761	Fox Creek	PM <sub>2.5</sub>	07-Sep-24	46.2	3.2	206
432761	Fox Creek	PM <sub>2.5</sub>	08-Sep-24	30.8	3.3	173
436082	Fox Creek	PM <sub>2.5</sub>	12-Dec-24	30.7	7.1	148
427957	Happy Valley	PM <sub>2.5</sub>	11-May-24	868	6.9	170
427957	Happy Valley	PM <sub>2.5</sub>	12-May-24	133.3	13.4	246
430031	Happy Valley	PM <sub>2.5</sub>	06-Jul-24	50.8	6.2	267
430031	Happy Valley	PM <sub>2.5</sub>	19-Jul-24	75.2	8.3	246
430031	Happy Valley	PM <sub>2.5</sub>	20-Jul-24	60.2	4.7	39
430031	Happy Valley	PM <sub>2.5</sub>	21-Jul-24	54.3	12.5	86
430031	Happy Valley	PM <sub>2.5</sub>	22-Jul-24	126.1	5.1	98
431646	Happy Valley	PM <sub>2.5</sub>	10-Aug-24	30.4	8.1	168
431646	Happy Valley	PM <sub>2.5</sub>	11-Aug-24	61	4.4	223
431646	Happy Valley	PM <sub>2.5</sub>	12-Aug-24	48.1	8.7	217
431646	Happy Valley	PM <sub>2.5</sub>	13-Aug-24	215.9	12.6	270
431646	Happy Valley	PM <sub>2.5</sub>	14-Aug-24	164	6.1	299
431646	Happy Valley	PM <sub>2.5</sub>	15-Aug-24	51	5	317
431646	Happy Valley	PM <sub>2.5</sub>	21-Aug-24	31.2	10.7	286
432735	Happy Valley	PM <sub>2.5</sub>	06-Sep-24	142.2	10.9	245
432735	Happy Valley	PM <sub>2.5</sub>	07-Sep-24	111.3	11.6	252
432735	Happy Valley	PM <sub>2.5</sub>	08-Sep-24	44	7.6	300
425329	Henry Pirker	PM <sub>2.5</sub>	20-Jan-24	34.9	2.2	115
425330	Henry Pirker	PM <sub>2.5</sub>	24-Jan-24	36.4	1.6	306
427954	Henry Pirker	PM <sub>2.5</sub>	11-May-24	811.6	2.8	342
427954	Henry Pirker	PM <sub>2.5</sub>	12-May-24	184.8	10.7	249
430032	Henry Pirker	PM <sub>2.5</sub>	06-Jul-24	53.4	5.7	87
430032	Henry Pirker	PM <sub>2.5</sub>	21-Jul-24	59.3	4.9	339
430032	Henry Pirker	PM <sub>2.5</sub>	22-Jul-24	69	5.7	104
431691	Henry Pirker	PM <sub>2.5</sub>	12-Aug-24	36.7	5.5	180
431691	Henry Pirker	PM <sub>2.5</sub>	13-Aug-24	99.2	6.5	52
431691	Henry Pirker	PM <sub>2.5</sub>	14-Aug-24	112.9	5.5	93
431691	Henry Pirker	PM <sub>2.5</sub>	15-Aug-24	65.2	3.3	335
432736	Henry Pirker	PM <sub>2.5</sub>	06-Sep-24	115	4.4	139
432736	Henry Pirker	PM <sub>2.5</sub>	07-Sep-24	138.3	4.6	133
432736	Henry Pirker	PM <sub>2.5</sub>	08-Sep-24	68.1	4.1	319
427960	Milner	PM <sub>2.5</sub>	11-May-24	137.5	5.6	195
427961	Milner	PM <sub>2.5</sub>	12-May-24	144.9	10.3	237

Reference Number	Station	Pollutant	Date	Average $\mu\text{g}/\text{m}^3$	WS km/h	WD degrees
430850	Milner	PM <sub>2.5</sub>	21-Jul-24	36.3	5.4	53
430851	Milner	PM <sub>2.5</sub>	22-Jul-24	38.3	3.2	277
431839	Milner	PM <sub>2.5</sub>	15-Aug-24	37.7	2.4	17
435678	Milner	PM <sub>2.5</sub>	29-Nov-24	32.8	3.9	84
436262	Milner	PM <sub>2.5</sub>	18-Dec-24	33.4	3.5	77
436284	Milner	PM <sub>2.5</sub>	19-Dec-24	71.4	3.4	321
425332	Smoky Heights	PM <sub>2.5</sub>	24-Jan-24	33.5	7.4	226
427959	Smoky Heights	PM <sub>2.5</sub>	12-May-24	109.1	14.8	249
430033	Smoky Heights	PM <sub>2.5</sub>	06-Jul-24	44.8	8.1	291
430033	Smoky Heights	PM <sub>2.5</sub>	15-Jul-24	33.6	12.3	254
430033	Smoky Heights	PM <sub>2.5</sub>	19-Jul-24	36.4	9.3	210
430033	Smoky Heights	PM <sub>2.5</sub>	22-Jul-24	45.1	7.4	31
431647	Smoky Heights	PM <sub>2.5</sub>	13-Aug-24	87	10.4	274
431647	Smoky Heights	PM <sub>2.5</sub>	14-Aug-24	116.8	7.6	268
431647	Smoky Heights	PM <sub>2.5</sub>	15-Aug-24	52.9	5.9	22
432738	Smoky Heights	PM <sub>2.5</sub>	06-Sep-24	92.9	11.4	242
432738	Smoky Heights	PM <sub>2.5</sub>	07-Sep-24	81.2	11.6	246
432738	Smoky Heights	PM <sub>2.5</sub>	08-Sep-24	44.3	6.7	298
435577	Smoky Heights	PM <sub>2.5</sub>	25-Nov-24	71.1	7.4	244

**Summary of readings above the SO<sub>2</sub> monthly AAAQO (11ppb):**

reference	Site	Pollutant	Date	Average ppb
430670	Kakwa 3	SO <sub>2</sub> Passive	Jun-24	11.2
432261	Kakwa 3	SO <sub>2</sub> Passive	Jul-24	16.3
432261	Kakwa 3, duplicate	SO <sub>2</sub> Passive	Jul-24	16.9

**Summary of readings above the industrial dustfall monthly AAAQG (158mg/100cm<sup>2</sup>/30d)**

reference	Site	Pollutant	Date	Average mg/100cm <sup>2</sup> /30d
426287	Milner Pipeline	Total Dustfall	Feb-24	191
427210	Milner Pipeline	Total Dustfall	Feb-24	163.5
434535	Milner Pipeline	Total Dustfall	Sep-24	161.3

**Summary of readings above the industrial dustfall monthly AAAQG (53mg/100cm<sup>2</sup>/30d)**

reference	Site	Pollutant	Date	Average mg/100cm <sup>2</sup> /30d
426285	Milner Wanyandie	Total Dustfall	Feb-24	55.2
430669	Milner Wanyandie	Total Dustfall	Jun-24	59.4
432262	Milner Wanyandie	Total Dustfall	Jul-24	54.8
435504	Milner Wanyandie	Total Dustfall	Oct-24	111.1

**Operational times less than 90 percent:**

- Beaverlodge
  - None
- Dunes
  - None

Fox Creek

- July power issues resulted in operation <90% (reference #430241)

Henry Pirker

- None

Happy Valley

- Monitoring began in May 2024, data collected in year <75%, no valid annual averages
- In November freezing rain impacted the wind sensor and required replacement, <90% (89%, reference #436341)

Milner

- None

Poplar

- Monitoring ended in April 2024, data collected in year <75%, no valid annual averages

Smoky Heights

- January PM<sub>2.5</sub> was <90% (87.5%) due to analyzer issues and cold (reference #524087)

Valleyview

- None

**Air Incidents**

- Extreme cold period between Jan 11 and 14 (less than -35°C)
- May 11-12, 2024 was a high smoke event in the region resulting in several readings above the AAAQG and AAAQO through the region
- July-September Wildfire smoke in the region resulted in periods of elevated AQHI during the month.

**Deviations from Authorized Monitoring Methods**

None to report

**Data deletions or resubmissions since monthly reports submitted.**

None to report

**Missed calibrations.**

None to report

**AEPA Audits in 2024.**

All eight stations in the PAZA network were audited between March 17 and March 22. All stations passed. Few items for the Milner station were identified as 'opportunities for improvement'. Most of these recommendations were implemented.



## Passive Monitoring

Passive samples were analyzed by Bureau Veritas Laboratories

575 passive sulphur dioxide samples collected over 12 months at 48 sites in PAZA

- Minimum annual average was 0.1ppb collected at Little Smoky and East Prairie
- Maximum annual average was 5.7ppb collected at Kakwa 3
- Maximum overall monthly average was 16.6ppb in July 2024

36 passive ozone samples collected over 12 months at 3 sites in PAZA

- Minimum annual average was 30.1ppb collected at Kinuso
- Maximum annual average was 31.8ppb collected at Bay Tree
- Maximum overall monthly average was 45.3ppb at Kinuso in April 2024

547 passive nitrogen dioxide samples collected over 12 months at 46 sites in PAZA

- Minimum annual average was 0.6ppb collected at East Prairie
- Maximum annual average was 5.6ppb collected at Grande Prairie
- Maximum overall monthly value was 15.2ppb at Grande Prairie in January 2024

190 passive hydrogen sulphide samples collected over 12 months at 16 sites in PAZA

- Minimum annual average was 0.01ppb collected at Jayar1 Plant, Kakwa1, Kakwa2, and Kakwa4
- Maximum annual average was 0.5ppb collected at Gordondale (only 3 valid samples in year) and Girouxville 3
- Maximum overall monthly average was 0.9ppb at Gordondale in July 2024

There were three monthly events which were above the SO<sub>2</sub>, 30-d AAAQO during 2024.

## Dustfall Monitoring

Dustfall samples were analyzed by Bureau Veritas Laboratories

59 dustfall samples collected over 12 months at 5 sites in PAZA

- Minimum annual average was 22.1 mg/100cm<sup>2</sup>/30day collected at Milner Bridge
- Maximum annual average was 104.7 mg/100cm<sup>2</sup>/30day collected at Milner Pipeline
- Maximum monthly average was 191.0 mg/100cm<sup>2</sup>/30day collected at Milner Pipeline in February 2024

There were seven monthly events above the AAAQGs for dustfall, four based on the residential and recreational area and three based on the commercial and industrial area during 2024.

I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization, and reporting requirements.



Mandeep Dhaliwal, B.Sc., P.Chem.

Program Manager

## 1 Summary of Key Parameters monitored in 2024

The PAZA air monitoring network in 2024 includes a continuous monitoring network and a passive network. The continuous monitoring network contains eight air monitoring stations. The following table identifies the parameters that have been monitored within the network in 2024.

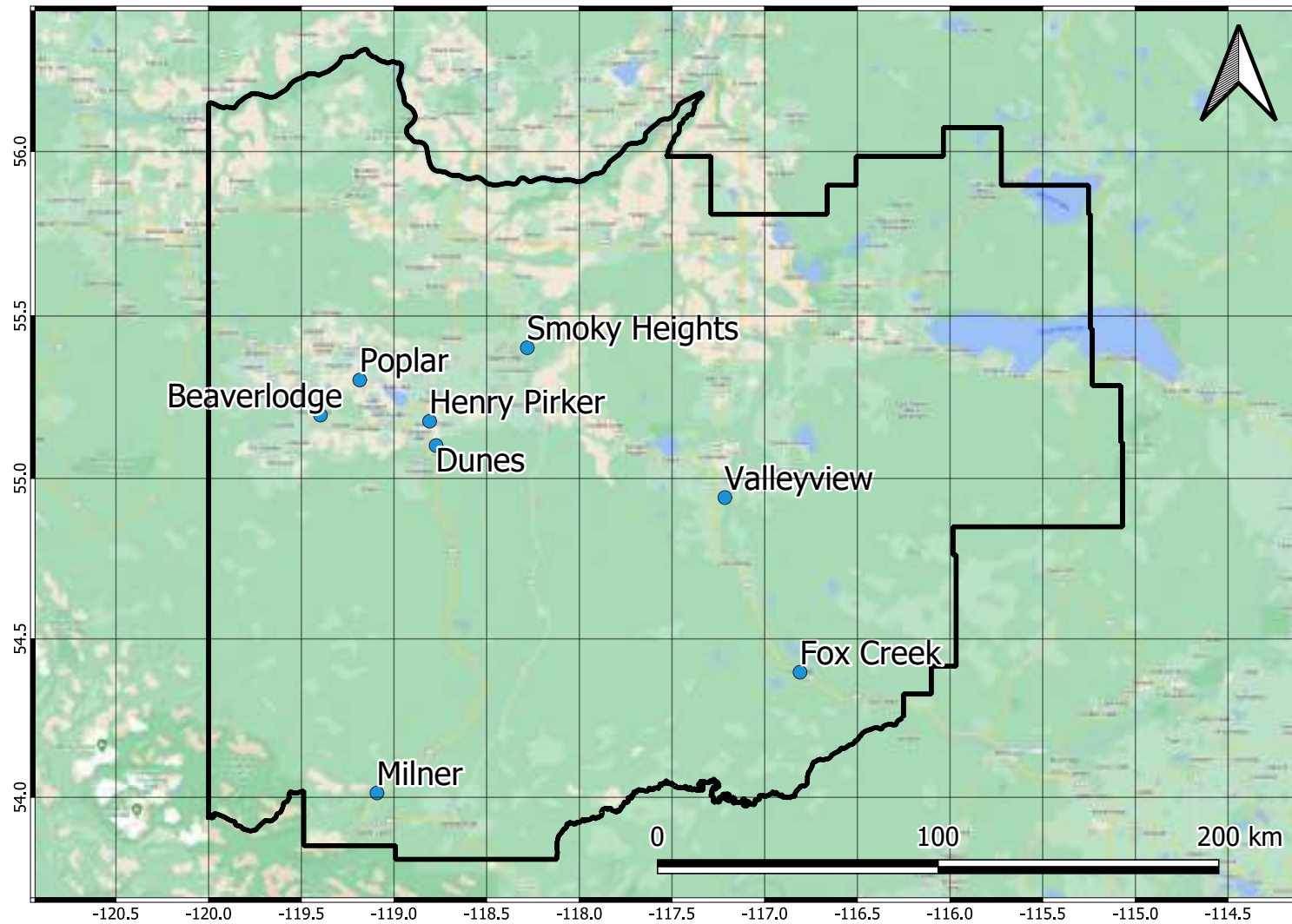
The continuous air monitoring stations in this report measured the following parameters in 2024:

Station Name	SO <sub>2</sub>	H <sub>2</sub> S / TRS	NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>	CO	THC / CH <sub>4</sub> / NMHC	PM <sub>2.5</sub>	ET / SR	RH	WS / WD
	Sulphur Dioxide	Hydrogen Sulphide / Total Reduced Sulphur	Nitric Oxide / Nitrogen Dioxide / Nitrogen Oxides	Ozone	Carbon Monoxide	Total Hydrocarbons / Methane / Nonmethane Hydrocarbons	Fine Particulate Matter	Temperature / Solar Radiation	Relative Humidity	Wind Speed / Wind Direction
Beaverlodge	SO <sub>2</sub>		NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>			PM <sub>2.5</sub>	ET	RH	WS / WD
Dunes	SO <sub>2</sub>	TRS					PM <sub>2.5</sub>	ET	RH	WS / WD
Fox Creek	SO <sub>2</sub>	H <sub>2</sub> S	NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>			PM <sub>2.5</sub>	ET		WS / WD
Henry Pirker	SO <sub>2</sub>	H <sub>2</sub> S	NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>	CO	THC / CH <sub>4</sub> / NMHC	PM <sub>2.5</sub>	ET + SR	RH	WS / WD
Milner			NO / NO <sub>2</sub> / NO <sub>x</sub>				PM <sub>2.5</sub>			WS / WD
Poplar (Jan-Apr)	SO <sub>2</sub>	TRS	NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>		THC	PM <sub>2.5</sub>	ET		WS / WD
Happy Valley (May-Dec)	SO <sub>2</sub>	TRS	NO / NO <sub>2</sub> / NO <sub>x</sub>	O <sub>3</sub>		THC	PM <sub>2.5</sub>	ET		WS / WD
Smoky Heights	SO <sub>2</sub>	TRS					PM <sub>2.5</sub>	ET		WS / WD
Valleyview	SO <sub>2</sub>	H <sub>2</sub> S						ET	RH	WS / WD

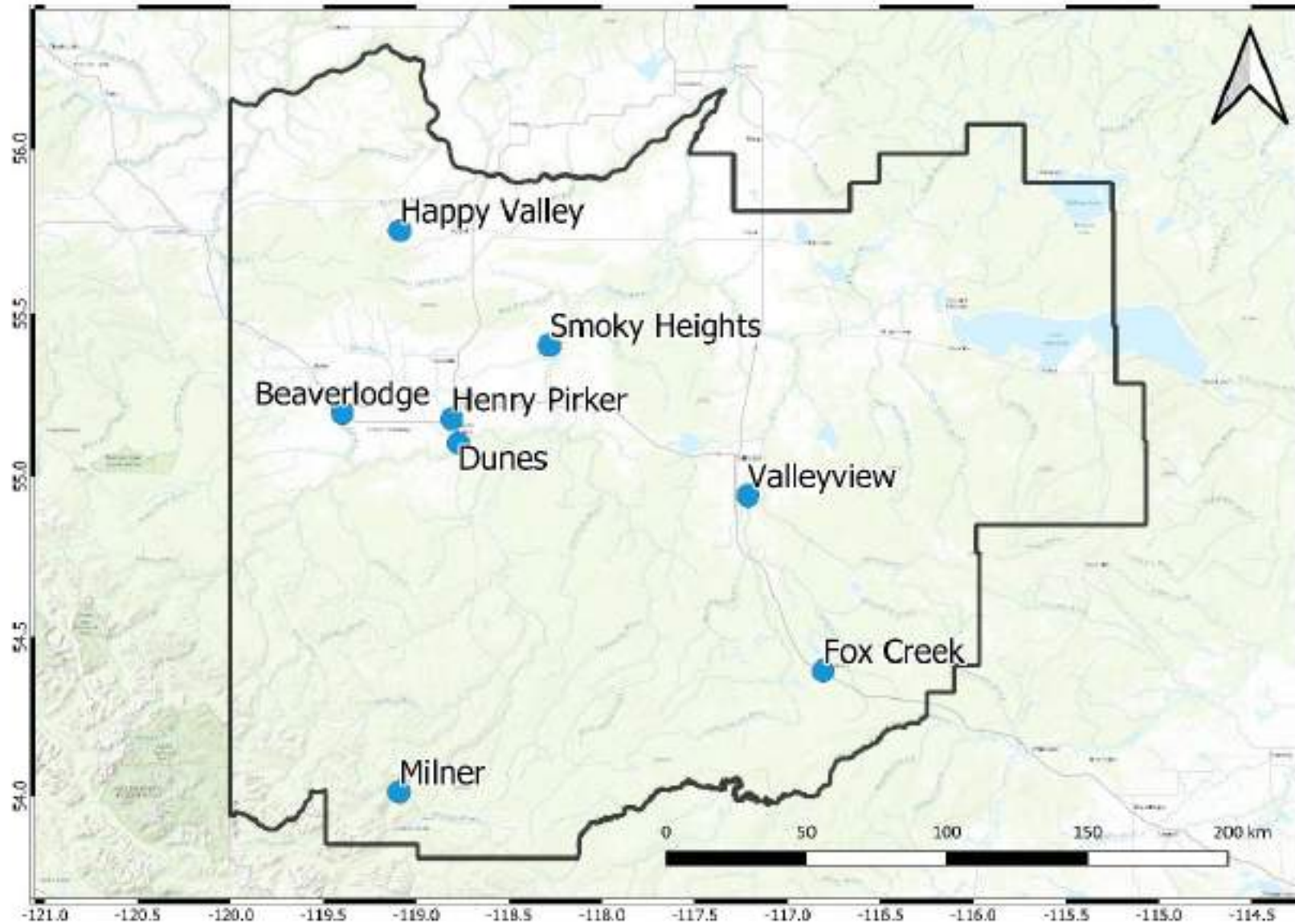
The following figure illustrates the location of the monitoring stations.

## 1.1 Map of PAZA Continuous Stations in 2024

### 1.1.1 Map of PAZA Continuous Stations in 2024 (January to April)



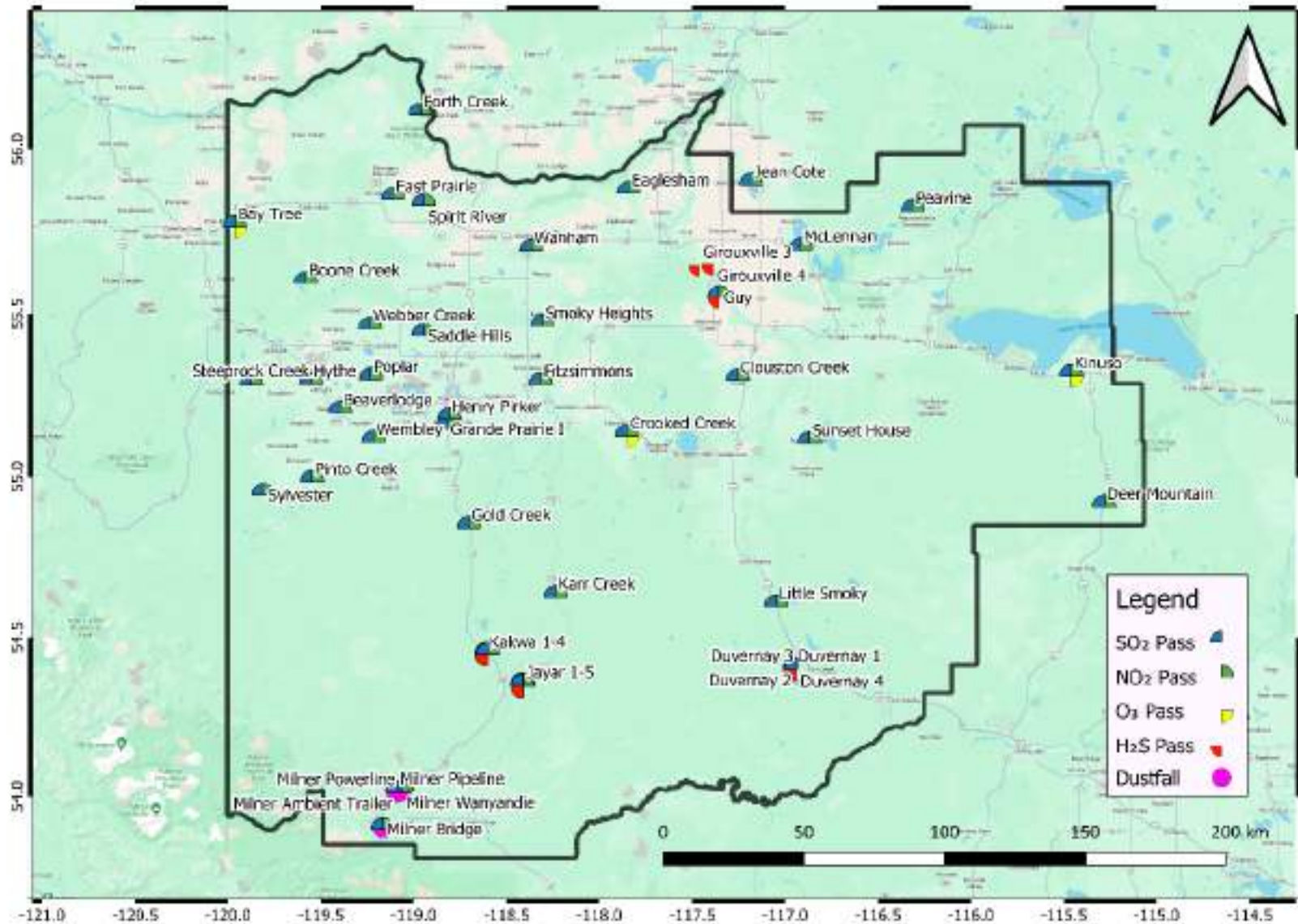
### 1.1.2 Map of PAZA Continuous Stations in 2024 (May to December)



The PAZA Passive monitoring network in 2024 included collection of NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>S and dustfall at 54 sites located throughout the region, the following table highlights what is collected at each site and the figure illustrates the locations of the monitoring sites.

Site	SO <sub>2</sub>	O <sub>3</sub>	NO <sub>2</sub>	H <sub>2</sub> S	Dustfall
Bay Tree	X	X	X		
Forth Creek	X		X		
Gordondale				X	
Boone Creek	X		X		
Steepprock Creek	X		X		
Spirit River	X		X		
Webber Creek	X		X		
Hythe	X		X		
Sylvester	X		X		
Beaverlodge	X		X		
Poplar	X		X		
Saddle Hills	X		X		
Wanham	X		X		
Eaglesham	X		X		
Wembley	X		X		
Pinto Creek	X		X		
Grande Prairie I	X		X		
Smoky Heights	X		X		
Fitzsimmons	X		X		
Gold Creek	X		X		
Jean Cote	X		X		
Guy	X		X	X	
Crooked Creek	X	X	X		
Karr Creek	X		X		
Clouston Creek	X		X		
McLennan	X		X		
Sunset House	X		X		
Peavine	X		X		
Little Smoky	X		X		
Kinuso	X	X	X		
Deer Mountain	X		X		
Henry Pirker	X		X		
East Prairie	X		X		
Jayar1 Plant	X		X	X	
Jayar2 148	X		X	X	
Jayar3 Bone Yard	X		X	X	
Jayar4 78 or 88 Pad	X		X	X	
Jayar5 Camp	X		X	X	
Girouxville 3				X	
Girouxville 4				X	
Duvernay 1	X			X	
Duvernay 2	X			X	
Duvernay 3	X			X	
Duvernay 4	X			X	
Milner Pipeline	X		X		X
Milner Bridge	X		X		X
Milner Wanyandie	X		X		X
Milner Ambient Trailer	X		X		
Milner Powerline	X		X		X
Milner Waste Pond					X
Kakwa 1	X		X	X	
Kakwa 2	X		X	X	
Kakwa 3	X		X	X	
Kakwa 4	X		X	X	

## 1.2 Map of PAZA Passive Stations in 2024



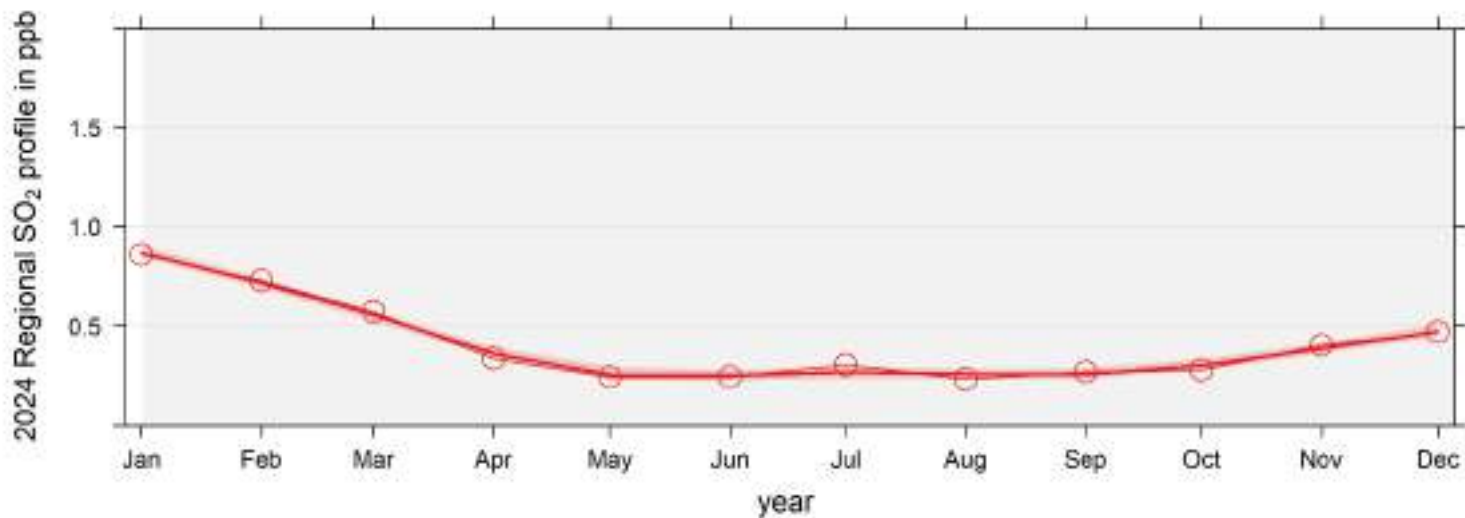
## 2 PAZA Key Parameters - 2024 Summary

### 2.1 Sulphur Dioxide (SO<sub>2</sub>) 2024 Summary

Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Beaverlodge	Sulphur Dioxide SO <sub>2</sub> measured in ppb	0.6	4.1	Jan 20	65.8	Jun 22 13:00	99.8%	0	0	0	0
Dunes		0.5	5.5	Feb 08	82.7	Feb 08 17:00	98.9%	0	0	0	0
Fox Creek		0.3	4.7	Oct 19	53.2	Oct 19 06:00	98.2%	0	0	0	0
Happy Valley		1.7	May 11	13.5	Aug 15 13:00	66.6%	0	0	0	0	
Henry Pirker		0.4	5.1	Jan 15	35.0	Jul 28 09:00	99.7%	0	0	0	0
Poplar		3.6	Jan 19	42.4	Apr 15 09:00	33.1%	0	0	0	0	
Smoky Heights		0.3	3.9	Feb 16	13.7	Feb 16 15:00	99.7%	0	0	0	0
Valleyview		0.1	1.0	Dec 19	7.6	Nov 06 01:00	99.7%	0	0	0	0

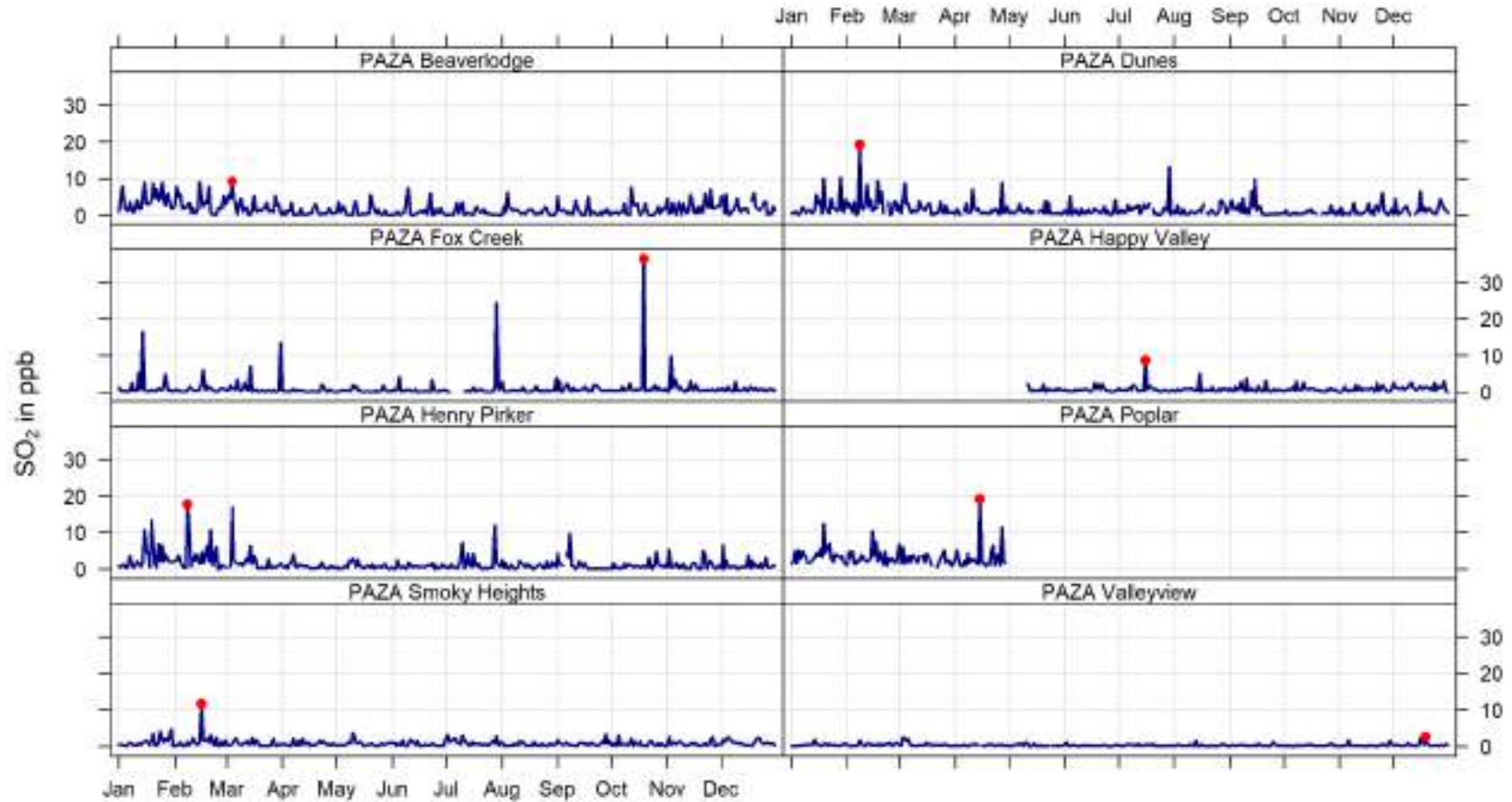
Note: Poplar collected from Jan to April and Happy Valley collected from May to December, 2024

The regional profile for sulphur dioxide shows low concentrations measured over the 2024 monitoring period (annual averages less than 1 ppb).



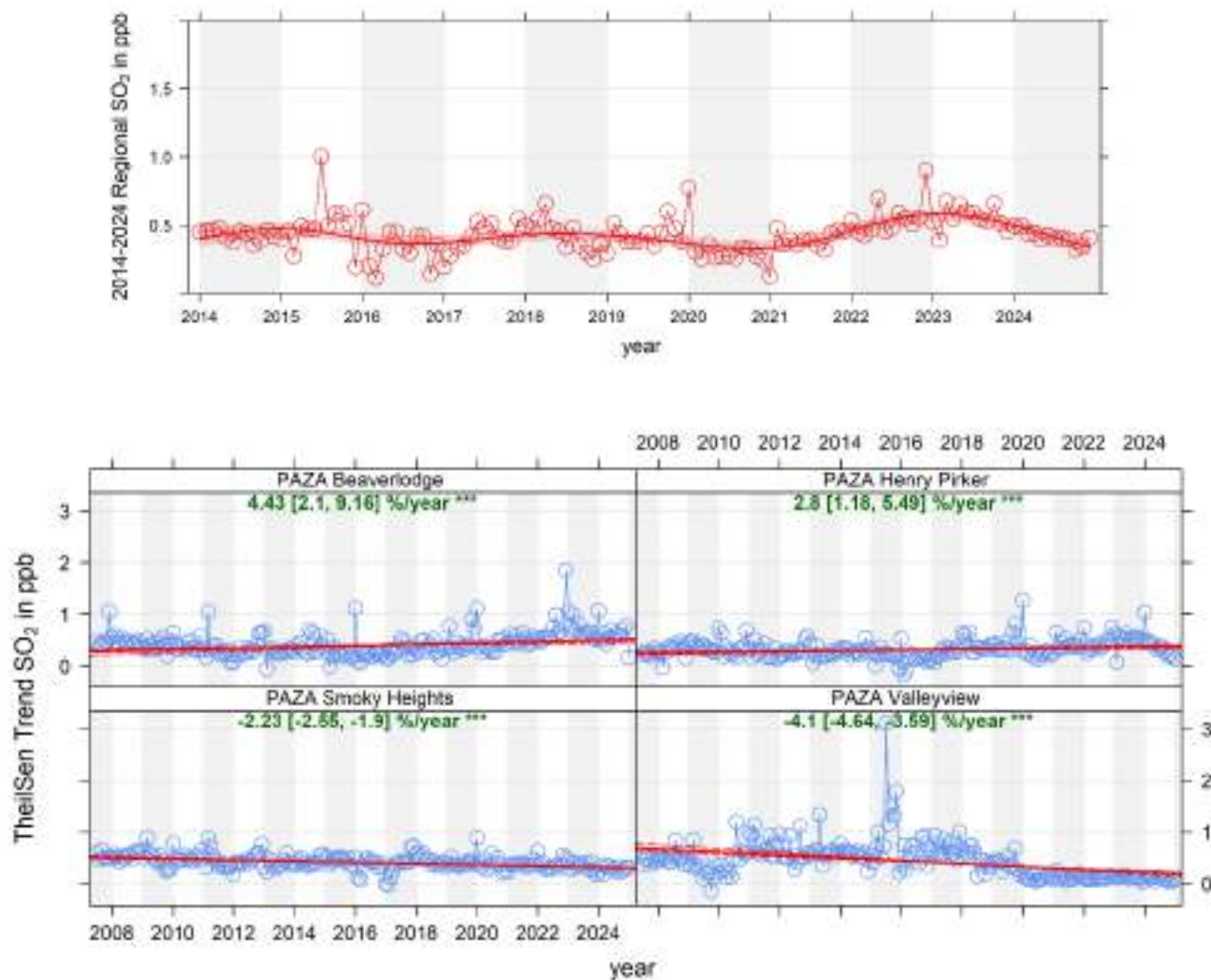
Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed similar profiles at Beaverlodge, Dunes, Fox Creek, Henry Pirker and Smoky Heights. Poplar and Happy Valley were only partial years of monitoring. Valleyview had the lowest concentration profile for the year (0.1ppb), with Beaverlodge showing the highest concentration profile and highest annual average (0.6ppb).

2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association





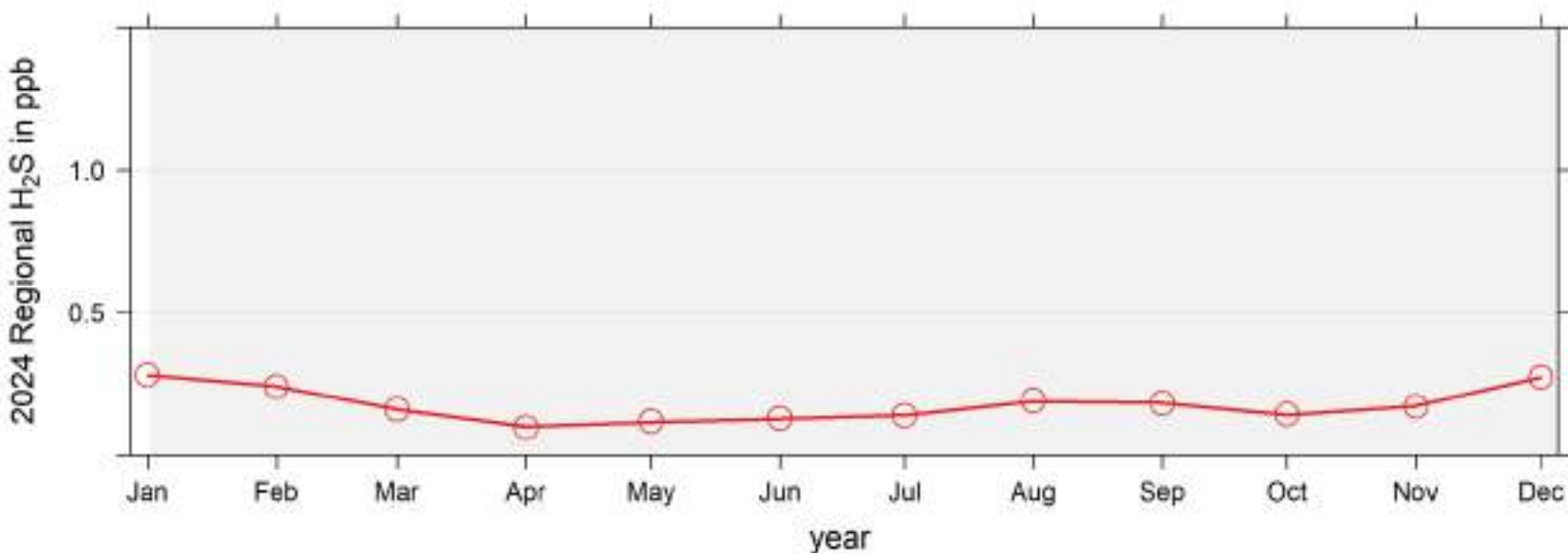
The overall regional historical profile show concentrations over the last decade remain below 1ppb with slight fluctuations over the years. For the historical trends we note Beaverlodge and Henry Pirker showing an increasing trend with Smoky Heights and Valleyview showing a decreasing trend (figures represent regional long term trend and station long term trend based on Theil-Sen test).



## 2.2 Hydrogen Sulphide (H<sub>2</sub>S) 2024 Summary

Station	Parameter	Annual Average	Maximum Values			Operational Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr		Date	1-hr	24-hr	30-d	Annual
Fox Creek	Hydrogen Sulphide H <sub>2</sub> S measured in ppb	0.2	0.6	Jan 23	2.3	Aug 31 07:00	96.2%	0	0	-	-
Henry Pirker		0.2	1.0	Jan 15	2.2	Sep 07 23:00	99.8%	0	0	-	-
Valleyview		0.1	1.2	Mar 21	5.1	Aug 18 23:00	99.8%	0	0	-	-

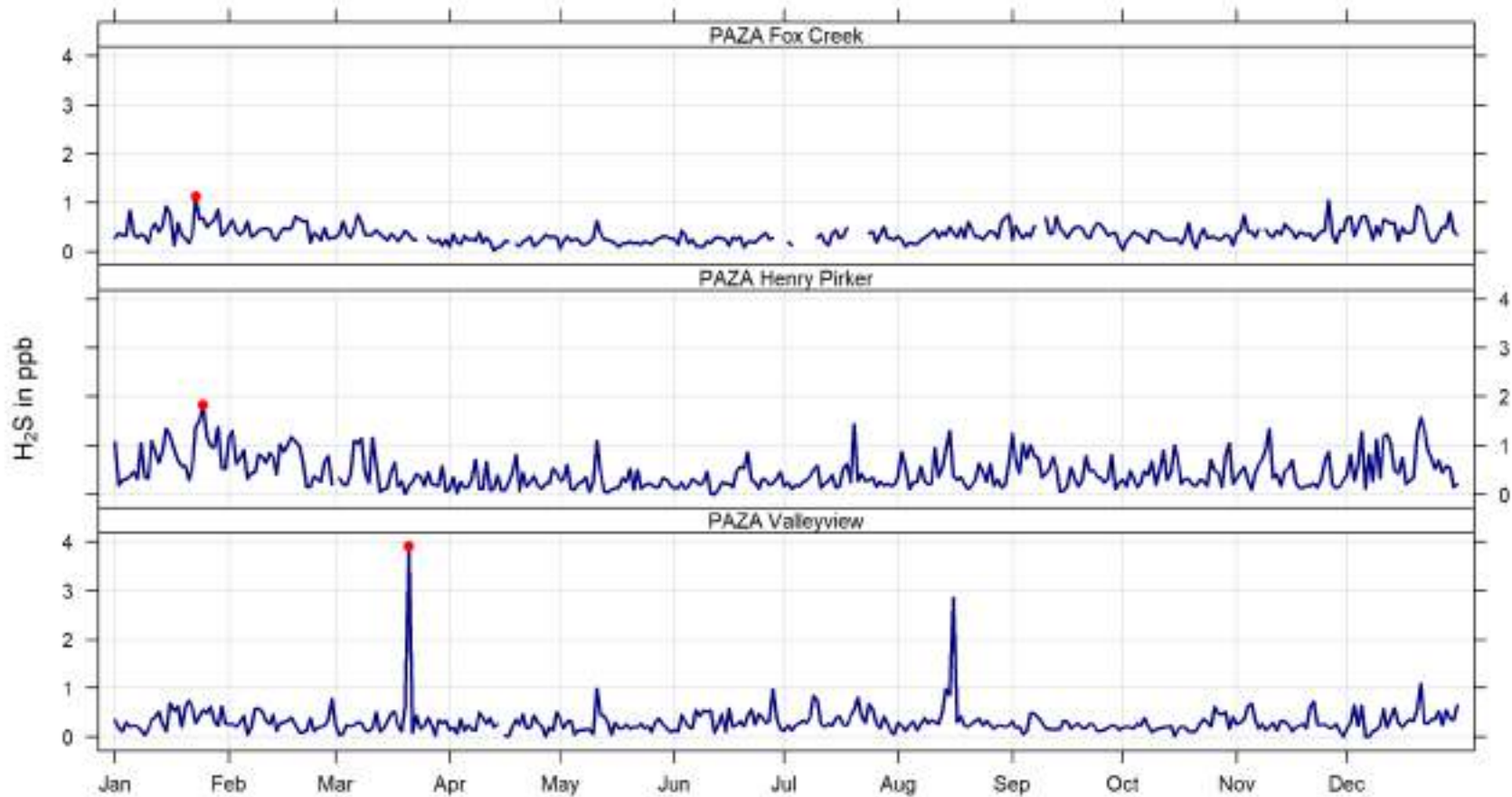
The regional profile for hydrogen sulphide shows low concentrations measured over the 2024 monitoring period (with averages typically less than 0.5 ppb).



Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) were relatively constant with a few small spikes noted at Valleyview (<5ppb). Overall

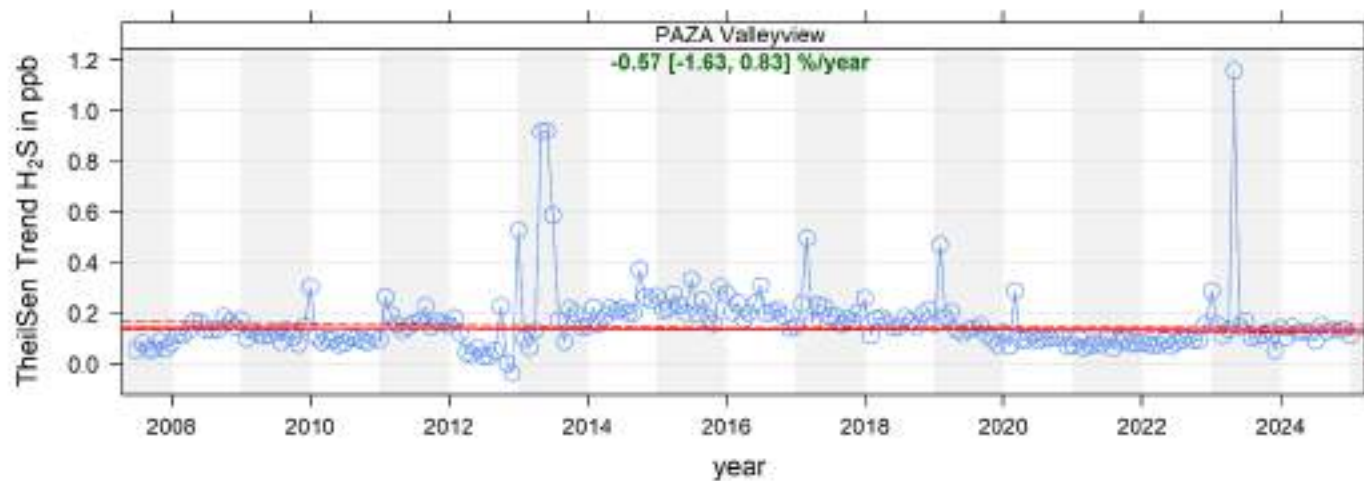
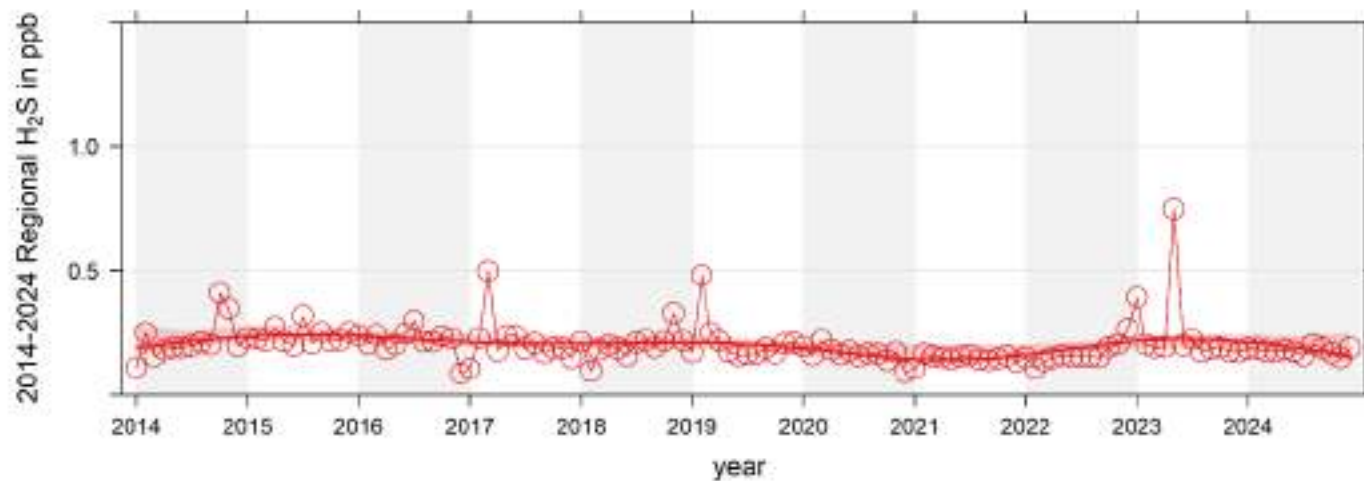
maximums from the sites occurred in early 2024 (January and March). Valleyview had the lowest annual average for the year (0.1ppb), with Henry Pirker and Fox Creek showing the highest annual average at 0.2ppb.

2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



The overall regional historical profile show concentrations over the last decade remain below 1ppb with spikes that have occurred over the

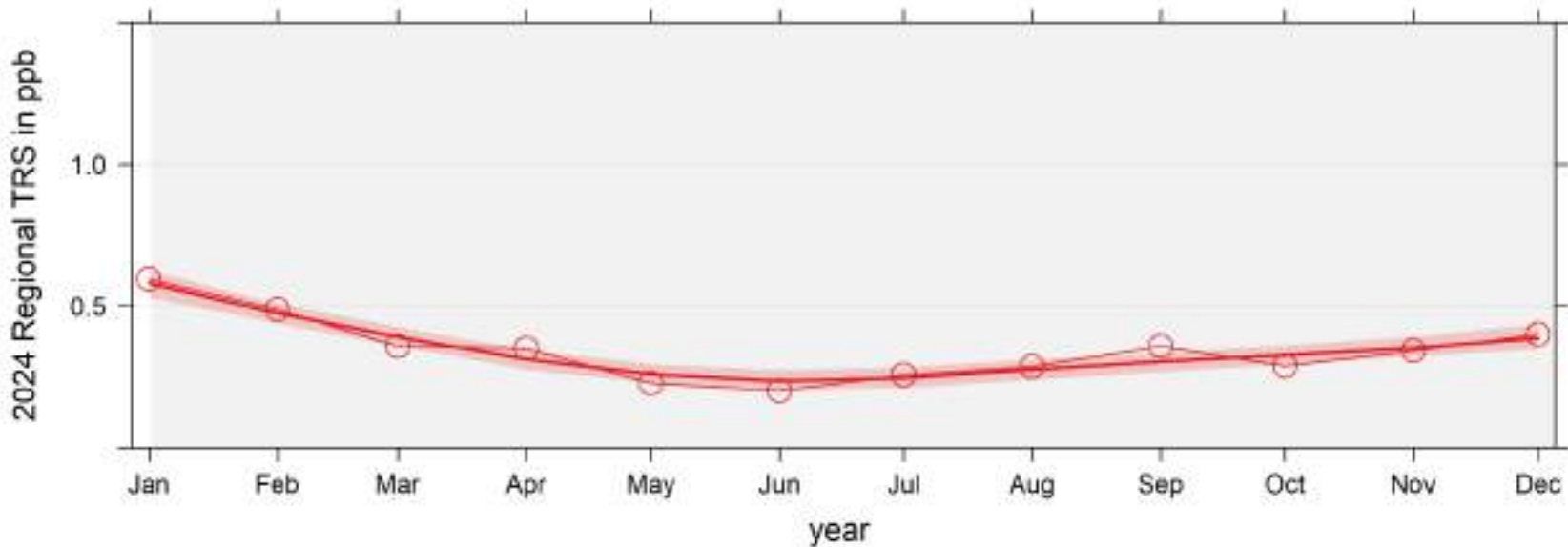
years. For the historical trends Valleyview has the longest monitoring period, showing no difference in statistical trends (based on Theil-Sen test), meaning the trend is neither increasing nor decreasing over the long-term monitoring period.



### 2.3 Total Reduced Sulphur (TRS) 2024 Summary

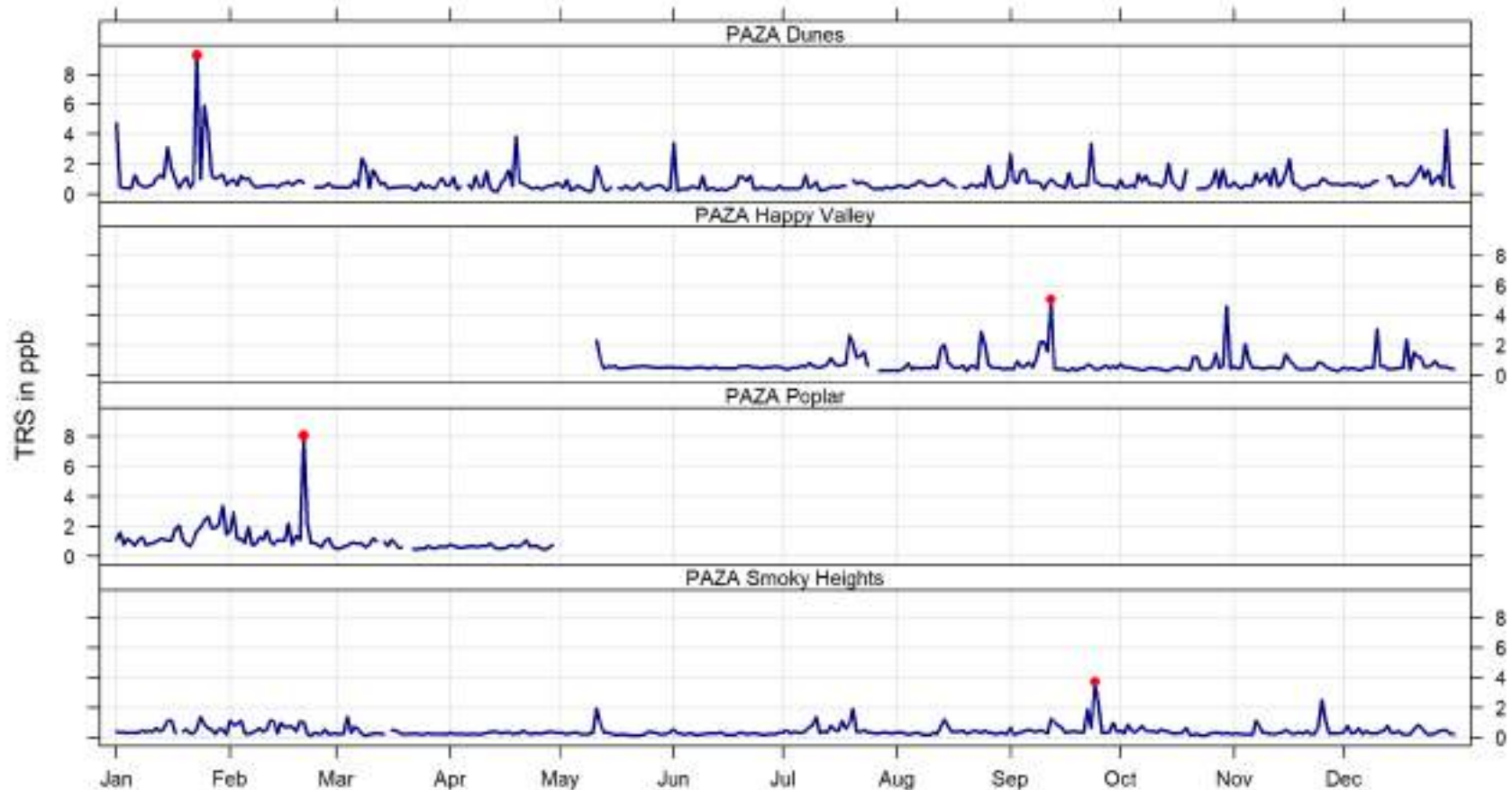
Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr	Date		30-min	1-hr	24-hr	30-d	Annual
Dunes	Total Reduced Sulphur TRS measured in ppb	0.4	2.4	Jan 25	12.5	Jan 23 16:00	98.9%	20	-	-	-	-
Happy Valley		1.6	May 11	11.3	Dec 10 22:00	66.2%	11	-	-	-	-	
Poplar		1.7	Feb 21	17.2	Feb 21 11:00	32.9%	6	-	-	-	-	
Smoky Heights		0.2	1.1	May 11	4.0	Sep 24 01:00	99.8%	1	-	-	-	-

The regional profile for total reduced sulphur shows low concentrations measured over the 2024 monitoring period (annual averages less than 1.0 ppb). Readings were more elevated in colder months such as January, February, November and 2024.

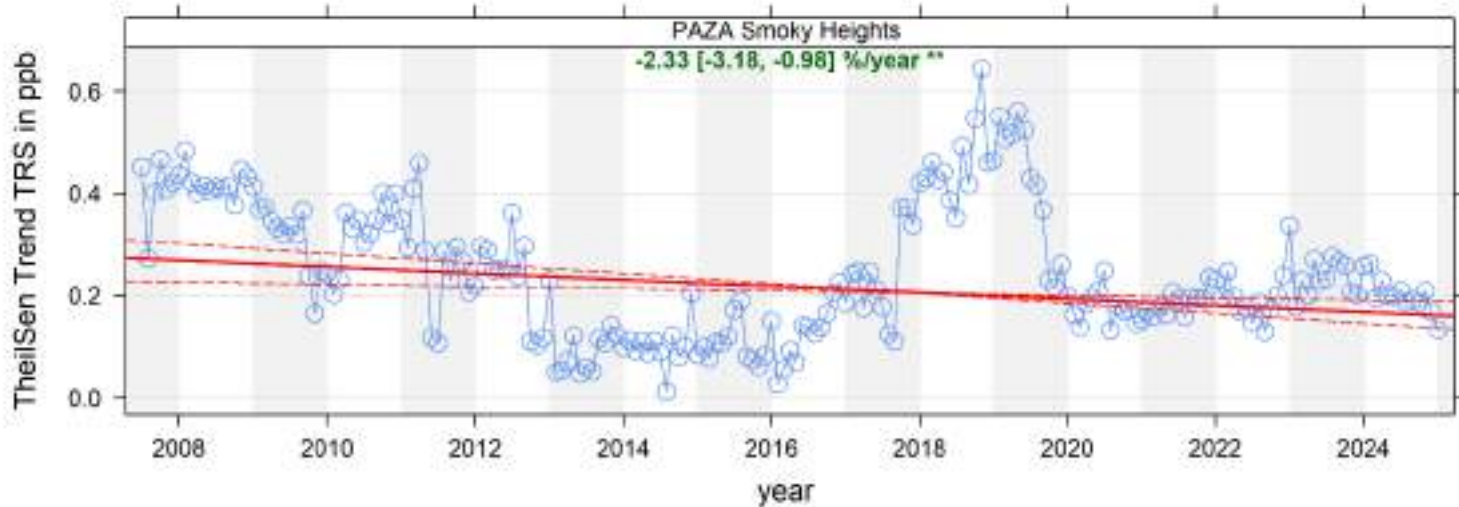
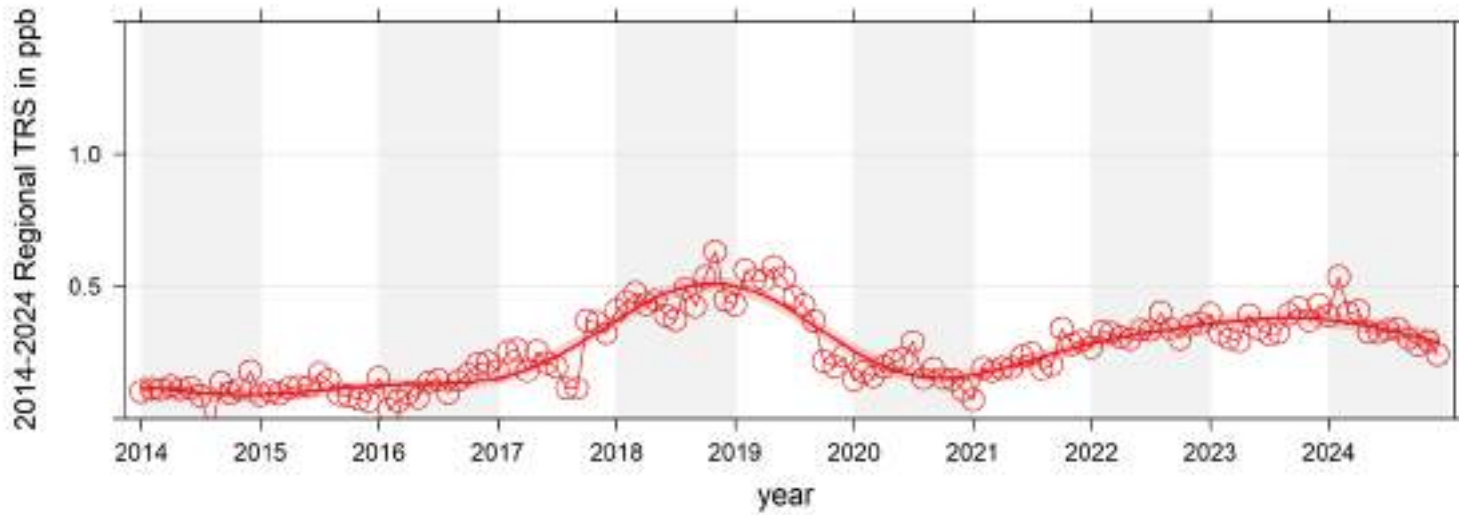


Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed the higher readings in the winter months. Overall maximums from all four sites were at different time periods. Smoky Heights had the lowest annual average for the year (0.2ppb), with Poplar showing the highest annual average (0.4ppb). The Poplar and Happy Valley sites were operational for less than 75% of the year and an annual average is not valid.

## 2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



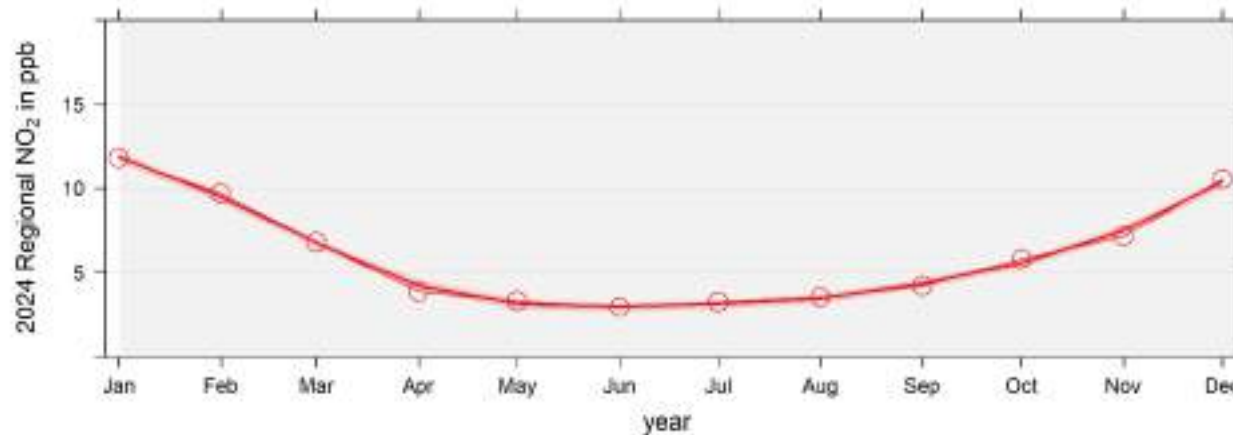
For the historical trends Smoky Heights has the longest monitoring period, showing a reduction in trends (at a probability  $<0.05$ , based on Theil-Sen test), meaning the trend is decreasing over the long-term monitoring period. Even with the fluctuations seen over the past five years.



## 2.4 Nitrogen Dioxide (NO<sub>2</sub>) 2024 Summary

Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Beaverlodge	Nitric Oxide NO measured in ppb	1.0	27.2	Jan 24	83.6	Jan 24 13:00	99.4%	-	-	-	-
Fox Creek		7.7	46.6	Dec 20	136.2	Dec 20 18:00	98.3%	-	-	-	-
Happy Valley		7.3	7.3	Jun 10	74.5	Jun 10 05:00	66.6%	-	-	-	-
Henry Pirker		5.3	62.4	Jan 26	204.8	Jan 26 10:00	99.3%	-	-	-	-
Milner		0.9	14.3	Dec 29	52.0	Dec 29 06:00	99.7%	-	-	-	-
Poplar		15.1	15.1	Jan 25	43.0	Jan 25 11:00	32.7%	-	-	-	-
Beaverlodge	Nitrogen Dioxide NO <sub>2</sub> measured in ppb	4.6	26.4	Jan 24	37.5	Jan 13 00:00	99.4%	0	-	-	0
Fox Creek		7.7	27.2	Jan 15	53.0	Mar 07 06:00	98.3%	0	-	-	0
Happy Valley		13.7	13.7	May 11	24.2	Dec 21 11:00	66.6%	0	-	-	0
Henry Pirker		9.4	35.9	Jan 26	52.2	Mar 07 00:00	99.3%	0	-	-	0
Milner		3.2	13.5	Dec 29	30.6	Jan 13 07:00	99.7%	0	-	-	0
Poplar		21.2	21.2	Jan 15	36.8	Mar 06 20:00	32.7%	0	-	-	0
Beaverlodge	Oxides of Nitrogen NO <sub>x</sub> measured in ppb	5.5	53.6	Jan 24	112.3	Jan 24 13:00	99.4%	-	-	-	-
Fox Creek		15.5	68.0	Dec 20	169.4	Jan 29 18:00	98.3%	-	-	-	-
Happy Valley		14.4	14.4	May 11	83.8	Jun 10 05:00	66.6%	-	-	-	-
Henry Pirker		14.8	98.6	Jan 26	256.3	Jan 26 10:00	99.3%	-	-	-	-
Milner		4.2	27.8	Dec 29	77.0	Dec 29 06:00	99.7%	-	-	-	-
Poplar		30.2	30.2	Jan 25	68.6	Jan 25 11:00	32.7%	-	-	-	-

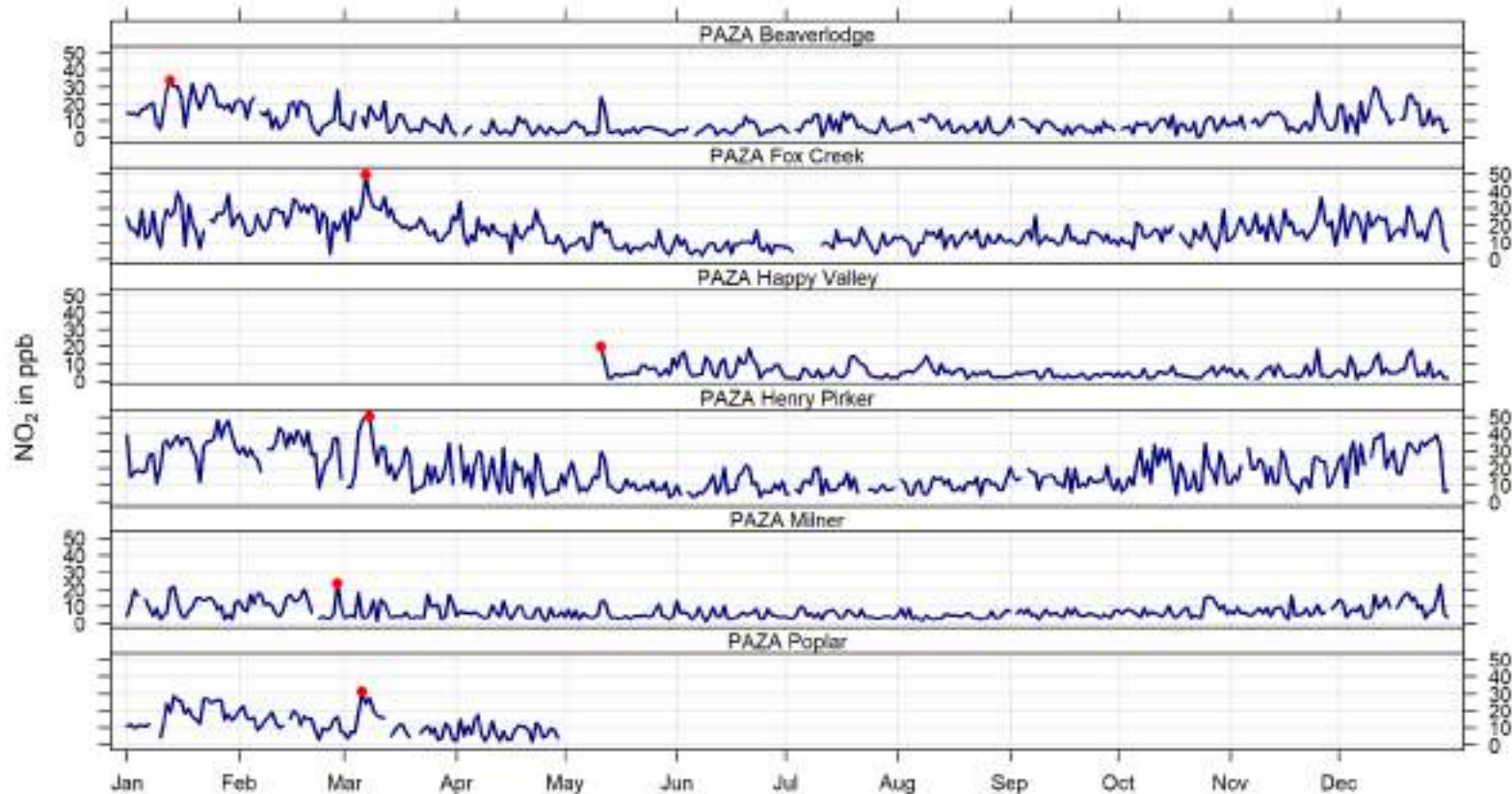
The regional profile for nitrogen species shows low concentration during warm months and higher concentrations during periods of winter months. This is due to higher combustion emissions during the winter months associated with low ceilings.



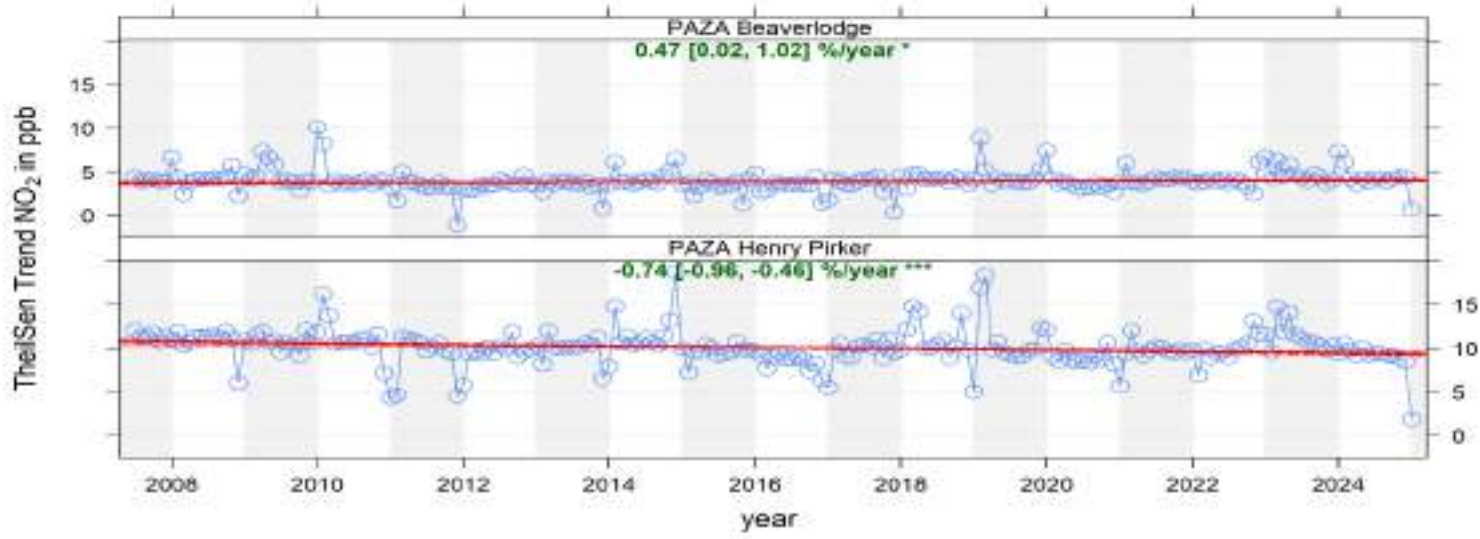
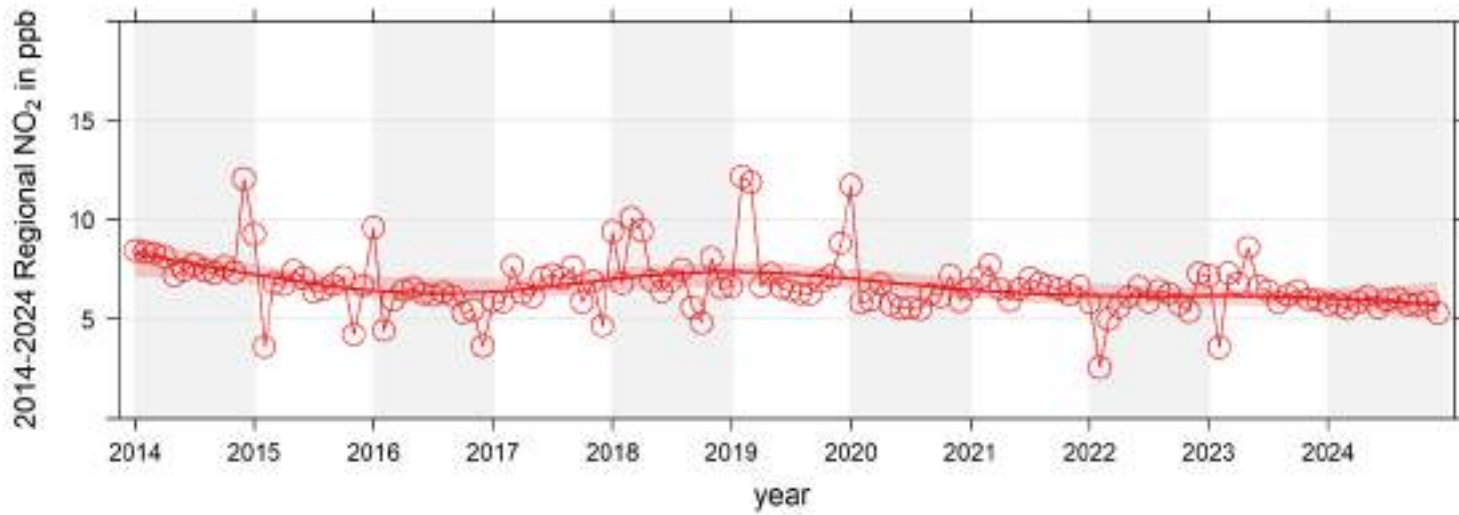


Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed the higher readings in the winter months. Overall maximums from all sites (except Happy Valley) were in the January to March period, Happy Valley only started monitoring in May 2024. Milner had the lowest annual average for the year (3.2ppb, NO<sub>2</sub>), with Henry Pirker showing the highest annual average (9.4ppb, NO<sub>2</sub>).

### 2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



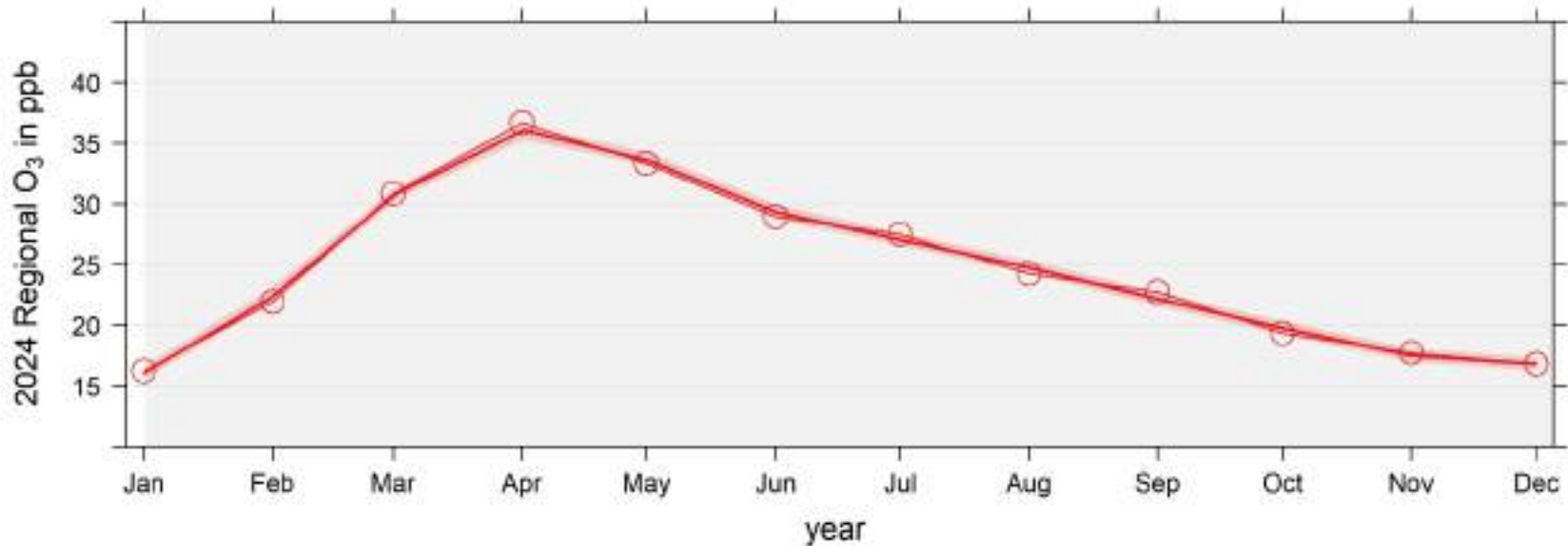
The overall regional historical profile show concentrations trend over the last decade remain below 10ppb with spikes that have occurred over the years. For the historical trends Beaverlodge and Henry Pirker have the longest monitoring periods, where Beaverlodge shows a slight increase over time (at a probability <0.05, based on Theil-Sen test) while Henry Pirker shows a decrease over time (at a probability <0.01, based on Theil-Sen test). The overall regional trend is showing the averages ranging between the 5 to 10 ppb over the years of monitoring.



## 2.5 Ozone (O<sub>3</sub>) 2024 Summary

Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Beaverlodge	Ozone O <sub>3</sub> measured in ppb	27.8	49.8	Apr 01	60.4	Jul 21 16:00	99.9%	0	-	-	-
Fox Creek		22.4	45.9	Apr 01	64.8	Jul 21 18:00	98.2%	0	-	-	-
Happy Valley			47.3	May 13	64.6	Jul 10 12:00	66.6%	0	-	-	-
Henry Pirker		23.2	47.1	Apr 20	74.2	Sep 08 15:00	99.7%	0	-	-	-
Poplar			46.6	Apr 01	62.2	Apr 20 18:00	33.0%	0	-	-	-

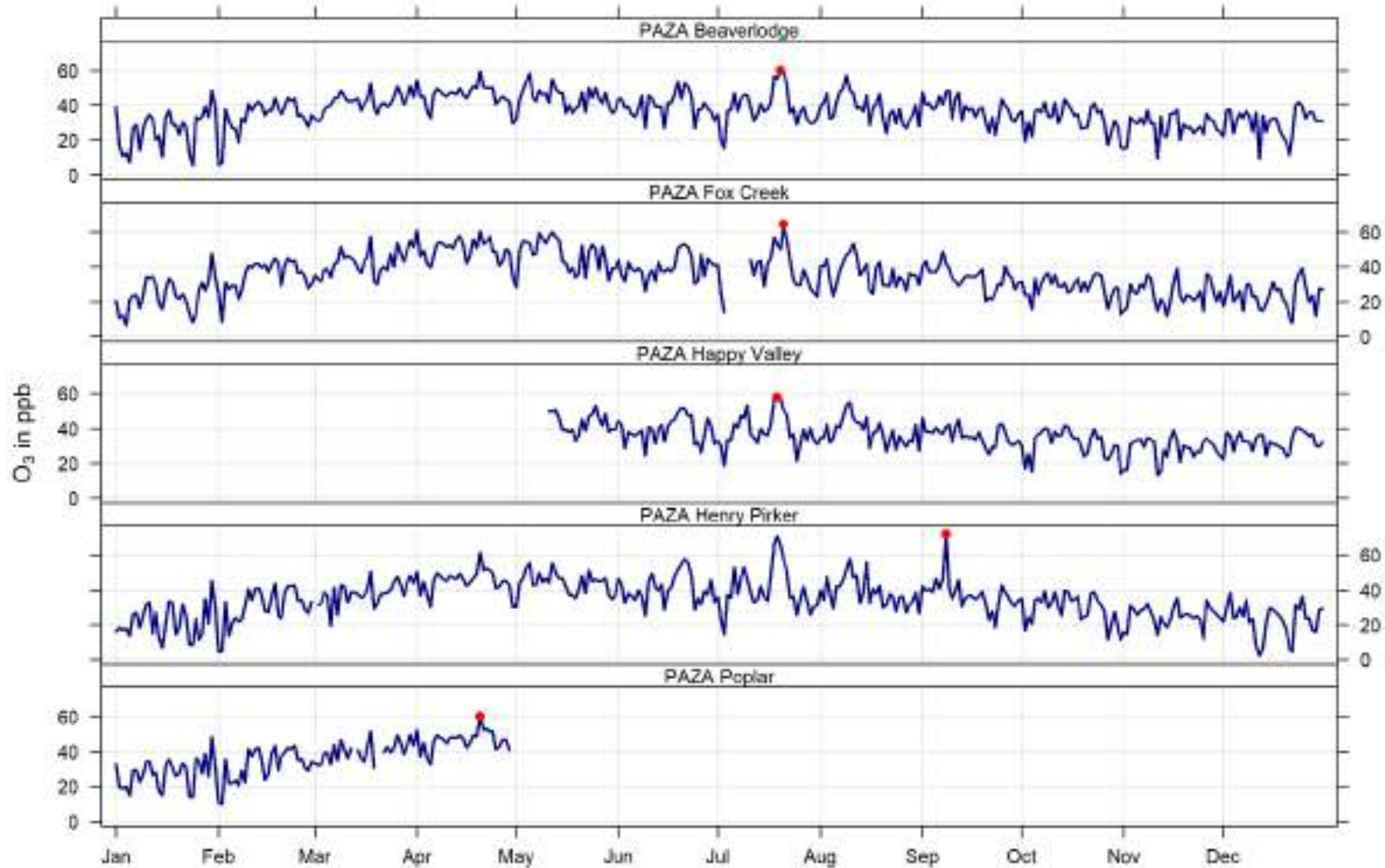
The regional profile for ozone shows peak concentration during spring (April) which is consistent with ozone patterns, year over year, peak occurs in the spring and lowest in the winter.



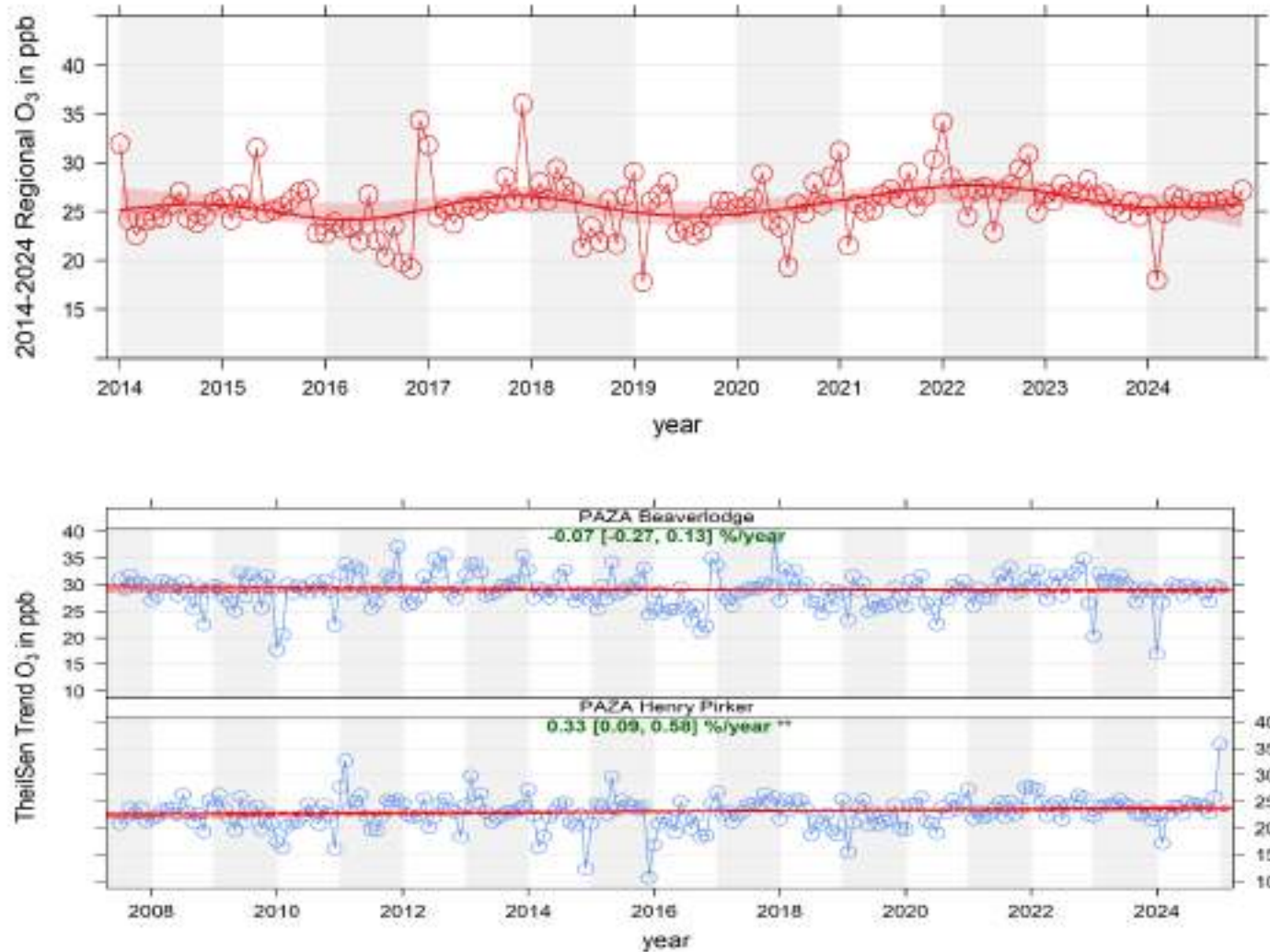
Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed similar profiles at Beaverlodge, Henry Pirker and Fox Creek, while Poplar and Happy Valley was only for partial year of monitoring. Peaks were noted highest in July, during periods of wildfire episodes. This is a common

occurrence with ozone being driven higher due to wildfire smoke in a region. Fox Creek had the lowest concentration profile for the year (22.4ppb), with Beaverlodge showing the highest concentration profile with annual average of 27.8ppb.

2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



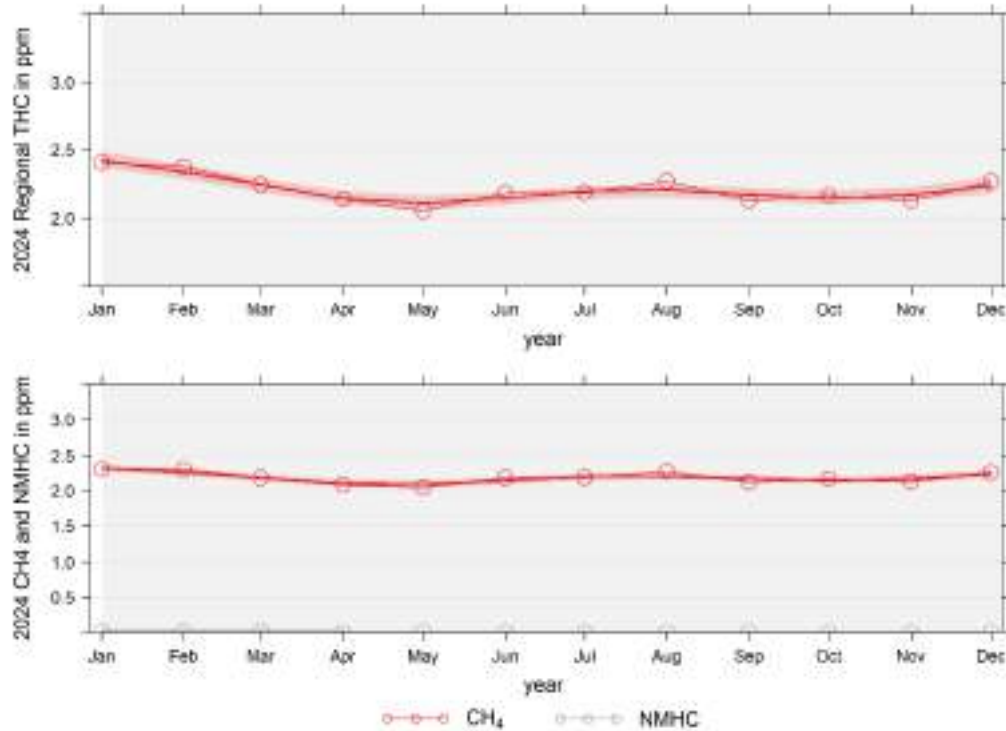
The overall regional historical profile show concentrations near 25ppb with fluctuations throughout the years. For the historical trends we note Beaverlodge with no trend (as per Theil-Sen test) and Henry Pirker showing a slight increasing trend at a probability <0.05 (based on Theil-Sen test).



## 2.6 Total Hydrocarbons (THC / CH<sub>4</sub> / NMHC) 2024 Summary

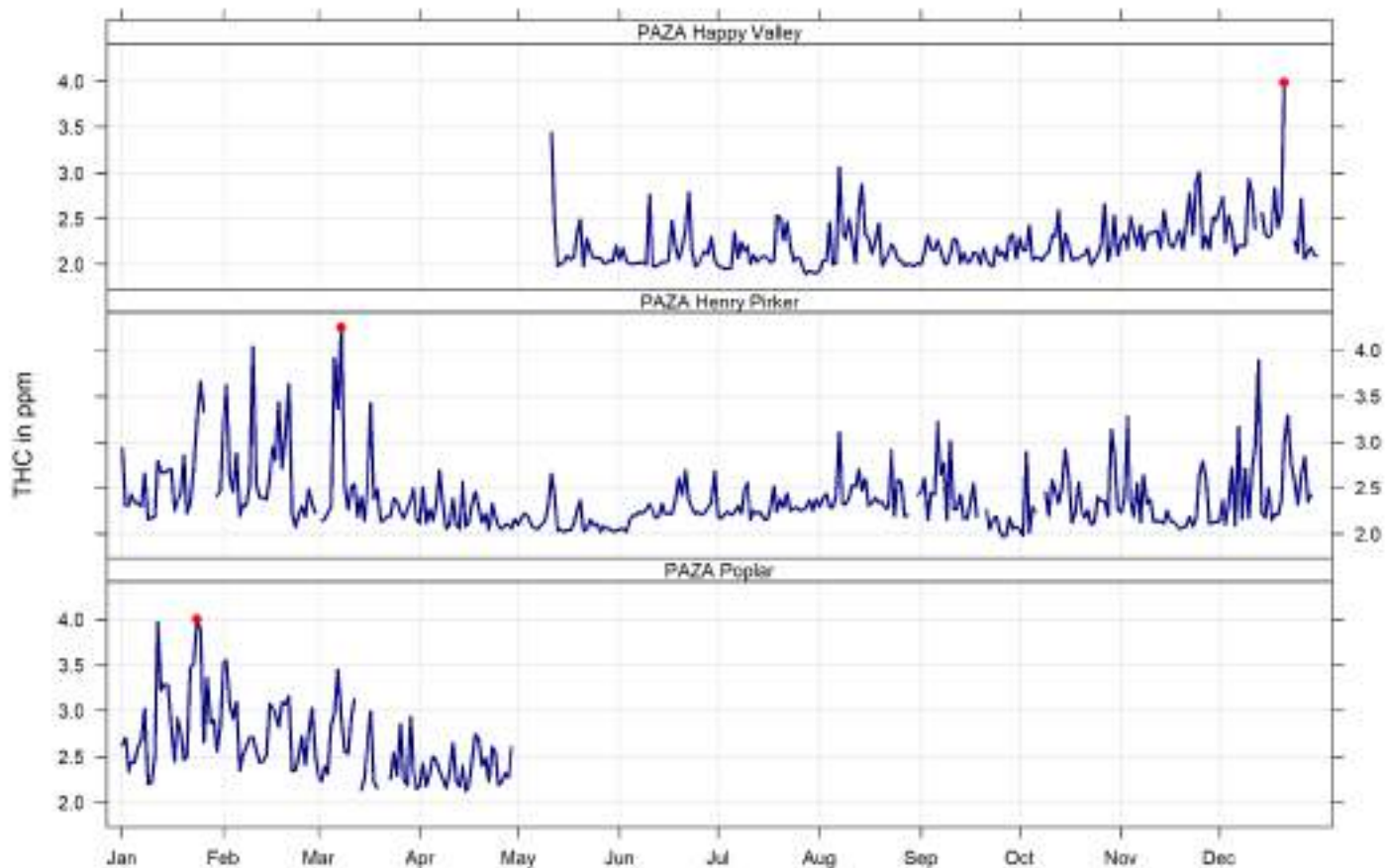
Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Happy Valley	Total Hydrocarbons THC measured in ppm	2.19	2.9	Dec 21	5.1	May 14 13:00	65.9%	-	-	-	-
Henry Pirker			3.0	Mar 06	6.4	Mar 06 11:00	97.7%	-	-	-	-
Poplar			3.2	Jan 24	4.8	Jan 25 06:00	32.7%	-	-	-	-
Henry Pirker	Methane CH <sub>4</sub> measured in ppm	2.18	2.9	Feb 02	4.3	Feb 10 05:00	97.7%	-	-	-	-
Henry Pirker	Non Methane Hydrocarbons NMHC measured in ppm	0.01	0.4	Mar 06	3.8	Mar 06 11:00	97.7%	-	-	-	-

The regional profile for Total Hydrocarbons (with Methane and Non-Methane Hydrocarbons) show low concentration during warm months and higher concentrations during winter months, this is most notable with THC and less with methane and non-methane hydrocarbons.



Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed the higher readings in the winter months. With the overall maximums from both sites showing the winter timeframe. Henry Pirker had the only valid annual average for THC at 2.19ppm with Poplar and Happy Valley having less than 75% valid data for the year to show a valid average. The Methane and Non-Methane Hydrocarbons were only collected at Henry Pirker during 2024, both showing the elevated readings during the winter months compared to summer months.

2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association

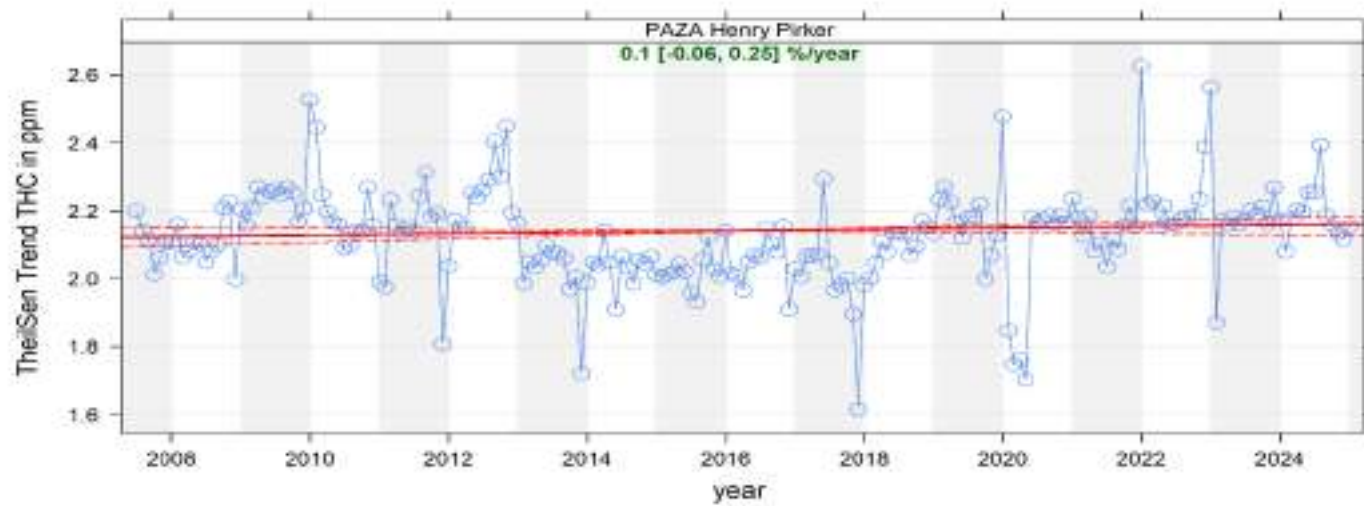
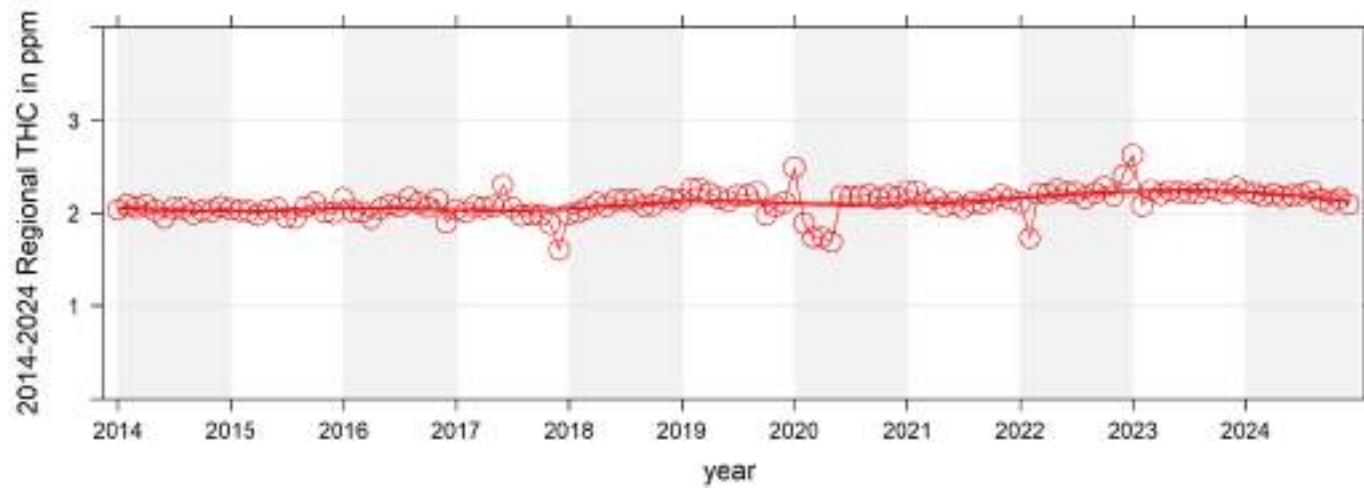


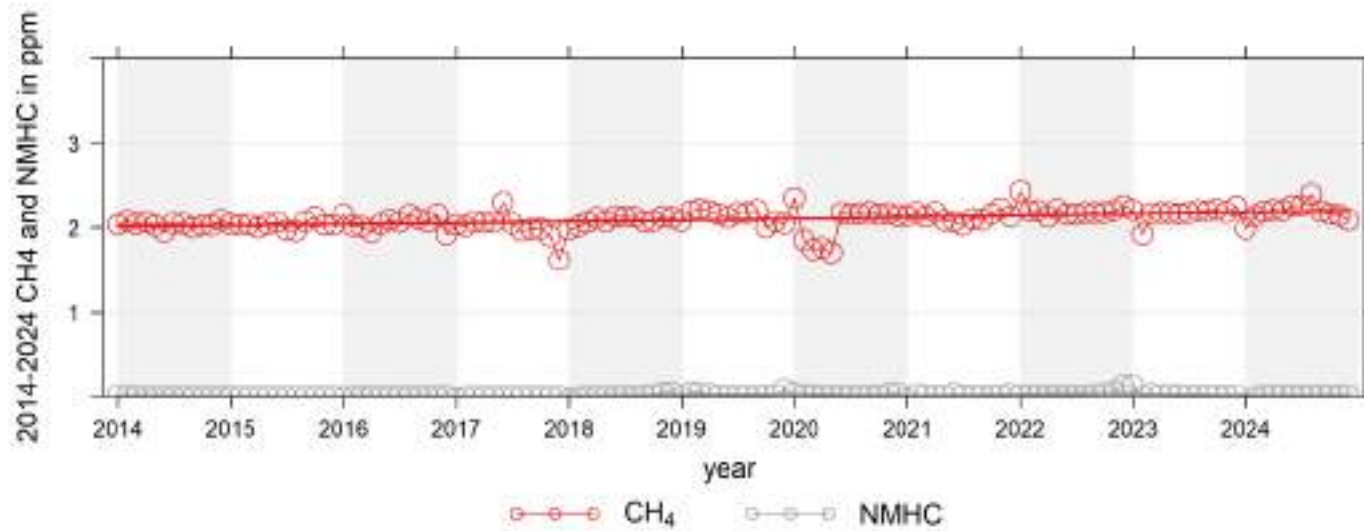
### 2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



For the historical trends Henry Pirker has the longest monitoring period, showing an increase in trend for CH<sub>4</sub> (at a probability <0.01, based on Theil-Sen test), and for NMHC there are too many readings close to zero giving an invalid trend. The THC however does not show an increase or decrease over time rather there is no trend for THC.



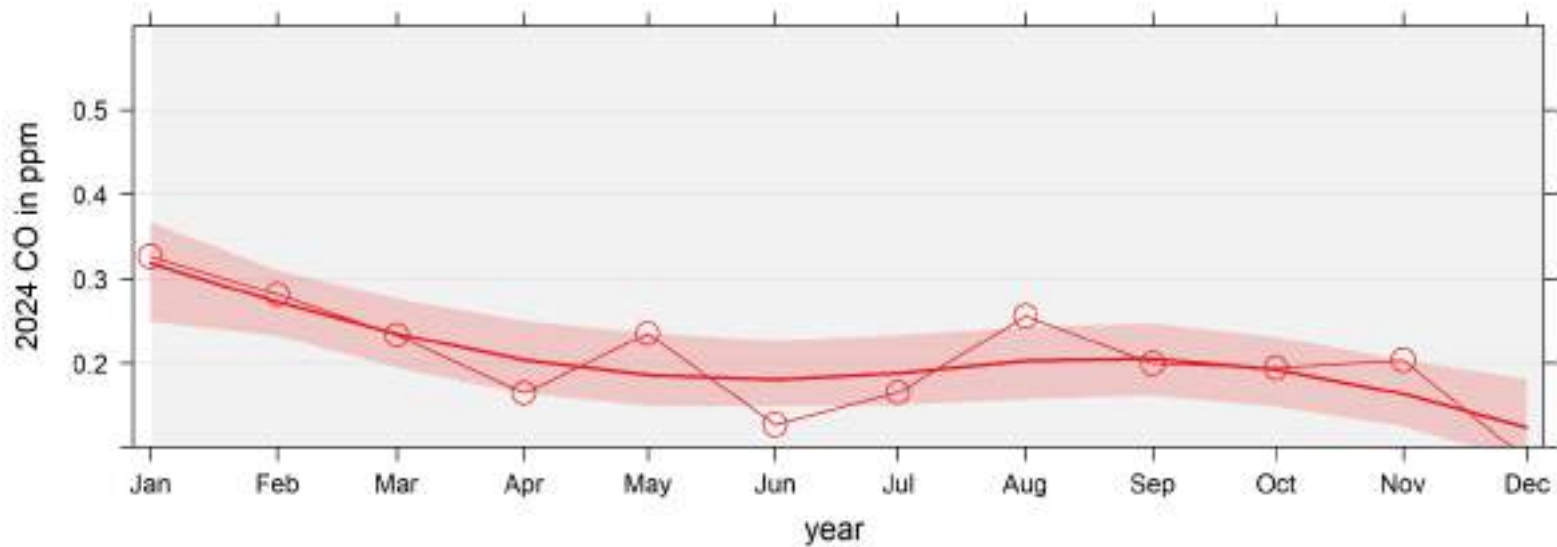




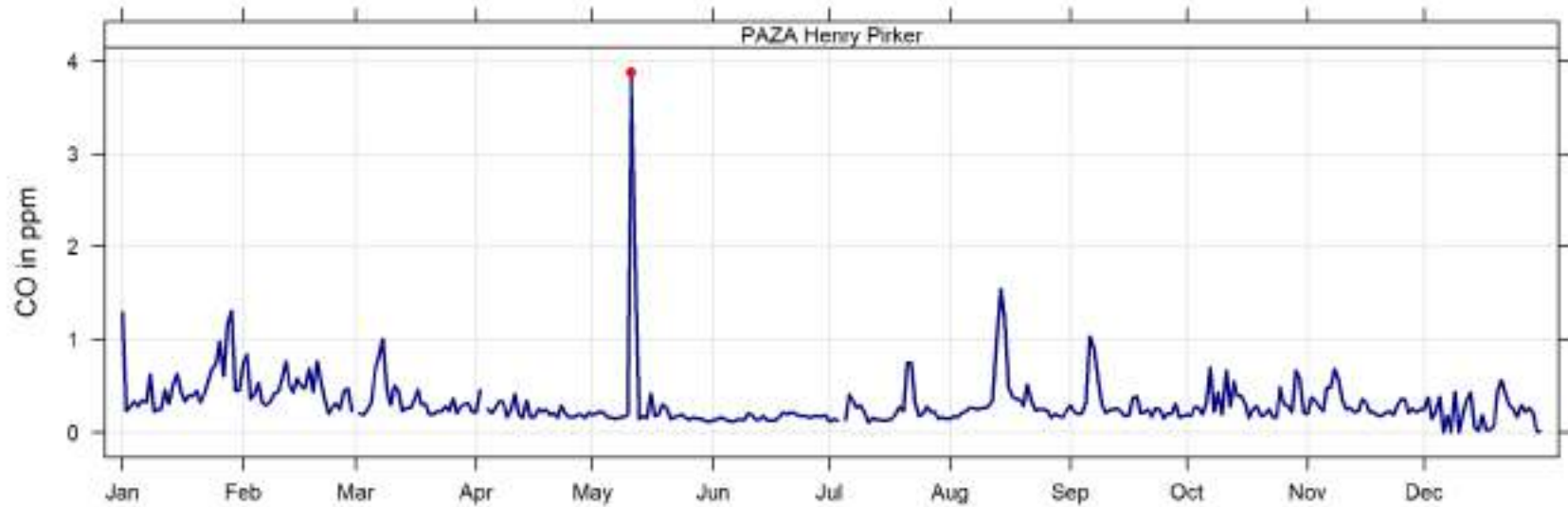
## 2.7 Carbon Monoxide (CO) 2024 Summary

Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Henry Pirker	Carbon Monoxide CO measured in ppm	0.2	2.6	May 11	4.0	May 11 11:00	99.8%	0	-	-	-

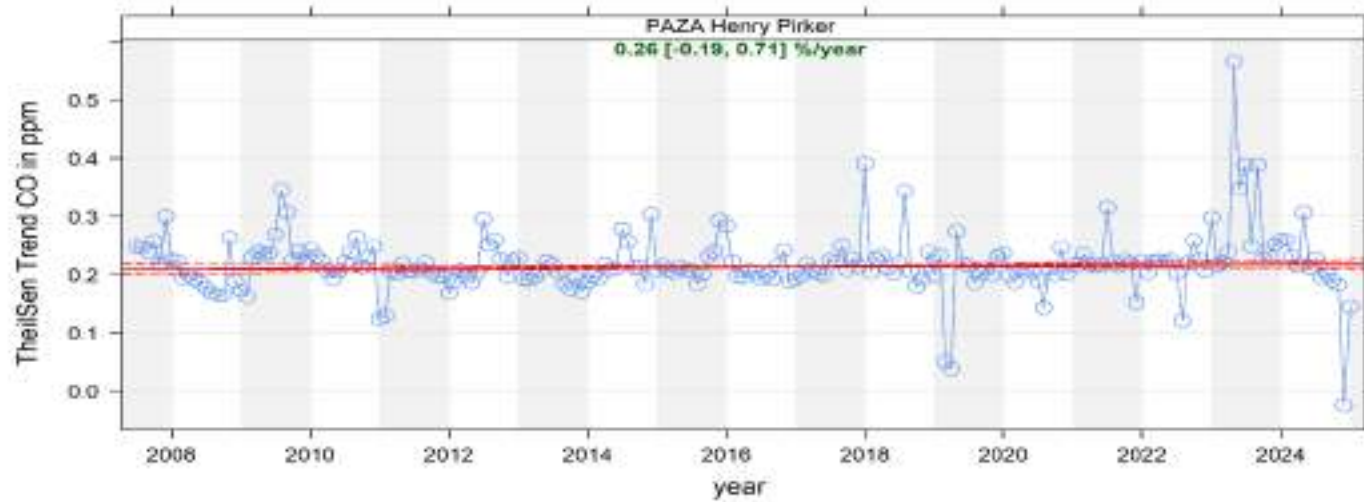
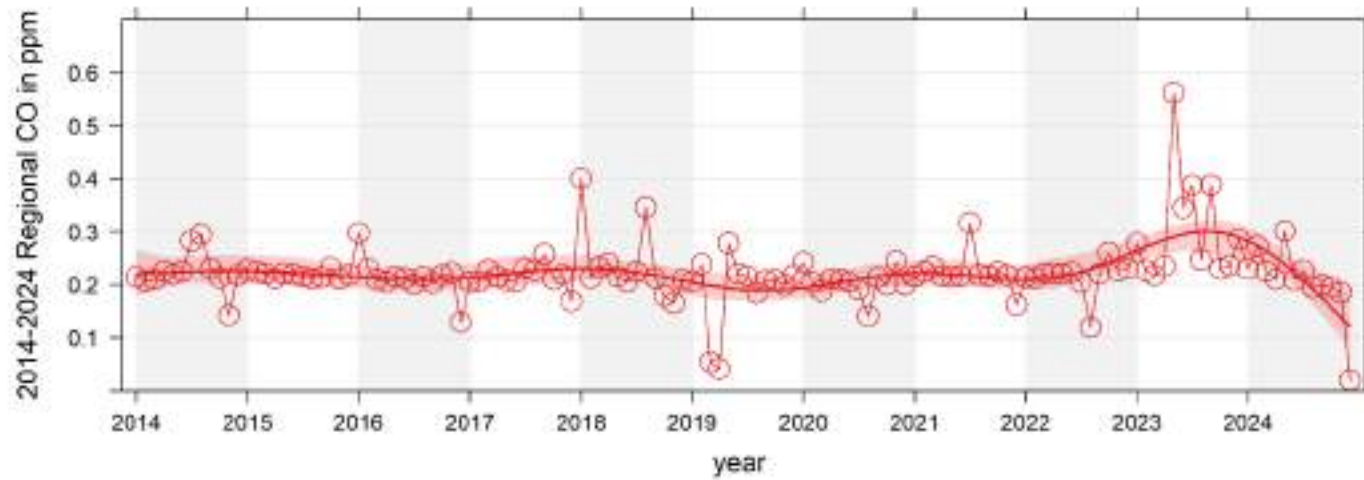
The regional profile for carbon monoxide shows decreasing trends over the 2024 monitoring period (annual average was less than 0.2ppm).



## 2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



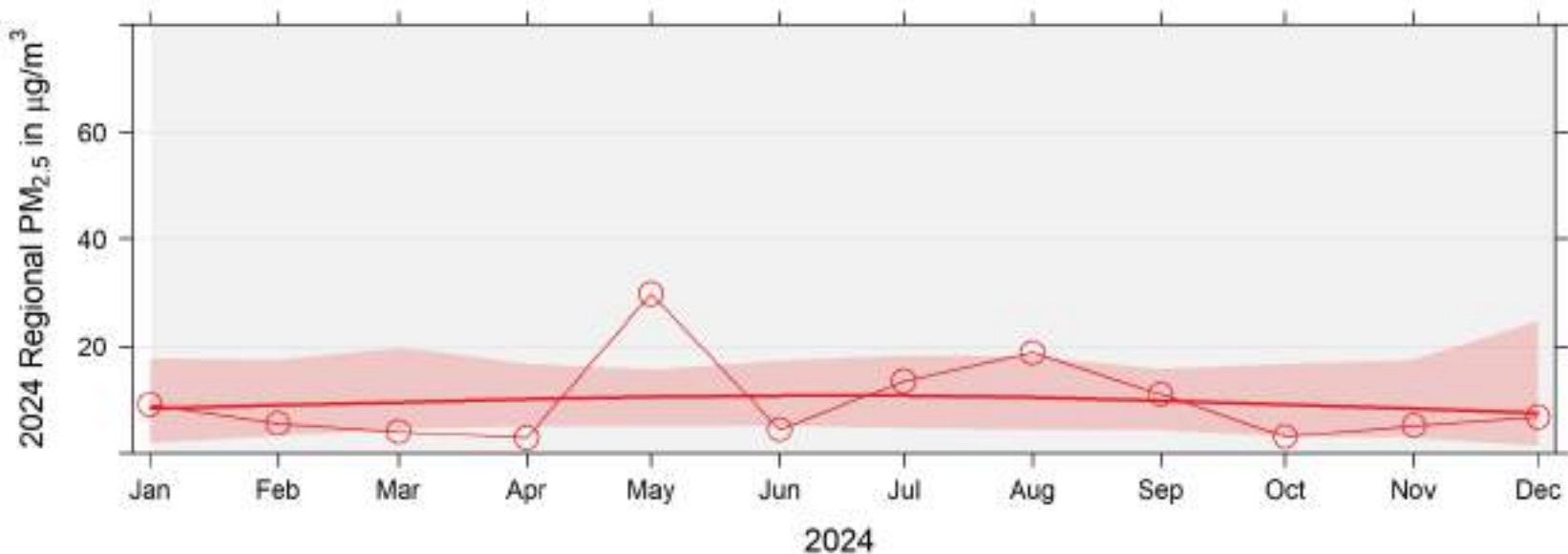
Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed the higher readings during the wildfire period peak (May 2024). The smoothed regional trend shows a slight increase in concentration over the last two years, then distinctive drop in 2024. However based on the statistical trend (as per Theil-Sen test), shows no trend overall.



## 2.8 Particulate Matter (PM<sub>2.5</sub>) 2024 Summary

Station	Parameter	Annual Average	Maximum Values				Operational Time (%)	Readings above AAAQO & AAAQG			
			24-hr	Date	1-hr	Date		1-hr	24-hr	30-d	Annual
Beaverlodge	Particulate Matter PM <sub>2.5</sub> measured in µg/m <sup>3</sup>	11.4	949.9	May 11	1323.2	May 11 12:00	99.0%	143	17	-	-
Dunes		7.7	632.9	May 11	997.0	May 11 11:00	98.0%	76	11	-	-
Fox Creek		8.9	422.2	May 11	817.5	May 11 11:00	98.3%	78	16	-	-
Happy Valley		868.0	May 11	1378.5	May 11 06:00	66.6%	151	17	-	-	
Henry Pirker		11.6	811.6	May 11	1218.1	May 11 11:00	100.0%	135	14	-	-
Milner		6.4	144.9	May 12	630.1	May 11 21:00	99.7%	28	8	-	-
Poplar		23.7	Jan 24	65.0	Jan 15 23:00	33.0%	0	0	-	-	
Smoky Heights		8.8	116.8	Aug 14	990.0	May 11 03:00	98.6%	103	13	-	-

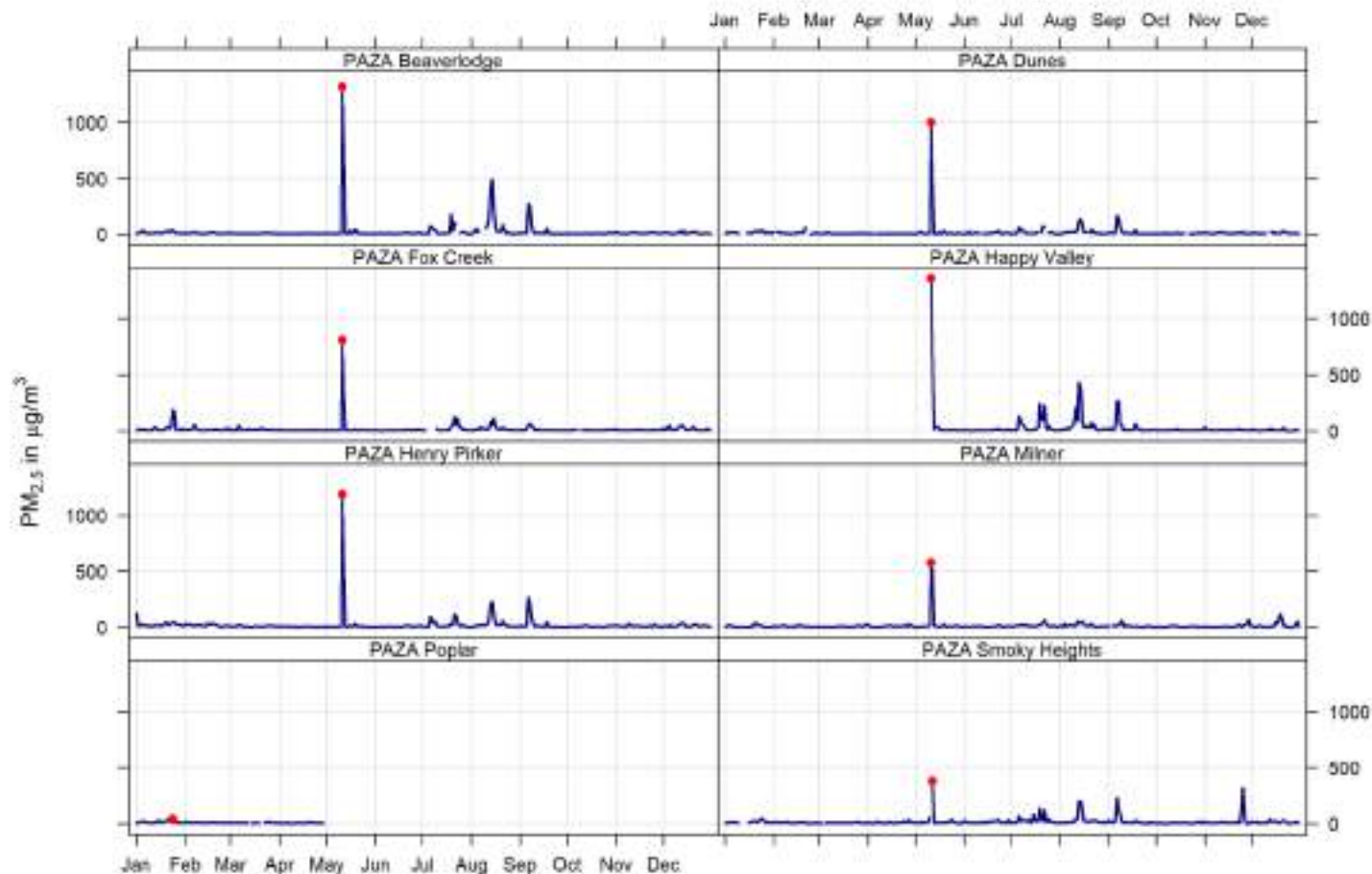
The regional profile for particulate matter showed rather consistent concentrations measured over the 2024 monitoring period.



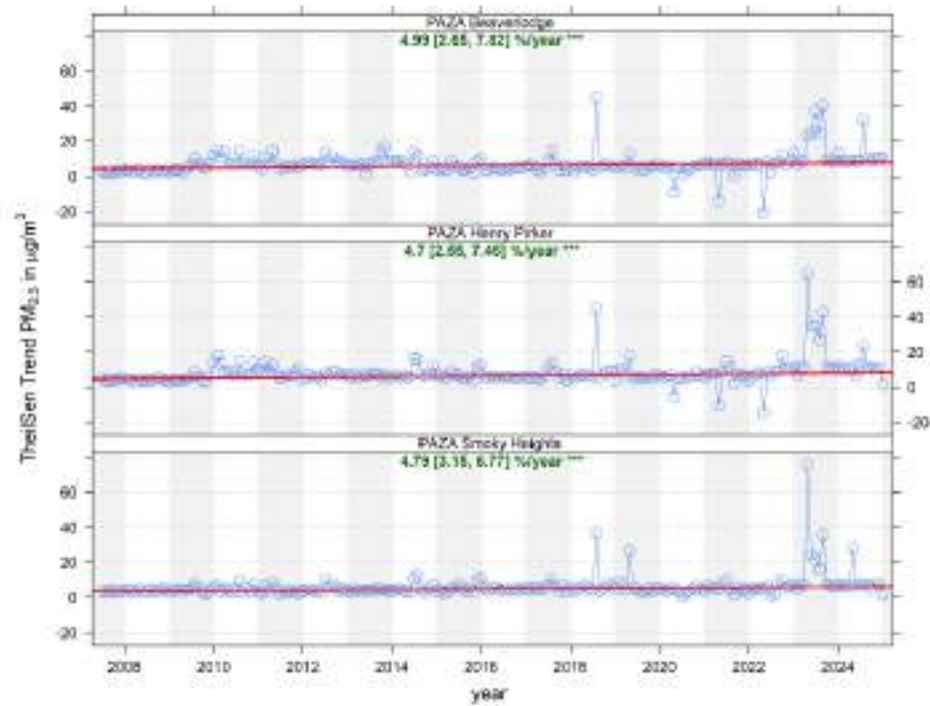
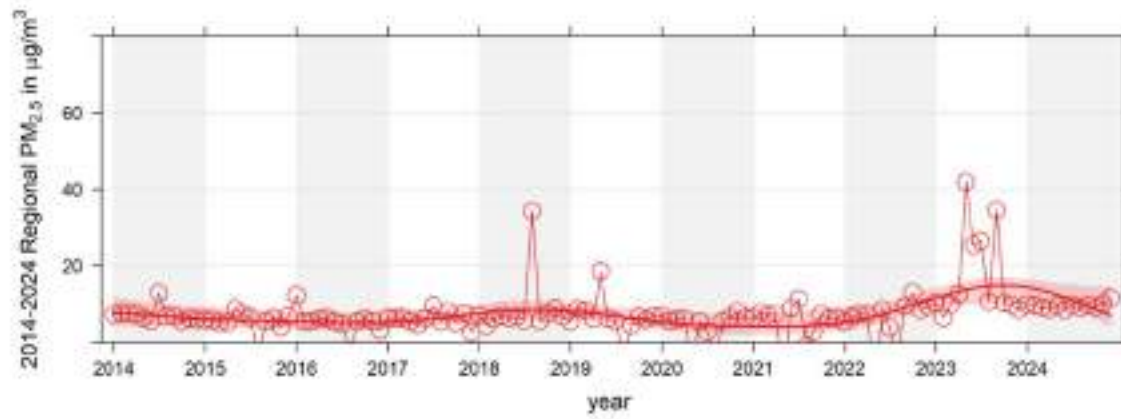
Overall maximum trends for 2024 (daily 95<sup>th</sup> percentiles) showed elevated readings during the spring through fall periods, correlated to the

wildfire occurrences in 2024. Nearly every station showed the maximum concentrations during May 2024, the peak of the wildfires. Miner had the lowest concentration profile for the year ( $6.4 \mu\text{g}/\text{m}^3$ ), with Henry Pirker showing the highest concentration profile and highest annual average ( $11.6 \mu\text{g}/\text{m}^3$ ).

2024 Daily 95th percentile Concentration Readings at Peace Airshed Zone Association



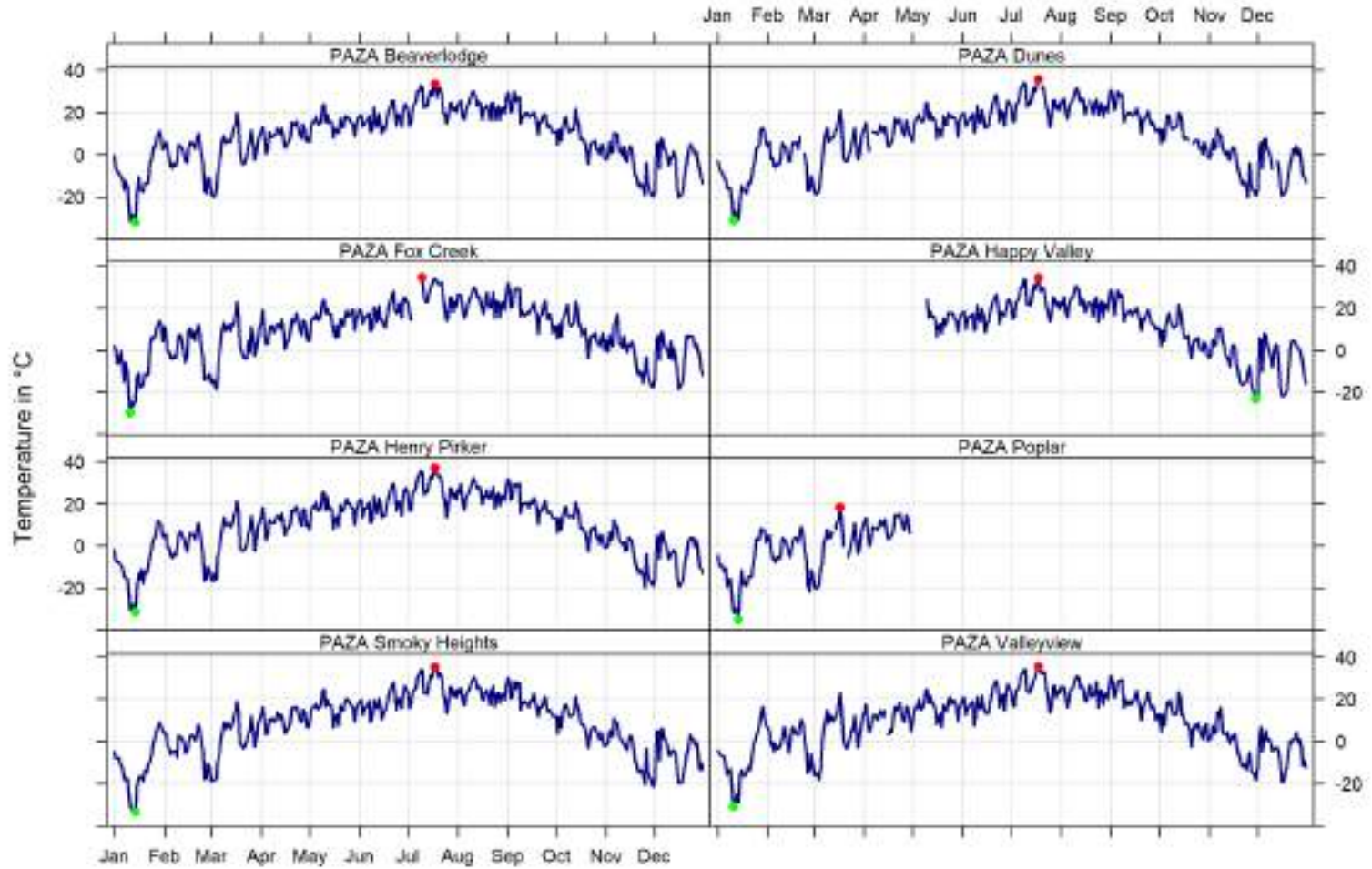
For the historical trends we note last year had a major impact in the regional trends, due to the large wildfire impacts in 2023, as compared to 2024. For long term historical trends, all three stations, Beaverlodge, Henry Pirker, and Smoky Heights show an increasing trend ( $p < 0.01$  long term trend based on Theil-Sen test). The increase is primarily driven by the increase in wildfires.

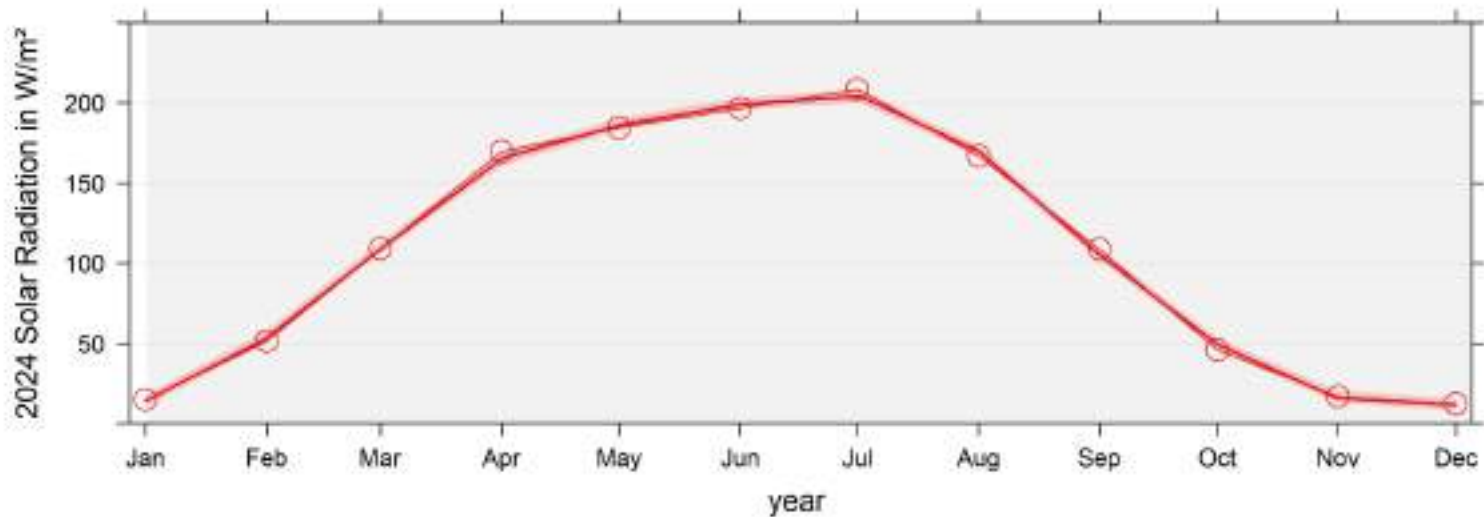
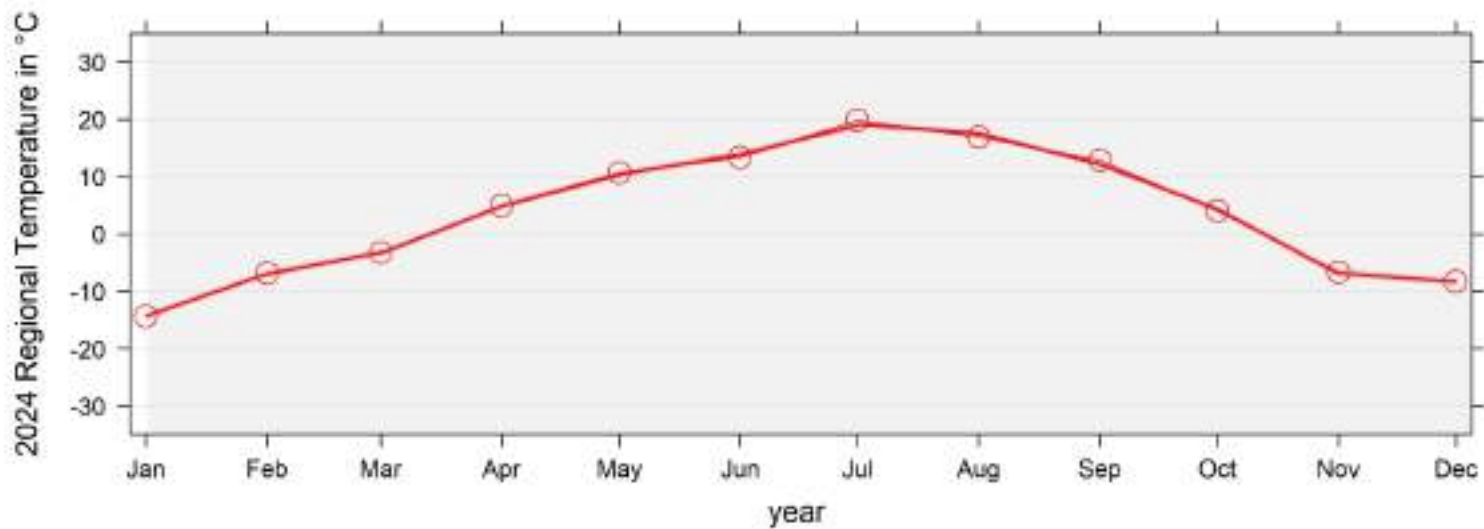




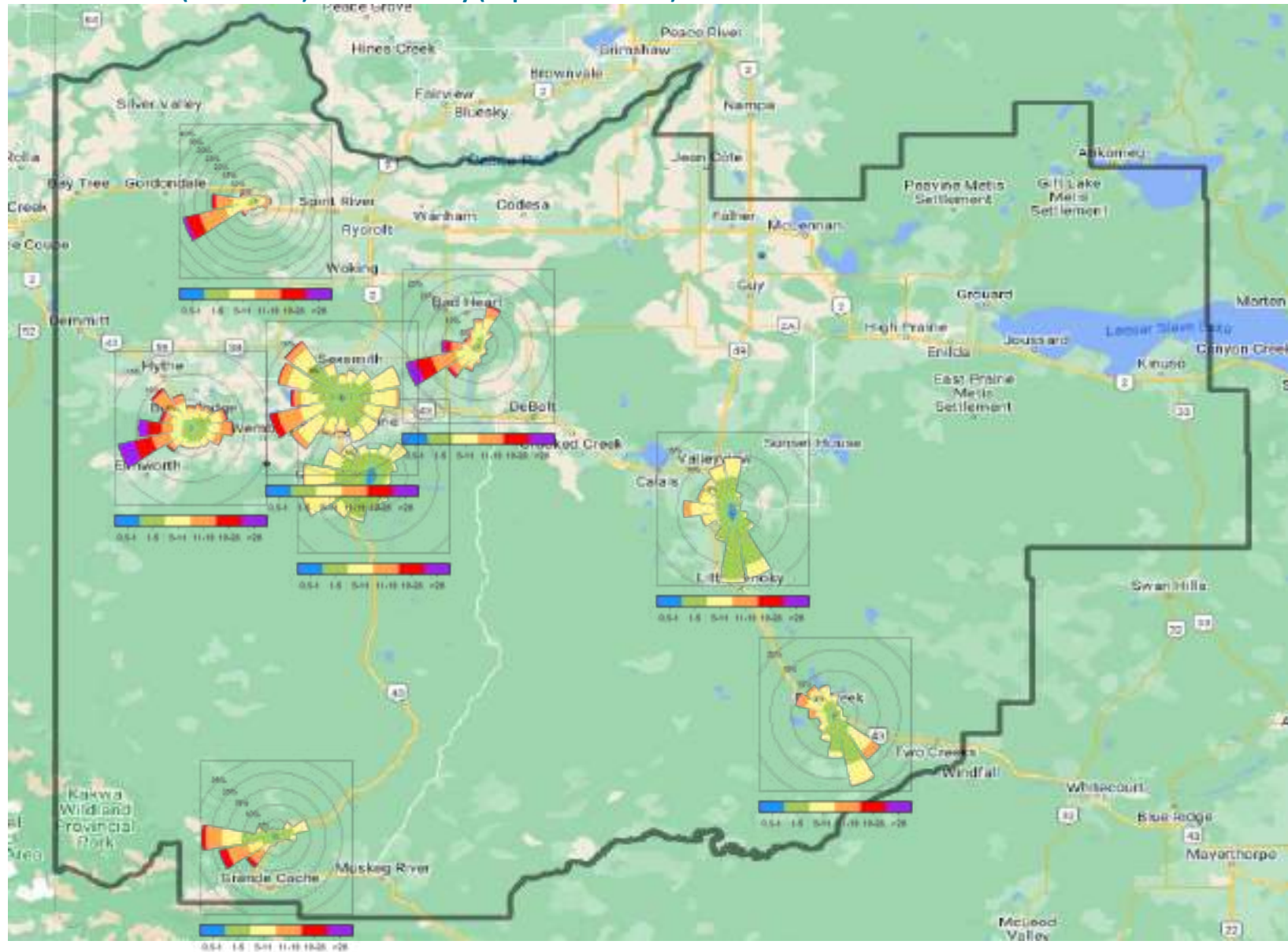
## 2.9 Meteorology 2024 Summary

2024 Daily 95th percentile Temperature Readings at Peace Airshed Zone Association





## 2.10 Wind Profile (wind roses) 2024 Summary (Poplar not shown)

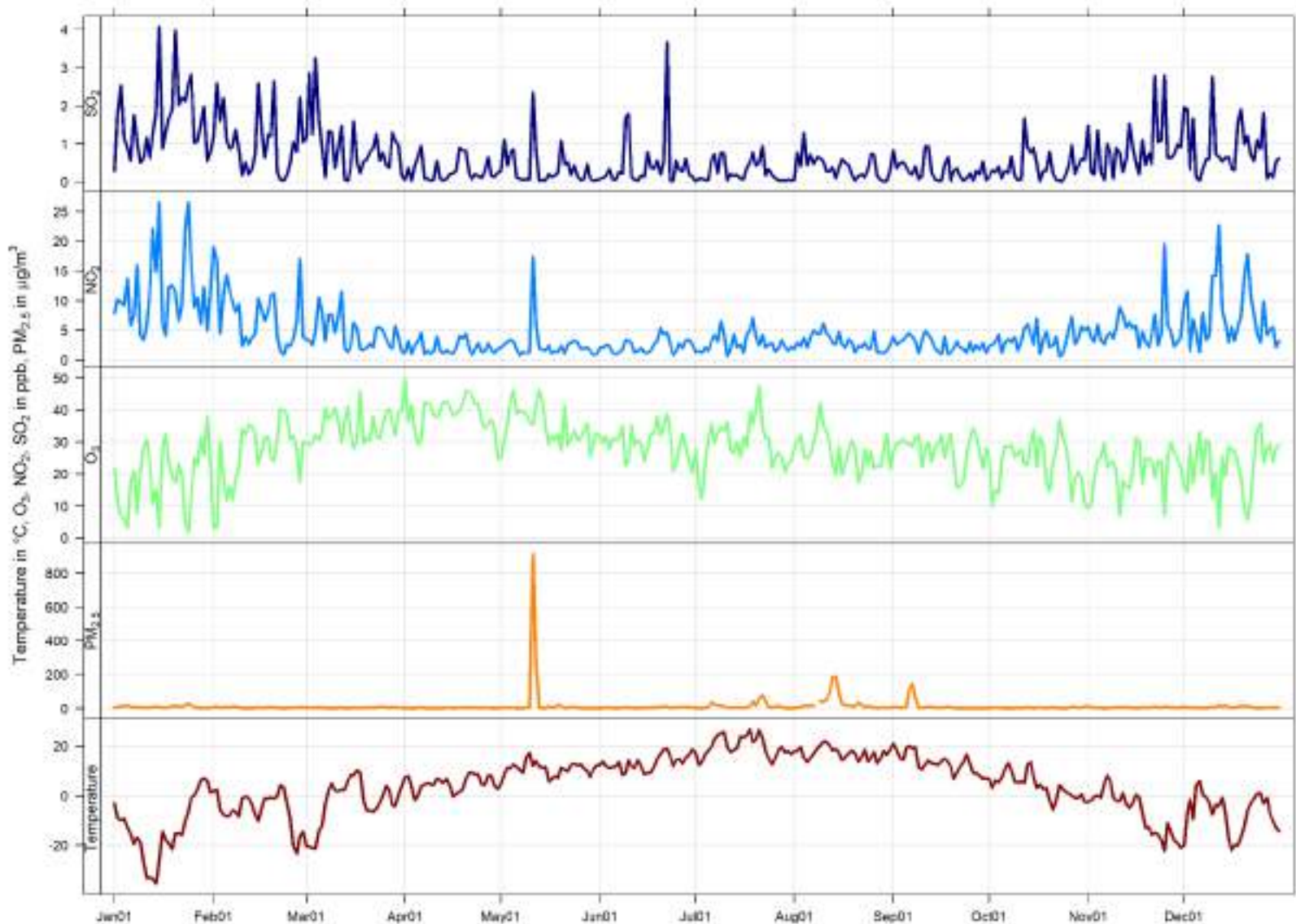


### 3 Beaverlodge Key Parameters - Continuous Monitoring Data - 2024 Summary

Beaverlodge Key Parameters - Continuous Monitoring Data - 2024 Summary

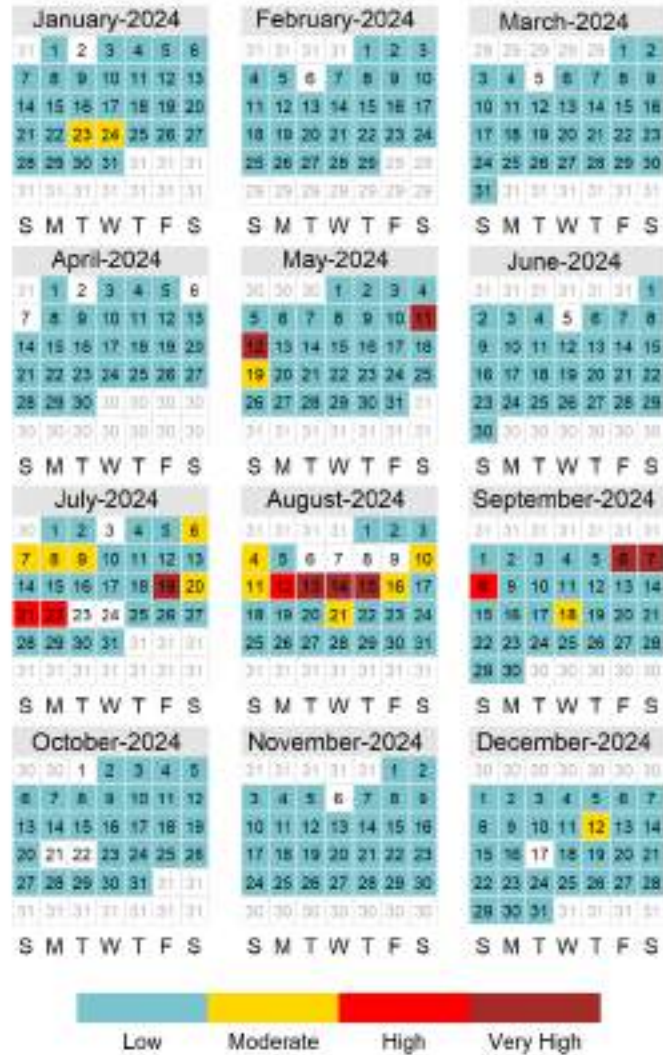
Beaverlodge Station	Parameter	Average	Maximum Values			Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr			Date	1-hr	24-hr	30-d	Annual
	Sulphur Dioxide SO <sub>2</sub> measured in ppb	0.6	4.1	Jan 20	65.8	Jun 22 13:00	99.8%	95.1%	0	0	0	0
	Nitrogen Dioxide NO <sub>2</sub> measured in ppb	4.6	26.4	Jan 24	37.5	Jan 13 00:00	99.4%	94.4%	0	-	-	0
	Nitrogen Oxides NO <sub>x</sub> measured in ppb	5.5	53.6	Jan 24	112.3	Jan 24 13:00	99.4%	94.4%	-	-	-	-
	Nitric Oxide NO measured in ppb	1.0	27.2	Jan 24	83.6	Jan 24 13:00	99.4%	94.4%	-	-	-	-
	Ozone O <sub>3</sub> measured in ppb	27.8	49.8	Apr 01	60.4	Jul 21 16:00	99.9%	95.2%	0	-	-	-
	Particulate Matter PM <sub>2.5</sub> measured in µg/m <sup>3</sup>	11.4	949.9	May 11	1323.2	May 11 12:00	99.0%	98.8%	143	17	-	-

2024 Daily Concentration Readings at Beaverlodge



### 3.1 Beaverlodge AQHI Calendar Plot for 2024

Hourly Maximum AQHI for 2024 at Beaverlodge



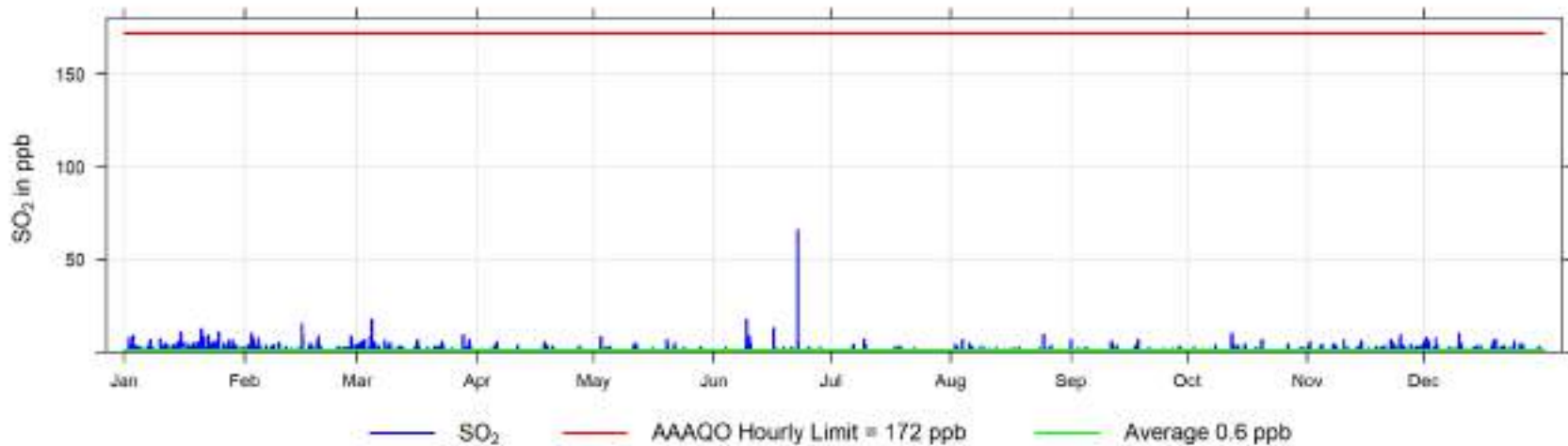
### 3.2 Sulphur Dioxide (SO<sub>2</sub>) - Beaverlodge 2024 Summary

Sulphur Dioxide (SO<sub>2</sub>) Frequency Distribution at Beaverlodge

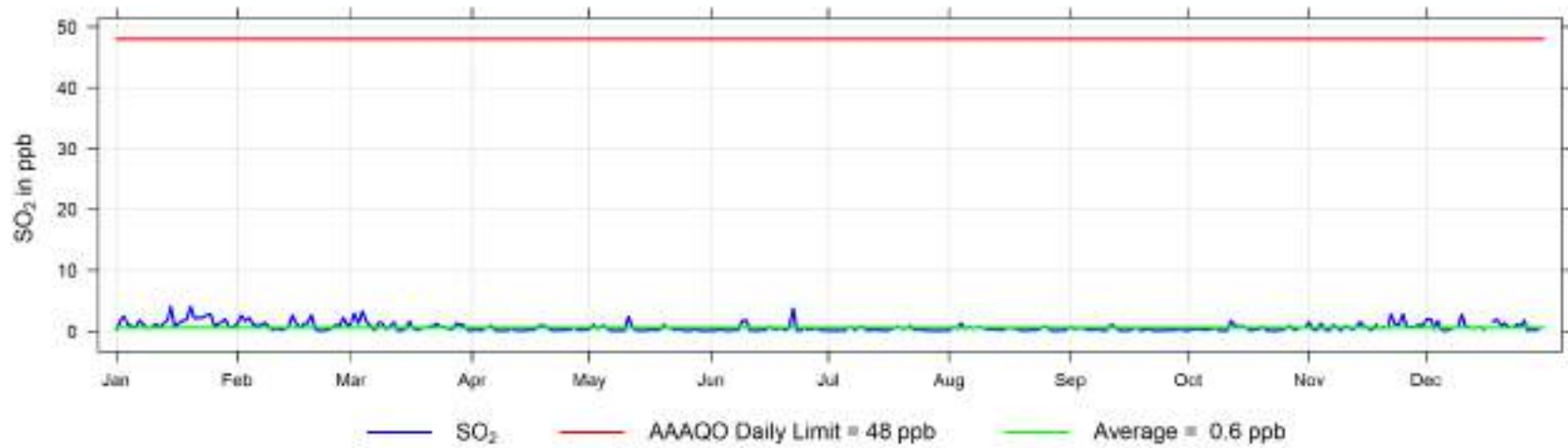
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	710	50.7%	44.6%	4.2%	0.4%	0.0%	0.0%	1.6	4.1	Jan 20	12.5	Jan 20 21:00	100.0%	95.4%	0	0	0
February 2024	662	69.2%	27.3%	3.3%	0.2%	0.0%	0.0%	1.0	2.8	Feb 15	15.4	Feb 15 19:00	100.0%	95.1%	0	0	0
March 2024	705	72.3%	25.5%	2.0%	0.1%	0.0%	0.0%	0.9	3.2	Mar 04	17.4	Mar 04 20:00	99.3%	94.8%	0	0	0
April 2024	685	94.3%	5.4%	0.3%	0.0%	0.0%	0.0%	0.3	0.9	Apr 18	5.1	Apr 18 10:00	99.9%	95.1%	0	0	0
May 2024	709	90.3%	9.3%	0.4%	0.0%	0.0%	0.0%	0.4	2.5	May 11	8.1	May 02 21:00	100.0%	95.3%	0	0	0
June 2024	686	93.9%	5.0%	0.7%	0.3%	0.1%	0.0%	0.5	3.7	Jun 22	65.8	Jun 22 13:00	100.0%	95.3%	0	0	0
July 2024	709	94.5%	5.4%	0.1%	0.0%	0.0%	0.0%	0.3	0.9	Jul 22	6.4	Jul 09 18:00	100.0%	95.3%	0	0	0
August 2024	706	91.2%	8.1%	0.7%	0.0%	0.0%	0.0%	0.4	1.2	Aug 04	9.3	Aug 25 01:00	99.6%	94.9%	0	0	0
September 2024	685	92.1%	7.3%	0.6%	0.0%	0.0%	0.0%	0.3	1.0	Sep 12	6.5	Sep 18 09:00	99.9%	95.1%	0	0	0
October 2024	709	90.1%	9.3%	0.6%	0.0%	0.0%	0.0%	0.4	1.8	Oct 12	9.8	Oct 12 13:00	100.0%	95.3%	0	0	0
November 2024	685	74.7%	23.5%	1.8%	0.0%	0.0%	0.0%	0.8	2.9	Nov 22	9.1	Nov 25 01:00	99.7%	95.1%	0	0	0
December 2024	703	72.3%	26.2%	1.6%	0.0%	0.0%	0.0%	0.9	2.6	Dec 10	9.9	Dec 10 04:00	99.2%	94.5%	0	0	0
<b>Annual</b>	<b>8354</b>	<b>82.1%</b>	<b>16.4%</b>	<b>1.4%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.6</b>	<b>MAXIMUM VALUES</b>				<b>99.8%</b>	<b>95.1%</b>	<b>0</b>	<b>0</b>	<b>0</b>

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

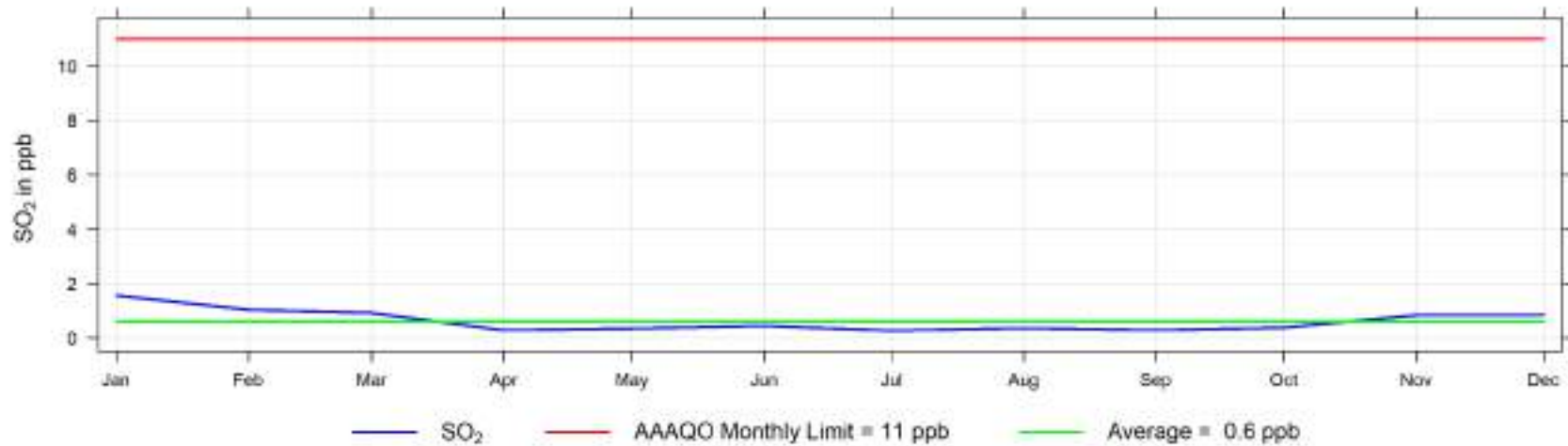
2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge



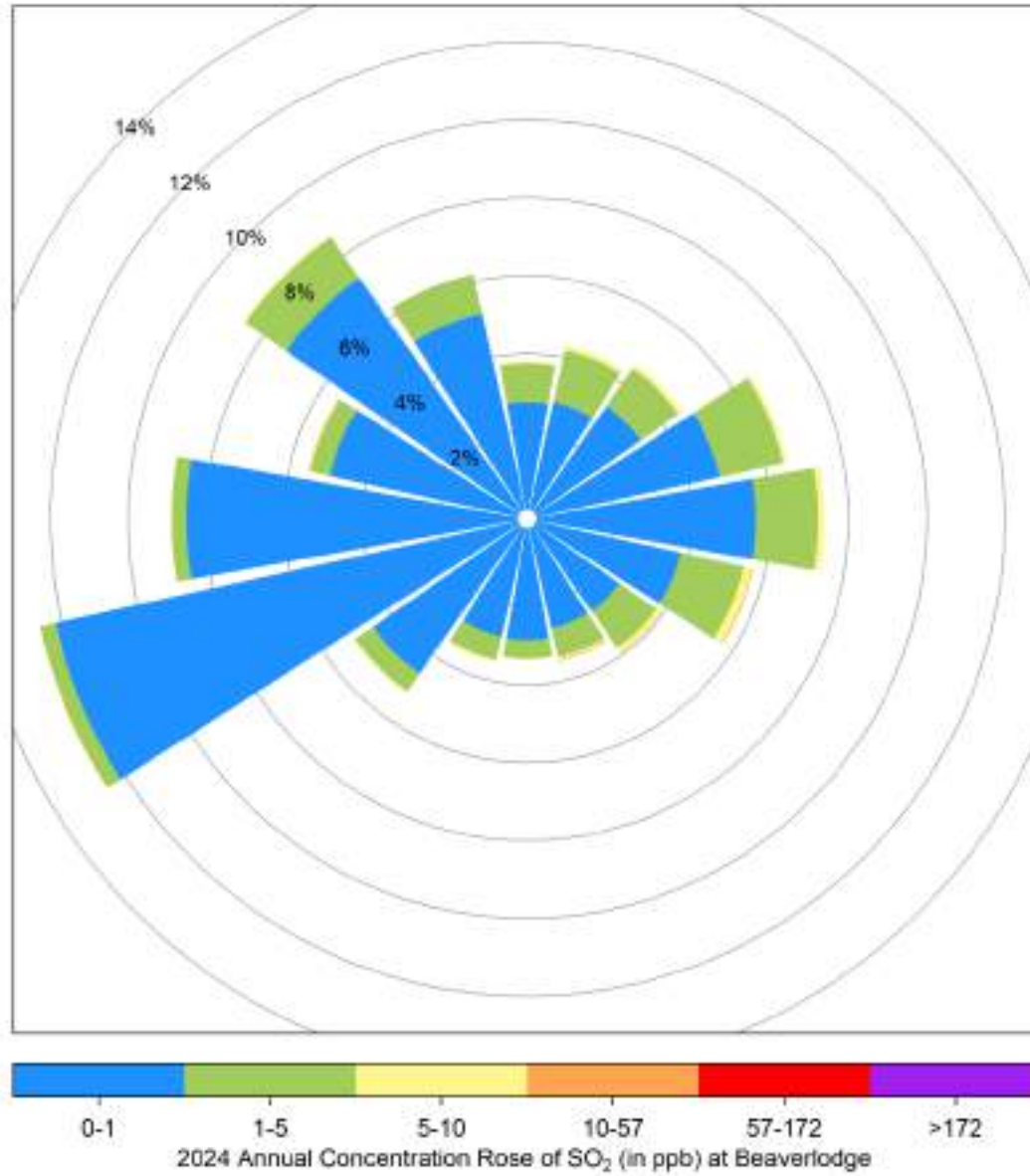
2024 Daily Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge



2024 Monthly Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge







## Hourly Maximum SO<sub>2</sub> (in ppb) for 2024 at Beaverlodge



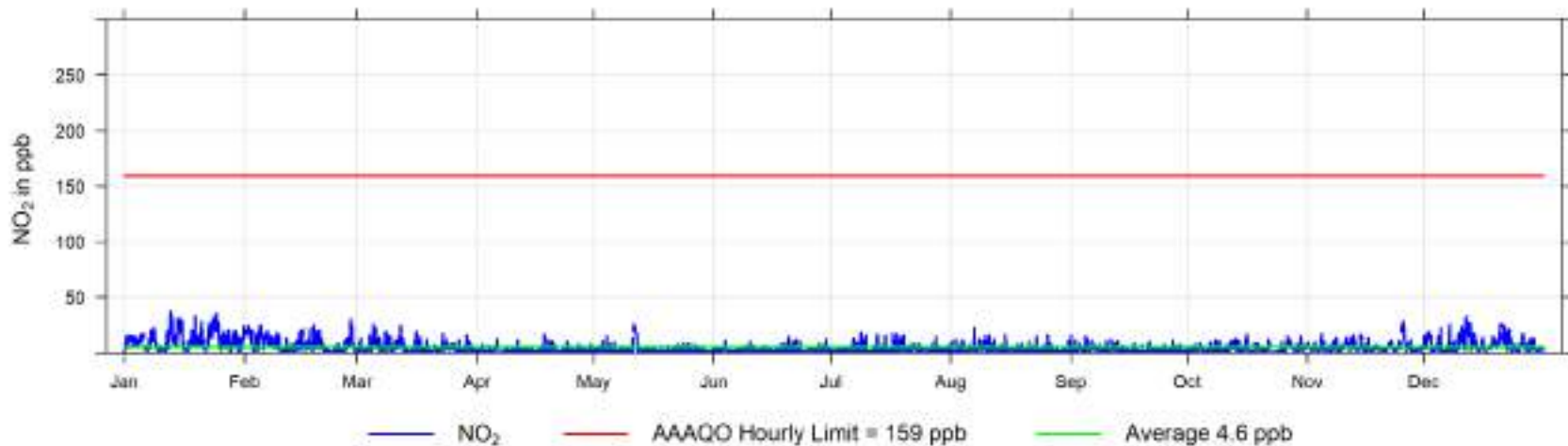
### 3.3 Nitrogen Dioxide (NO<sub>2</sub>) - Beaverlodge 2024 Summary

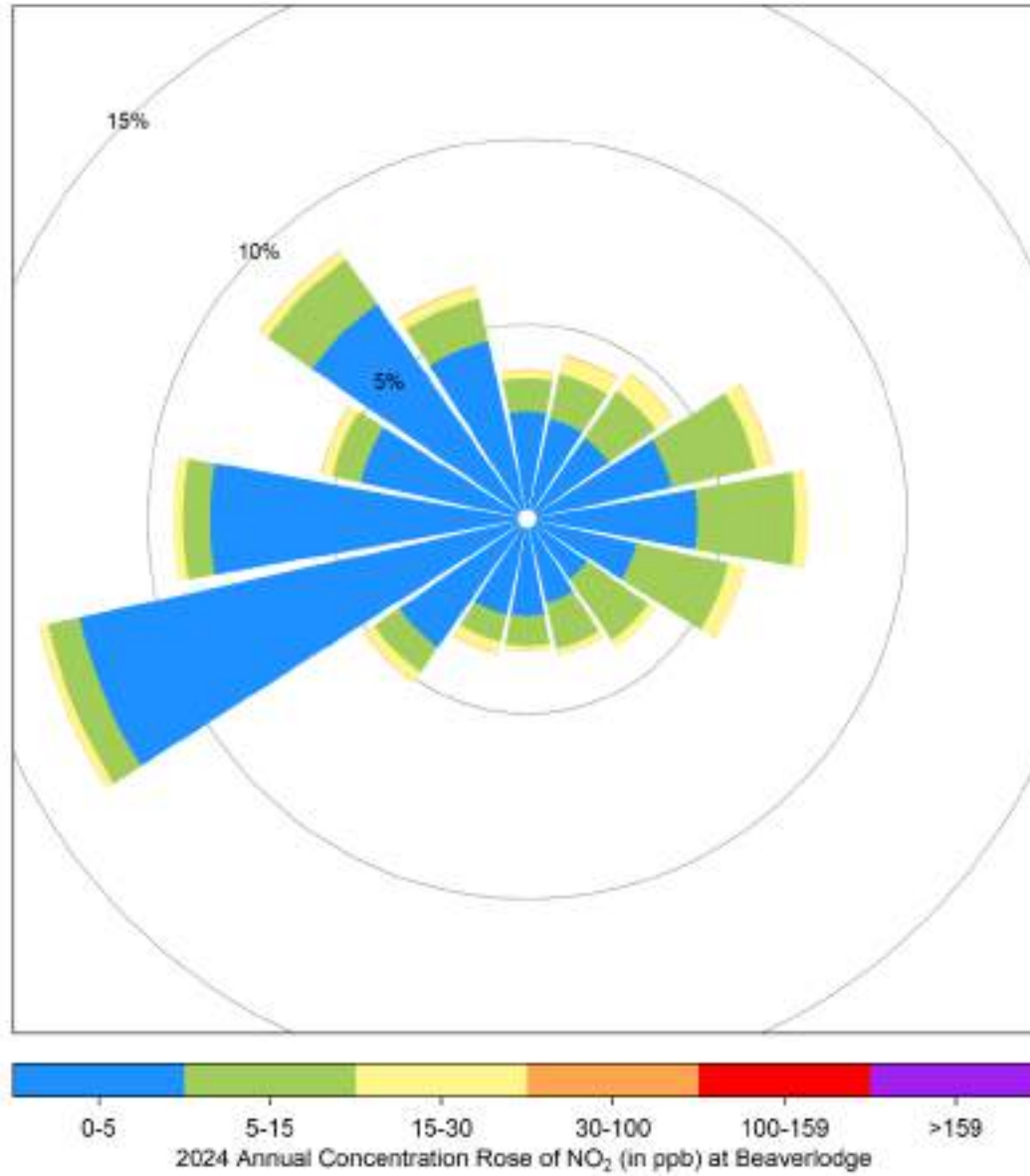
**Nitrogen Dioxide (NO<sub>2</sub>) Frequency Distribution at Beaverlodge**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			
January 2024	708	28.2%	44.4%	24.4%	3.0%	0.0%	0.0%	11.3	26.4	Jan 24	37.5	Jan 13 00:00	100.0%	95.2%	0
February 2024	656	47.7%	36.0%	16.2%	0.2%	0.0%	0.0%	7.5	19.0	Feb 01	30.2	Feb 28 11:00	99.4%	94.3%	0
March 2024	704	67.8%	30.0%	2.3%	0.0%	0.0%	0.0%	4.4	11.3	Mar 12	25.9	Mar 05 06:00	99.6%	94.6%	0
April 2024	664	90.1%	9.8%	0.2%	0.0%	0.0%	0.0%	2.1	4.5	Apr 20	16.6	Apr 18 08:00	97.1%	92.2%	0
May 2024	708	88.7%	8.1%	3.2%	0.0%	0.0%	0.0%	2.6	18.1	May 11	25.8	May 11 09:00	100.0%	95.2%	0
June 2024	684	88.7%	11.3%	0.0%	0.0%	0.0%	0.0%	2.4	5.3	Jun 20	14.1	Jun 20 06:00	100.0%	95.0%	0
July 2024	707	84.7%	14.1%	1.1%	0.0%	0.0%	0.0%	2.9	6.9	Jul 19	18.8	Jul 09 00:00	100.0%	95.0%	0
August 2024	702	83.3%	16.1%	0.6%	0.0%	0.0%	0.0%	3.0	6.1	Aug 10	22.5	Aug 07 02:00	99.6%	94.4%	0
September 2024	683	82.7%	17.1%	0.1%	0.0%	0.0%	0.0%	2.6	4.9	Sep 11	15.6	Sep 01 01:00	100.0%	94.9%	0
October 2024	700	75.0%	24.9%	0.1%	0.0%	0.0%	0.0%	3.5	7.2	Oct 27	16.4	Oct 16 08:00	99.3%	94.1%	0
November 2024	678	65.9%	30.7%	3.4%	0.0%	0.0%	0.0%	5.1	19.9	Nov 25	28.2	Nov 25 18:00	99.2%	94.2%	0
December 2024	695	49.5%	36.4%	13.8%	0.3%	0.0%	0.0%	7.4	22.4	Dec 12	32.4	Dec 11 21:00	98.1%	93.4%	0
<b>Annual</b>	<b>8289</b>	<b>71.0%</b>	<b>23.2%</b>	<b>5.5%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>4.6</b>	<b>MAXIMUM VALUES</b>				<b>99.4%</b>	<b>94.4%</b>	<b>0</b>

AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

**2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Beaverlodge**





## Hourly Maximum NO<sub>2</sub> (in ppb) for 2024 at Beaverlodge



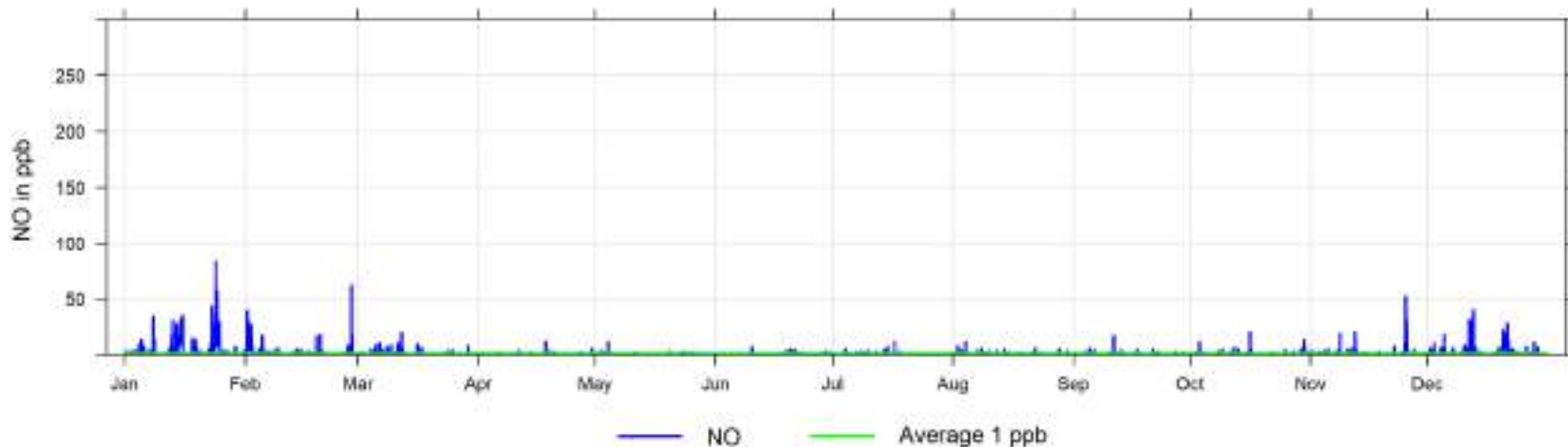
### 3.4 Nitric Oxide (NO) - Beaverlodge 2024 Summary

Nitric Oxide (NO) Frequency Distribution at Beaverlodge

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date		
January 2024	708	81.5%	10.9%	5.1%	2.5%	0.0%	0.0%	3.7	27.2	Jan 24	83.6	Jan 24 13:00	100.0%	95.2%
February 2024	656	90.5%	5.6%	3.0%	0.8%	0.0%	0.0%	1.9	14.6	Feb 01	62.7	Feb 28 11:00	99.4%	94.3%
March 2024	704	96.2%	3.6%	0.3%	0.0%	0.0%	0.0%	0.7	3.2	Mar 12	20.2	Mar 12 09:00	99.6%	94.6%
April 2024	664	99.5%	0.5%	0.0%	0.0%	0.0%	0.0%	0.2	1.1	Apr 18	11.8	Apr 18 08:00	97.1%	92.2%
May 2024	708	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.7	May 04	11.3	May 04 08:00	100.0%	95.2%
June 2024	684	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3	0.9	Jun 10	7.1	Jun 10 07:00	100.0%	95.0%
July 2024	707	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.3	0.9	Jul 17	11.6	Jul 17 03:00	100.0%	95.0%
August 2024	702	99.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.4	0.9	Aug 08	11.3	Aug 04 07:00	99.6%	94.4%
September 2024	683	99.3%	0.6%	0.1%	0.0%	0.0%	0.0%	0.3	2.1	Sep 11	17.1	Sep 11 08:00	100.0%	94.9%
October 2024	700	98.1%	1.6%	0.3%	0.0%	0.0%	0.0%	0.6	2.8	Oct 16	20.5	Oct 16 08:00	99.3%	94.1%
November 2024	678	96.2%	2.2%	0.6%	1.0%	0.0%	0.0%	1.1	15.6	Nov 25	52.1	Nov 25 12:00	99.2%	94.2%
December 2024	695	89.8%	7.2%	2.4%	0.6%	0.0%	0.0%	1.8	13.5	Dec 12	40.0	Dec 12 21:00	98.1%	93.4%
<b>Annual</b>	<b>8289</b>	<b>95.8%</b>	<b>2.8%</b>	<b>1.0%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>1.0</b>	<b>MAXIMUM VALUES</b>				<b>99.4%</b>	<b>94.4%</b>

AAAQO Objectives: none

2024 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



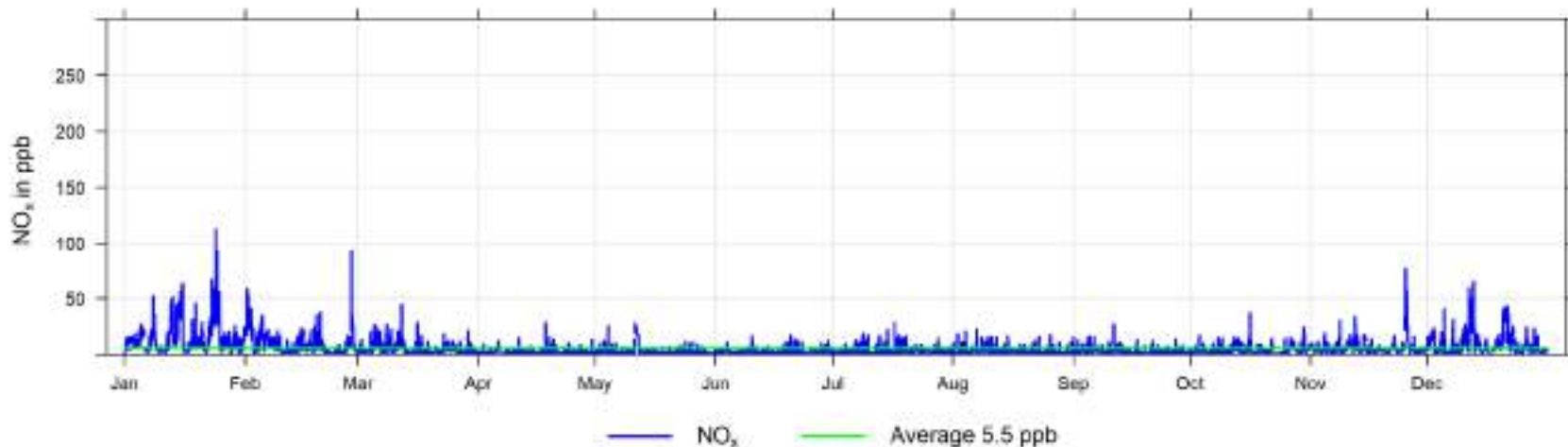
### 3.5 Oxides of Nitrogen (NO<sub>x</sub>) - Beaverlodge 2024 Summary

**Nitrogen Oxides (NO<sub>x</sub>) Frequency Distribution at Beaverlodge**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date		
January 2024	708	26.8%	39.4%	19.6%	14.0%	0.1%	0.0%	15.0	53.6	Jan 24	112.3	Jan 24 13:00	100.0%	95.2%
February 2024	656	44.5%	35.4%	15.2%	4.9%	0.0%	0.0%	9.4	33.7	Feb 01	93.0	Feb 28 11:00	99.4%	94.3%
March 2024	704	64.6%	30.3%	4.8%	0.3%	0.0%	0.0%	5.1	14.5	Mar 12	45.0	Mar 12 09:00	99.6%	94.6%
April 2024	664	88.6%	11.0%	0.5%	0.0%	0.0%	0.0%	2.3	5.2	Apr 18	28.4	Apr 18 08:00	97.1%	92.2%
May 2024	708	86.9%	9.7%	3.4%	0.0%	0.0%	0.0%	2.9	18.4	May 11	28.3	May 11 09:00	100.0%	95.2%
June 2024	684	85.1%	14.5%	0.4%	0.0%	0.0%	0.0%	2.7	6.2	Jun 20	17.5	Jun 20 06:00	100.0%	95.0%
July 2024	707	82.5%	16.3%	1.3%	0.0%	0.0%	0.0%	3.2	7.2	Jul 19	29.0	Jul 17 03:00	100.0%	95.0%
August 2024	702	79.3%	19.2%	1.4%	0.0%	0.0%	0.0%	3.3	6.5	Aug 10	22.8	Aug 07 02:00	99.6%	94.4%
September 2024	683	80.8%	18.2%	1.0%	0.0%	0.0%	0.0%	3.0	6.9	Sep 11	27.6	Sep 11 08:00	100.0%	94.9%
October 2024	700	72.0%	26.4%	1.3%	0.3%	0.0%	0.0%	4.1	9.3	Oct 16	36.9	Oct 16 08:00	99.3%	94.1%
November 2024	678	62.2%	32.2%	3.4%	2.2%	0.0%	0.0%	6.2	35.6	Nov 25	77.0	Nov 25 12:00	99.2%	94.2%
December 2024	695	46.6%	34.0%	13.8%	5.6%	0.0%	0.0%	9.2	35.9	Dec 12	65.4	Dec 12 21:00	98.1%	93.4%
<b>Annual</b>	<b>8289</b>	<b>68.3%</b>	<b>23.9%</b>	<b>5.5%</b>	<b>2.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>5.5</b>	<b>MAXIMUM VALUES</b>				<b>99.4%</b>	<b>94.4%</b>

AAAQO Objectives: none

**2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Beaverlodge**



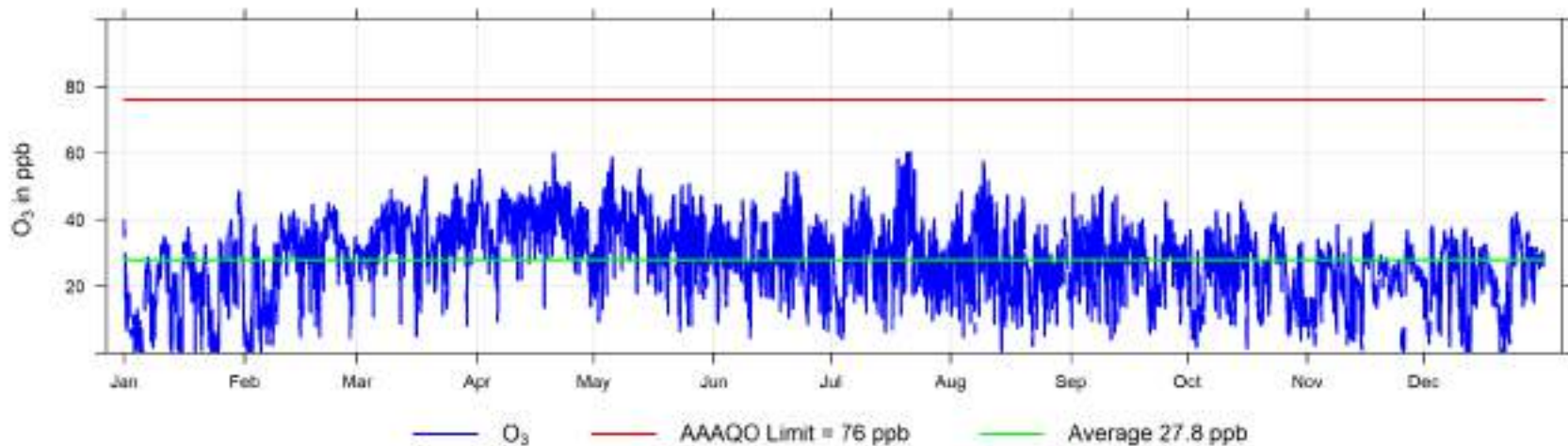
### 3.6 Ozone (O<sub>3</sub>) - Beaverlodge 2024 Summary

Ozone (O<sub>3</sub>) Frequency Distribution at Beaverlodge

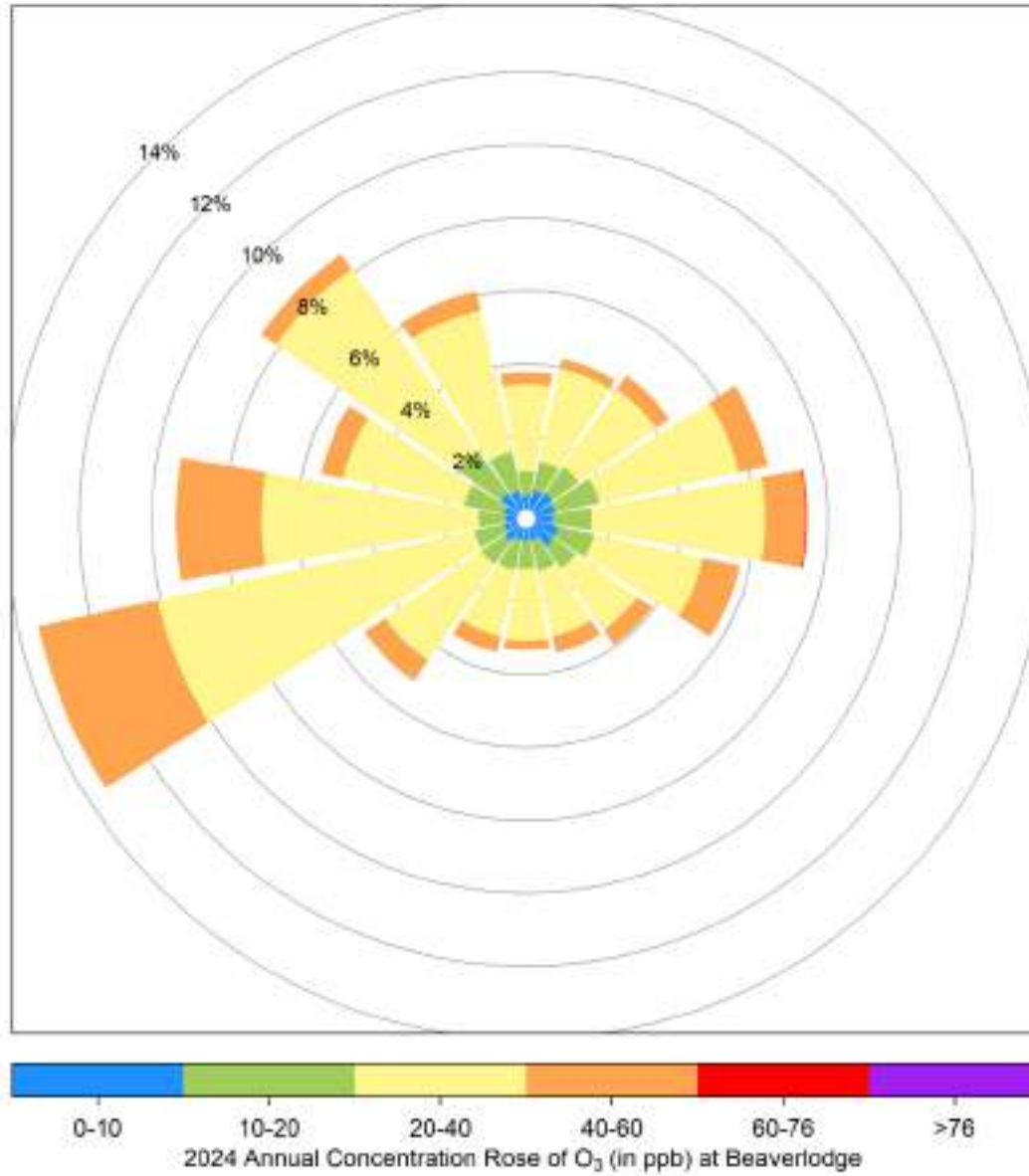
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 76 ppb
		0 to 10 (ppb)	10 to 20 (ppb)	20 to 40 (ppb)	40 to 60 (ppb)	60 to 76 (ppb)	> 76 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			
January 2024	708	29.1%	20.2%	48.4%	2.3%	0.0%	0.0%	18.6	38.1	Jan 30	48.5	Jan 30 13:00	99.9%	95.2%	0
February 2024	663	13.1%	14.2%	63.2%	9.5%	0.0%	0.0%	26.1	40.6	Feb 22	44.9	Feb 22 14:00	100.0%	95.3%	0
March 2024	706	0.6%	3.5%	68.4%	27.5%	0.0%	0.0%	34.7	45.2	Mar 18	52.9	Mar 18 15:00	99.6%	94.9%	0
April 2024	686	0.1%	1.6%	47.2%	51.0%	0.0%	0.0%	39.0	49.8	Apr 01	59.9	Apr 20 18:00	100.0%	95.3%	0
May 2024	709	0.7%	8.2%	58.0%	33.1%	0.0%	0.0%	34.8	46.5	May 05	58.5	May 05 17:00	100.0%	95.3%	0
June 2024	687	1.7%	14.1%	69.4%	14.7%	0.0%	0.0%	29.7	38.7	Jun 22	54.3	Jun 21 19:00	100.0%	95.4%	0
July 2024	709	2.4%	18.9%	64.5%	13.8%	0.4%	0.0%	29.4	47.2	Jul 21	60.4	Jul 21 16:00	100.0%	95.3%	0
August 2024	707	5.0%	22.9%	60.1%	12.0%	0.0%	0.0%	26.9	42.0	Aug 09	57.4	Aug 09 14:00	99.6%	95.0%	0
September 2024	684	4.7%	17.7%	70.6%	7.0%	0.0%	0.0%	27.4	34.6	Sep 26	49.6	Sep 09 02:00	99.7%	95.0%	0
October 2024	708	11.7%	24.2%	61.6%	2.5%	0.0%	0.0%	23.4	36.7	Oct 23	45.3	Oct 14 19:00	100.0%	95.2%	0
November 2024	685	15.2%	22.5%	62.3%	0.0%	0.0%	0.0%	21.3	31.4	Nov 16	39.3	Nov 17 14:00	99.9%	95.1%	0
December 2024	710	14.9%	20.3%	64.1%	0.7%	0.0%	0.0%	22.8	35.7	Dec 25	42.1	Dec 24 18:00	100.0%	95.4%	0
<b>Annual</b>	<b>8362</b>	<b>8.3%</b>	<b>15.7%</b>	<b>61.5%</b>	<b>14.5%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>27.8</b>	<b>MAXIMUM VALUES</b>				<b>99.9%</b>	<b>95.2%</b>	<b>0</b>

AAAQO Objectives: 1-Hr: 76ppb

2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Beaverlodge







## Hourly Maximum O<sub>3</sub> (in ppb) for 2024 at Beaverlodge



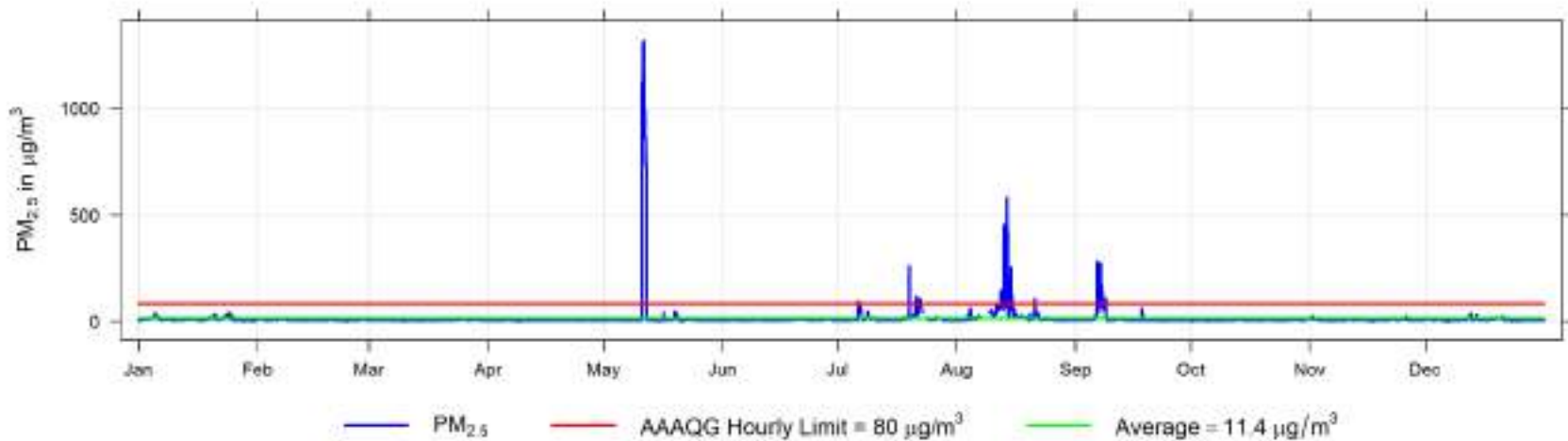
### 3.7 Particulate Matter (PM<sub>2.5</sub>) - Beaverlodge 2024 Summary

Particulate Matter (PM<sub>2.5</sub>) Frequency Distribution at Beaverlodge

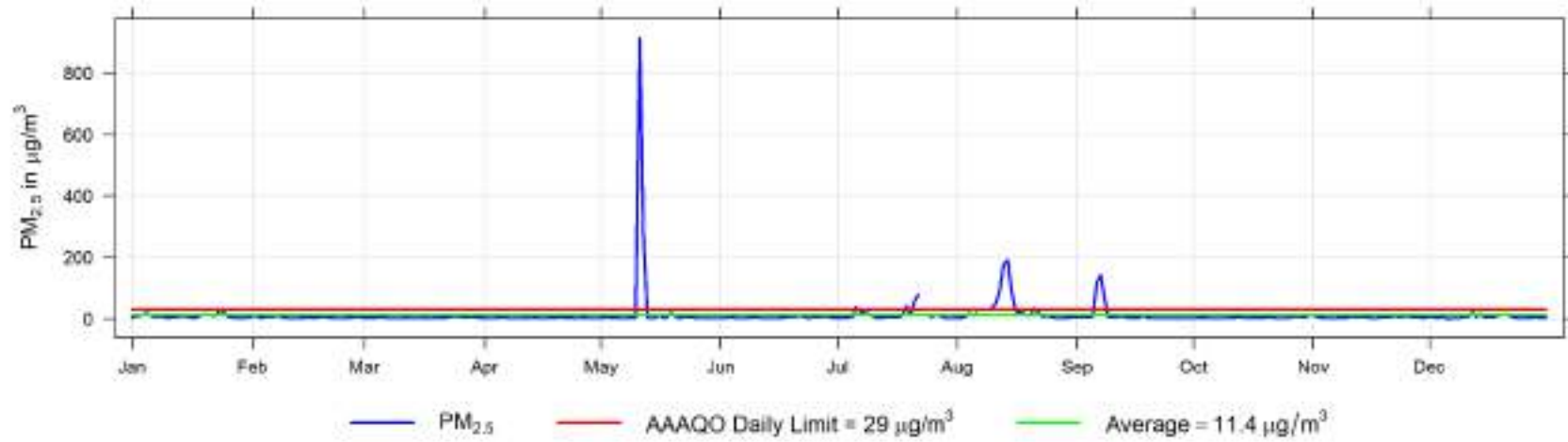
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m <sup>3</sup> )	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m <sup>3</sup> )	5 to 15 (µg/m <sup>3</sup> )	15 to 30 (µg/m <sup>3</sup> )	30 to 50 (µg/m <sup>3</sup> )	50 to 80 (µg/m <sup>3</sup> )	> 80 (µg/m <sup>3</sup> )		24-hr (µg/m <sup>3</sup> )	Date	1-hr (µg/m <sup>3</sup> )	Date			24-hr 29 µg/m <sup>3</sup>	1-hr 80 µg/m <sup>3</sup>
January 2024	742	37.6%	48.2%	11.1%	3.1%	0.0%	0.0%	8.4	29.3	Jan 24	38.0	Jan 24 14:00	100.0%	99.7%	1	0
February 2024	694	66.3%	32.6%	1.2%	0.0%	0.0%	0.0%	4.5	9.1	Feb 07	17.0	Feb 08 10:00	100.0%	99.7%	0	0
March 2024	740	79.5%	20.5%	0.0%	0.0%	0.0%	0.0%	3.5	8.4	Mar 25	14.7	Mar 05 01:00	99.7%	99.5%	0	0
April 2024	719	93.6%	6.4%	0.0%	0.0%	0.0%	0.0%	2.5	4.9	Apr 21	10.9	Apr 21 02:00	100.0%	99.9%	0	0
May 2024	743	80.3%	11.8%	2.0%	1.9%	0.0%	3.9%	42.1	949.9	May 11	1323.2	May 11 12:00	100.0%	99.9%	2	29
June 2024	717	67.2%	32.8%	0.0%	0.0%	0.0%	0.0%	4.0	8.6	Jun 21	13.0	Jun 22 05:00	100.0%	99.6%	0	0
July 2024	714	52.2%	27.9%	8.8%	3.2%	4.6%	3.2%	13.4	76.0	Jul 22	260.8	Jul 19 18:00	96.1%	96.0%	4	23
August 2024	685	30.5%	24.4%	22.6%	7.4%	6.9%	8.2%	31.0	187.9	Aug 13	580.1	Aug 14 03:00	92.2%	92.1%	7	56
September 2024	717	69.3%	20.4%	1.5%	1.1%	2.8%	4.9%	14.2	138.4	Sep 07	282.2	Sep 06 16:00	100.0%	99.6%	3	35
October 2024	742	80.3%	19.4%	0.3%	0.0%	0.0%	0.0%	3.4	11.5	Oct 31	16.2	Oct 31 21:00	100.0%	99.7%	0	0
November 2024	717	62.8%	35.7%	1.5%	0.0%	0.0%	0.0%	4.9	11.9	Nov 01	25.9	Nov 26 05:00	99.7%	99.6%	0	0
December 2024	743	55.9%	36.7%	6.6%	0.8%	0.0%	0.0%	5.8	20.6	Dec 12	35.4	Dec 12 23:00	100.0%	99.9%	0	0
<b>Annual</b>	<b>8673</b>	<b>64.6%</b>	<b>26.4%</b>	<b>4.6%</b>	<b>1.5%</b>	<b>1.2%</b>	<b>1.7%</b>	<b>11.4</b>	<b>949.9</b>	<b>MAXIMUM VALUES</b>		<b>99.0%</b>	<b>98.8%</b>	<b>17</b>	<b>143</b>	

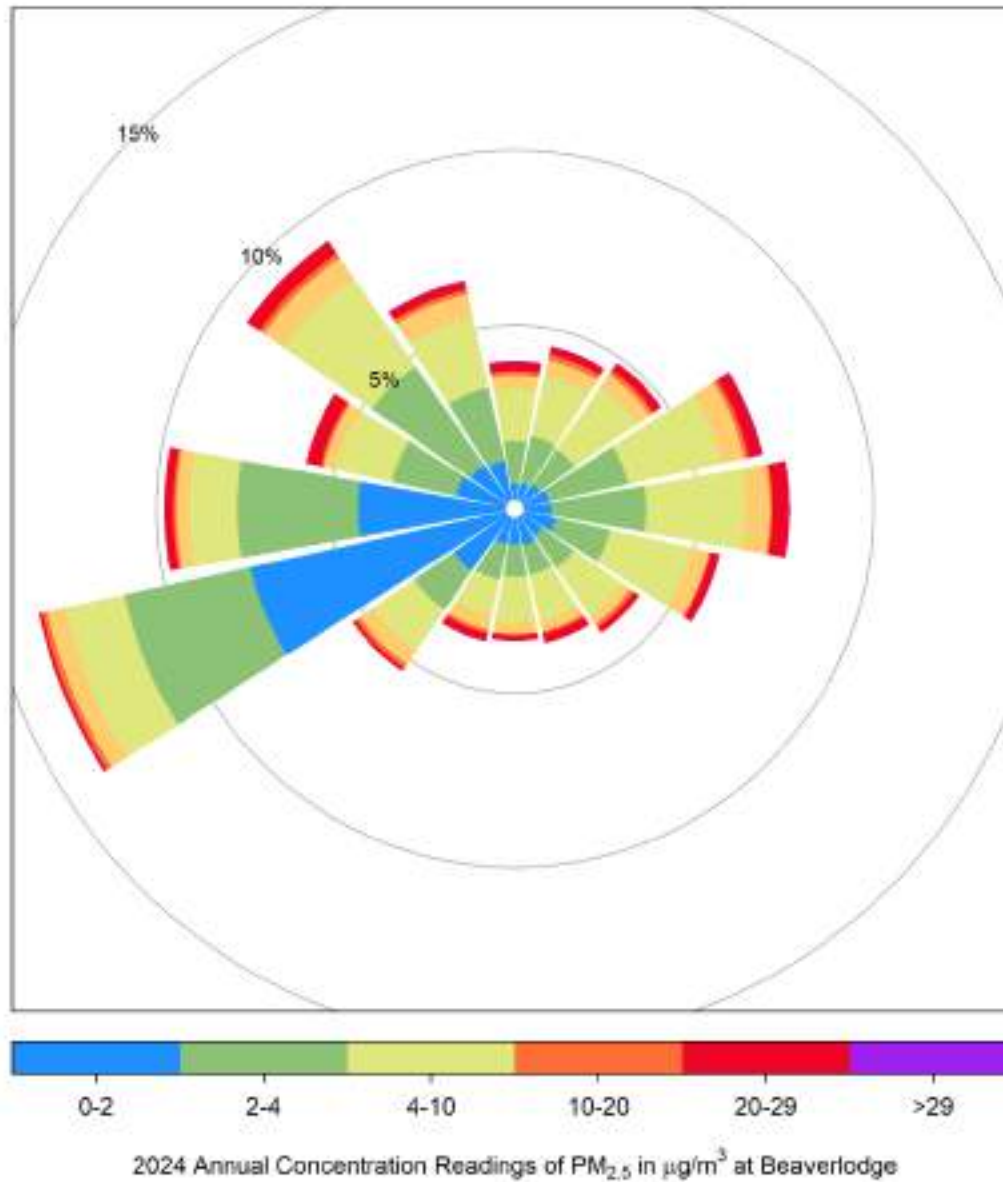
AAAQO Objectives: 24-Hr: 29 µg/m<sup>3</sup>, AAAQG Guideline: 1-Hr: 80 µg/m<sup>3</sup>

2024 Hourly Concentration Readings of PM<sub>2.5</sub> in µg/m<sup>3</sup> at Beaverlodge

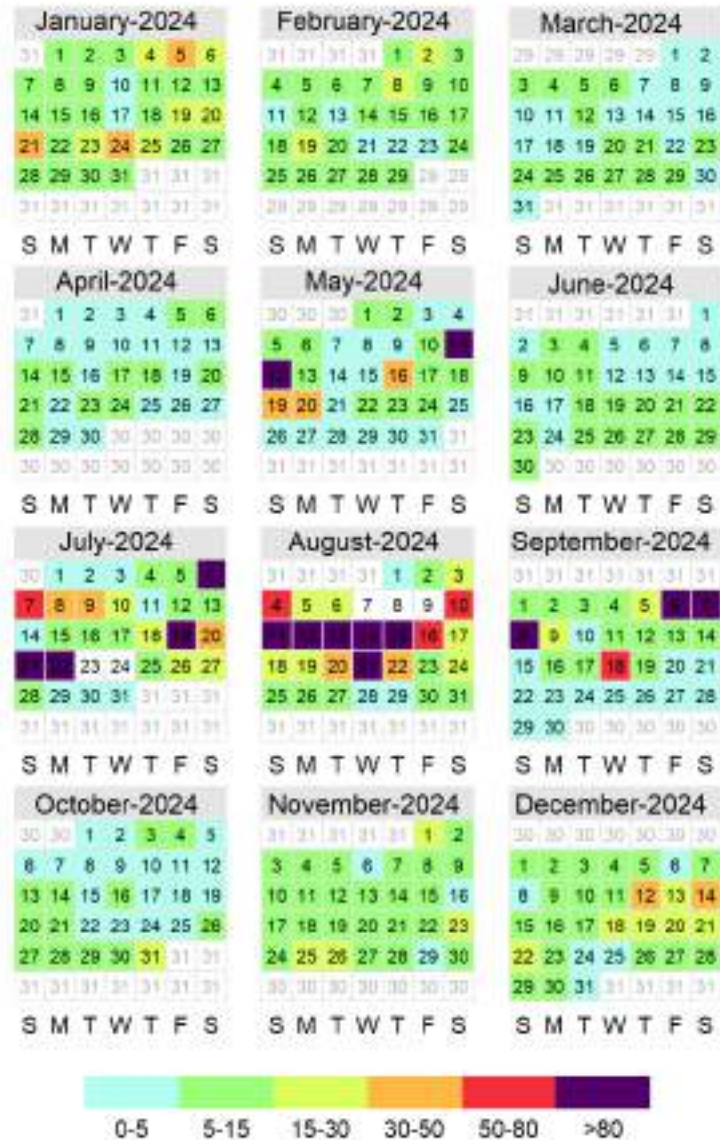


2024 Daily Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Beaverlodge





## Hourly Maximum PM<sub>2.5</sub> (in µg/m<sup>3</sup>) for 2024 at Beaverlodge

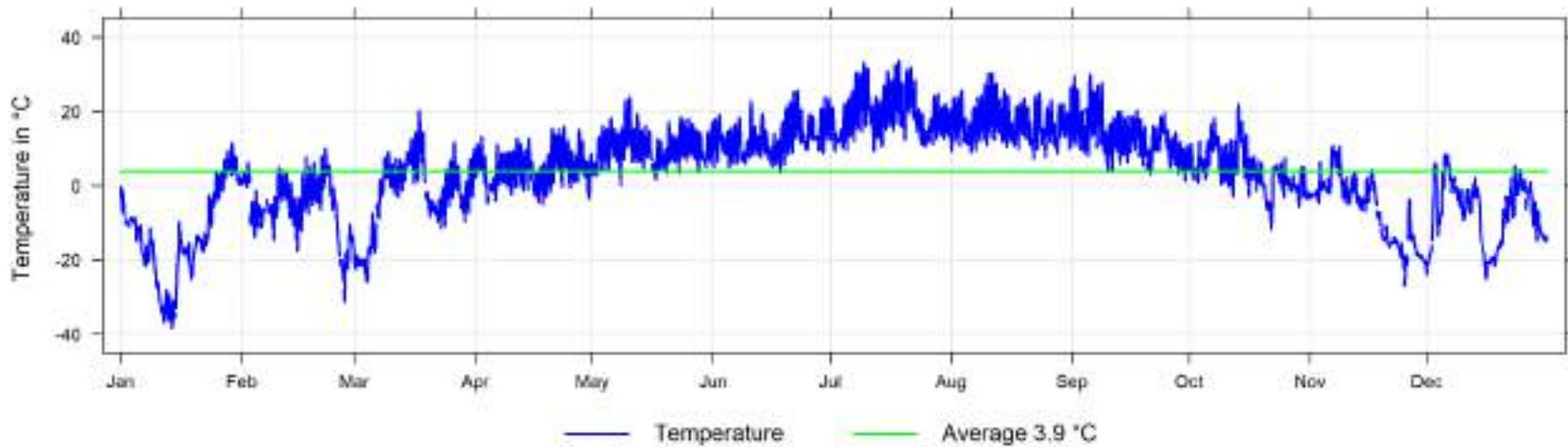


### 3.8 Temperature (ET) - Beaverlodge 2024 Summary

Temperature (ET) Frequency Distribution at Beaverlodge

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)		
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date
January 2024	710	-13.5	7.0	Jan 29	11.5	Jan 29 16:00	-35.5	Jan 14	-38.3	Jan 14 08:00	95.4%	95.4%
February 2024	663	-5.5	4.3	Feb 22	10.2	Feb 22 15:00	-23.2	Feb 27	-31.4	Feb 27 09:00	95.3%	95.3%
March 2024	709	-2.6	10.2	Mar 17	20.1	Mar 17 15:00	-21.4	Mar 03	-25.9	Mar 04 09:00	95.3%	95.3%
April 2024	687	4.9	9.0	Apr 22	15.8	Apr 23 17:00	-1.9	Apr 04	-5.1	Apr 18 07:00	95.4%	95.4%
May 2024	713	10.6	17.2	May 10	23.8	May 10 16:00	4.6	May 01	0.1	May 08 06:00	95.8%	95.8%
June 2024	689	13.1	18.9	Jun 22	25.6	Jun 22 15:00	8.0	Jun 08	3.5	Jun 18 06:00	95.7%	95.7%
July 2024	710	19.7	26.6	Jul 18	33.8	Jul 18 17:00	12.1	Jul 02	9.2	Jul 02 04:00	95.4%	95.4%
August 2024	709	17.1	21.7	Aug 10	30.3	Aug 11 15:00	12.7	Aug 27	7.1	Aug 22 07:00	95.3%	95.3%
September 2024	687	13.1	21.0	Sep 01	29.9	Sep 05 18:00	6.4	Sep 20	1.3	Sep 30 02:00	95.4%	95.4%
October 2024	709	4.1	13.1	Oct 07	22.1	Oct 13 15:00	-5.9	Oct 21	-11.6	Oct 22 04:00	95.3%	95.3%
November 2024	686	-6.9	8.0	Nov 07	10.8	Nov 06 21:00	-22.3	Nov 25	-27.0	Nov 25 08:00	95.3%	95.3%
December 2024	713	-7.1	5.7	Dec 06	8.4	Dec 05 18:00	-22.1	Dec 16	-25.1	Dec 16 07:00	95.8%	95.8%
<b>8385</b>		<b>AVERAGE 3.9</b>	<b>26.6</b>	<b>MAXIMUM VALUES Jul 18 33.8 Jul 18 17:00</b>		<b>MINIMUM VALUES Jan 14 -35.5 Jan 14 -38.3 Jan 14 08:00</b>			<b>95.5%</b>	<b>95.5%</b>		

2024 Hourly Temperature Readings (in °C) at Beaverlodge

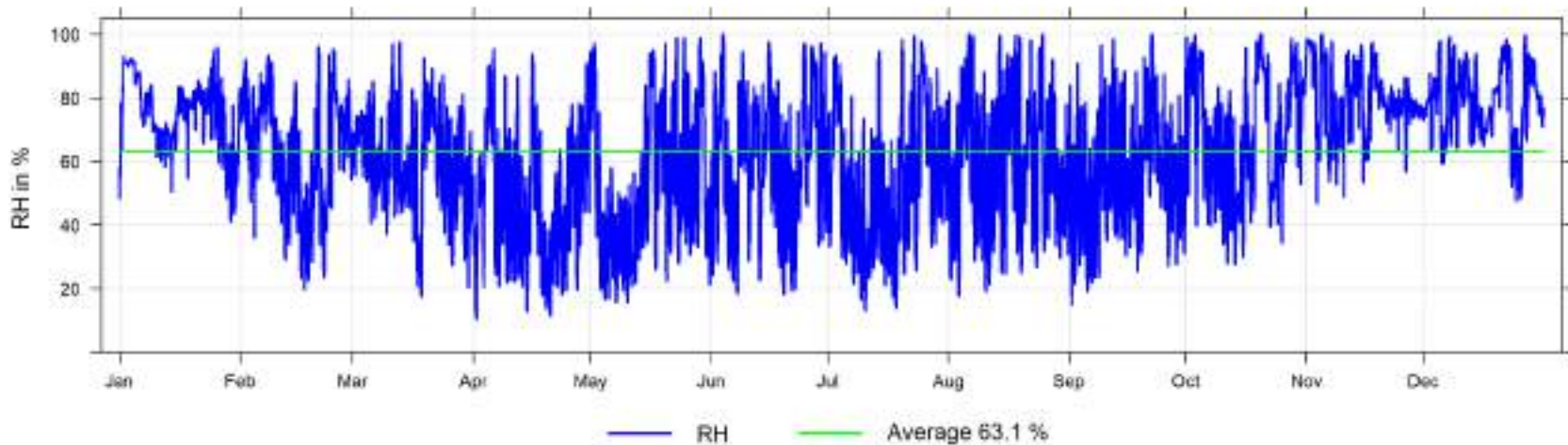


### 3.9 Relative Humidity (RH) - Beaverlodge 2024 Summary

**Relative Humidity (RH) Frequency Distribution at Beaverlodge**

Month	Valid Hours	Monthly Average (%)	Maximum Values			Operational time (%)	Valid time (%)		
			24-hr (%)	Date	1-hr (%)			Date	
January 2024	744	75.0	91.4	Jan 04	96.0	Jan 26 08:00	100.0%	100.0%	
February 2024	696	63.2	84.5	Feb 25	96.1	Feb 21 04:00	100.0%	100.0%	
March 2024	744	60.5	77.2	Mar 21	97.5	Mar 13 04:00	100.0%	100.0%	
April 2024	720	47.8	78.3	Apr 05	95.4	Apr 06 07:00	100.0%	100.0%	
May 2024	744	52.2	89.3	May 29	98.9	May 29 05:00	100.0%	100.0%	
June 2024	720	60.1	84.7	Jun 27	99.9	Jun 04 03:00	100.0%	100.0%	
July 2024	744	52.7	91.0	Jul 25	99.4	Jul 23 05:00	100.0%	100.0%	
August 2024	741	60.3	81.2	Aug 24	99.9	Aug 06 05:00	99.6%	99.6%	
September 2024	720	57.5	86.7	Sep 22	99.9	Sep 22 06:00	100.0%	100.0%	
October 2024	744	69.3	95.4	Oct 20	99.9	Oct 20 11:00	100.0%	100.0%	
November 2024	719	79.1	97.4	Nov 01	99.9	Nov 04 22:00	99.9%	99.9%	
December 2024	744	78.7	93.3	Dec 22	99.7	Dec 27 05:00	100.0%	100.0%	
		<b>AVERAGE</b>	<b>MAXIMUM VALUES</b>						
		8780	63.1	97.4	Nov 01	99.9	Nov 04 22:00	100.0%	100.0%

2024 Hourly Readings of Relative Humidity (in %) at Beaverlodge



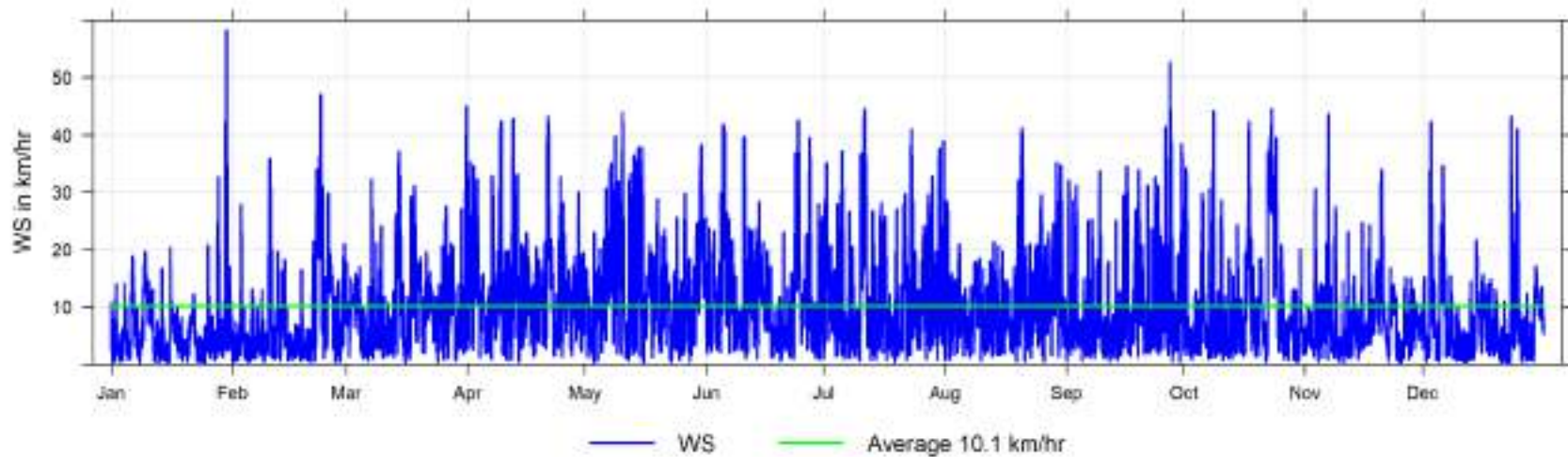


### 3.10 Wind Speed and Wind Direction (WS and WD) - Beaverlodge 2024 Summary

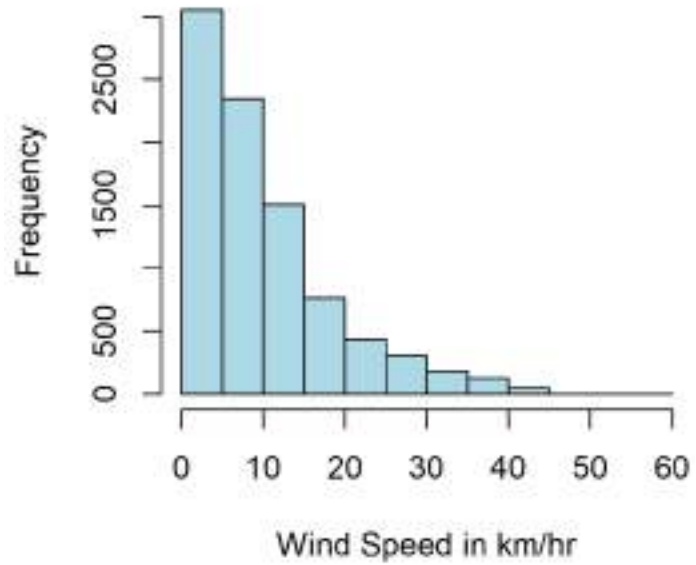
**Wind Speed Frequency Distribution at Beaverlodge**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)		24-hr (km/hr)	Date	1-hr (km/hr)	Date			
January 2024	744	2.4%	55.0%	28.2%	11.8%	1.5%	1.1%	6.0	20.9	Jan 30	58.2	Jan 30 13:00	100.0%	100.0%	
February 2024	696	1.4%	53.2%	24.0%	11.8%	5.9%	3.7%	7.5	26.4	Feb 23	47.1	Feb 23 13:00	100.0%	100.0%	
March 2024	744	0.3%	31.5%	33.9%	23.9%	7.5%	3.0%	9.8	21.9	Mar 14	45.0	Mar 31 19:00	100.0%	100.0%	
April 2024	720	0.1%	18.3%	29.6%	31.4%	12.4%	8.2%	13.1	25.6	Apr 21	43.1	Apr 21 15:00	100.0%	100.0%	
May 2024	744	0.5%	20.7%	24.6%	28.8%	13.8%	11.6%	13.7	26.3	May 30	44.0	May 10 15:00	100.0%	100.0%	
June 2024	720	0.1%	24.6%	32.4%	27.5%	9.7%	5.7%	11.5	27.7	Jun 05	42.5	Jun 24 11:00	100.0%	100.0%	
July 2024	744	0.1%	25.7%	31.7%	17.3%	16.0%	9.1%	12.5	30.2	Jul 11	44.6	Jul 11 13:00	100.0%	100.0%	
August 2024	741	0.4%	26.9%	32.4%	26.9%	9.7%	3.8%	10.7	22.2	Aug 20	41.2	Aug 20 14:00	99.6%	99.6%	
September 2024	720	0.4%	33.8%	30.1%	17.4%	11.7%	6.7%	10.8	20.7	Sep 27	52.7	Sep 27 14:00	100.0%	100.0%	
October 2024	744	0.4%	35.9%	32.5%	16.3%	6.9%	8.1%	10.1	33.5	Oct 23	44.7	Oct 23 12:00	100.0%	100.0%	
November 2024	720	1.7%	37.1%	41.1%	15.4%	3.5%	1.3%	7.6	17.8	Nov 20	43.6	Nov 06 22:00	100.0%	100.0%	
December 2024	744	2.0%	45.2%	29.8%	15.7%	4.2%	3.1%	7.7	18.1	Dec 06	43.2	Dec 23 16:00	100.0%	100.0%	
<b>Annual</b>	<b>8781</b>	<b>0.8%</b>	<b>34.0%</b>	<b>30.9%</b>	<b>20.3%</b>	<b>8.6%</b>	<b>5.4%</b>	<b>10.1</b>	<b>33.5</b>	<b>MAXIMUM VALUES</b>		<b>58.2</b>	<b>Jan 30 13:00</b>	<b>100.0%</b>	<b>100.0%</b>

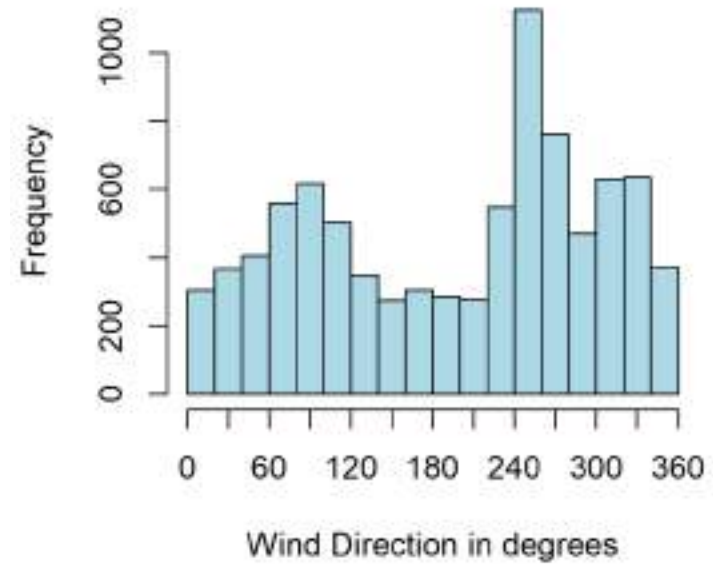
**2024 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge**



### 2024 Wind Speed Histogram

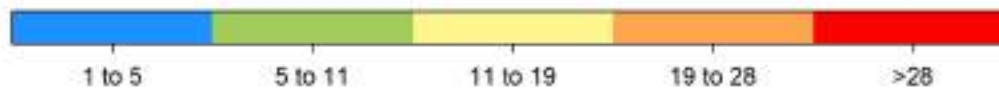
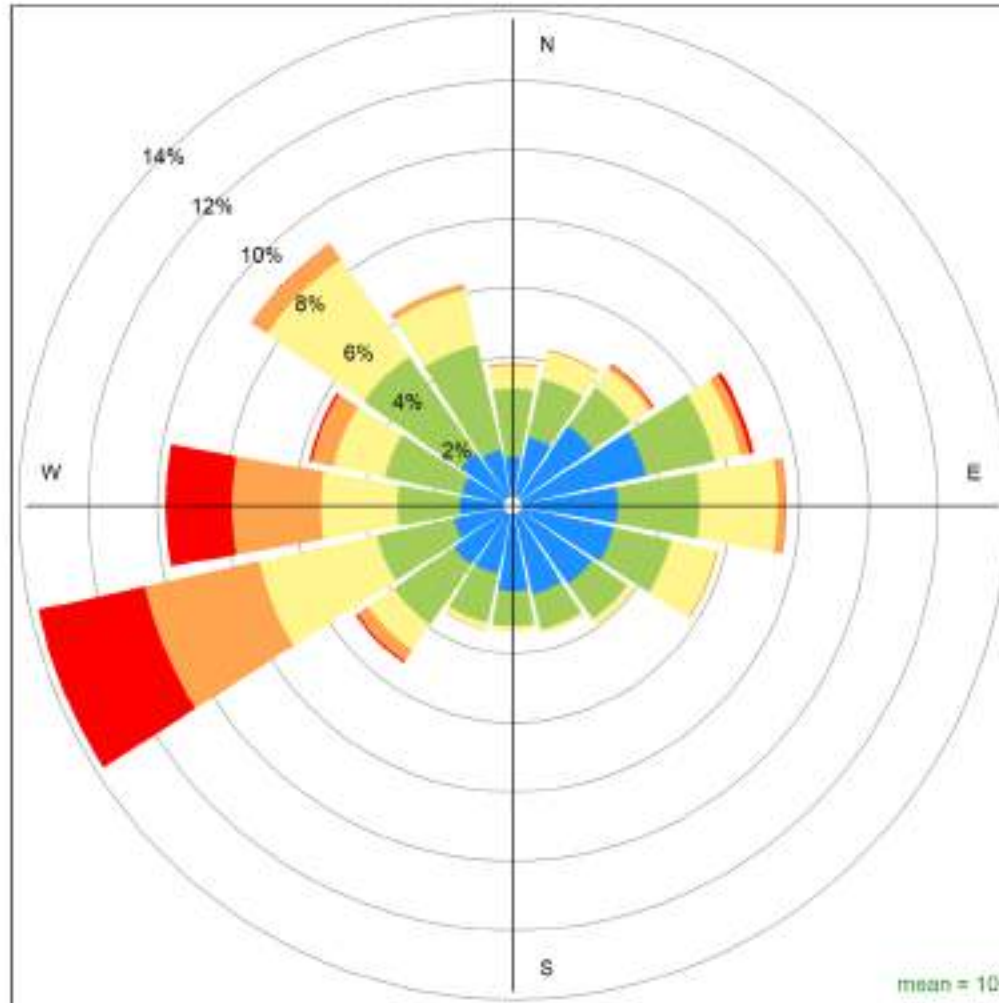


### 2024 Wind Direction Histogram



### Wind Speed and Wind Direction Frequency Distribution at Beaverlodge

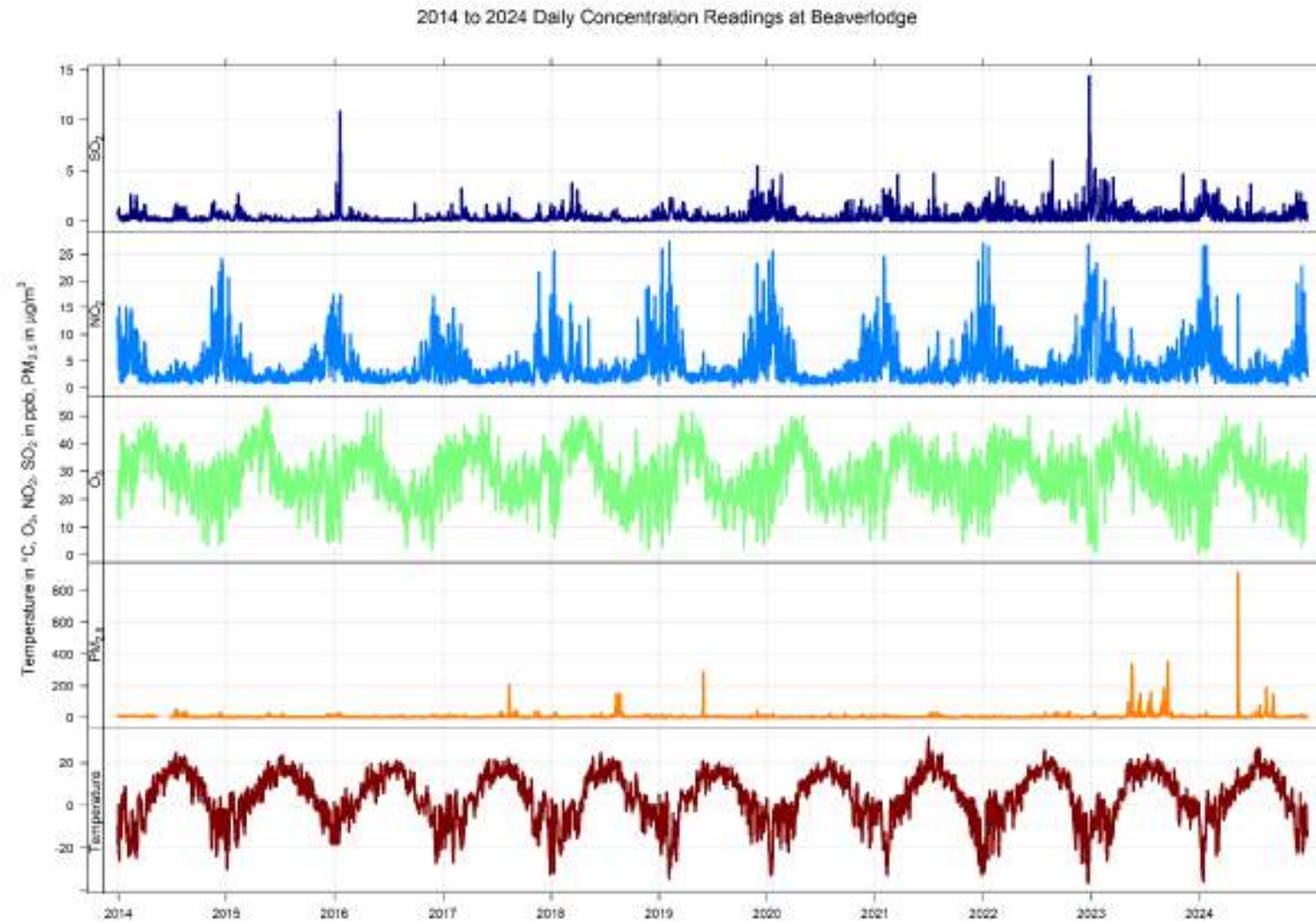
Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	353	0.0%	1.3%	2.0%	0.7%	0.1%	0.0%	4.0%
NNE	397	0.1%	1.9%	1.7%	0.8%	0.1%	0.0%	4.5%
NE	427	0.0%	2.7%	1.4%	0.6%	0.1%	0.0%	4.9%
ENE	617	0.0%	3.8%	2.0%	0.8%	0.3%	0.1%	7.0%
E	690	0.1%	2.9%	2.4%	2.2%	0.3%	0.0%	7.9%
ESE	532	0.1%	2.8%	1.7%	1.4%	0.1%	0.0%	6.1%
SE	368	0.1%	2.6%	1.2%	0.2%	0.0%	0.0%	4.2%
SSE	326	0.1%	2.5%	1.1%	0.1%	0.0%	0.0%	3.7%
S	311	0.0%	2.4%	1.0%	0.1%	0.0%	0.0%	3.5%
SSW	317	0.1%	1.9%	1.4%	0.2%	0.0%	0.0%	3.6%
SW	478	0.0%	1.9%	2.1%	0.9%	0.4%	0.1%	5.4%
WSW	1219	0.0%	1.5%	2.3%	3.5%	3.4%	3.2%	13.9%
W	863	0.0%	1.3%	1.8%	2.2%	2.6%	1.9%	9.8%
WNW	515	0.1%	1.3%	2.3%	1.5%	0.6%	0.1%	5.9%
NW	799	0.0%	1.7%	3.4%	3.4%	0.5%	0.0%	9.1%
NNW	569	0.0%	1.5%	3.1%	1.6%	0.2%	0.0%	6.5%
<b>Total</b>	<b>8781</b>	<b>0.8%</b>	<b>33.9%</b>	<b>30.9%</b>	<b>20.4%</b>	<b>8.6%</b>	<b>5.4%</b>	<b>100.0%</b>



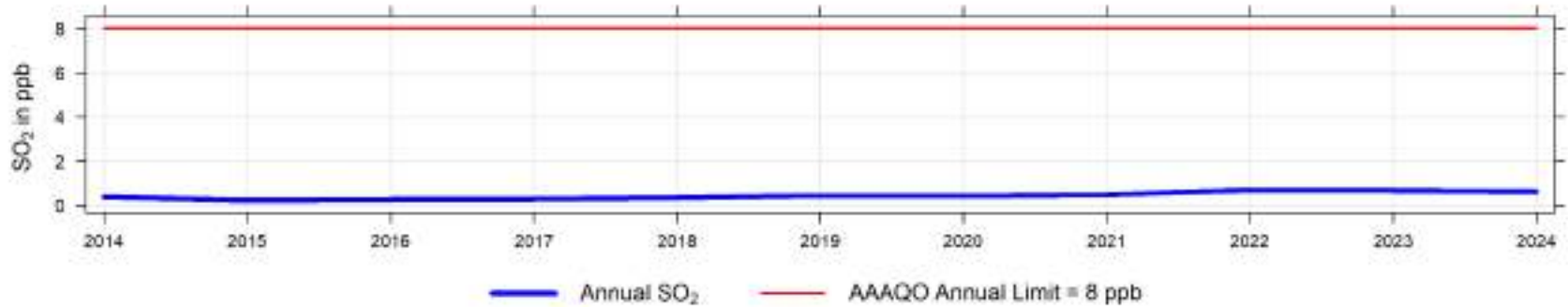
Beaverlodge 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 2.8 %**

### 3.11 Beaverlodge Annual Trends, 2014 to 2024

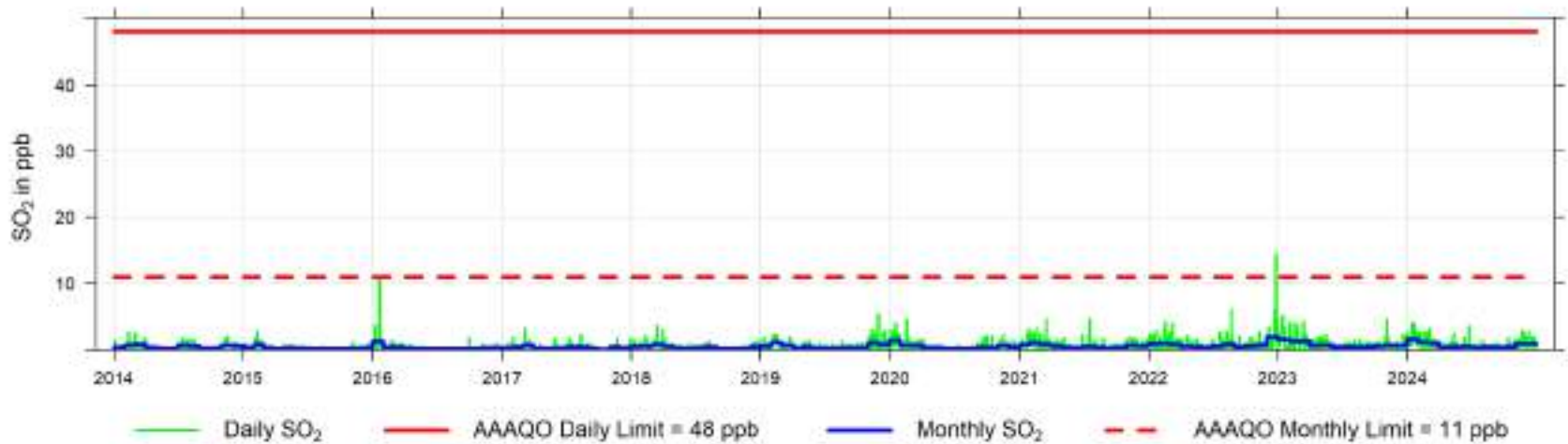
The following pages include historical annual charts collected between 2014 and 2024 at the Beaverlodge Station.



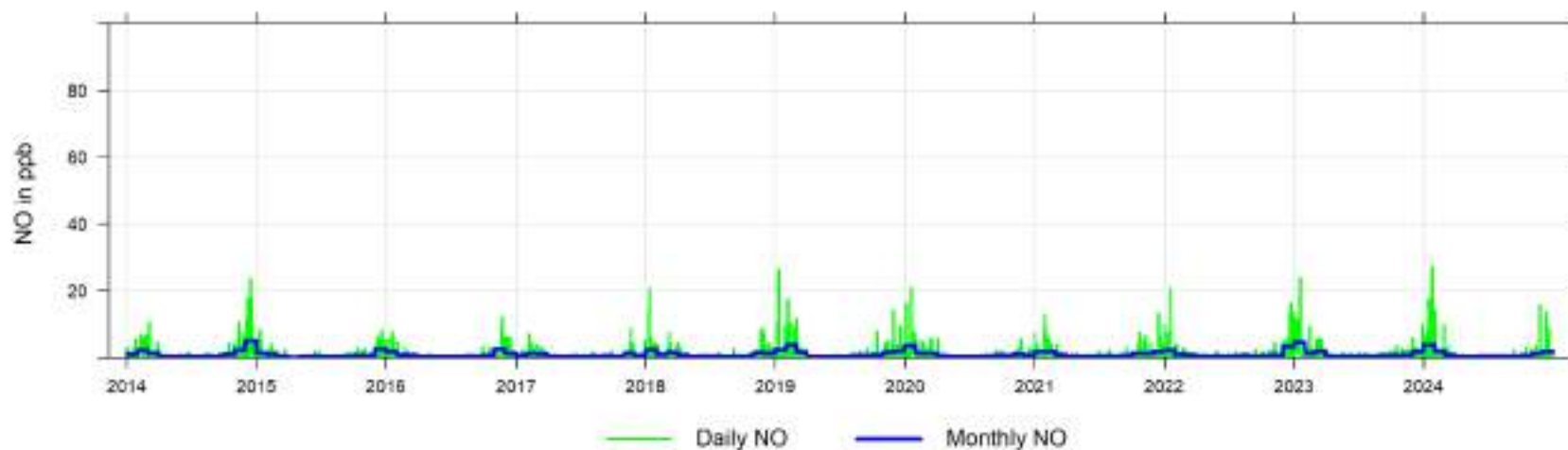
Years 2014 to 2024 Annual Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge



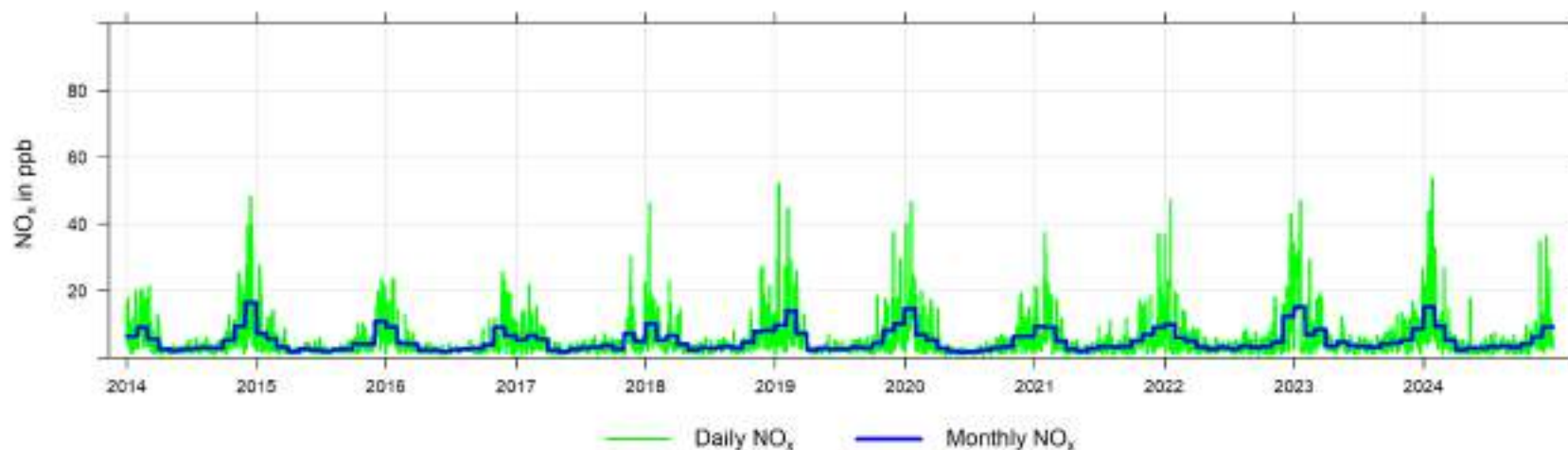
Years 2014 to 2024 Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge



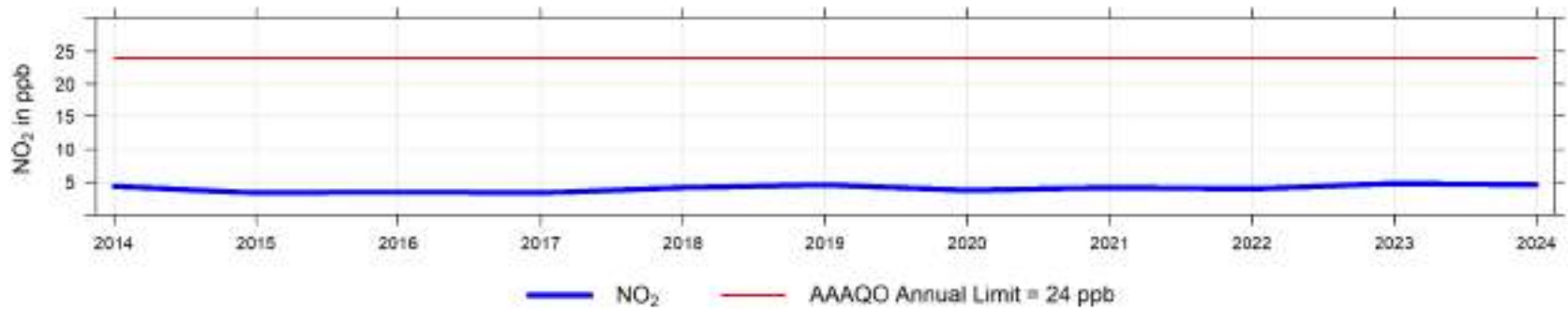
Years 2014 to 2024 Concentration Readings of NO (in ppb) at Beaverlodge



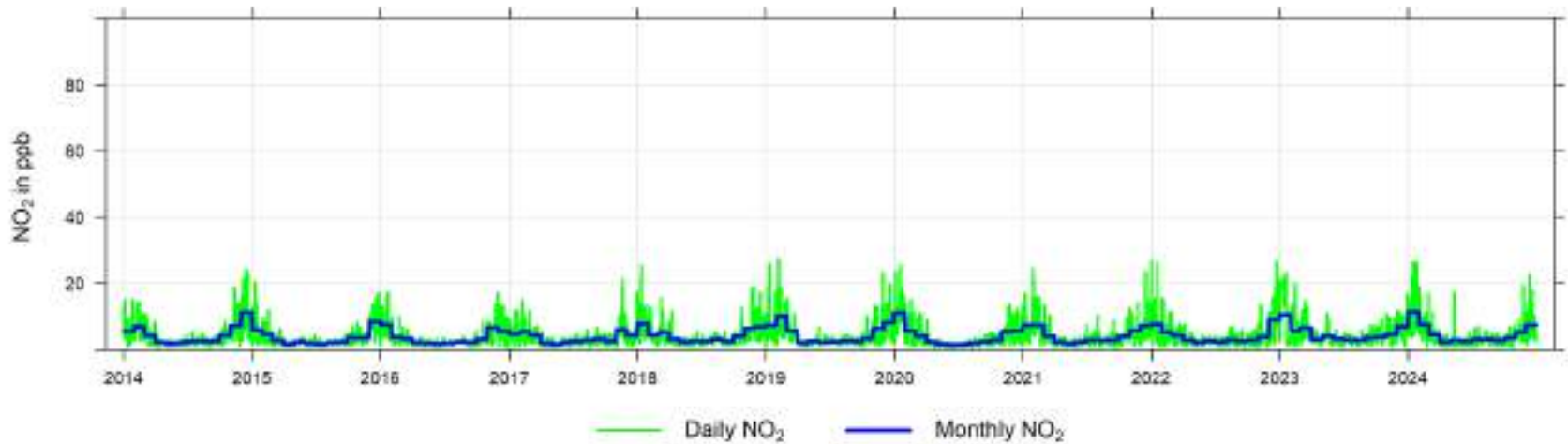
Years 2014 to 2024 Concentration Readings of NO<sub>x</sub> (in ppb) at Beaverlodge



Years 2014 to 2024 Annual Concentration Readings of NO<sub>2</sub> (in ppb) at Beaverlodge

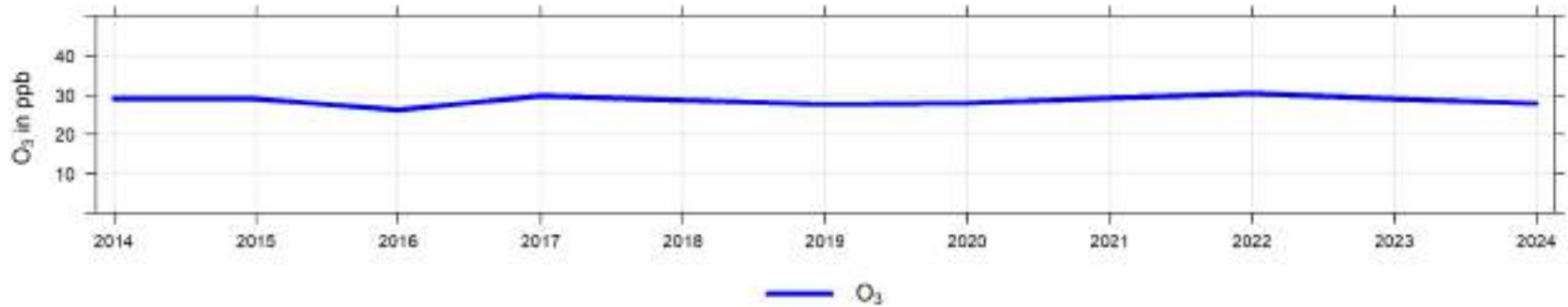


Years 2014 to 2024 Concentration Readings of NO<sub>2</sub> (in ppb) at Beaverlodge

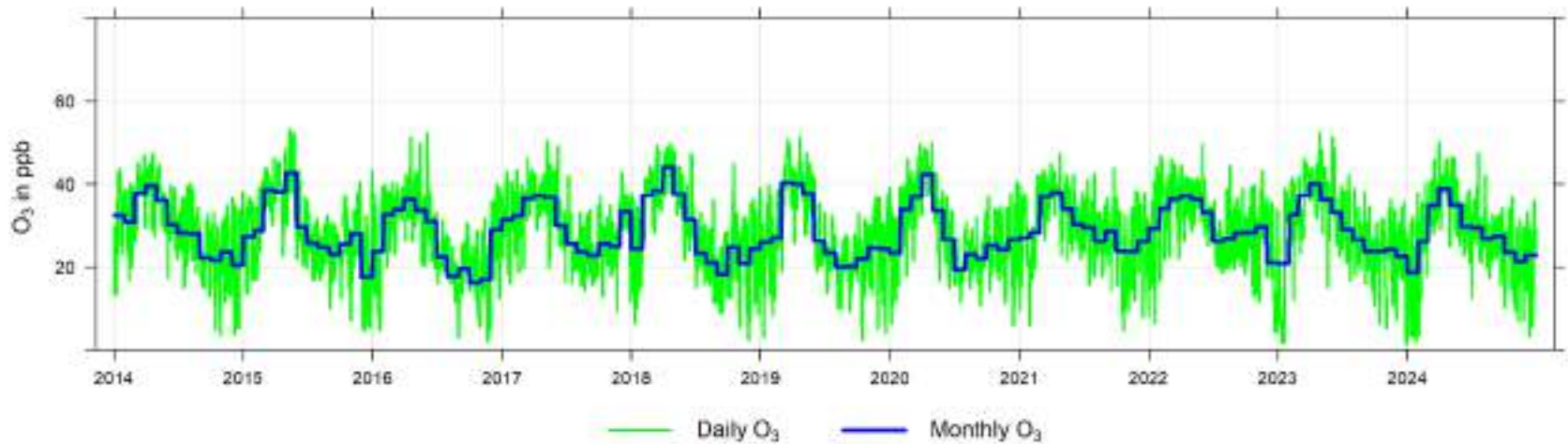




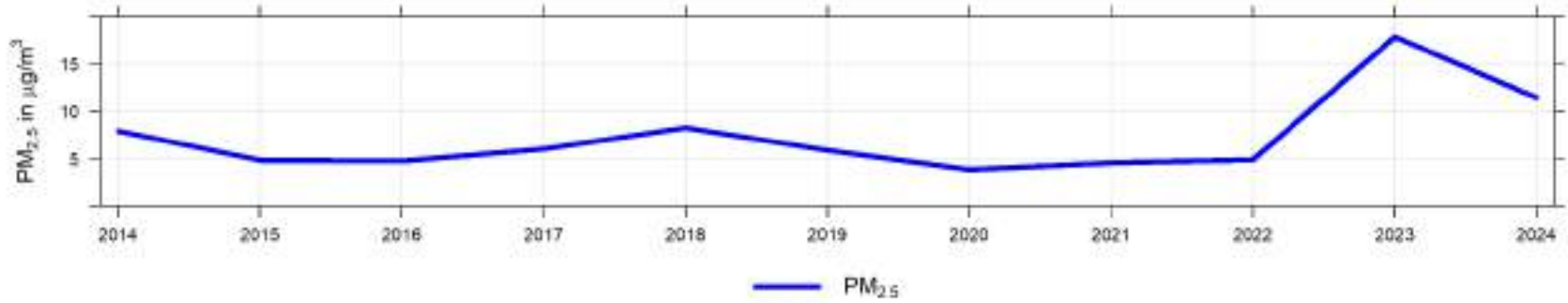
Years 2014 to 2024 Annual Concentration Readings of O<sub>3</sub> (in ppb) at Beaverlodge



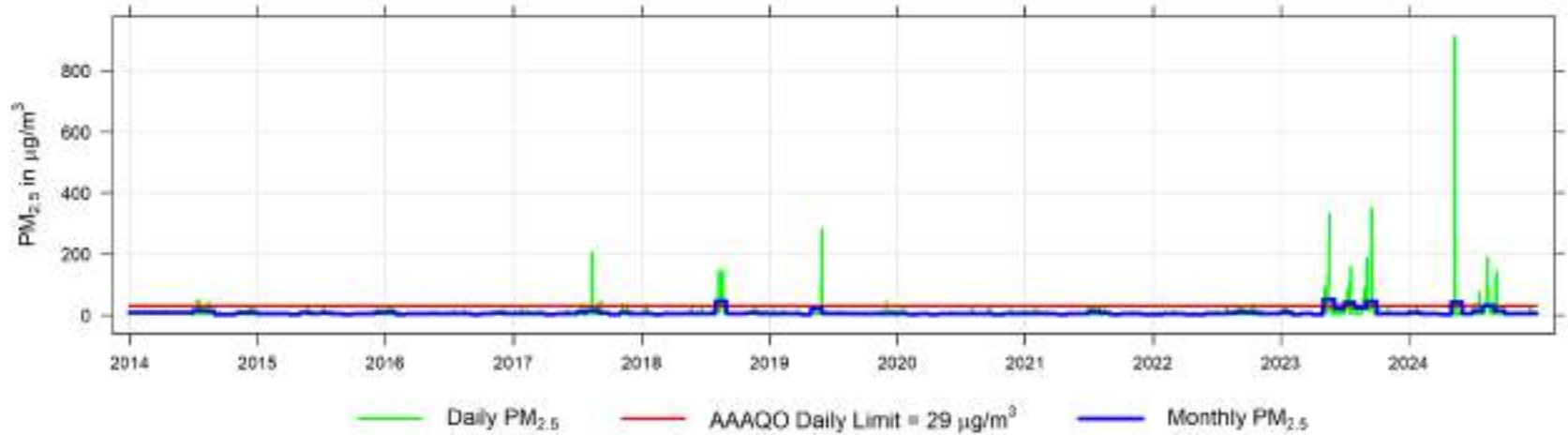
Years 2014 to 2024 Concentration Readings of O<sub>3</sub> (in ppb) at Beaverlodge



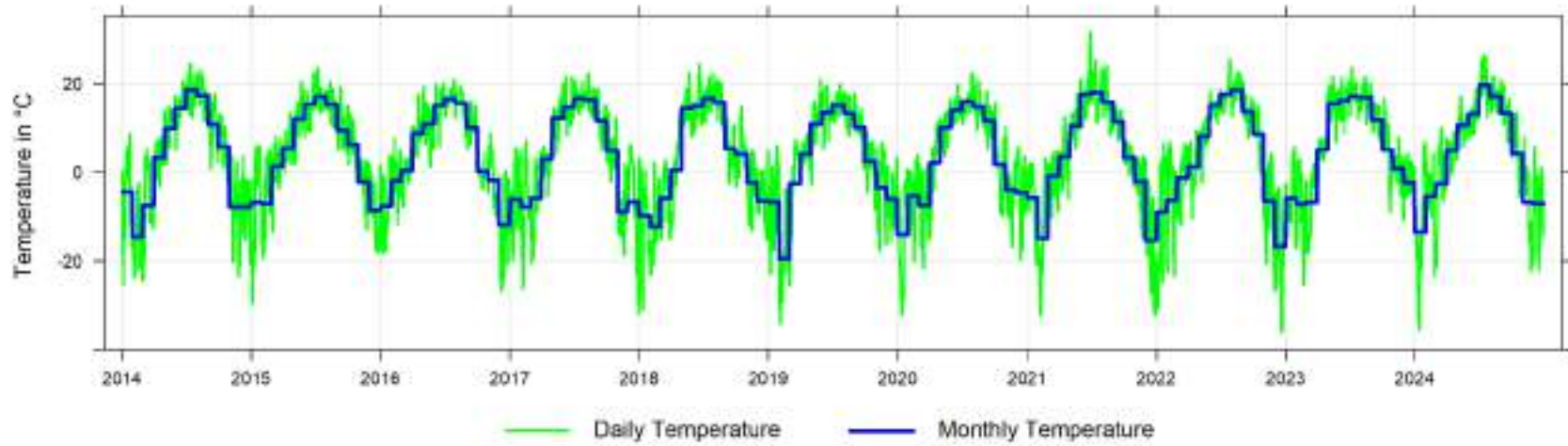
2014 to 2024 Annual Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Beaverlodge



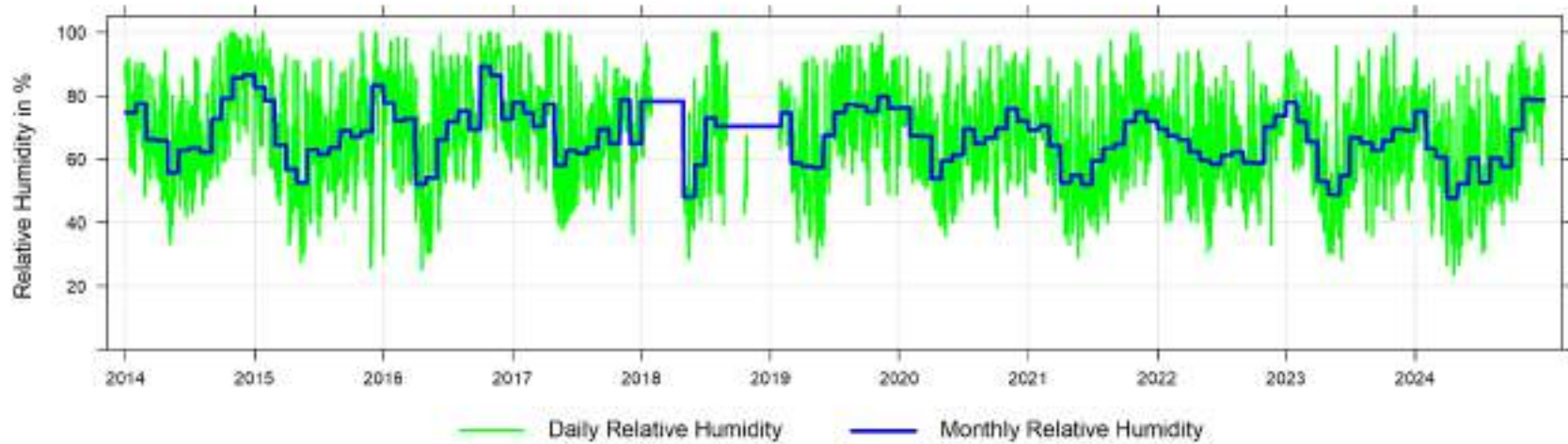
Years 2014 to 2024 Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Beaverlodge



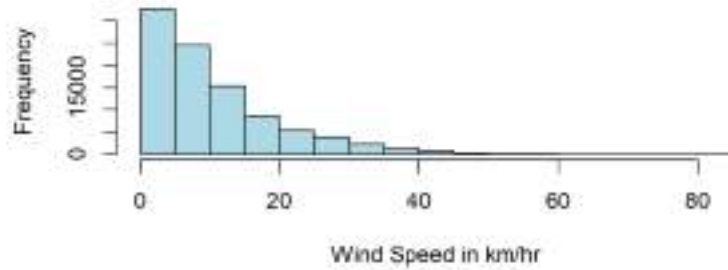
Years 2014 to 2024 Temperature Readings (in °C) at Beaverlodge



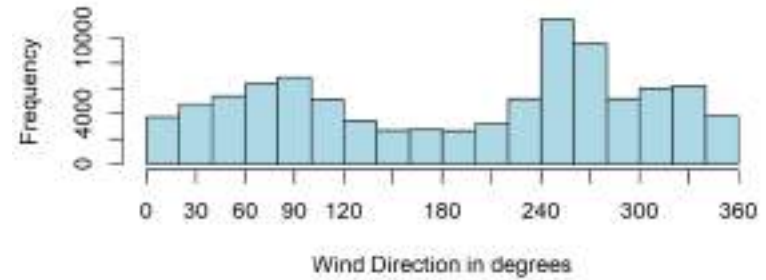
Years 2014 to 2024 Relative Humidity Readings (in %) at Beaverlodge



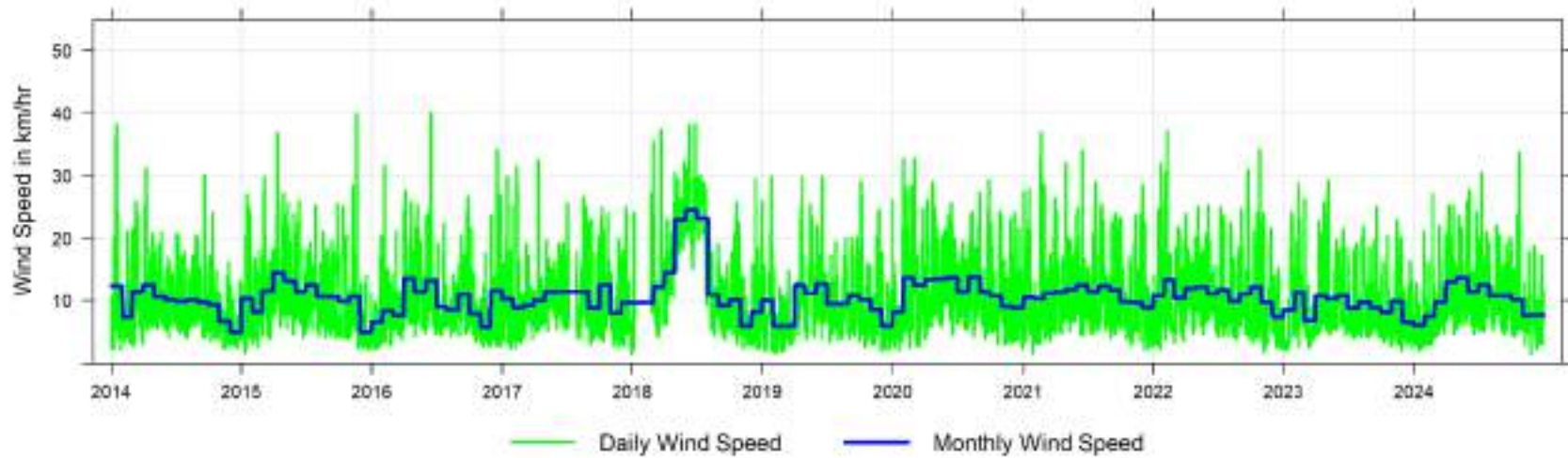
Years 2014 to 2024 Wind Speed Histogram

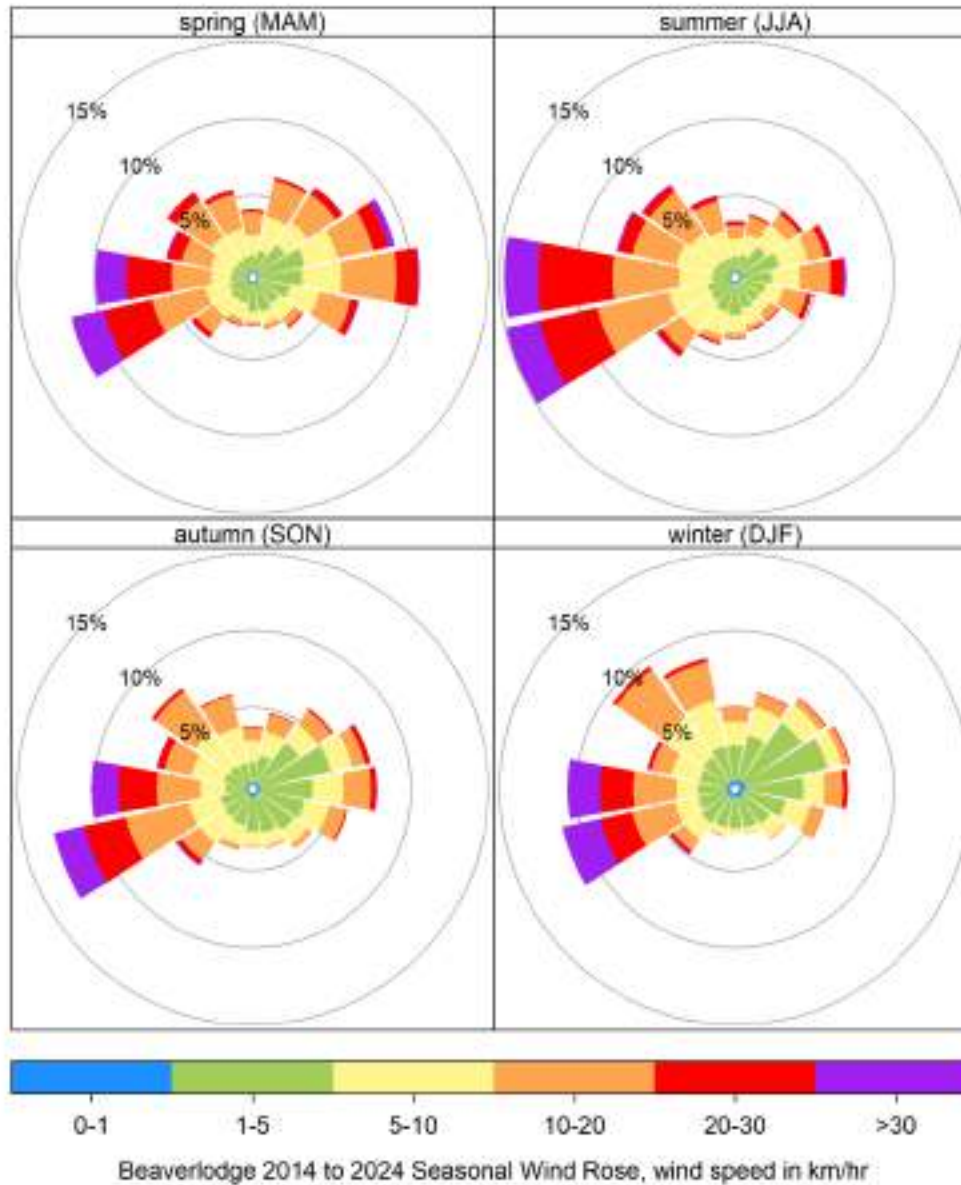


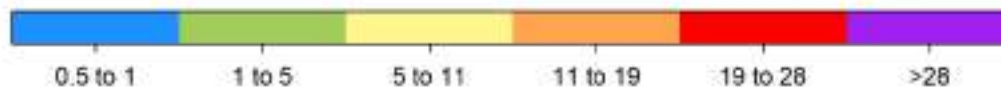
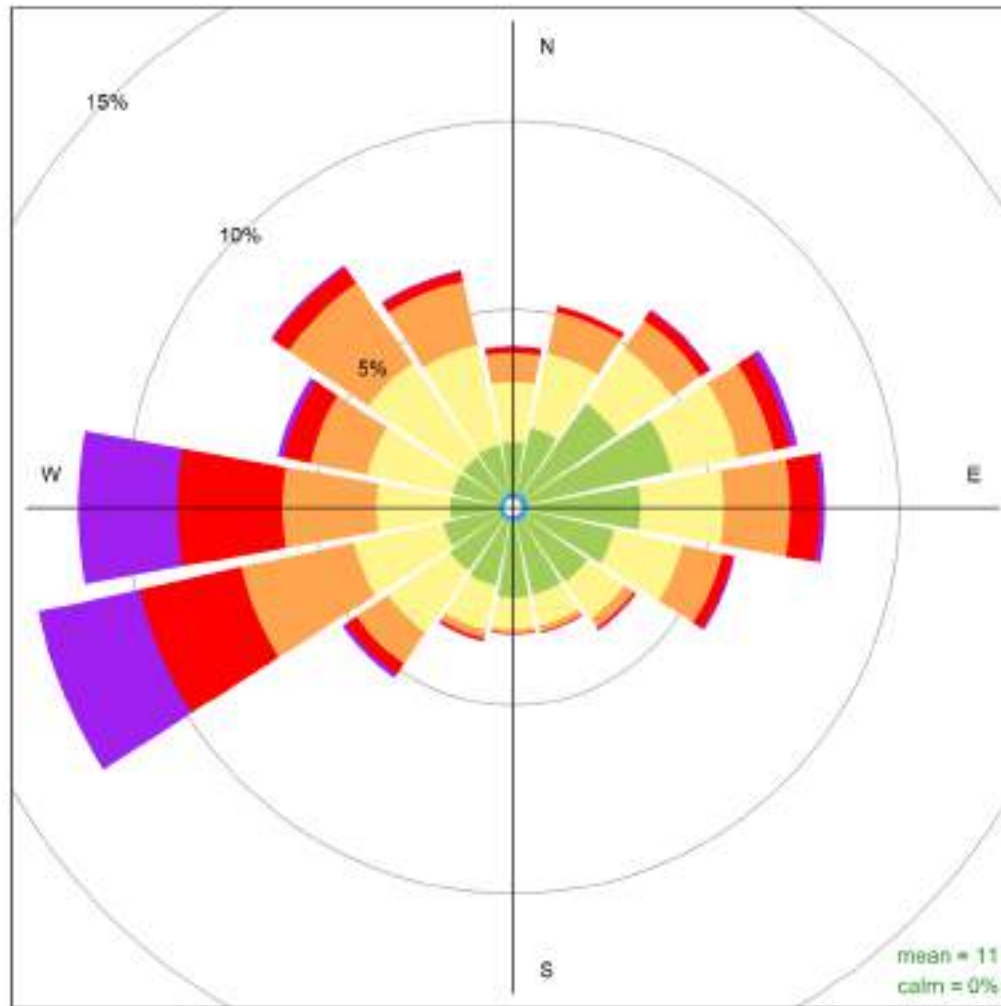
Years 2014 to 2024 Wind Direction Histogram



Years 2014 to 2024 Wind Speed Readings (in km/hr) at Beaverlodge







Beaverlodge 2014 to 2024 Wind Rose, wind speed in km/hr  
**Frequency of counts by wind direction (%)**

## 4 Dunes Key Parameters - Continuous Monitoring Data - 2024 Summary

Dunes Key Parameters - Continuous Monitoring Data - 2024 Summary

Dunes Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr	Date			30-min	1-hr	24-hr	30-d	Annual
			Sulphur Dioxide SO <sub>2</sub> measured in ppb	0.5	5.5	Feb 08			82.7	Feb 08 17:00	98.9%	94.2%	-
Total Reduced Sulphur TRS measured in ppb	0.4	2.4	Jan 25	12.5	Jan 23 16:00	98.9%	94.2%	20	2	0	-	-	
Particulate Matter PM <sub>2.5</sub> measured in µg/m <sup>3</sup>	7.7	632.9	May 11	997.0	May 11 11:00	98.0%	97.7%	-	76	11	-	-	

Note: TRS 30min guideline came into effect October 2024, data shown for complete year

2024 Daily Concentration Readings at Dunes





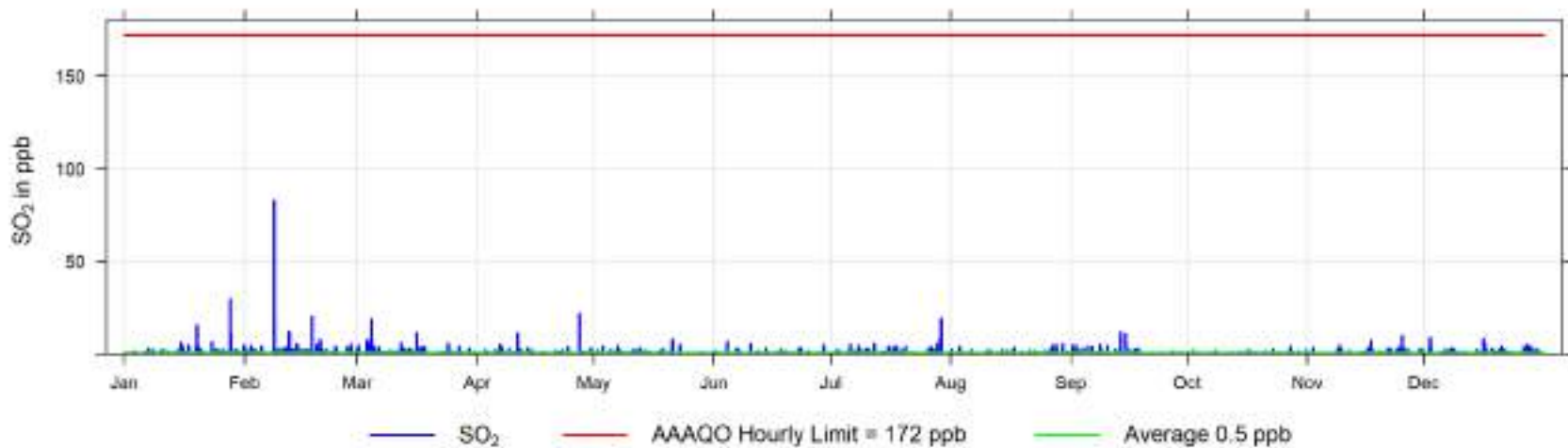
## 4.1 Sulphur Dioxide (SO<sub>2</sub>) - Dunes 2024 Summary

**Sulphur Dioxide (SO<sub>2</sub>) Frequency Distribution at Dunes**

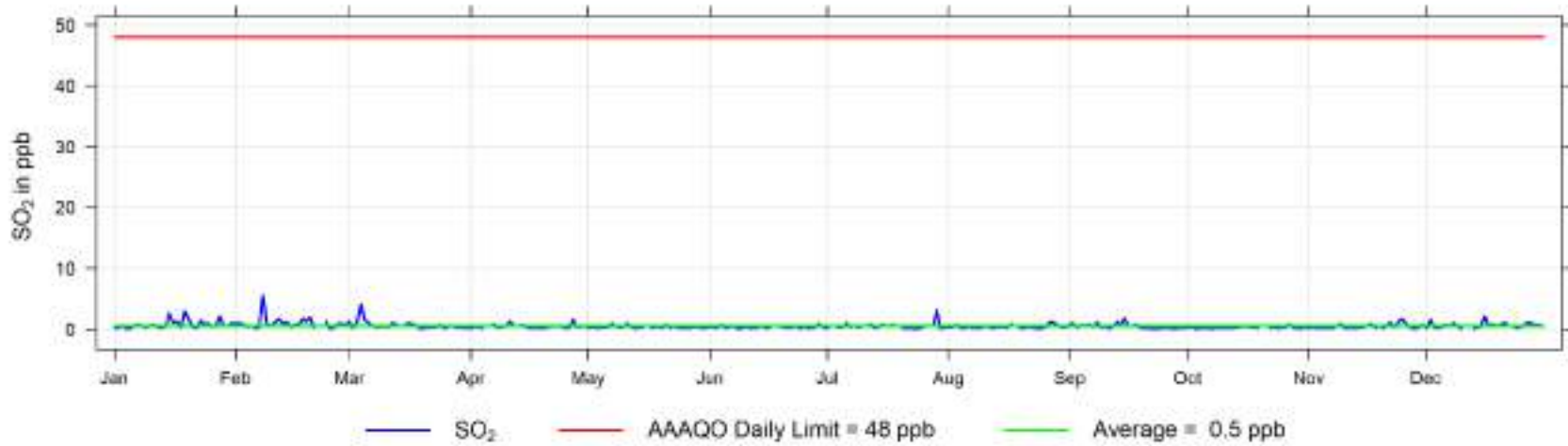
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	708	80.6%	17.8%	1.0%	0.6%	0.0%	0.0%	0.8	3.1	Jan 19	29.2	Jan 28 10:00	100.0%	95.2%	0	0	0
February 2024	635	78.0%	20.0%	1.3%	0.6%	0.2%	0.0%	1.0	5.5	Feb 08	82.7	Feb 08 17:00	96.0%	91.2%	0	0	0
March 2024	706	82.4%	16.4%	0.8%	0.3%	0.0%	0.0%	0.7	4.0	Mar 04	18.8	Mar 04 19:00	99.6%	94.9%	0	0	0
April 2024	679	92.2%	7.1%	0.4%	0.3%	0.0%	0.0%	0.4	1.6	Apr 27	21.7	Apr 27 11:00	99.0%	94.3%	0	0	0
May 2024	706	93.3%	6.5%	0.1%	0.0%	0.0%	0.0%	0.3	1.0	May 11	7.5	May 21 10:00	100.0%	94.9%	0	0	0
June 2024	686	93.9%	5.7%	0.4%	0.0%	0.0%	0.0%	0.3	1.0	Jun 29	6.6	Jun 04 13:00	100.0%	95.3%	0	0	0
July 2024	699	88.6%	10.3%	0.6%	0.6%	0.0%	0.0%	0.5	3.1	Jul 29	19.3	Jul 29 18:00	98.5%	94.0%	0	0	0
August 2024	701	90.7%	9.1%	0.1%	0.0%	0.0%	0.0%	0.4	1.2	Aug 27	5.3	Aug 29 22:00	98.9%	94.2%	0	0	0
September 2024	686	89.2%	9.9%	0.4%	0.4%	0.0%	0.0%	0.5	1.8	Sep 15	11.8	Sep 13 23:00	100.0%	95.3%	0	0	0
October 2024	688	96.2%	3.8%	0.0%	0.0%	0.0%	0.0%	0.2	0.8	Oct 27	3.7	Oct 27 15:00	97.0%	92.5%	0	0	0
November 2024	687	88.6%	10.9%	0.4%	0.0%	0.0%	0.0%	0.4	1.7	Nov 25	9.6	Nov 25 13:00	100.0%	95.4%	0	0	0
December 2024	693	84.8%	14.4%	0.7%	0.0%	0.0%	0.0%	0.6	2.2	Dec 16	8.5	Dec 02 14:00	97.7%	93.1%	0	0	0
<b>Annual</b>	<b>8274</b>	<b>88.2%</b>	<b>11.0%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.5</b>	<b>5.5</b>	<b>MAXIMUM VALUES</b>		<b>98.9%</b>	<b>94.2%</b>	<b>0</b>	<b>0</b>	<b>0</b>	

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

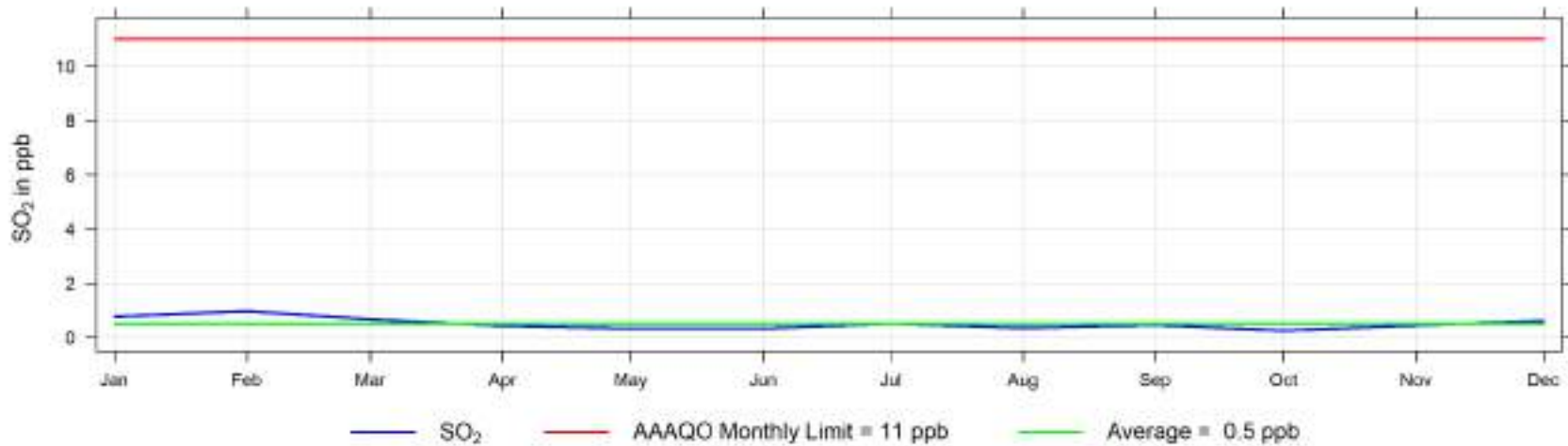
**2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Dunes**

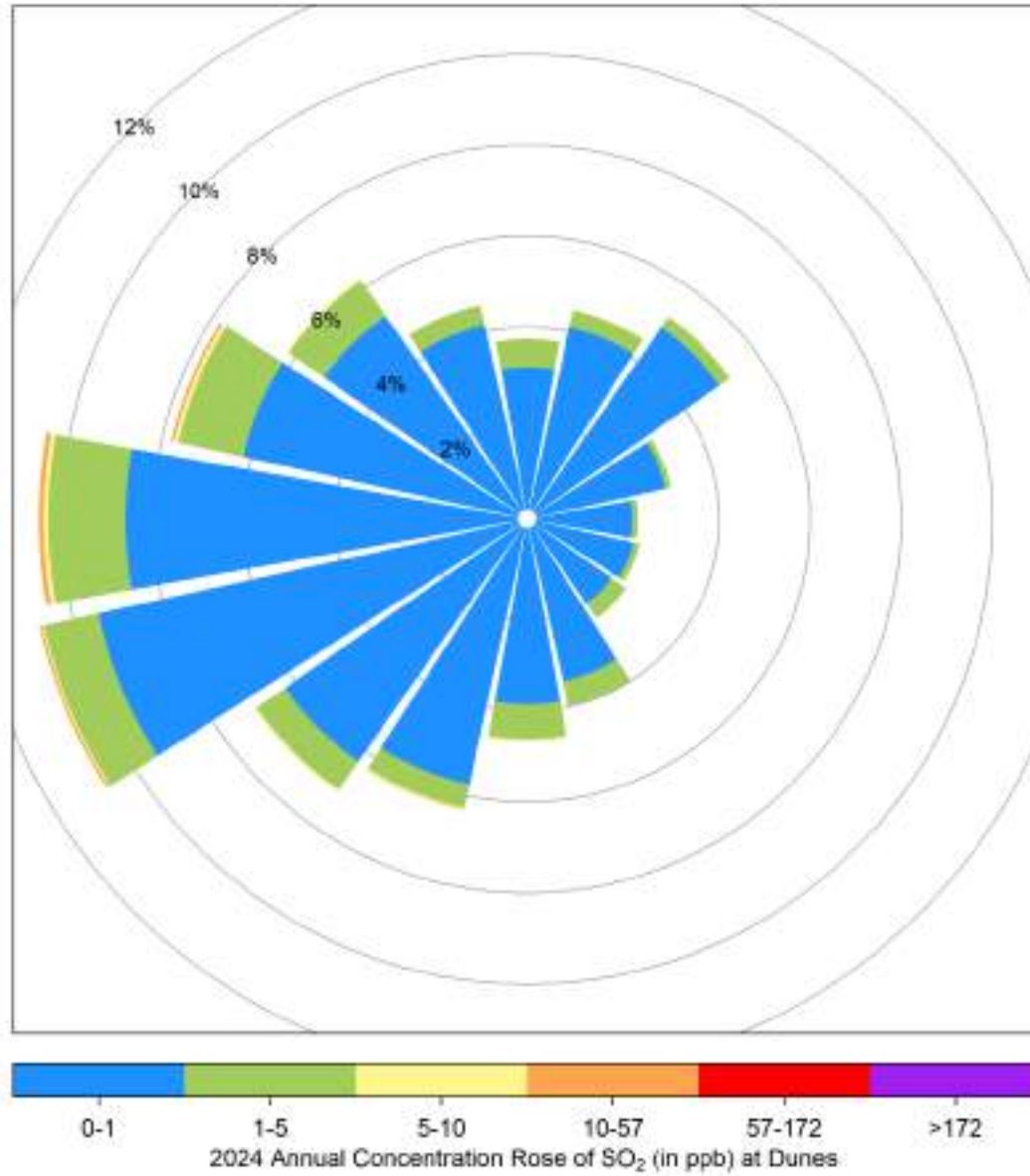


2024 Daily Concentration Readings of SO<sub>2</sub> (in ppb) at Dunes



2024 Monthly Concentration Readings of SO<sub>2</sub> (in ppb) at Dunes





## Hourly Maximum SO<sub>2</sub> (in ppb) for 2024 at Dunes



## 4.2 Total Reduced Sulphur (TRS) - Dunes 2024 Summary

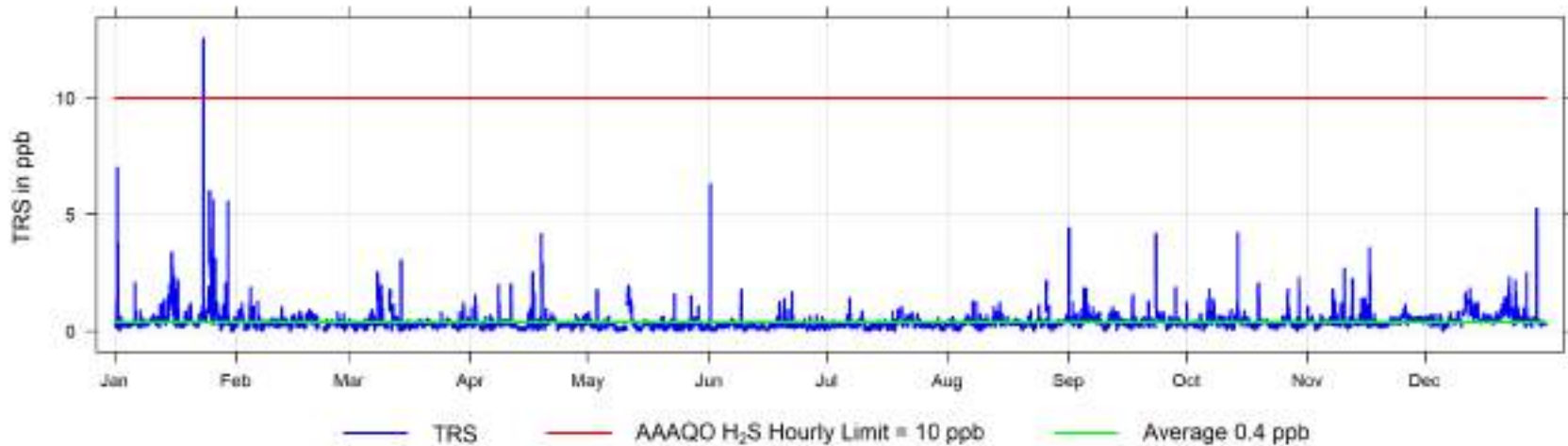
Total Reduced Sulphur (TRS) Frequency Distribution at Dunes

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb	30-min 5 ppb
January 2024	705	87.2%	10.1%	1.7%	0.7%	0.0%	0.3%	0.7	2.4	Jan 25	12.5	Jan 23 16:00	99.5%	94.8%	0	2	15
February 2024	636	98.9%	1.1%	0.0%	0.0%	0.0%	0.0%	0.4	0.7	Feb 02	1.9	Feb 04 17:00	96.0%	91.4%	0	0	0
March 2024	706	96.9%	3.0%	0.1%	0.0%	0.0%	0.0%	0.4	0.8	Mar 08	3.0	Mar 14 10:00	99.6%	94.9%	0	0	0
April 2024	679	97.1%	2.7%	0.3%	0.0%	0.0%	0.0%	0.3	0.9	Apr 19	4.2	Apr 19 06:00	99.0%	94.3%	0	0	0
May 2024	707	96.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.3	1.3	May 11	2.0	May 11 11:00	100.0%	95.0%	0	0	0
June 2024	686	98.1%	1.6%	0.1%	0.1%	0.0%	0.0%	0.3	0.6	Jun 01	6.3	Jun 01 08:00	100.0%	95.3%	0	0	0
July 2024	699	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.3	0.6	Jul 22	1.4	Jul 07 02:00	98.5%	94.0%	0	0	2
August 2024	701	97.9%	2.0%	0.1%	0.0%	0.0%	0.0%	0.4	0.9	Aug 26	4.4	Sep 01 00:00	98.9%	94.2%	0	0	0
September 2024	686	96.6%	3.1%	0.3%	0.0%	0.0%	0.0%	0.5	1.1	Sep 23	4.2	Sep 23 05:00	100.0%	95.3%	0	0	1
October 2024	687	96.7%	3.2%	0.1%	0.0%	0.0%	0.0%	0.4	0.8	Oct 14	4.2	Oct 14 04:00	97.0%	92.3%	0	0	1
November 2024	686	95.5%	4.4%	0.1%	0.0%	0.0%	0.0%	0.5	0.7	Nov 25	3.6	Nov 16 22:00	100.0%	95.3%	0	0	0
December 2024	693	91.2%	8.5%	0.1%	0.1%	0.0%	0.0%	0.6	1.1	Dec 22	5.2	Dec 29 18:00	97.7%	93.1%	0	0	1
<b>Annual</b>	<b>8271</b>	<b>96.0%</b>	<b>3.7%</b>	<b>0.3%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.4</b>	<b>2.4</b>	<b>MAXIMUM VALUES</b>			<b>98.9%</b>	<b>94.2%</b>	<b>0</b>	<b>2</b>	<b>20</b>

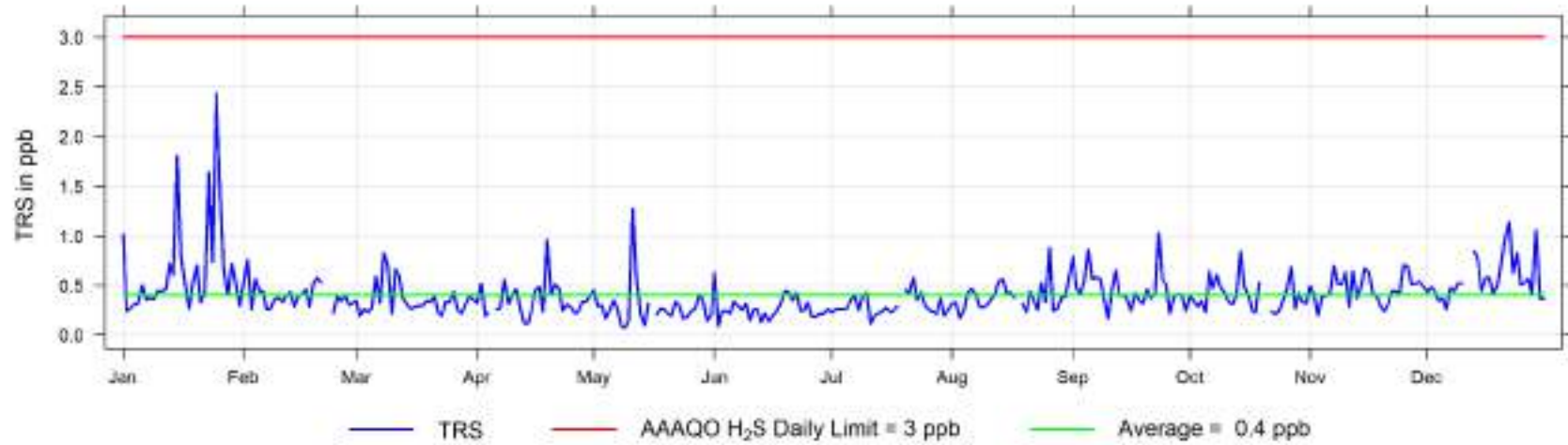
AAAQO H<sub>2</sub>S Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

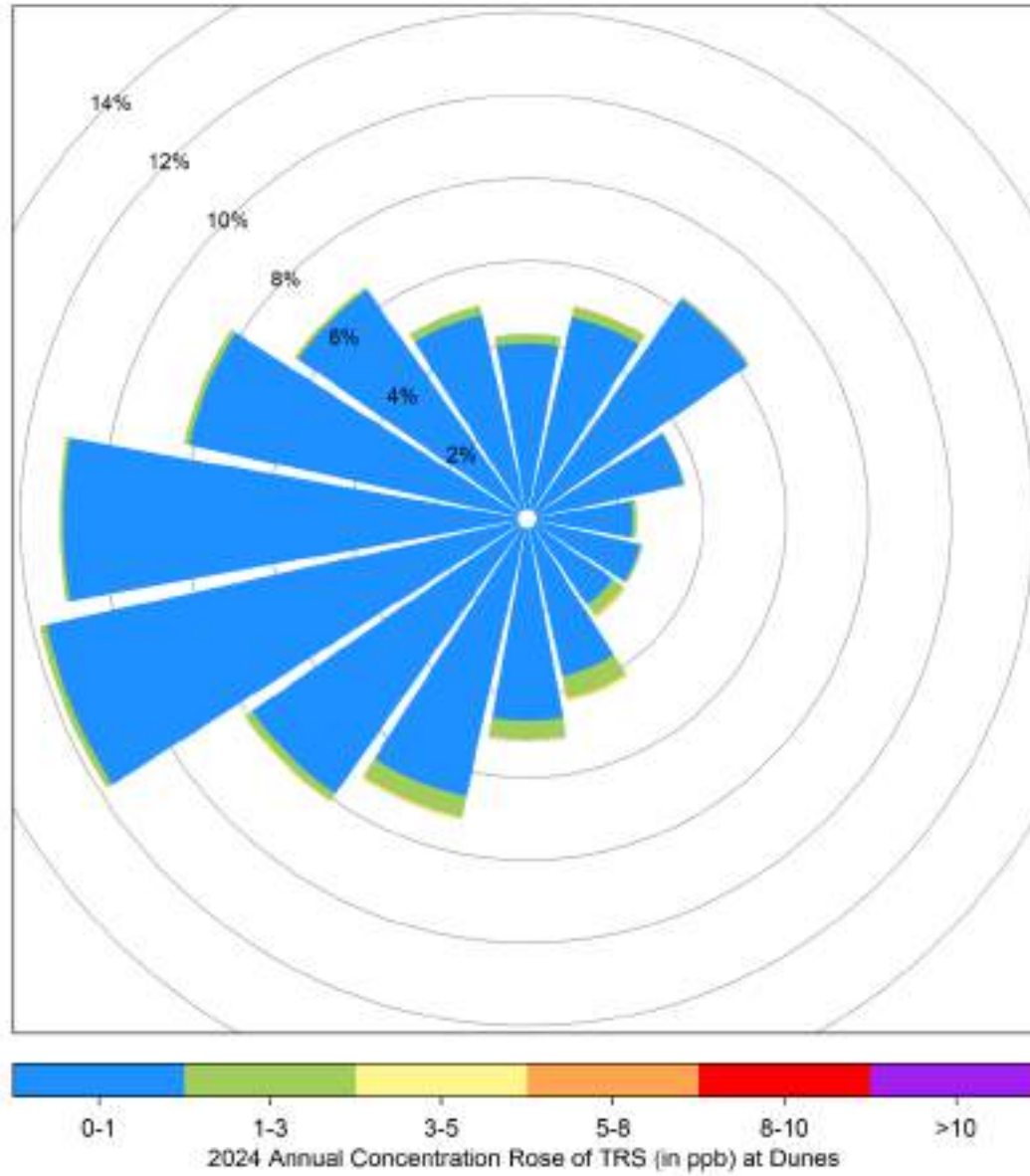
Note: TRS 30min guideline came into effect October 2024, data shown for year

2024 Hourly Concentration Readings of TRS (in ppb) at Dunes



2024 Daily Concentration Readings of TRS (in ppb) at Dunes





### Hourly Maximum TRS (in ppb) for 2024 at Dunes





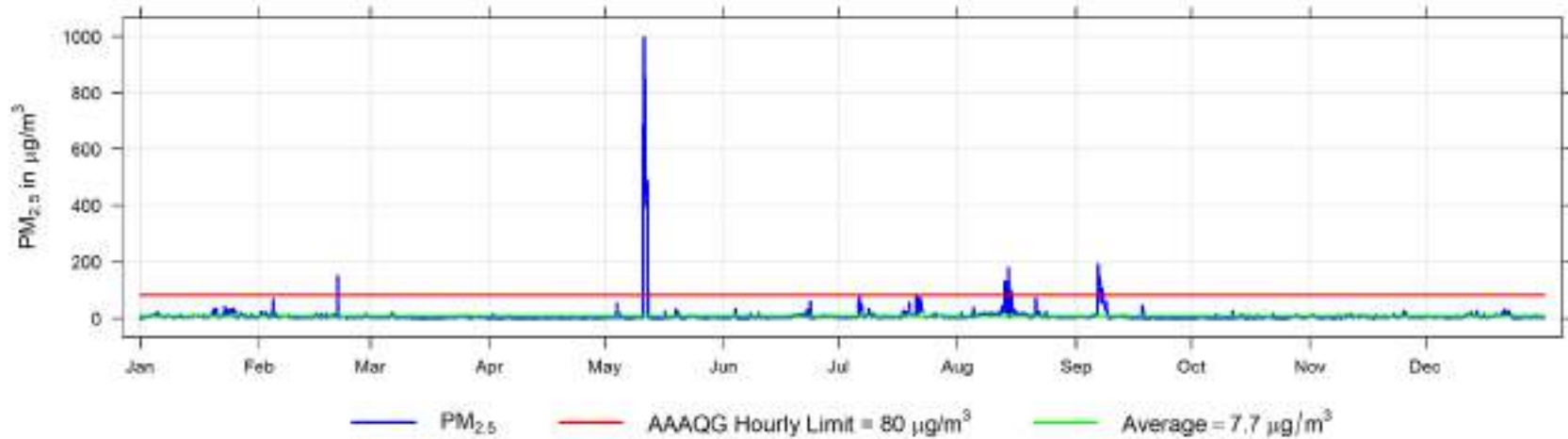
### 4.3 Particulate Matter (PM<sub>2.5</sub>) - Dunes 2024 Summary

Particulate Matter (PM<sub>2.5</sub>) Frequency Distribution at Dunes

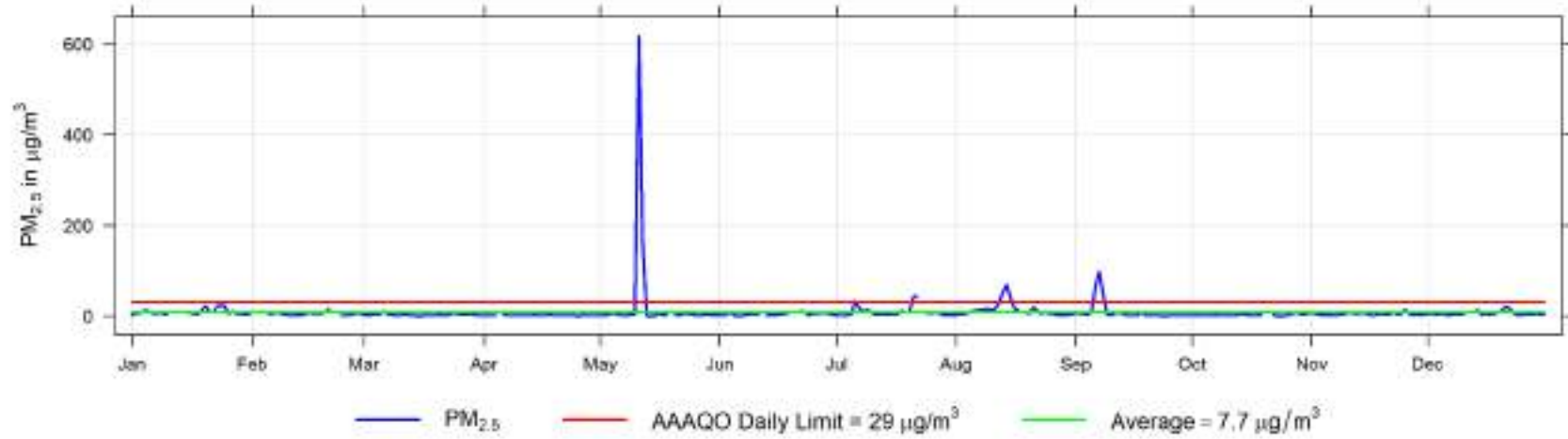
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m <sup>3</sup> )	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m <sup>3</sup> )	5 to 15 (µg/m <sup>3</sup> )	15 to 30 (µg/m <sup>3</sup> )	30 to 50 (µg/m <sup>3</sup> )	50 to 80 (µg/m <sup>3</sup> )	> 80 (µg/m <sup>3</sup> )		24-hr (µg/m <sup>3</sup> )	Date	1-hr (µg/m <sup>3</sup> )	Date			24-hr 29 µg/m <sup>3</sup>	1-hr 80 µg/m <sup>3</sup>
January 2024	691	40.5%	44.0%	13.7%	1.7%	0.0%	0.0%	8.3	22.3	Jan 23	41.6	Jan 23 04:00	93.2%	92.9%	0	0
February 2024	656	62.2%	34.5%	2.9%	0.0%	0.3%	0.2%	5.1	15.1	Feb 21	151.1	Feb 21 11:00	94.5%	94.3%	0	1
March 2024	738	86.6%	12.7%	0.7%	0.0%	0.0%	0.0%	2.5	10.5	Mar 06	18.7	Mar 06 10:00	99.7%	99.2%	0	0
April 2024	708	96.0%	3.8%	0.1%	0.0%	0.0%	0.0%	1.0	3.5	Apr 06	15.5	Apr 01 23:00	98.6%	98.3%	0	0
May 2024	742	82.1%	11.7%	1.8%	0.1%	0.1%	4.2%	27.7	632.9	May 11	997.0	May 11 11:00	100.0%	99.7%	2	31
June 2024	708	67.9%	30.1%	1.6%	0.3%	0.1%	0.0%	4.0	10.5	Jun 22	59.4	Jun 23 19:00	98.6%	98.3%	0	0
July 2024	722	57.9%	27.0%	6.8%	4.3%	3.7%	0.3%	9.2	42.3	Jul 22	81.8	Jul 21 09:00	97.3%	97.0%	3	2
August 2024	735	37.4%	35.2%	21.0%	2.3%	1.5%	2.6%	13.2	67.5	Aug 14	179.8	Aug 14 09:00	98.9%	98.8%	3	19
September 2024	716	73.6%	16.9%	1.4%	2.2%	2.7%	3.2%	9.2	94.2	Sep 07	191.3	Sep 06 17:00	99.9%	99.4%	3	23
October 2024	720	86.8%	12.8%	0.4%	0.0%	0.0%	0.0%	2.0	7.2	Oct 28	24.5	Oct 11 19:00	97.0%	96.8%	0	0
November 2024	719	65.1%	33.2%	1.7%	0.0%	0.0%	0.0%	4.2	13.9	Nov 25	24.4	Nov 25 10:00	100.0%	99.9%	0	0
December 2024	724	61.7%	30.0%	8.1%	0.1%	0.0%	0.0%	5.5	19.2	Dec 21	30.6	Dec 21 16:00	97.7%	97.3%	0	0
<b>Annual</b>	<b>8579</b>	<b>68.2%</b>	<b>24.3%</b>	<b>5.0%</b>	<b>0.9%</b>	<b>0.7%</b>	<b>0.9%</b>	<b>7.7</b>	<b>632.9</b>	<b>MAXIMUM VALUES</b>		<b>98.0%</b>	<b>97.7%</b>	<b>11</b>	<b>76</b>	

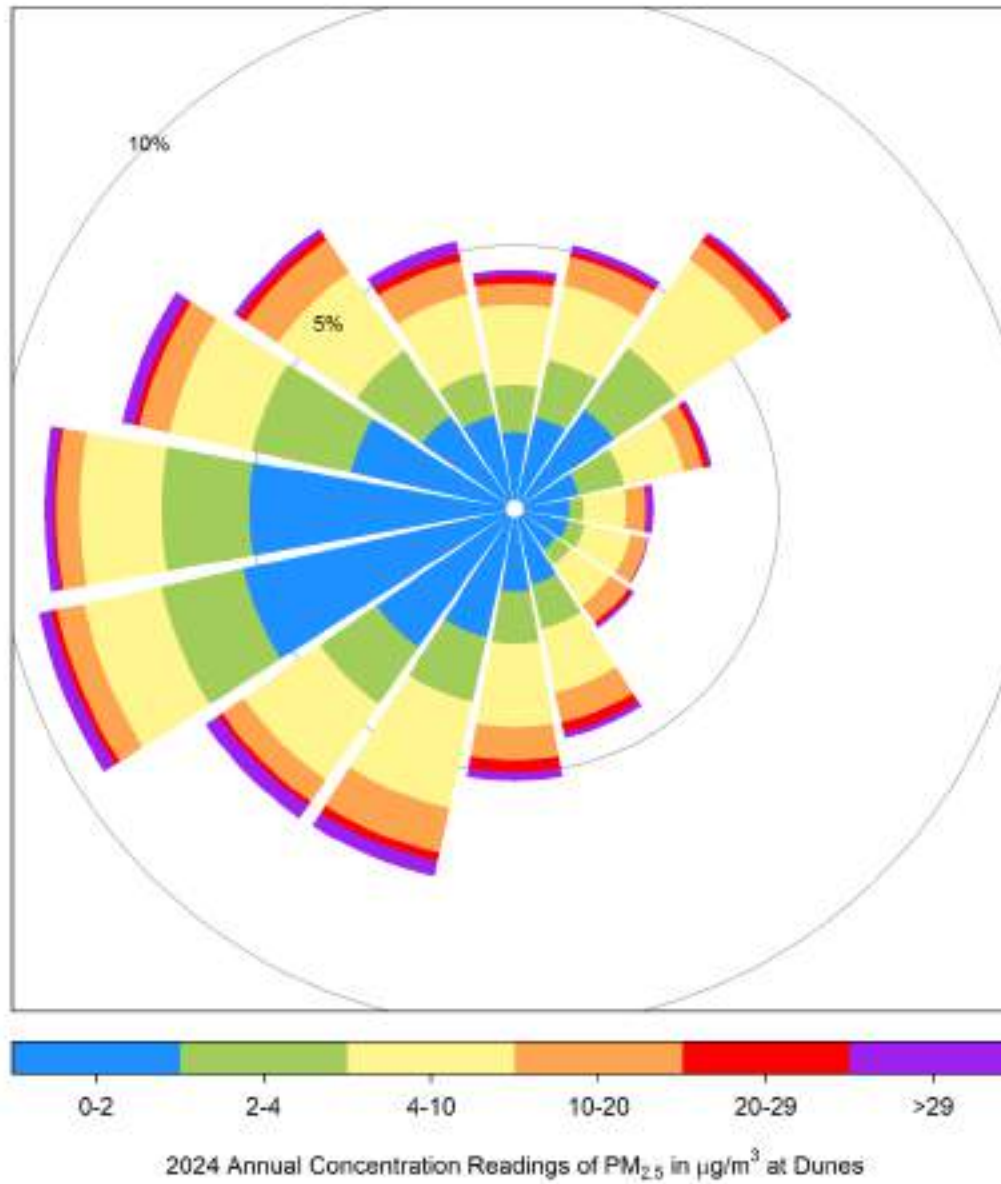
AAAQO Objectives: 24-Hr: 29 µg/m<sup>3</sup>, AAAQO Guideline: 1-Hr: 80 µg/m<sup>3</sup>

2024 Hourly Concentration Readings of PM<sub>2.5</sub> in µg/m<sup>3</sup> at Dunes

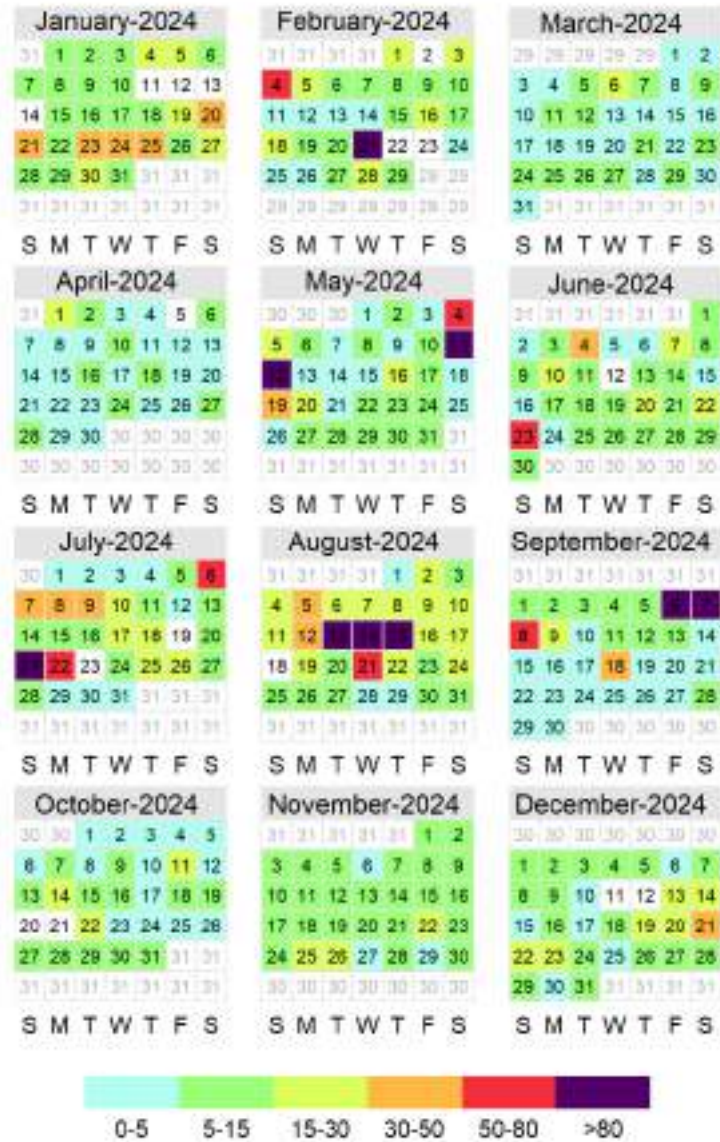


2024 Daily Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Dunes





## Hourly Maximum PM<sub>2.5</sub> (in µg/m<sup>3</sup>) for 2024 at Dunes

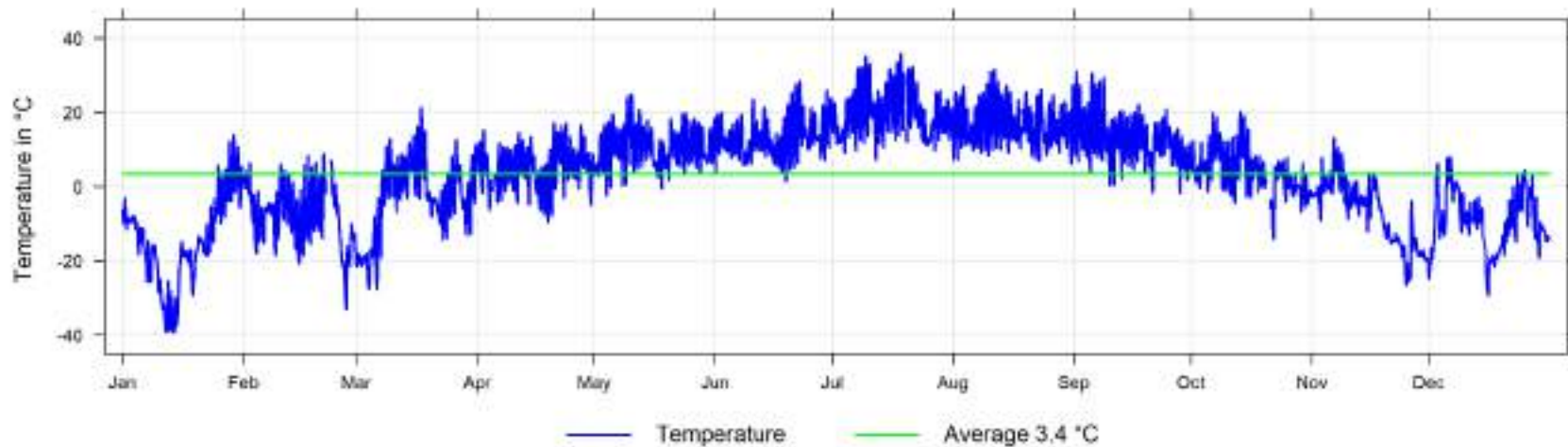


## 4.4 Temperature (ET) - Dunes 2024 Summary

Temperature (ET) Frequency Distribution at Dunes

Month	Valid Hours	Monthly Average (°C)	Maximum Values				Minimum Values				Operational time (%)	Valid time (%)	
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date	1-hr (°C)	Date			
January 2024	744	-15.1	5.1	Jan 30	14.1	Jan 29 14:00	-36.6	Jan 14	-39.2	Jan 12 10:00	100.0%	100.0%	
February 2024	668	-7.7	1.4	Feb 01	8.7	Feb 21 17:00	-23.6	Feb 27	-33.0	Feb 27 08:00	96.0%	96.0%	
March 2024	744	-3.1	8.8	Mar 17	21.2	Mar 17 16:00	-21.7	Mar 04	-27.8	Mar 06 08:00	100.0%	100.0%	
April 2024	713	5.2	10.4	Apr 22	17.2	Apr 20 18:00	-1.6	Apr 04	-9.6	Apr 19 06:00	99.0%	99.0%	
May 2024	744	10.7	17.1	May 10	24.8	May 10 16:00	4.5	May 01	-2.3	May 04 05:00	100.0%	100.0%	
June 2024	720	13.5	18.9	Jun 30	28.5	Jun 22 14:00	7.5	Jun 08	1.4	Jun 19 05:00	100.0%	100.0%	
July 2024	735	19.9	25.7	Jul 18	36.0	Jul 18 17:00	12.0	Jul 25	7.1	Jul 12 05:00	98.8%	98.8%	
August 2024	736	16.9	21.0	Aug 11	31.7	Aug 11 17:00	13.4	Aug 05	6.1	Aug 31 07:00	98.9%	98.9%	
September 2024	720	12.5	19.0	Sep 01	31.1	Sep 01 17:00	6.6	Sep 29	-1.7	Sep 28 08:00	100.0%	100.0%	
October 2024	722	4.0	12.5	Oct 14	20.1	Oct 13 16:00	-2.9	Oct 22	-14.2	Oct 22 07:00	97.0%	97.0%	
November 2024	720	-7.2	6.2	Nov 07	13.2	Nov 06 16:00	-24.3	Nov 25	-26.4	Nov 25 09:00	100.0%	100.0%	
December 2024	727	-9.2	5.3	Dec 06	7.9	Dec 06 14:00	-23.9	Dec 16	-29.4	Dec 16 09:00	97.7%	97.7%	
<b>8693</b>		<b>AVERAGE</b>	<b>25.7</b>	<b>MAXIMUM VALUES</b>		<b>36.0</b>	<b>Jul 18 17:00</b>	<b>MINIMUM VALUES</b>		<b>-39.2</b>	<b>Jan 12 10:00</b>	<b>99.0%</b>	<b>99.0%</b>

2024 Hourly Temperature Readings (in °C) at Dunes

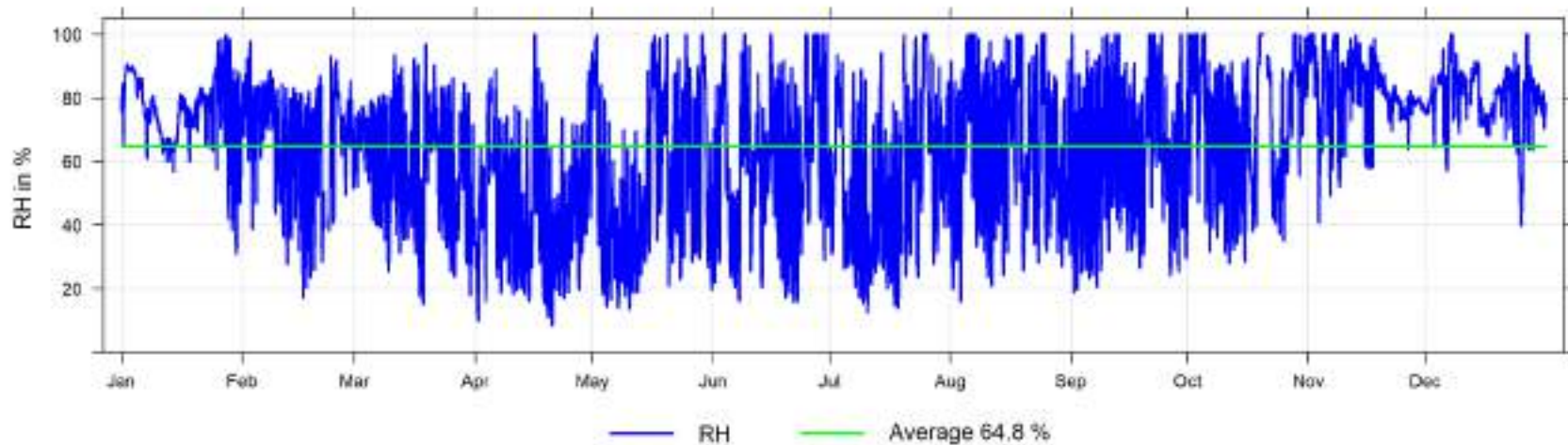


## 4.5 Relative Humidity (RH) - Dunes 2024 Summary

**Relative Humidity (RH) Frequency Distribution at Dunes**

Month	Valid Hours	Monthly Average (%)	Maximum Values			Operational time (%)	Valid time (%)		
			24-hr (%)	Date	1-hr (%)			Date	
January 2024	744	76.3	89.0	Jan 03	99.8	Jan 27 21:00	100.0%	100.0%	
February 2024	668	67.4	84.6	Feb 25	97.8	Feb 03 04:00	96.0%	96.0%	
March 2024	744	59.9	75.5	Mar 21	97.0	Mar 19 05:00	100.0%	100.0%	
April 2024	713	46.0	73.5	Apr 16	99.9	Apr 16 08:00	99.0%	99.0%	
May 2024	744	53.6	92.6	May 29	99.9	May 20 05:00	100.0%	100.0%	
June 2024	720	59.8	91.1	Jun 27	99.9	Jun 04 00:00	100.0%	100.0%	
July 2024	735	53.4	98.4	Jul 25	99.9	Jul 25 03:00	98.8%	98.8%	
August 2024	736	64.4	91.0	Aug 05	99.9	Aug 06 01:00	98.9%	98.9%	
September 2024	720	63.6	85.9	Sep 22	99.9	Sep 01 07:00	100.0%	100.0%	
October 2024	722	72.0	96.2	Oct 28	99.9	Oct 01 03:00	97.0%	97.0%	
November 2024	720	81.6	96.1	Nov 01	99.9	Nov 01 06:00	100.0%	100.0%	
December 2024	727	80.2	94.3	Dec 07	99.9	Dec 07 16:00	97.7%	97.7%	
		<b>AVERAGE</b>	<b>MAXIMUM VALUES</b>						
		8693	64.8	98.4	Jul 25	99.9	Apr 16 08:00	99.0%	99.0%

**2024 Hourly Readings of Relative Humidity (in %) at Dunes**

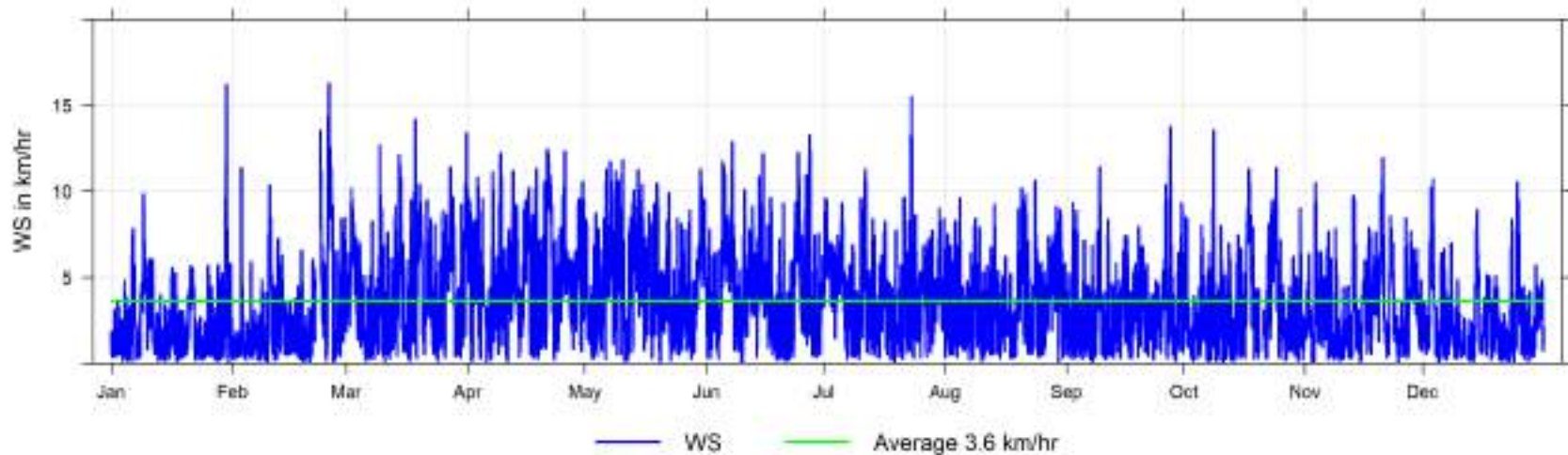


## 4.6 Wind Speed and Wind Direction (WS and WD) - Dunes 2024 Summary

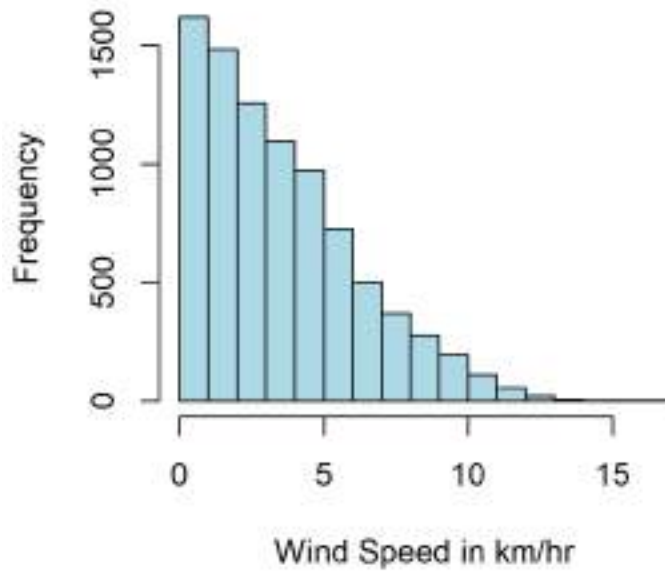
**Wind Speed Frequency Distribution at Dunes**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)		24-hr (km/hr)	Date	1-hr (km/hr)	Date		
January 2024	744	14.5%	77.2%	7.7%	0.7%	0.0%	0.0%	2.1	6.2	Jan 30	16.2	Jan 30 12:00	100.0%	100.0%
February 2024	668	12.6%	69.6%	15.0%	2.8%	0.0%	0.0%	2.8	9.6	Feb 25	16.3	Feb 25 16:00	96.0%	96.0%
March 2024	744	5.1%	58.3%	35.5%	1.1%	0.0%	0.0%	4.1	7.8	Mar 02	14.2	Mar 18 18:00	100.0%	100.0%
April 2024	713	4.5%	51.3%	41.7%	2.5%	0.0%	0.0%	4.9	8.1	Apr 21	12.4	Apr 21 11:00	99.0%	99.0%
May 2024	744	4.2%	54.7%	39.8%	1.3%	0.0%	0.0%	4.6	8.2	May 30	11.8	May 10 17:00	100.0%	100.0%
June 2024	720	5.0%	62.2%	30.1%	2.6%	0.0%	0.0%	4.3	8.9	Jun 05	13.3	Jun 27 12:00	100.0%	100.0%
July 2024	735	4.2%	63.1%	31.8%	0.8%	0.0%	0.0%	4.2	7.1	Jul 01	15.5	Jul 23 11:00	98.8%	98.8%
August 2024	736	4.8%	69.3%	26.0%	0.0%	0.0%	0.0%	3.6	6.7	Aug 20	10.6	Aug 24 03:00	98.9%	98.9%
September 2024	720	6.5%	75.1%	17.8%	0.6%	0.0%	0.0%	3.1	5.3	Sep 27	13.8	Sep 27 16:00	100.0%	100.0%
October 2024	722	9.8%	67.6%	22.0%	0.6%	0.0%	0.0%	3.2	8.2	Oct 17	13.5	Oct 08 17:00	97.0%	97.0%
November 2024	720	7.1%	70.3%	22.5%	0.1%	0.0%	0.0%	3.2	8.1	Nov 20	12.0	Nov 20 18:00	100.0%	100.0%
December 2024	727	8.4%	81.8%	9.8%	0.0%	0.0%	0.0%	2.5	7.7	Dec 03	10.7	Dec 03 16:00	97.7%	97.7%
<b>Annual</b>	<b>8693</b>	<b>7.2%</b>	<b>66.7%</b>	<b>25.0%</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>3.6</b>	<b>9.6</b>	<b>Feb 25</b>	<b>16.3</b>	<b>Feb 25 16:00</b>	<b>99.0%</b>	<b>99.0%</b>

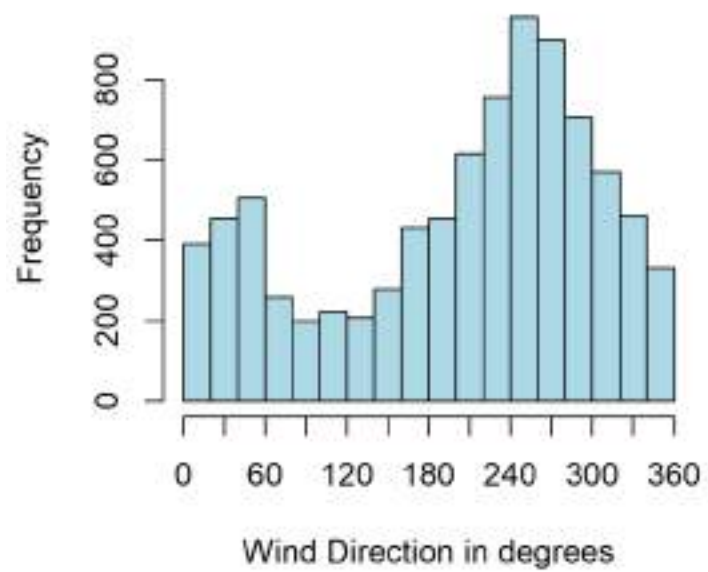
**2024 Hourly Readings of Wind Speed (in km/hr) at Dunes**



### 2024 Wind Speed Histogram



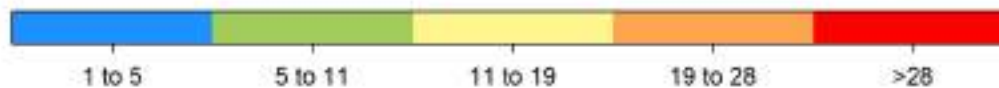
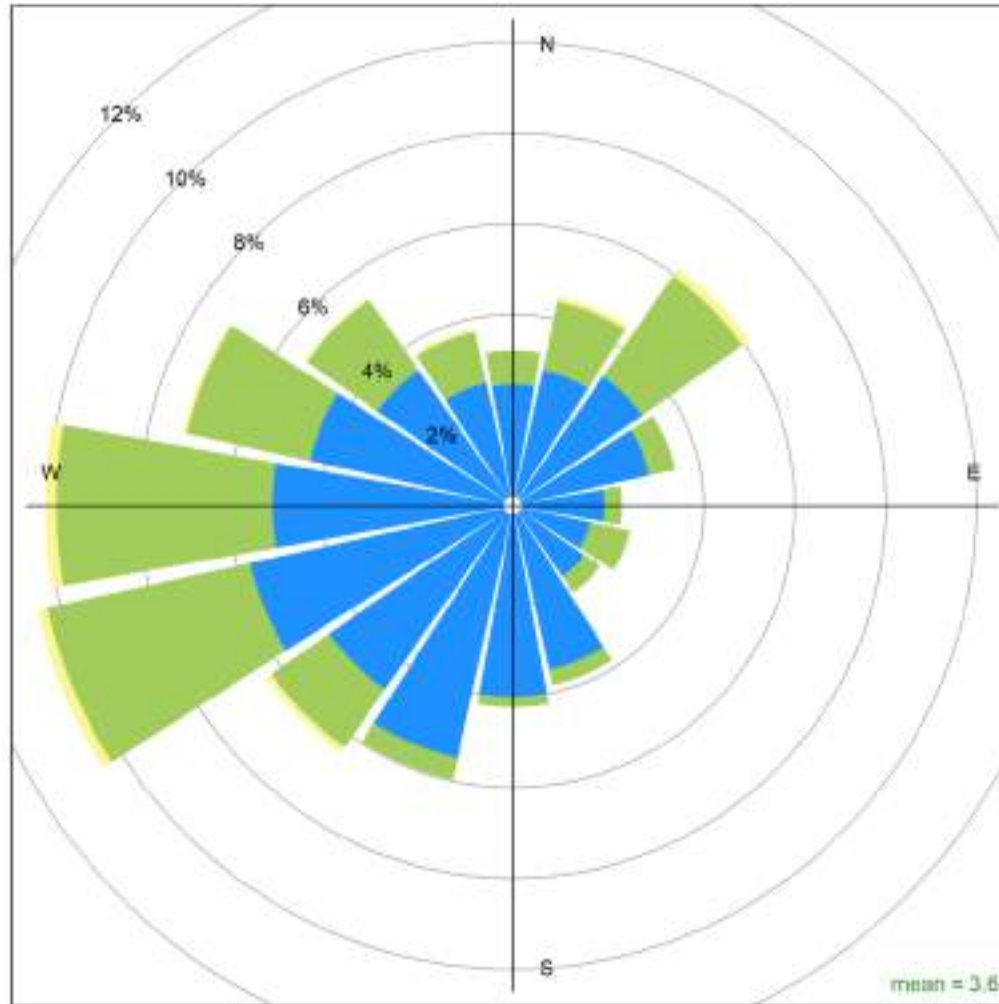
### 2024 Wind Direction Histogram





### Wind Speed and Wind Direction Frequency Distribution at Dunes

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	399	0.5%	3.4%	0.7%	0.0%	0.0%	0.0%	4.6%
NNE	463	0.3%	3.4%	1.5%	0.1%	0.0%	0.0%	5.3%
NE	576	0.2%	3.5%	2.7%	0.2%	0.0%	0.0%	6.6%
ENE	339	0.2%	3.2%	0.6%	0.0%	0.0%	0.0%	3.9%
E	229	0.2%	2.1%	0.4%	0.0%	0.0%	0.0%	2.6%
ESE	239	0.1%	1.7%	0.9%	0.0%	0.0%	0.0%	2.7%
SE	239	0.2%	2.1%	0.4%	0.0%	0.0%	0.0%	2.7%
SSE	393	0.3%	3.9%	0.3%	0.0%	0.0%	0.0%	4.5%
S	467	0.4%	4.8%	0.2%	0.0%	0.0%	0.0%	5.4%
SSW	668	0.4%	6.8%	0.5%	0.0%	0.0%	0.0%	7.7%
SW	745	0.7%	6.1%	1.6%	0.1%	0.0%	0.0%	8.6%
WSW	1081	0.9%	6.8%	4.6%	0.2%	0.0%	0.0%	12.4%
W	1013	0.7%	5.9%	4.8%	0.2%	0.0%	0.0%	11.7%
WNW	761	0.7%	5.2%	2.8%	0.1%	0.0%	0.0%	8.8%
NW	607	0.8%	4.2%	1.9%	0.0%	0.0%	0.0%	7.0%
NNW	474	0.6%	3.6%	1.2%	0.1%	0.0%	0.0%	5.5%
<b>Total</b>	<b>8693</b>	<b>7.2%</b>	<b>66.7%</b>	<b>25.0%</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>100.0%</b>



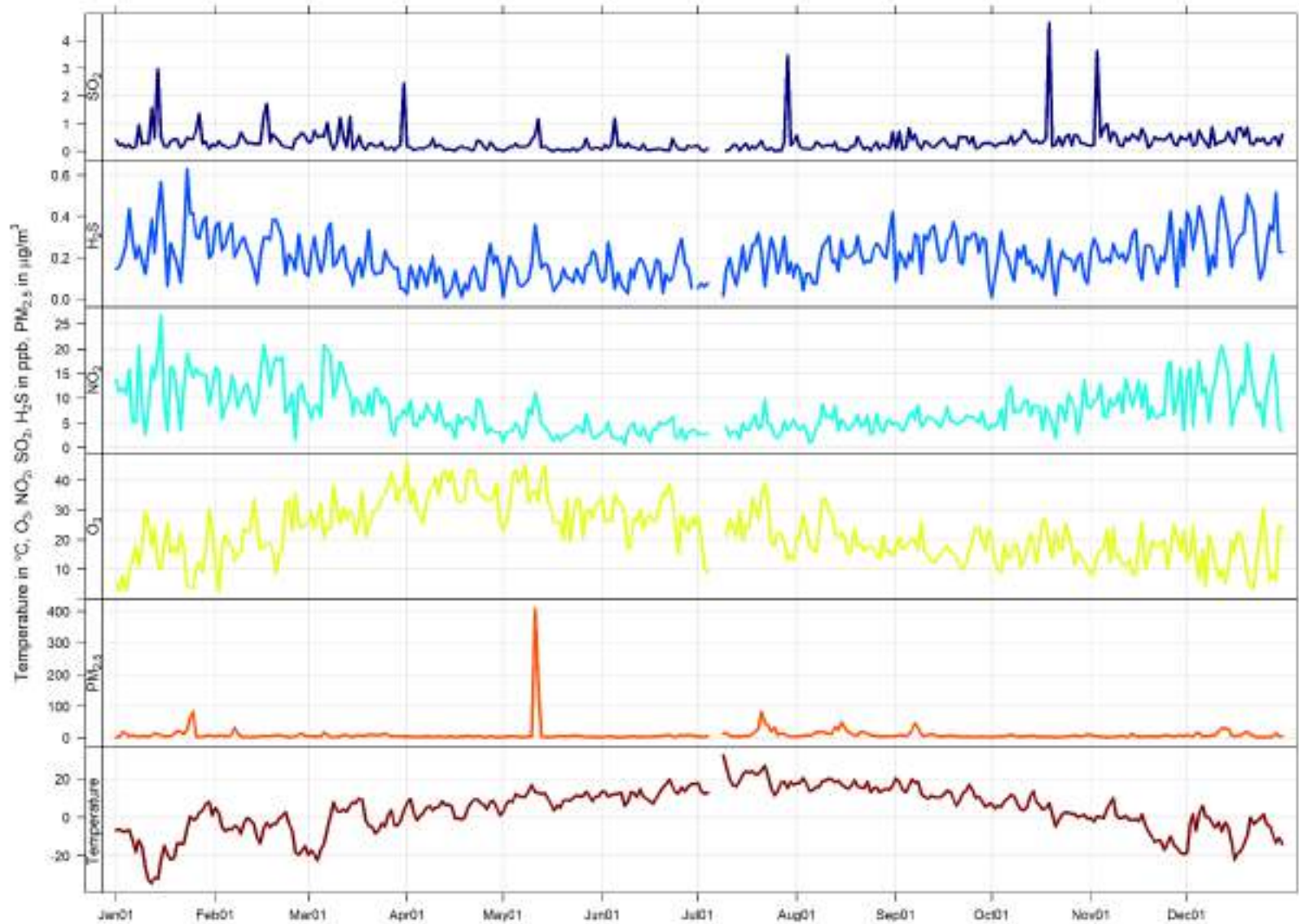
Dunes 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 18.6 %**

## 5 Fox Creek Key Parameters - Continuous Monitoring Data - 2024 Summary

Fox Creek Key Parameters - Continuous Monitoring Data - 2024 Summary

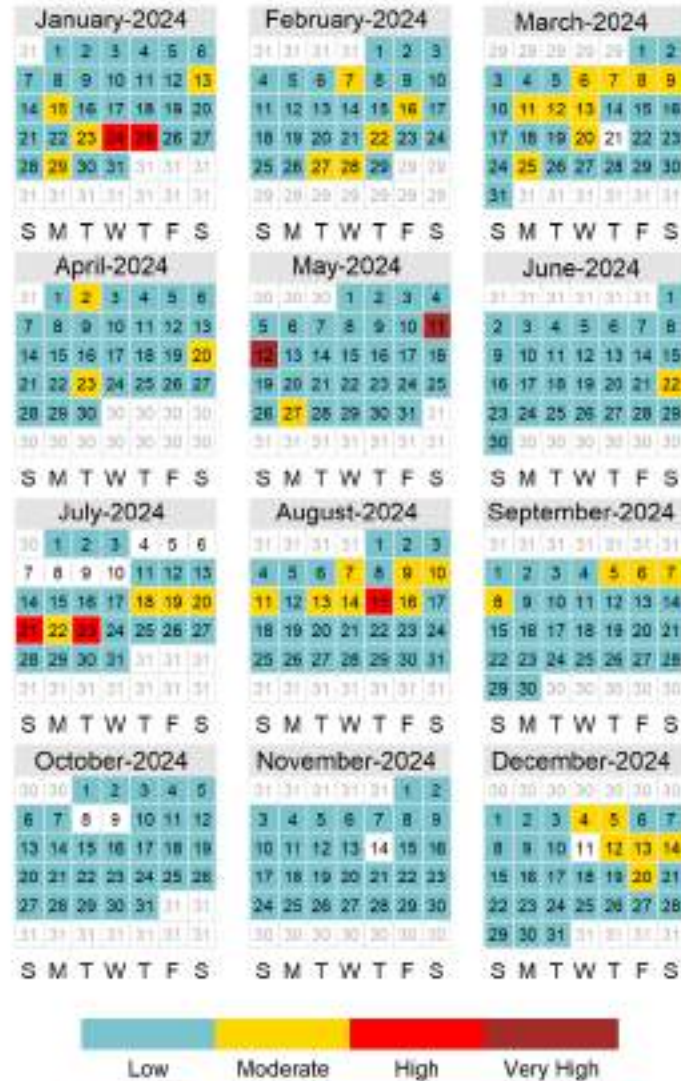
Fox Creek Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr	Date			1-hr	8-hr	24-hr	30-d	Annual
			Sulphur Dioxide SO <sub>2</sub> measured in ppb	0.3	4.7	Oct 19			53.2	Oct 19 06:00	98.2%	93.6%	0
Hydrogen Sulphide H <sub>2</sub> S measured in ppb	0.2	0.6	Jan 23	2.3	Aug 31 07:00	96.2%	91.5%	0	-	0	-	-	
Nitrogen Dioxide NO <sub>2</sub> measured in ppb	7.7	27.2	Jan 15	53.0	Mar 07 06:00	98.3%	93.5%	0	-	-	-	0	
Nitrogen Oxides NO <sub>x</sub> measured in ppb	15.5	68.0	Dec 20	169.4	Jan 29 18:00	98.3%	93.5%	-	-	-	-	-	
Nitric Oxide NO measured in ppb	7.7	46.6	Dec 20	136.2	Dec 20 18:00	98.3%	93.5%	-	-	-	-	-	
Ozone O <sub>3</sub> measured in ppb	22.4	45.9	Apr 01	64.8	Jul 21 18:00	98.2%	93.7%	0	-	-	-	-	
Particulate Matter PM <sub>2.5</sub> measured in µg/m <sup>3</sup>	8.9	422.2	May 11	817.5	May 11 11:00	98.3%	98.1%	78	-	16	-	-	

2024 Daily Concentration Readings at Fox Creek



## 5.1 Fox Creek AQHI Calendar Plot for 2024

### Hourly Maximum AQHI for 2024 at Fox Creek



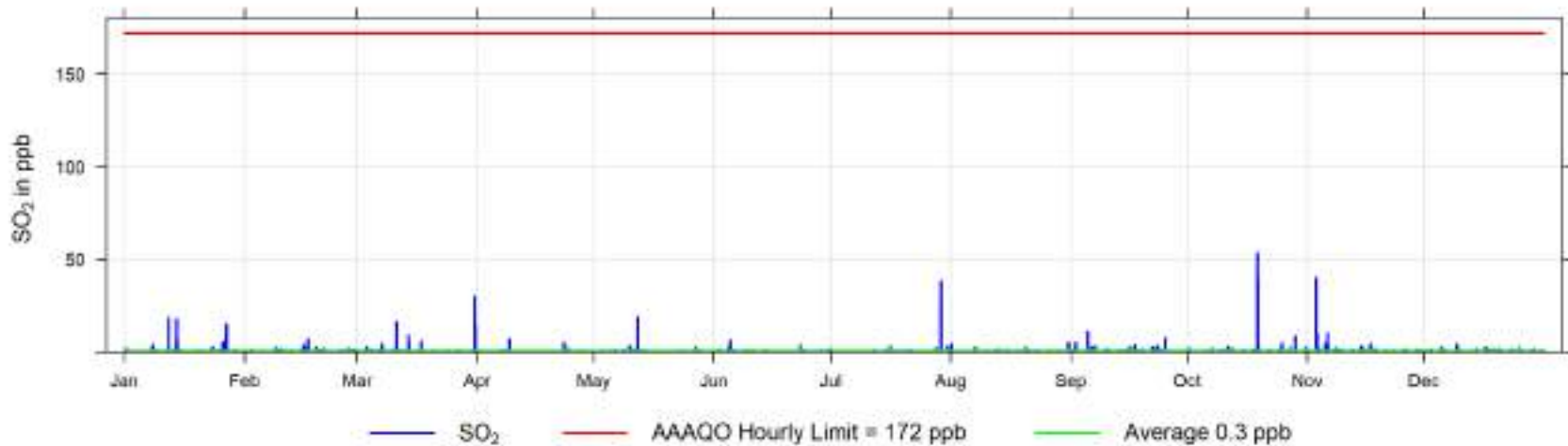
## 5.2 Sulphur Dioxide (SO<sub>2</sub>) - Fox Creek 2024 Summary

Sulphur Dioxide (SO<sub>2</sub>) Frequency Distribution at Fox Creek

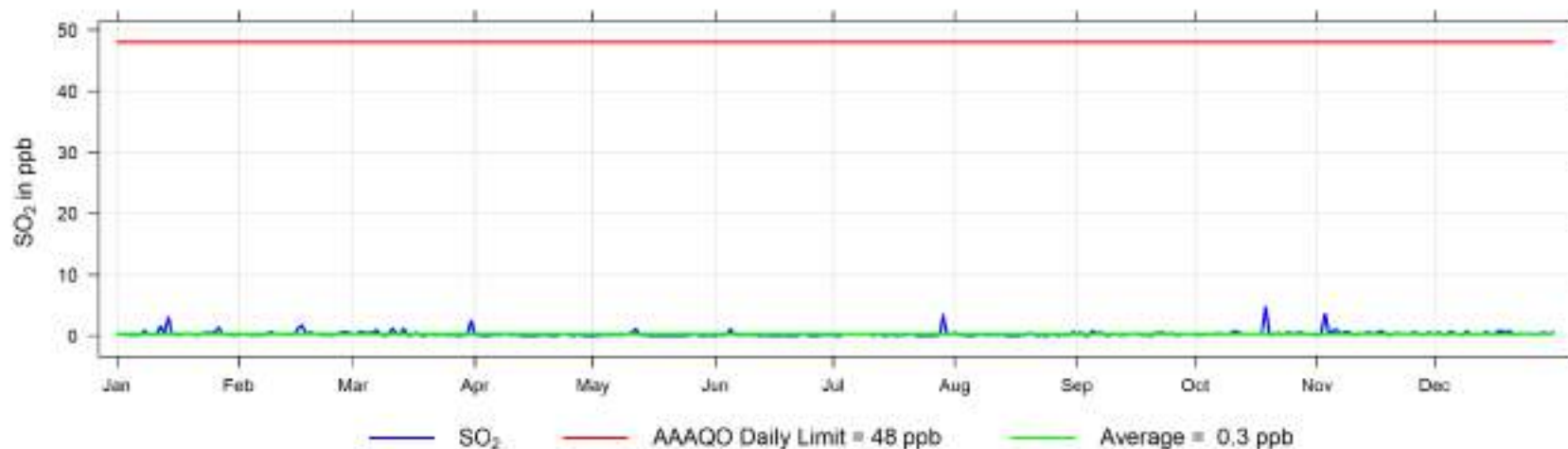
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	709	94.5%	4.4%	0.6%	0.6%	0.0%	0.0%	0.5	3.0	Jan 14	18.6	Jan 12 12:00	100.0%	95.3%	0	0	0
February 2024	663	94.4%	5.1%	0.5%	0.0%	0.0%	0.0%	0.4	1.7	Feb 17	6.7	Feb 17 11:00	100.0%	95.3%	0	0	0
March 2024	704	95.7%	3.3%	0.6%	0.4%	0.0%	0.0%	0.4	2.5	Mar 31	29.7	Mar 31 08:00	99.3%	94.6%	0	0	0
April 2024	686	99.0%	0.9%	0.1%	0.0%	0.0%	0.0%	0.1	0.5	Apr 09	6.9	Apr 09 09:00	100.0%	95.3%	0	0	0
May 2024	708	97.7%	2.1%	0.0%	0.1%	0.0%	0.0%	0.2	1.1	May 12	18.8	May 12 10:00	99.9%	95.2%	0	0	0
June 2024	687	97.4%	2.5%	0.1%	0.0%	0.0%	0.0%	0.2	1.1	Jun 05	5.9	Jun 05 06:00	100.0%	95.4%	0	0	0
July 2024	569	97.4%	2.1%	0.0%	0.5%	0.0%	0.0%	0.3	3.5	Jul 29	38.4	Jul 29 16:00	80.2%	76.5%	0	0	0
August 2024	709	97.7%	2.1%	0.1%	0.0%	0.0%	0.0%	0.2	0.7	Aug 31	5.0	Aug 31 09:00	100.0%	95.3%	0	0	0
September 2024	685	95.3%	4.2%	0.3%	0.1%	0.0%	0.0%	0.3	0.8	Sep 05	11.0	Sep 05 10:00	99.9%	95.1%	0	0	0
October 2024	705	95.5%	4.1%	0.1%	0.3%	0.0%	0.0%	0.5	4.7	Oct 19	53.2	Oct 19 06:00	99.6%	94.8%	0	0	0
November 2024	687	94.3%	4.9%	0.6%	0.1%	0.0%	0.0%	0.6	3.6	Nov 03	40.1	Nov 03 06:00	100.0%	95.4%	0	0	0
December 2024	710	94.8%	5.2%	0.0%	0.0%	0.0%	0.0%	0.5	0.9	Dec 18	4.0	Dec 09 13:00	100.0%	95.4%	0	0	0
<b>Annual</b>	<b>8222</b>	<b>96.1%</b>	<b>3.4%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.3</b>	<b>4.7</b>	<b>MAXIMUM VALUES</b>		<b>98.2%</b>	<b>93.6%</b>	<b>0</b>	<b>0</b>	<b>0</b>	

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

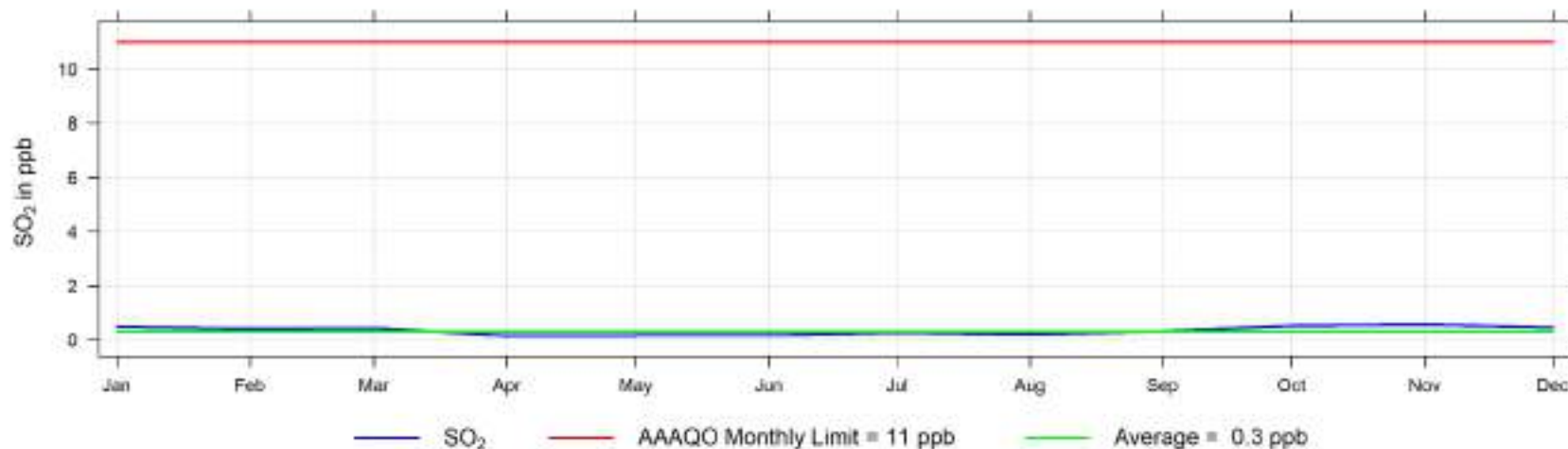
2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Fox Creek

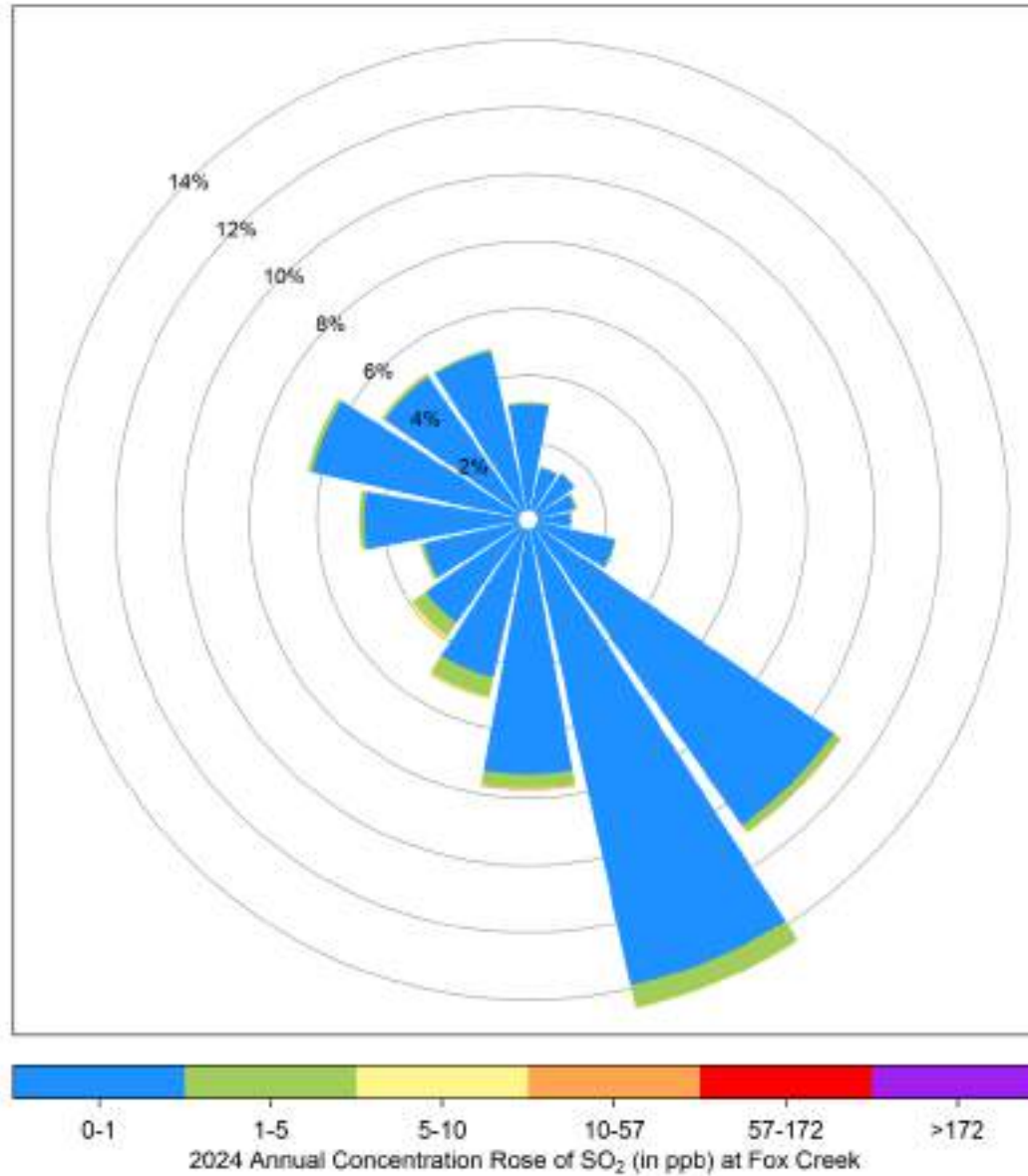


2024 Daily Concentration Readings of SO<sub>2</sub> (in ppb) at Fox Creek



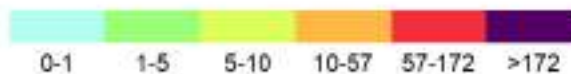
2024 Monthly Concentration Readings of SO<sub>2</sub> (in ppb) at Fox Creek







## Hourly Maximum SO<sub>2</sub> (in ppb) for 2024 at Fox Creek



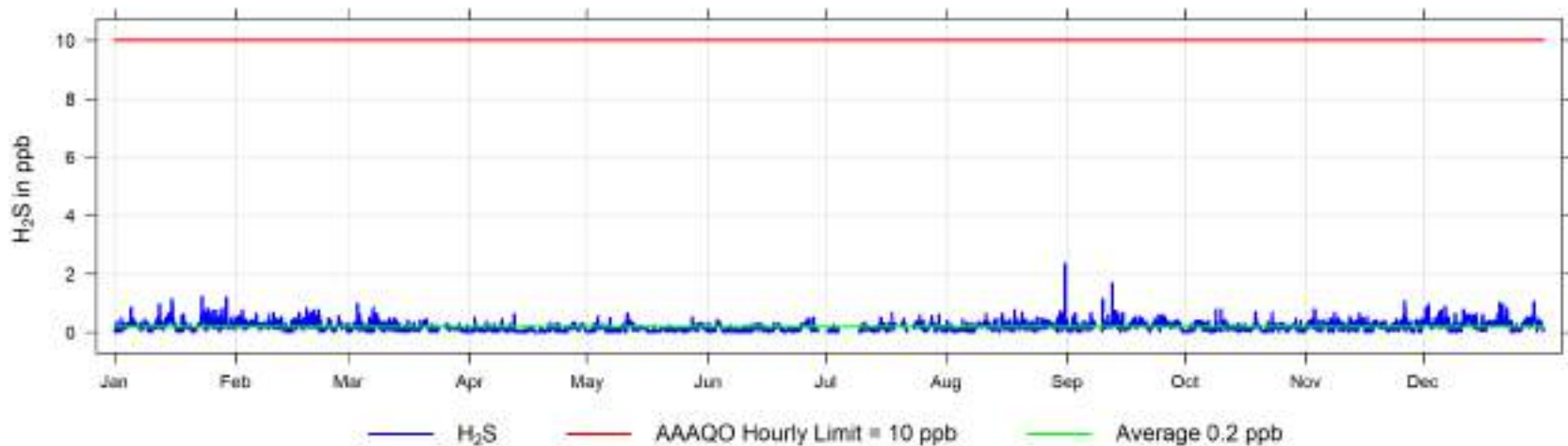
### 5.3 Hydrogen Sulphide (H<sub>2</sub>S) - Fox Creek 2024 Summary

Hydrogen Sulphide (H<sub>2</sub>S) Frequency Distribution at Fox Creek

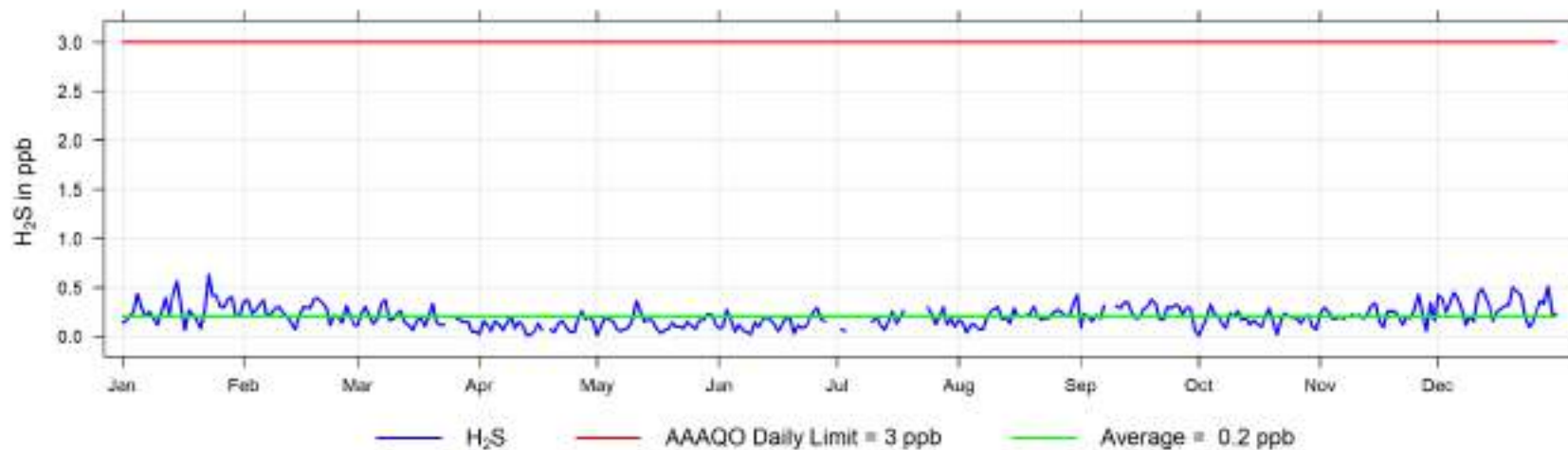
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb
January 2024	709	99.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.3	0.6	Jan 23	1.2	Jan 23 09:00	100.0%	95.3%	0	0
February 2024	663	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3	0.4	Feb 19	0.8	Feb 19 07:00	100.0%	95.3%	0	0
March 2024	668	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Mar 08	1.0	Mar 03 07:00	94.4%	89.8%	0	0
April 2024	684	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Apr 27	0.6	Apr 12 08:00	100.0%	95.0%	0	0
May 2024	709	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	May 11	0.7	May 11 12:00	100.0%	95.3%	0	0
June 2024	641	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Jun 26	0.5	Jun 28 04:00	93.8%	89.0%	0	0
July 2024	502	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Jul 24	0.7	Jul 18 04:00	71.1%	67.5%	0	0
August 2024	708	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Aug 31	2.3	Aug 31 07:00	100.0%	95.2%	0	0
September 2024	655	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Sep 19	1.7	Sep 12 09:00	95.6%	91.0%	0	0
October 2024	706	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Oct 04	0.8	Oct 09 04:00	99.6%	94.9%	0	0
November 2024	683	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Nov 26	1.1	Nov 26 09:00	100.0%	94.9%	0	0
December 2024	708	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.3	0.5	Dec 29	1.0	Dec 29 13:00	100.0%	95.2%	0	0
<b>Annual</b>	<b>8036</b>	<b>99.9%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2</b>	<b>0.6</b>	<b>MAXIMUM VALUES</b>			<b>96.2%</b>	<b>91.5%</b>	<b>0</b>	<b>0</b>

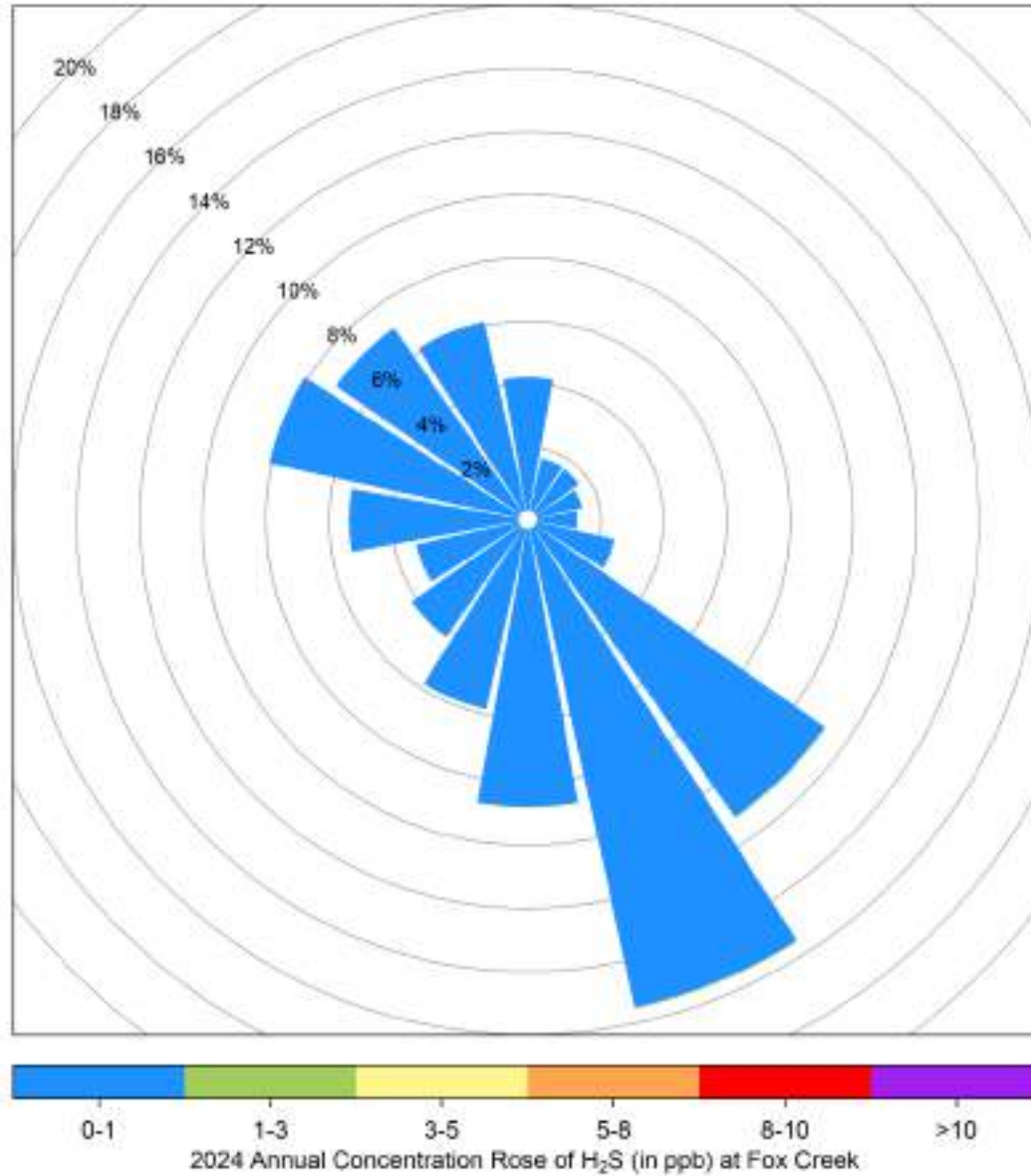
AAAQO Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

2024 Hourly Concentration Readings of H<sub>2</sub>S (in ppb) at Fox Creek



2024 Daily Concentration Readings of H<sub>2</sub>S (in ppb) at Fox Creek





## Hourly Maximum H<sub>2</sub>S (in ppb) for 2024 at Fox Creek



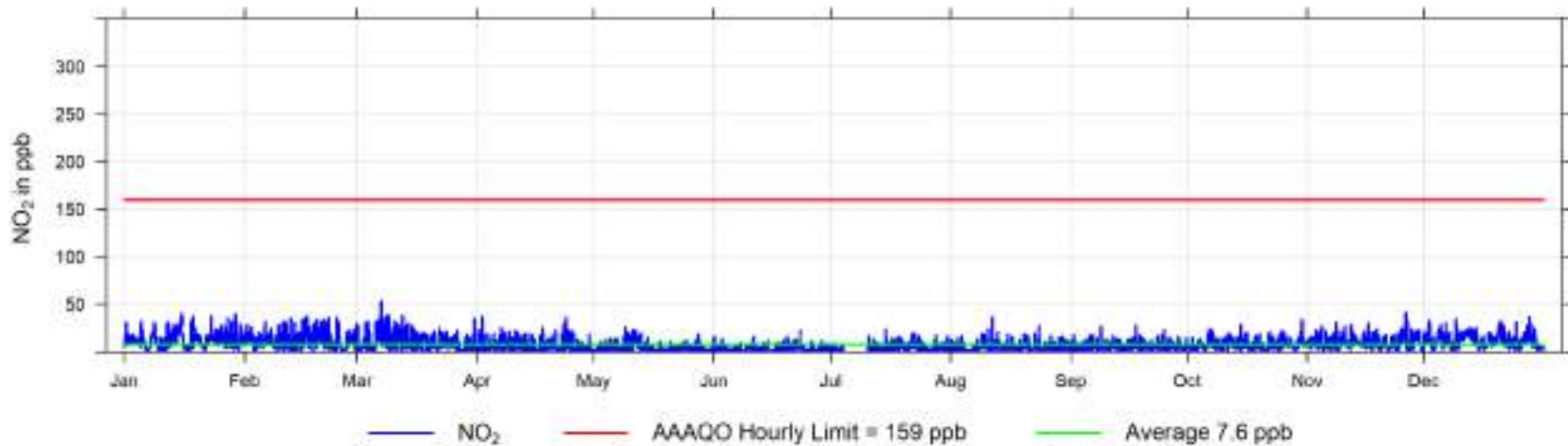
## 5.4 Nitrogen Dioxide (NO<sub>2</sub>) - Fox Creek 2024 Summary

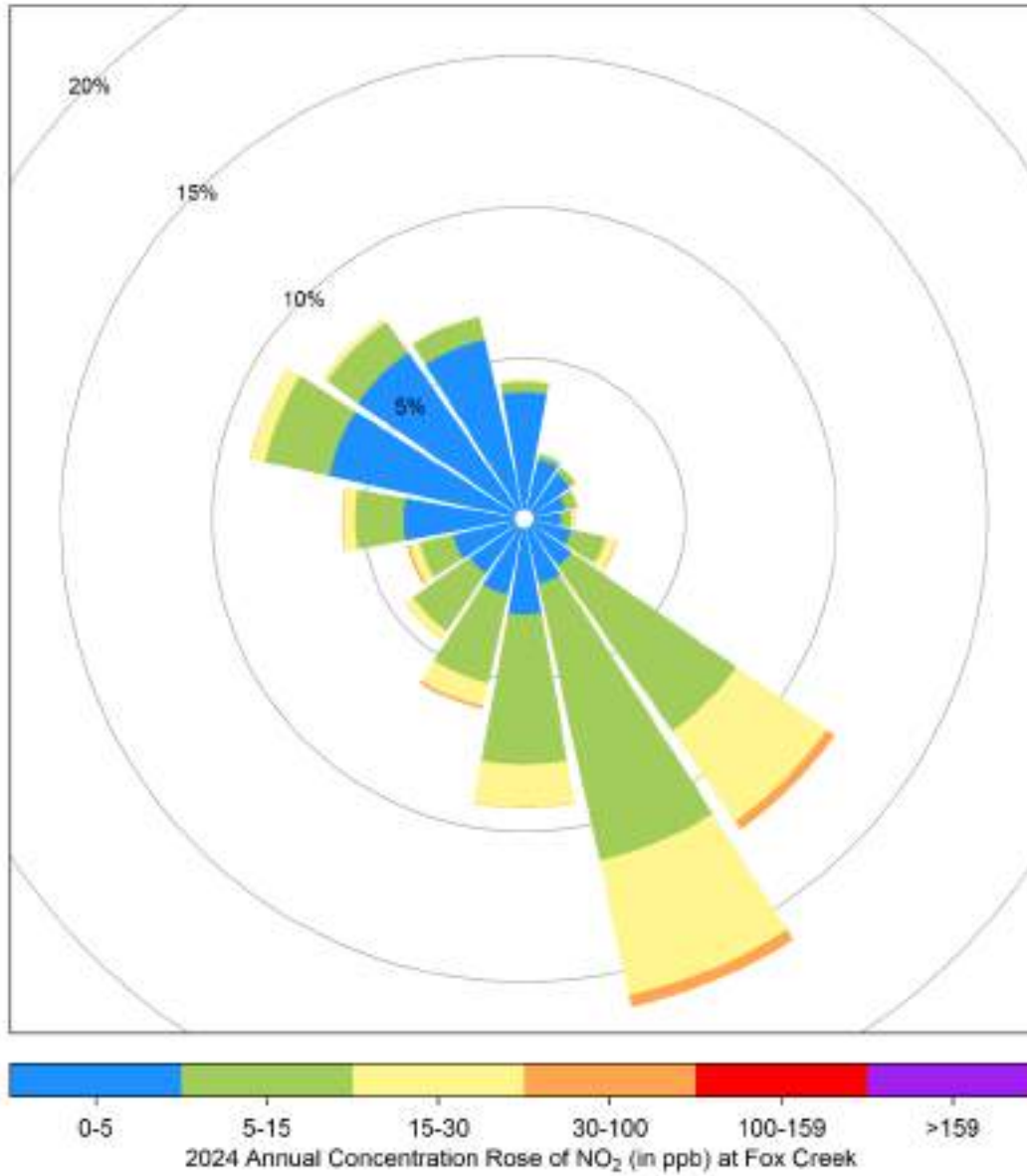
**Nitrogen Dioxide (NO<sub>2</sub>) Frequency Distribution at Fox Creek**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			
January 2024	707	20.5%	46.3%	30.0%	3.3%	0.0%	0.0%	12.6	27.2	Jan 15	40.5	Jan 15 20:00	100.0%	95.0%	0
February 2024	662	27.3%	39.0%	30.2%	3.5%	0.0%	0.0%	12.1	20.7	Feb 16	37.8	Feb 17 06:00	100.0%	95.1%	0
March 2024	703	40.4%	34.1%	21.2%	4.3%	0.0%	0.0%	10.1	20.6	Mar 06	53.0	Mar 07 06:00	99.3%	94.5%	0
April 2024	685	61.5%	29.5%	8.6%	0.4%	0.0%	0.0%	5.7	10.1	Apr 23	37.5	Apr 02 05:00	100.0%	95.1%	0
May 2024	708	75.0%	22.0%	3.0%	0.0%	0.0%	0.0%	3.9	11.3	May 11	26.4	May 09 05:00	100.0%	95.2%	0
June 2024	685	78.7%	20.6%	0.7%	0.0%	0.0%	0.0%	3.4	6.1	Jun 23	23.1	Jun 23 05:00	100.0%	95.1%	0
July 2024	568	70.2%	27.6%	2.1%	0.0%	0.0%	0.0%	4.1	9.7	Jul 22	24.3	Jul 15 05:00	80.2%	76.3%	0
August 2024	708	64.7%	31.8%	3.4%	0.1%	0.0%	0.0%	4.8	8.7	Aug 09	36.7	Aug 11 20:00	100.0%	95.2%	0
September 2024	685	54.0%	42.6%	3.4%	0.0%	0.0%	0.0%	5.6	8.7	Sep 08	28.6	Sep 17 19:00	100.0%	95.1%	0
October 2024	704	34.2%	58.5%	7.1%	0.1%	0.0%	0.0%	7.4	13.8	Oct 30	33.6	Oct 30 18:00	99.6%	94.6%	0
November 2024	685	27.3%	52.8%	19.0%	0.9%	0.0%	0.0%	9.6	16.8	Nov 26	41.4	Nov 26 10:00	100.0%	95.1%	0
December 2024	708	20.6%	47.2%	31.1%	1.1%	0.0%	0.0%	11.9	21.2	Dec 20	36.7	Dec 28 06:00	100.0%	95.2%	0
<b>Annual</b>	<b>8208</b>	<b>47.9%</b>	<b>37.7%</b>	<b>13.3%</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>7.6</b>	<b>MAXIMUM VALUES</b>				<b>98.3%</b>	<b>93.5%</b>	<b>0</b>

AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Fox Creek





## Hourly Maximum NO<sub>2</sub> (in ppb) for 2024 at Fox Creek





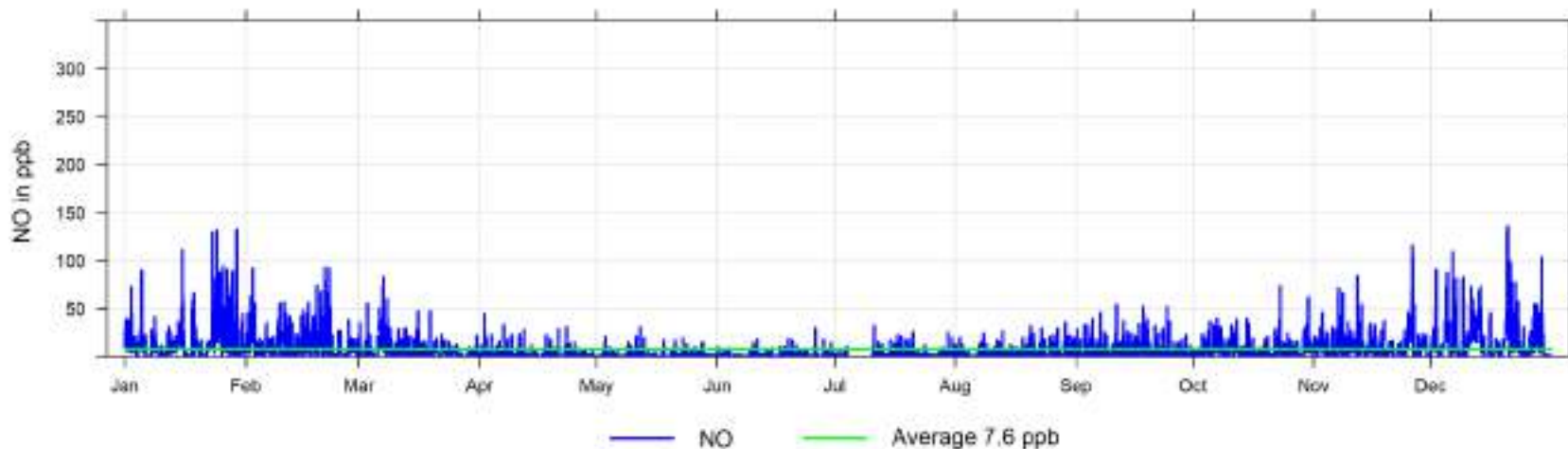
## 5.5 Nitric Oxide (NO) - Fox Creek 2024 Summary

Nitric Oxide (NO) Frequency Distribution at Fox Creek

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date		
January 2024	707	34.7%	31.3%	16.8%	16.3%	1.0%	0.0%	16.9	45.6	Jan 24	132.7	Jan 29 18:00	100.0%	95.0%
February 2024	662	43.1%	28.5%	16.8%	11.6%	0.0%	0.0%	12.3	34.3	Feb 02	93.0	Feb 21 07:00	100.0%	95.1%
March 2024	703	62.4%	25.6%	8.7%	3.3%	0.0%	0.0%	6.6	21.1	Mar 06	83.2	Mar 07 07:00	99.3%	94.5%
April 2024	685	85.7%	11.1%	2.8%	0.4%	0.0%	0.0%	2.6	6.4	Apr 02	44.3	Apr 02 05:00	100.0%	95.1%
May 2024	708	89.5%	8.9%	1.4%	0.1%	0.0%	0.0%	1.9	4.6	May 09	31.2	May 12 07:00	100.0%	95.2%
June 2024	685	90.5%	8.5%	0.9%	0.1%	0.0%	0.0%	2.0	5.2	Jun 26	30.4	Jun 26 05:00	100.0%	95.1%
July 2024	568	85.4%	11.1%	3.3%	0.2%	0.0%	0.0%	2.8	5.1	Jul 31	32.6	Jul 11 07:00	80.2%	76.3%
August 2024	708	71.9%	21.8%	6.1%	0.3%	0.0%	0.0%	4.2	9.5	Aug 26	35.7	Aug 29 07:00	100.0%	95.2%
September 2024	685	60.0%	28.3%	8.5%	3.2%	0.0%	0.0%	6.7	12.5	Sep 13	54.1	Sep 11 08:00	100.0%	95.1%
October 2024	704	55.3%	29.8%	11.5%	3.4%	0.0%	0.0%	7.4	18.0	Oct 30	74.0	Oct 23 11:00	99.6%	94.6%
November 2024	685	44.8%	33.9%	15.2%	5.8%	0.3%	0.0%	9.9	31.7	Nov 26	116.2	Nov 26 09:00	100.0%	95.1%
December 2024	708	38.7%	21.2%	19.6%	19.8%	0.7%	0.0%	17.4	46.6	Dec 20	136.2	Dec 20 18:00	100.0%	95.2%
<b>Annual</b>	<b>8208</b>	<b>63.5%</b>	<b>21.7%</b>	<b>9.3%</b>	<b>5.4%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>7.6</b>	<b>MAXIMUM VALUES</b>				<b>98.3%</b>	<b>93.5%</b>

AAAQO Objectives: none

2024 Hourly Concentration Readings of NO (in ppb) at Fox Creek



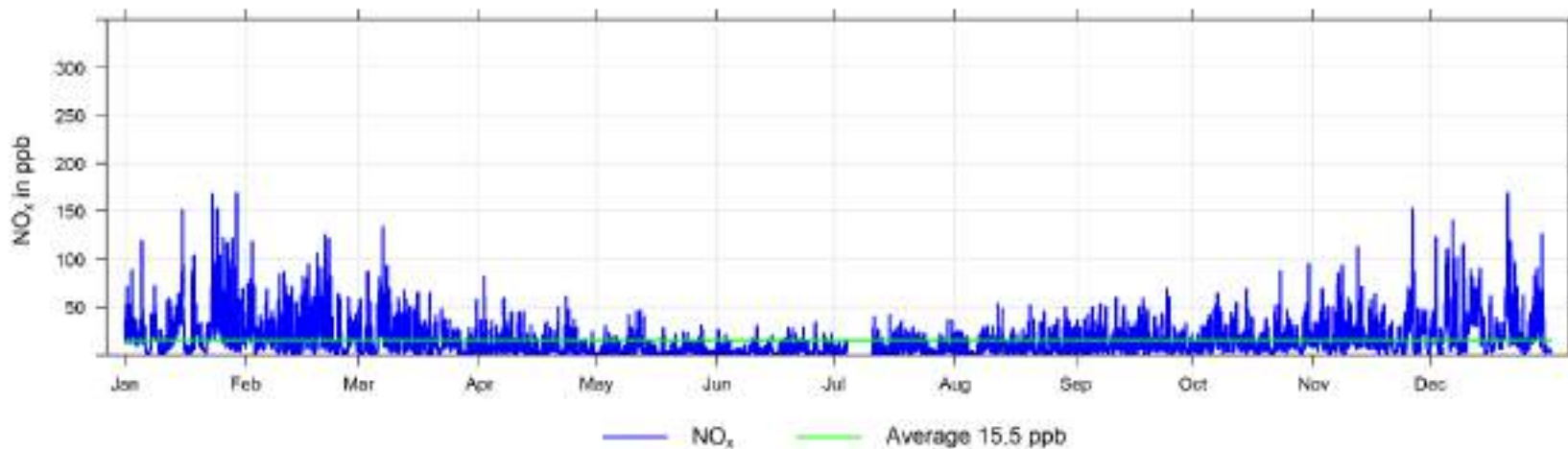
## 5.6 Oxides of Nitrogen (NO<sub>x</sub>) - Fox Creek 2024 Summary

**Nitrogen Oxides (NO<sub>x</sub>) Frequency Distribution at Fox Creek**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES			Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr (ppb)	Date		
January 2024	707	16.1%	18.1%	29.1%	33.7%	2.7%	0.3%	29.8	61.8	Jan 24	169.4	Jan 29 18:00	100.0%	95.0%
February 2024	662	20.1%	23.0%	24.9%	31.3%	0.8%	0.0%	24.6	49.7	Feb 02	125.3	Feb 21 07:00	100.0%	95.1%
March 2024	703	29.4%	29.4%	23.8%	16.9%	0.4%	0.0%	16.9	42.1	Mar 06	133.7	Mar 07 07:00	99.3%	94.5%
April 2024	685	52.3%	29.8%	13.0%	5.0%	0.0%	0.0%	8.5	15.9	Apr 02	82.2	Apr 02 05:00	100.0%	95.1%
May 2024	708	62.4%	28.8%	7.3%	1.4%	0.0%	0.0%	6.0	13.2	May 11	46.7	May 12 07:00	100.0%	95.2%
June 2024	685	60.1%	33.9%	5.7%	0.3%	0.0%	0.0%	5.6	9.5	Jun 26	34.4	Jun 26 06:00	100.0%	95.1%
July 2024	568	54.4%	32.6%	11.6%	1.4%	0.0%	0.0%	7.1	12.3	Jul 22	41.6	Jul 15 05:00	80.2%	76.3%
August 2024	708	44.4%	35.5%	16.8%	3.4%	0.0%	0.0%	9.2	16.5	Aug 26	53.8	Aug 11 20:00	100.0%	95.2%
September 2024	685	28.6%	40.0%	24.1%	7.3%	0.0%	0.0%	12.5	18.8	Sep 11	69.3	Sep 24 07:00	100.0%	95.1%
October 2024	704	19.3%	42.6%	26.1%	11.9%	0.0%	0.0%	15.1	32.1	Oct 30	95.5	Oct 30 18:00	99.6%	94.6%
November 2024	685	21.0%	29.5%	28.6%	20.0%	0.9%	0.0%	19.8	48.6	Nov 26	153.1	Nov 26 09:00	100.0%	95.1%
December 2024	708	16.5%	21.9%	21.9%	37.0%	2.4%	0.3%	29.6	68.0	Dec 20	169.0	Dec 20 18:00	100.0%	95.2%
<b>Annual</b>	<b>8208</b>	<b>35.4%</b>	<b>30.4%</b>	<b>19.4%</b>	<b>14.1%</b>	<b>0.6%</b>	<b>0.0%</b>	<b>15.5</b>	<b>68.0</b>	<b>MAXIMUM VALUES</b>			<b>98.3%</b>	<b>93.5%</b>

AAAQO Objectives: none

2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Fox Creek



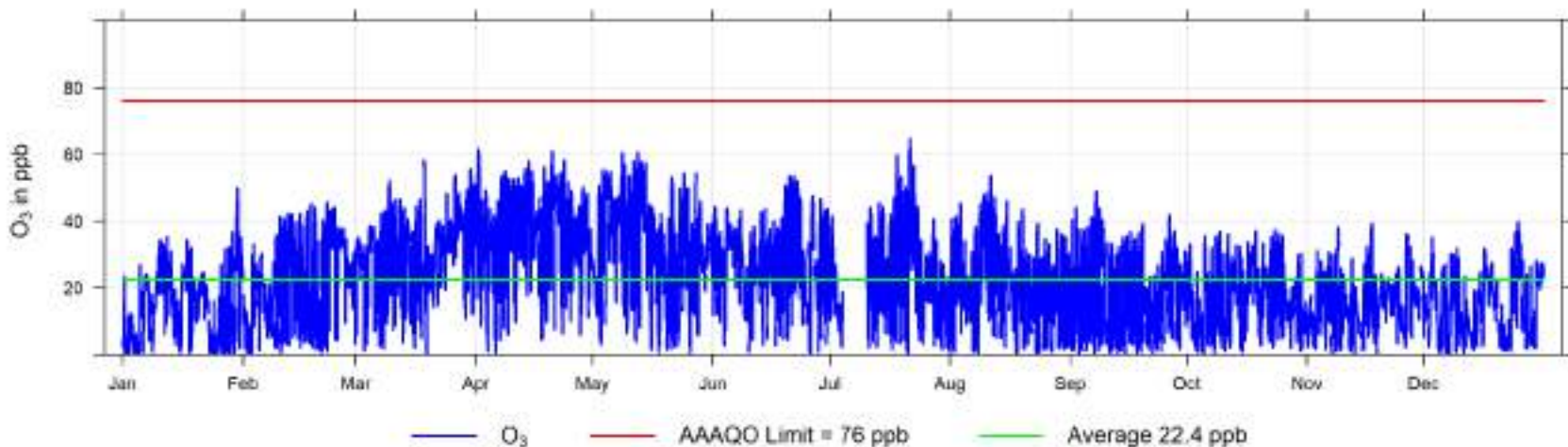
## 5.7 Ozone (O<sub>3</sub>) - Fox Creek 2024 Summary

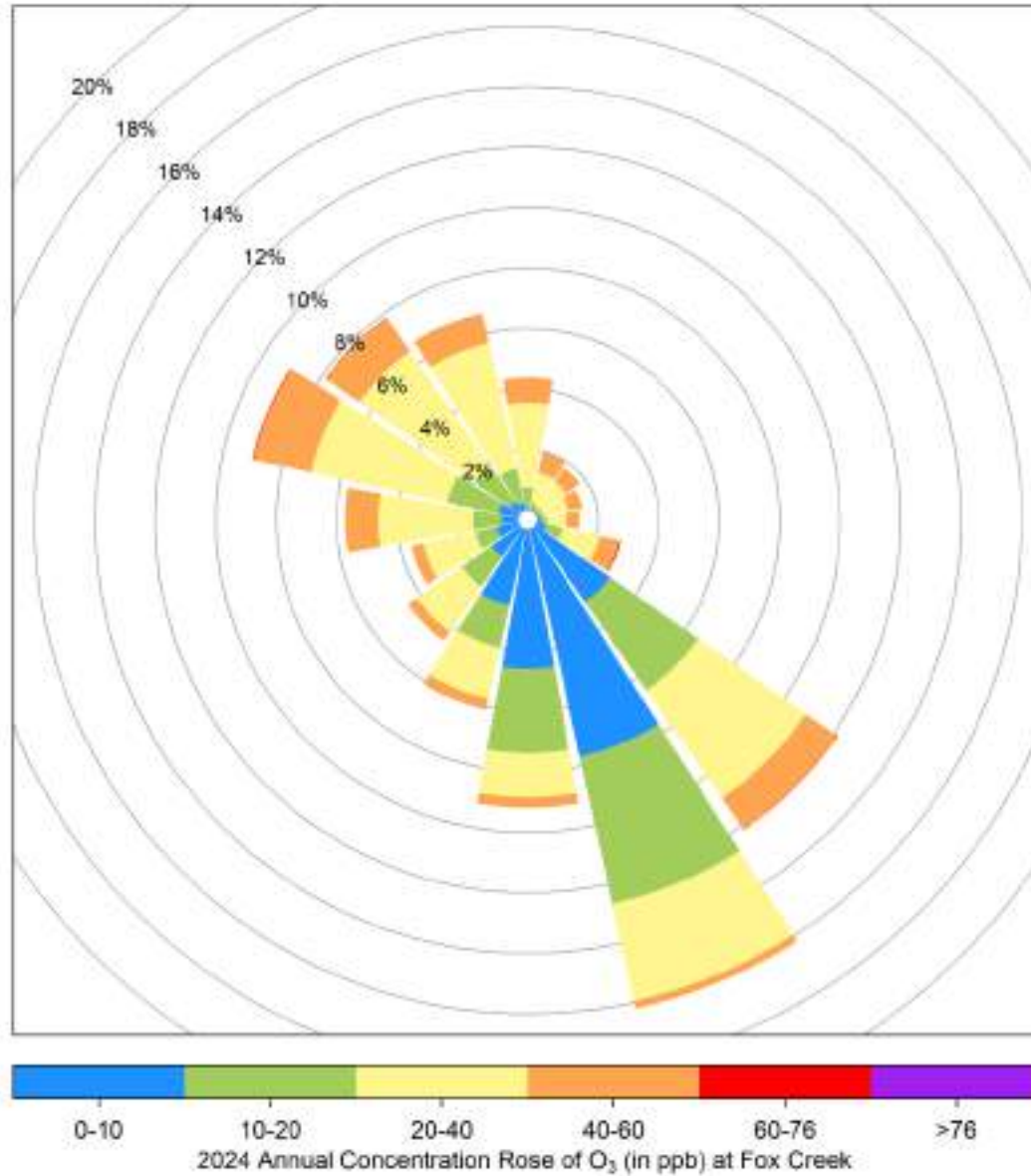
Ozone (O<sub>3</sub>) Frequency Distribution at Fox Creek

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES			Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 76 ppb
		0 to 10 (ppb)	10 to 20 (ppb)	20 to 40 (ppb)	40 to 60 (ppb)	60 to 76 (ppb)	> 76 (ppb)			Date	1-hr (ppb)	Date			
January 2024	710	38.2%	27.7%	32.8%	1.3%	0.0%	0.0%	14.6	30.6	Jan 30	49.9	Jan 30 15:00	100.0%	95.4%	0
February 2024	664	29.7%	21.2%	40.5%	8.6%	0.0%	0.0%	20.2	35.4	Feb 26	45.4	Feb 22 17:00	100.0%	95.4%	0
March 2024	703	6.8%	14.5%	58.5%	20.2%	0.0%	0.0%	30.1	42.6	Mar 27	58.1	Mar 18 15:00	99.2%	94.5%	0
April 2024	687	4.8%	11.2%	37.3%	45.9%	0.9%	0.0%	36.3	45.9	Apr 01	61.5	Apr 01 15:00	100.0%	95.4%	0
May 2024	710	9.9%	13.5%	43.2%	33.0%	0.4%	0.0%	32.2	44.6	May 14	60.6	May 12 17:00	100.0%	95.4%	0
June 2024	687	9.0%	17.2%	58.8%	15.0%	0.0%	0.0%	27.8	38.8	Jun 22	53.4	Jun 20 17:00	100.0%	95.4%	0
July 2024	565	21.8%	25.0%	35.6%	17.0%	0.7%	0.0%	23.5	39.2	Jul 22	64.8	Jul 21 18:00	79.7%	75.9%	0
August 2024	709	25.1%	24.7%	42.2%	8.0%	0.0%	0.0%	20.5	34.5	Aug 09	53.7	Aug 11 15:00	100.0%	95.3%	0
September 2024	686	39.2%	20.8%	36.7%	3.2%	0.0%	0.0%	17.2	25.7	Sep 09	49.0	Sep 07 17:00	100.0%	95.3%	0
October 2024	707	27.3%	35.2%	37.5%	0.0%	0.0%	0.0%	16.7	27.1	Oct 17	37.3	Oct 23 16:00	99.6%	95.0%	0
November 2024	686	29.0%	38.3%	32.7%	0.0%	0.0%	0.0%	16.0	25.2	Nov 17	39.2	Nov 17 16:00	100.0%	95.3%	0
December 2024	710	40.3%	27.0%	32.7%	0.0%	0.0%	0.0%	14.3	31.5	Dec 25	39.7	Dec 25 06:00	100.0%	95.4%	0
<b>Annual</b>	<b>8224</b>	<b>23.4%</b>	<b>23.0%</b>	<b>40.7%</b>	<b>12.7%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>22.4</b>	<b>45.9</b>	<b>MAXIMUM VALUES</b>			<b>98.2%</b>	<b>93.7%</b>	<b>0</b>

AAAQO Objectives: 1-Hr: 76ppb

2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Fox Creek





### Hourly Maximum O<sub>3</sub> (in ppb) for 2024 at Fox Creek



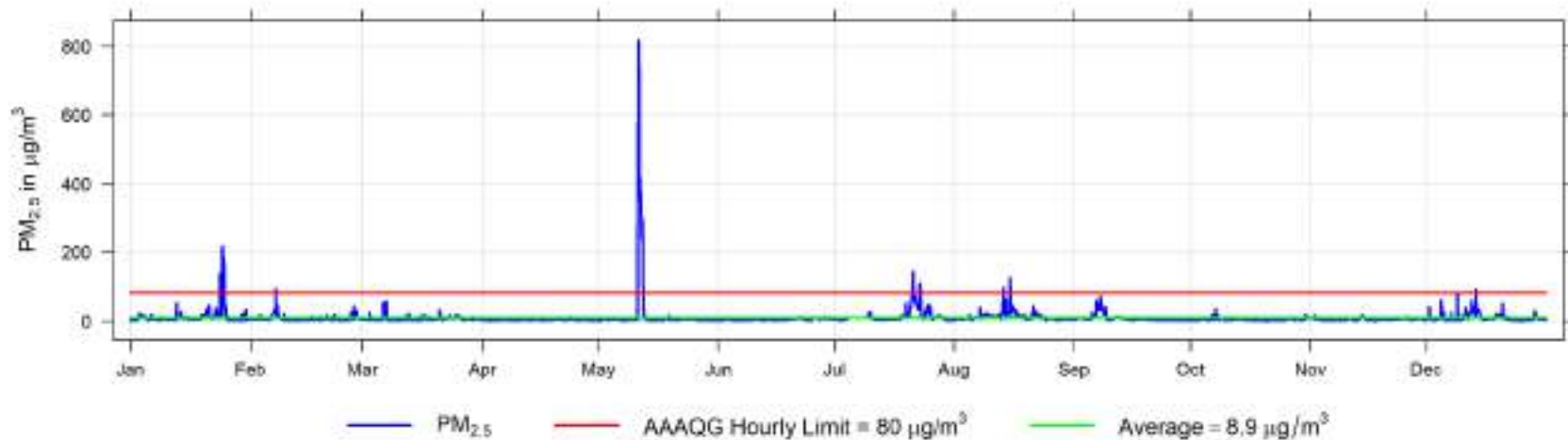
## 5.8 Particulate Matter (PM<sub>2.5</sub>) - Fox Creek 2024 Summary

Particulate Matter (PM<sub>2.5</sub>) Frequency Distribution at Fox Creek

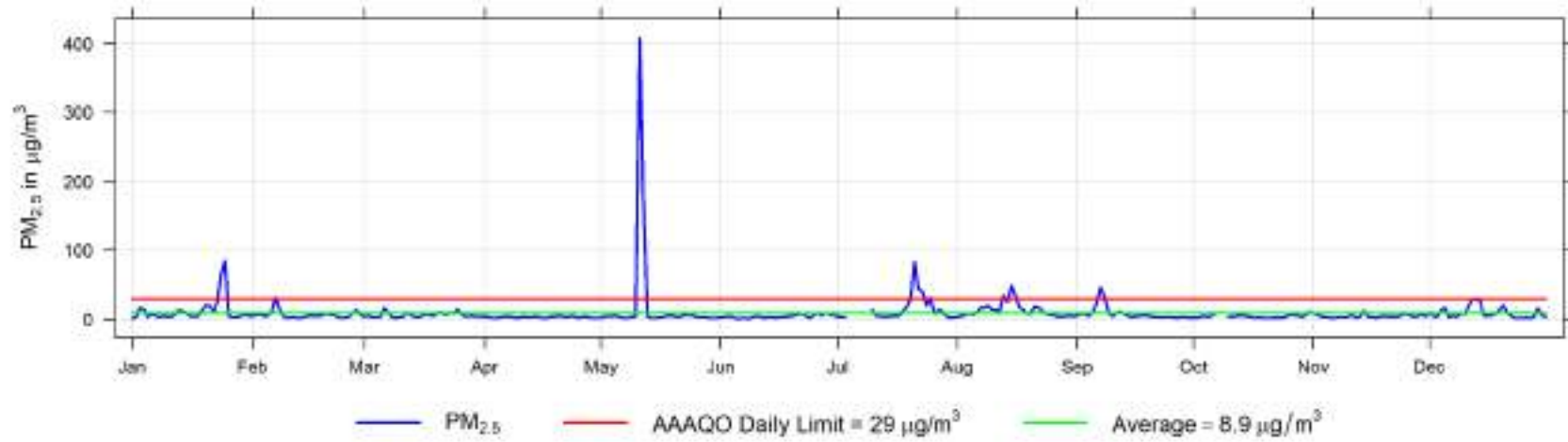
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m <sup>3</sup> )	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m <sup>3</sup> )	5 to 15 (µg/m <sup>3</sup> )	15 to 30 (µg/m <sup>3</sup> )	30 to 50 (µg/m <sup>3</sup> )	50 to 80 (µg/m <sup>3</sup> )	> 80 (µg/m <sup>3</sup> )		24-hr (µg/m <sup>3</sup> )	Date	1-hr (µg/m <sup>3</sup> )	Date			24-hr 29 µg/m <sup>3</sup>	1-hr 80 µg/m <sup>3</sup>
January 2024	743	48.3%	31.0%	14.5%	3.4%	0.3%	2.6%	12.2	79.5	Jan 25	215.5	Jan 24 22:00	100.0%	99.9%	2	19
February 2024	695	57.6%	33.5%	6.9%	1.7%	0.1%	0.1%	6.5	31.0	Feb 07	93.5	Feb 07 15:00	100.0%	99.9%	1	1
March 2024	740	61.8%	30.9%	6.4%	0.5%	0.4%	0.0%	6.1	17.3	Mar 06	56.6	Mar 07 03:00	99.7%	99.5%	0	0
April 2024	719	89.3%	10.7%	0.0%	0.0%	0.0%	0.0%	3.0	5.3	Apr 20	13.2	Apr 23 20:00	100.0%	99.9%	0	0
May 2024	743	75.8%	18.6%	0.5%	0.4%	0.1%	4.6%	22.0	422.2	May 11	817.5	May 11 11:00	100.0%	99.9%	2	34
June 2024	718	68.4%	31.6%	0.0%	0.0%	0.0%	0.0%	4.2	9.0	Jun 26	13.0	Jun 22 20:00	100.0%	99.7%	0	0
July 2024	618	43.5%	32.4%	9.7%	7.9%	3.6%	2.9%	14.7	82.3	Jul 21	145.1	Jul 21 09:00	83.2%	83.1%	5	18
August 2024	743	23.3%	47.2%	21.8%	5.9%	1.1%	0.7%	13.1	49.0	Aug 15	125.9	Aug 15 11:00	100.0%	99.9%	3	5
September 2024	717	58.6%	31.5%	3.8%	4.5%	1.7%	0.0%	8.0	46.2	Sep 07	70.7	Sep 07 18:00	100.0%	99.6%	2	0
October 2024	720	70.1%	29.0%	0.7%	0.1%	0.0%	0.0%	4.2	11.3	Oct 31	35.7	Oct 07 17:00	96.9%	96.8%	0	0
November 2024	719	68.2%	31.7%	0.1%	0.0%	0.0%	0.0%	4.4	12.8	Nov 14	16.4	Nov 14 16:00	100.0%	99.9%	0	0
December 2024	742	49.7%	30.3%	14.7%	3.9%	1.2%	0.1%	9.2	30.7	Dec 12	91.1	Dec 13 21:00	100.0%	99.7%	1	1
<b>Annual</b>	<b>8617</b>	<b>59.5%</b>	<b>29.9%</b>	<b>6.6%</b>	<b>2.4%</b>	<b>0.7%</b>	<b>0.9%</b>	<b>8.9</b>	<b>422.2</b>	<b>MAXIMUM VALUES</b>		<b>98.3%</b>	<b>98.1%</b>	<b>16</b>	<b>78</b>	

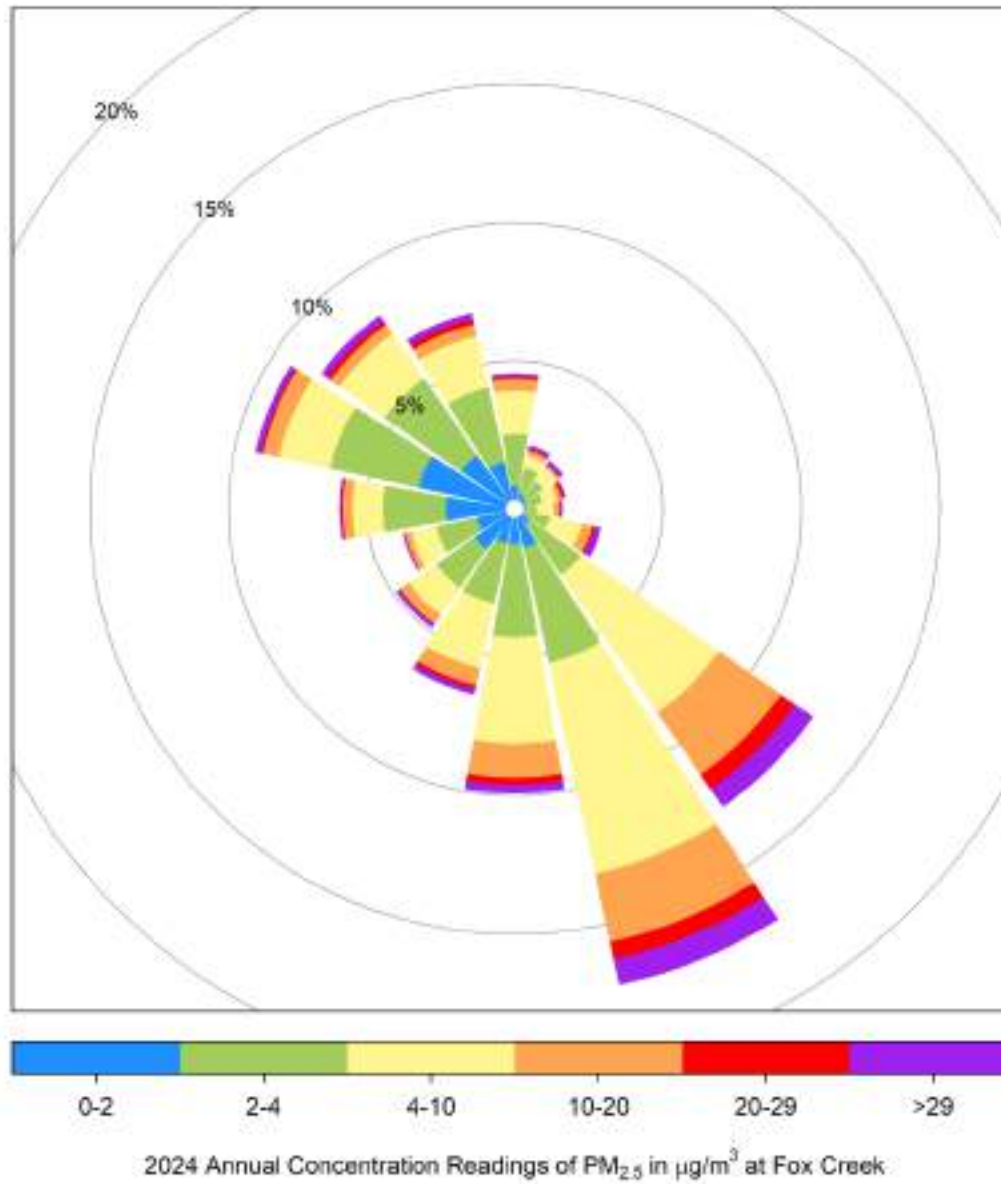
AAAQO Objectives: 24-Hr: 29 µg/m<sup>3</sup>, AAAQO Guideline: 1-Hr: 80 µg/m<sup>3</sup>

2024 Hourly Concentration Readings of PM<sub>2.5</sub> in µg/m<sup>3</sup> at Fox Creek



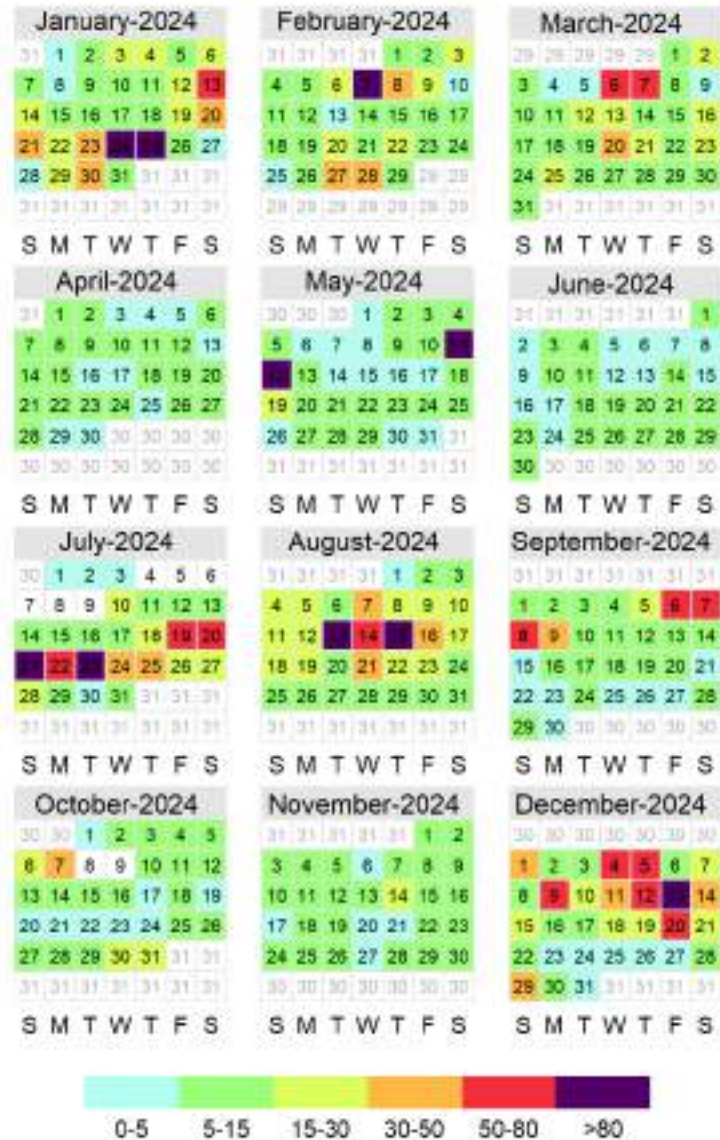
### 2024 Daily Concentration Readings of PM<sub>2.5</sub> in $\mu\text{g}/\text{m}^3$ at Fox Creek







## Hourly Maximum PM<sub>2.5</sub> (in µg/m<sup>3</sup>) for 2024 at Fox Creek

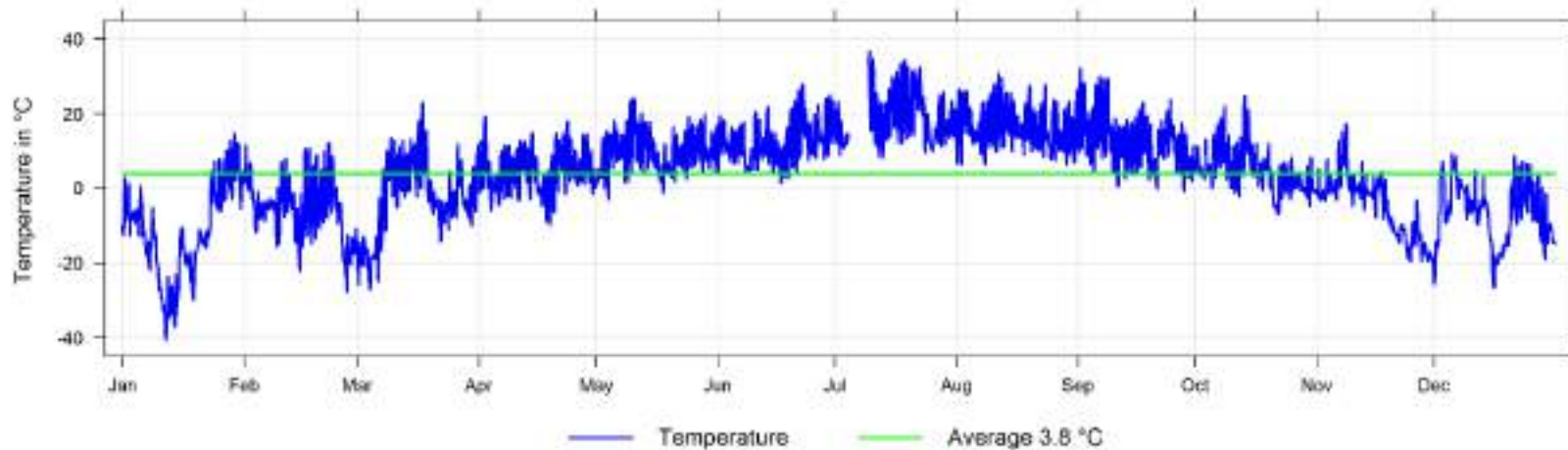


## 5.9 Temperature (ET) - Fox Creek 2024 Summary

Temperature (ET) Frequency Distribution at Fox Creek

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)		
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date
January 2024	744	-12.1	7.4	Jan 30	14.8	Jan 29 14:00	-34.2	Jan 12	-40.7	Jan 12 02:00	100.0%	100.0%
February 2024	696	-5.8	4.8	Feb 01	12.2	Feb 22 17:00	-19.3	Feb 27	-27.9	Feb 27 08:00	100.0%	100.0%
March 2024	744	-2.9	9.9	Mar 17	22.9	Mar 17 15:00	-22.1	Mar 04	-27.4	Mar 04 05:00	100.0%	100.0%
April 2024	720	4.6	9.7	Apr 02	19.2	Apr 02 15:00	-1.5	Apr 04	-10.1	Apr 19 06:00	100.0%	100.0%
May 2024	744	9.8	17.1	May 10	24.3	May 10 15:00	2.7	May 01	-3.1	May 04 05:00	100.0%	100.0%
June 2024	718	12.7	19.8	Jun 22	27.8	Jun 22 17:00	5.5	Jun 08	1.3	Jun 17 04:00	100.0%	99.7%
July 2024	619	19.1	26.4	Jul 22	36.8	Jul 09 19:00	11.3	Jul 25	8.1	Jul 13 05:00	83.2%	83.2%
August 2024	744	16.4	20.4	Aug 03	30.8	Aug 11 18:00	12.8	Aug 27	6.4	Aug 29 03:00	100.0%	100.0%
September 2024	720	12.4	20.2	Sep 01	32.3	Sep 01 18:00	5.1	Sep 29	-0.9	Sep 28 05:00	100.0%	100.0%
October 2024	741	4.6	13.7	Oct 14	24.9	Oct 13 15:00	-4.8	Oct 21	-7.0	Oct 22 03:00	99.6%	99.6%
November 2024	720	-5.1	9.9	Nov 08	17.1	Nov 08 14:00	-19.3	Nov 30	-24.4	Dec 01 00:00	100.0%	100.0%
December 2024	744	-6.5	5.6	Dec 06	9.4	Dec 05 15:00	-22.1	Dec 16	-26.7	Dec 16 09:00	100.0%	100.0%
<b>8654</b>		<b>AVERAGE 3.8</b>	<b>26.4</b>	<b>MAXIMUM VALUES Jul 22 36.8 Jul 09 19:00</b>		<b>MINIMUM VALUES -34.2 Jan 12 -40.7 Jan 12 02:00</b>			<b>98.6%</b>	<b>98.5%</b>		

2024 Hourly Temperature Readings (in °C) at Fox Creek

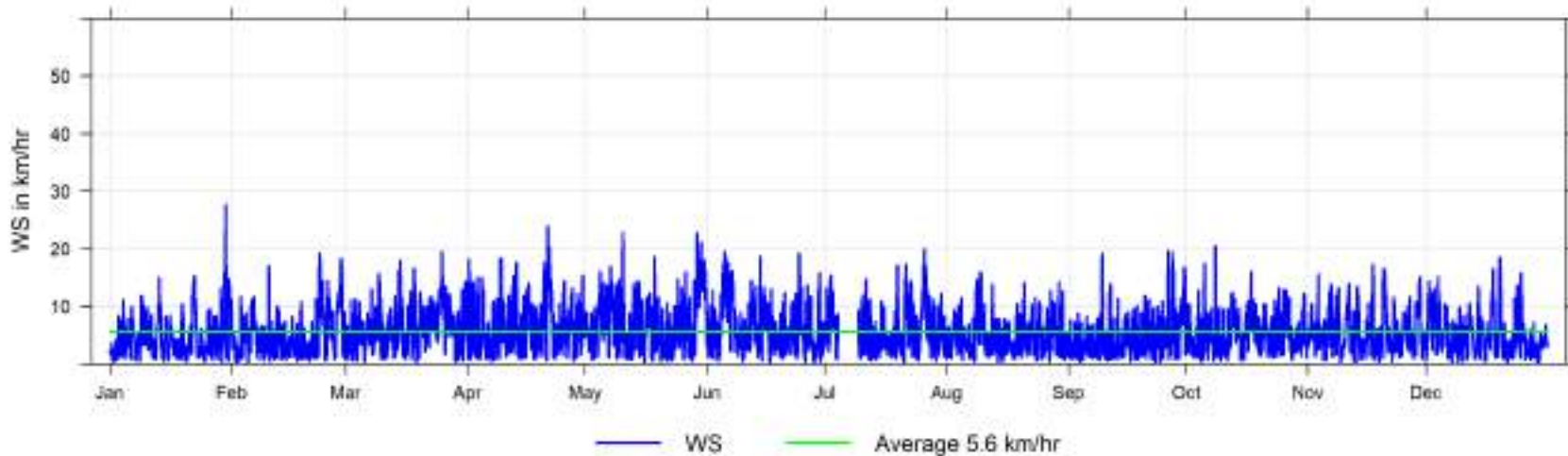


## 5.10 Wind Speed and Wind Direction (WS and WD) - Fox Creek 2024 Summary

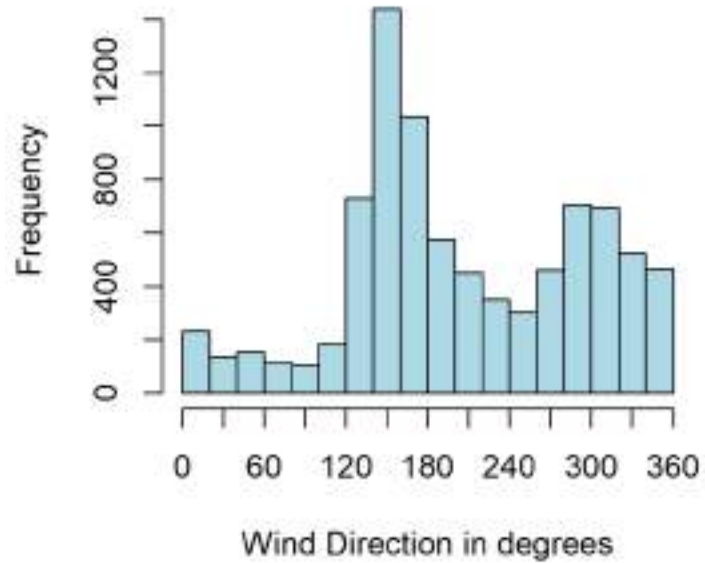
### Wind Speed Frequency Distribution at Fox Creek

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	24-hr (km/hr)	MAXIMUM VALUES			Operational time (%)	Valid time (%)
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)			Date	1-hr (km/hr)	Date		
January 2024	744	1.6%	60.2%	32.3%	5.5%	0.4%	0.0%	4.8	12.0	Jan 22	27.6	Jan 30 15:00	100.0%	100.0%
February 2024	696	1.6%	58.6%	33.2%	6.5%	0.1%	0.0%	4.9	13.0	Feb 28	19.2	Feb 23 11:00	100.0%	100.0%
March 2024	744	1.1%	36.7%	50.0%	12.1%	0.1%	0.0%	6.4	13.3	Mar 25	19.4	Mar 25 16:00	100.0%	100.0%
April 2024	720	0.4%	42.6%	41.4%	15.1%	0.4%	0.0%	6.6	12.1	Apr 21	23.9	Apr 21 14:00	100.0%	100.0%
May 2024	744	0.8%	39.7%	39.2%	19.2%	1.1%	0.0%	7.0	15.8	May 30	22.9	May 10 16:00	100.0%	100.0%
June 2024	718	1.4%	45.5%	39.1%	13.6%	0.3%	0.0%	6.3	14.6	Jun 05	19.4	Jun 05 15:00	100.0%	99.7%
July 2024	619	0.3%	51.2%	35.2%	13.1%	0.2%	0.0%	5.9	13.9	Jul 26	19.9	Jul 26 08:00	83.2%	83.2%
August 2024	744	0.8%	58.2%	36.8%	4.2%	0.0%	0.0%	4.8	10.0	Aug 09	15.9	Aug 09 13:00	100.0%	100.0%
September 2024	720	0.7%	62.5%	30.0%	6.4%	0.4%	0.0%	4.7	10.4	Sep 30	19.6	Sep 26 12:00	100.0%	100.0%
October 2024	741	0.4%	52.0%	42.8%	4.7%	0.1%	0.0%	5.3	9.9	Oct 17	20.5	Oct 08 14:00	99.6%	99.6%
November 2024	720	1.3%	51.7%	38.6%	8.5%	0.0%	0.0%	5.5	12.5	Nov 20	17.1	Nov 17 12:00	100.0%	100.0%
December 2024	744	1.1%	58.6%	32.5%	7.8%	0.0%	0.0%	5.0	8.5	Dec 04	18.4	Dec 19 21:00	100.0%	100.0%
<b>Annual</b>	<b>8654</b>	<b>1.0%</b>	<b>51.5%</b>	<b>37.6%</b>	<b>9.7%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>5.6</b>	<b>15.8</b>	<b>MAXIMUM VALUES</b>			<b>98.6%</b>	<b>98.5%</b>

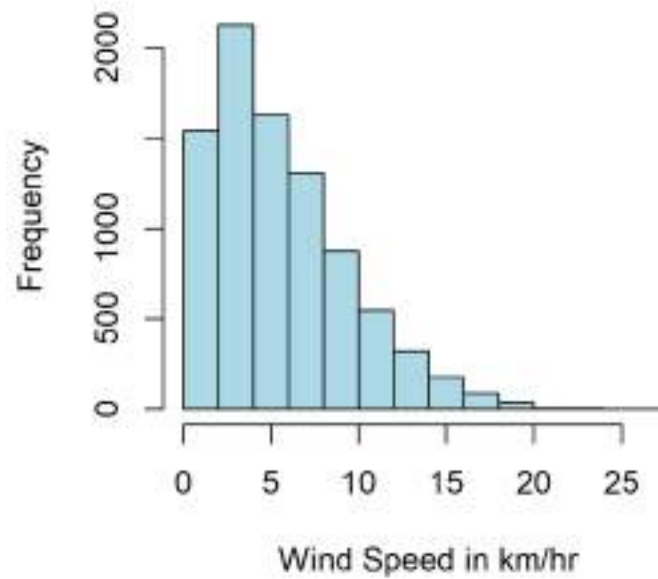
### 2024 Hourly Readings of Wind Speed (in km/hr) at Fox Creek



### 2024 Wind Direction Histogram

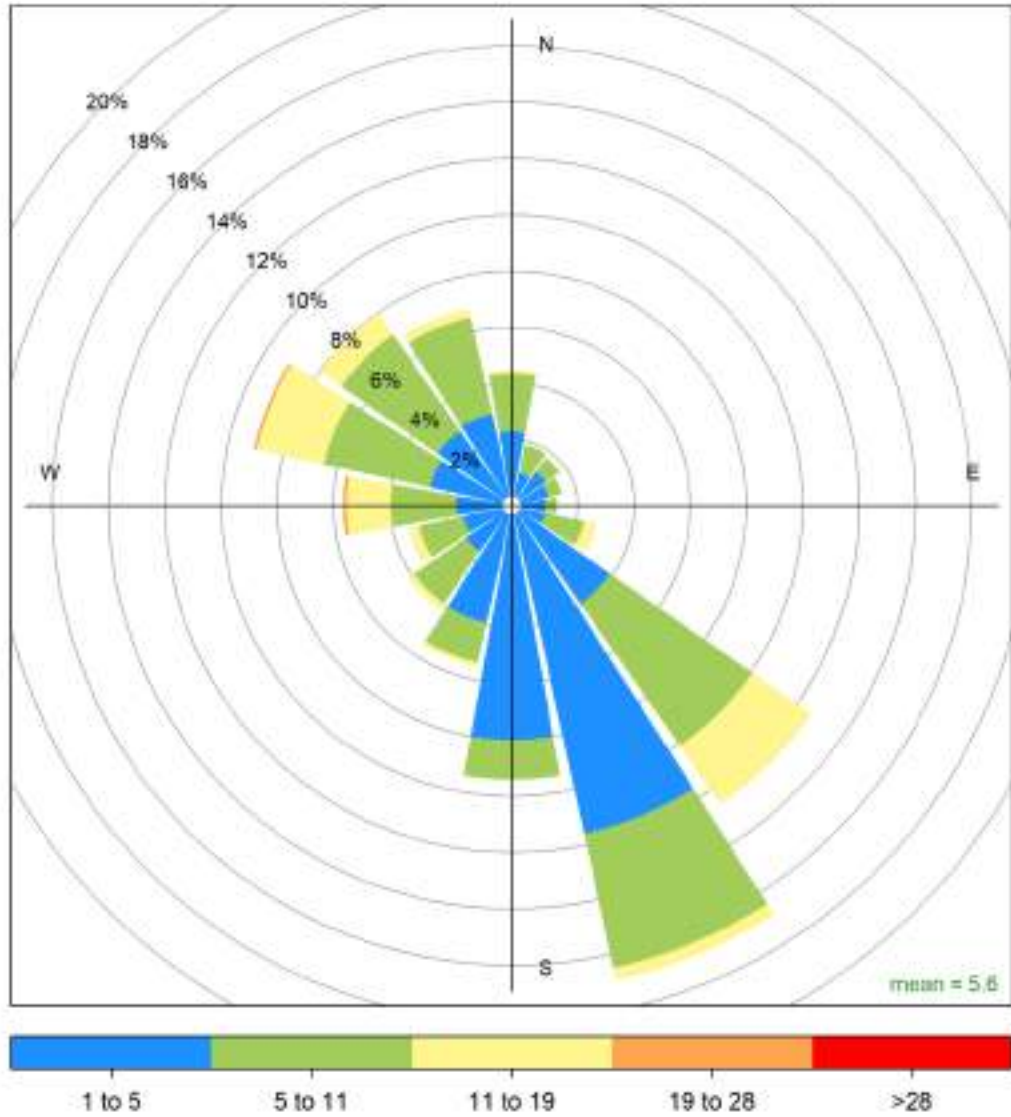


### 2024 Wind Speed Histogram



### Wind Speed and Wind Direction Frequency Distribution at Fox Creek

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	395	0.0%	2.3%	2.1%	0.1%	0.0%	0.0%	4.6%
NNE	173	0.0%	0.9%	1.0%	0.0%	0.0%	0.0%	2.0%
NE	157	0.0%	1.2%	0.6%	0.0%	0.0%	0.0%	1.8%
ENE	134	0.0%	1.0%	0.5%	0.0%	0.0%	0.0%	1.5%
E	121	0.0%	0.9%	0.4%	0.0%	0.0%	0.0%	1.4%
ESE	250	0.1%	0.9%	1.4%	0.5%	0.0%	0.0%	2.9%
SE	1106	0.0%	4.1%	6.2%	2.5%	0.0%	0.0%	12.8%
SSE	1499	0.1%	11.9%	4.9%	0.5%	0.0%	0.0%	17.3%
S	865	0.1%	8.5%	1.4%	0.0%	0.0%	0.0%	10.0%
SSW	565	0.1%	4.8%	1.4%	0.2%	0.0%	0.0%	6.5%
SW	422	0.1%	2.3%	2.2%	0.3%	0.0%	0.0%	4.9%
WSW	331	0.1%	1.8%	1.6%	0.3%	0.0%	0.0%	3.8%
W	522	0.1%	1.9%	2.3%	1.6%	0.1%	0.0%	6.0%
WNW	805	0.0%	2.8%	3.9%	2.5%	0.1%	0.0%	9.3%
NW	712	0.1%	3.0%	4.2%	0.9%	0.0%	0.0%	8.2%
NNW	597	0.0%	3.1%	3.5%	0.3%	0.0%	0.0%	6.9%
<b>Total</b>	<b>8654</b>	<b>1.0%</b>	<b>51.4%</b>	<b>37.7%</b>	<b>9.7%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>100.0%</b>



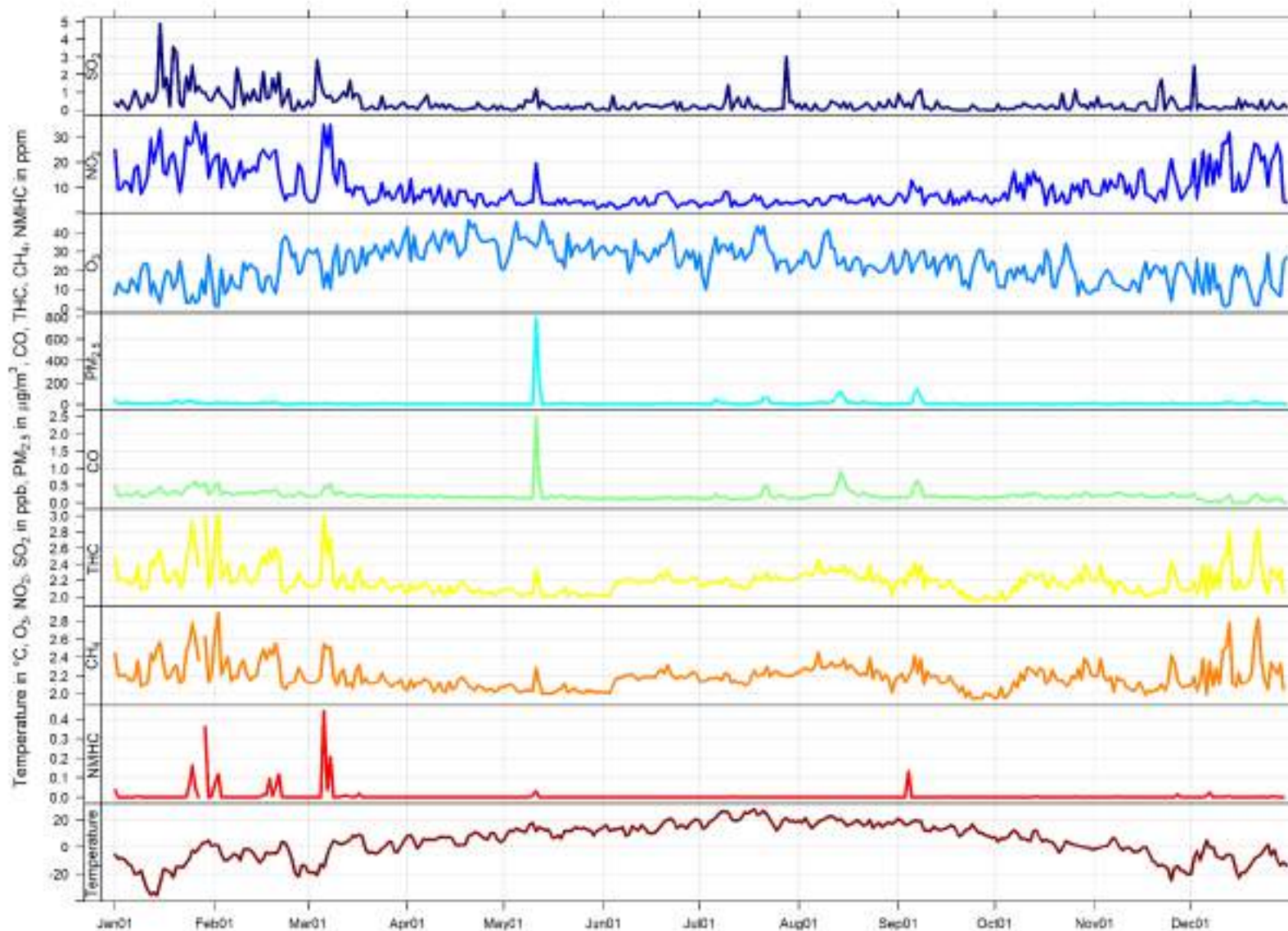
Fox Creek 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 4.8 %**

## 6 Henry Pirker Key Parameters - Continuous Monitoring Data - 2024 Summary

Henry Pirker Key Parameters - Continuous Monitoring Data - 2024 Summary

Henry Pirker Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr	Date			1-hr	8-hr	24-hr	30-d	Annual
	Sulphur Dioxide SO <sub>2</sub> measured in ppb	0.4	5.1	Jan 15	35.0	Jul 28 09:00	99.7%	94.9%	0	-	0	0	0
	Hydrogen Sulphide H <sub>2</sub> S measured in ppb	0.2	1.0	Jan 15	2.2	Sep 07 23:00	99.8%	95.0%	0	-	0	-	-
	Nitrogen Dioxide NO <sub>2</sub> measured in ppb	9.4	35.9	Jan 26	52.2	Mar 07 00:00	99.3%	94.3%	0	-	-	-	0
	Nitrogen Oxides NO <sub>x</sub> measured in ppb	14.8	98.6	Jan 26	256.3	Jan 26 10:00	99.3%	94.3%	-	-	-	-	-
	Nitric Oxide NO measured in ppb	5.3	62.4	Jan 26	204.8	Jan 26 10:00	99.3%	94.3%	-	-	-	-	-
	Ozone O <sub>3</sub> measured in ppb	23.2	47.1	Apr 20	74.2	Sep 08 15:00	99.7%	95.0%	0	-	-	-	-
	Carbon Monoxide CO measured in ppm	0.21	2.6	May 11	4.0	May 11 11:00	99.8%	95.0%	0	0	-	-	-
	Total Hydrocarbons THC measured in ppm	2.19	3.0	Mar 06	6.4	Mar 06 11:00	97.7%	93.0%	-	-	-	-	-
	Methane CH <sub>4</sub> measured in ppm	2.18	2.9	Feb 02	4.3	Feb 10 05:00	97.7%	93.0%	-	-	-	-	-
	Non Methane Hydrocarbons NMHC measured in ppm	0.01	0.4	Mar 06	3.8	Mar 06 11:00	97.7%	93.0%	-	-	-	-	-
	Particulate Matter PM <sub>2.5</sub> measured in µg/m <sup>3</sup>	11.6	811.6	May 11	1218.1	May 11 11:00	100.0%	99.8%	135	-	14	-	-

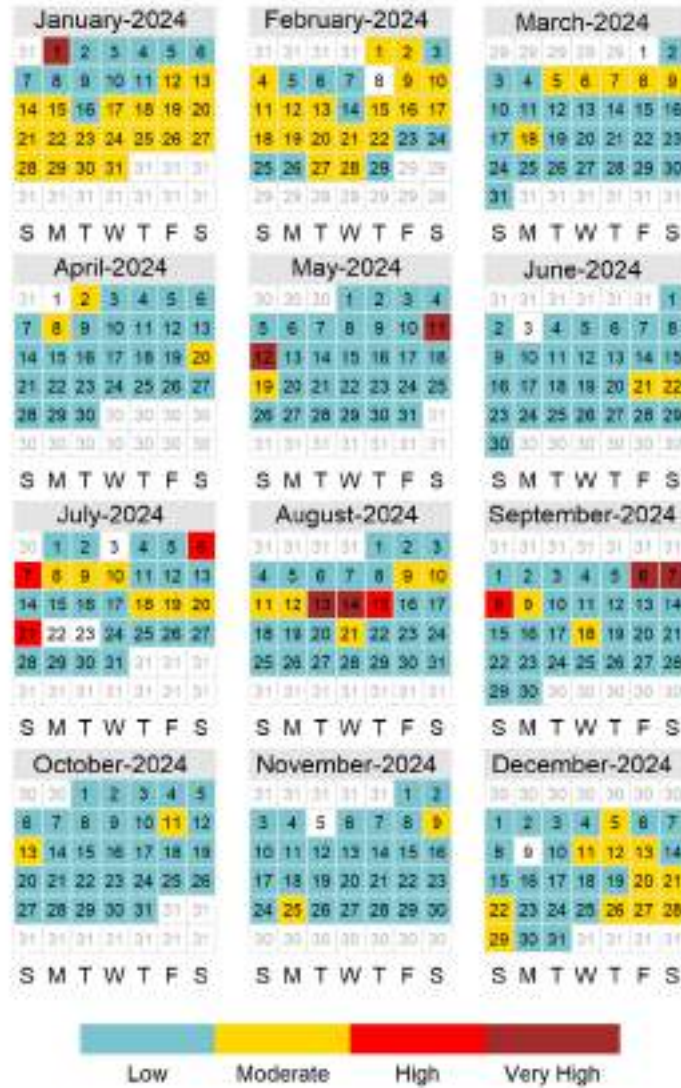
### 2024 Daily Concentration Readings at Henry Pirker





## 6.1 Henry Pirker AQHI Calendar Plot for 2024

Hourly Maximum AQHI for 2024 at Henry Pirker



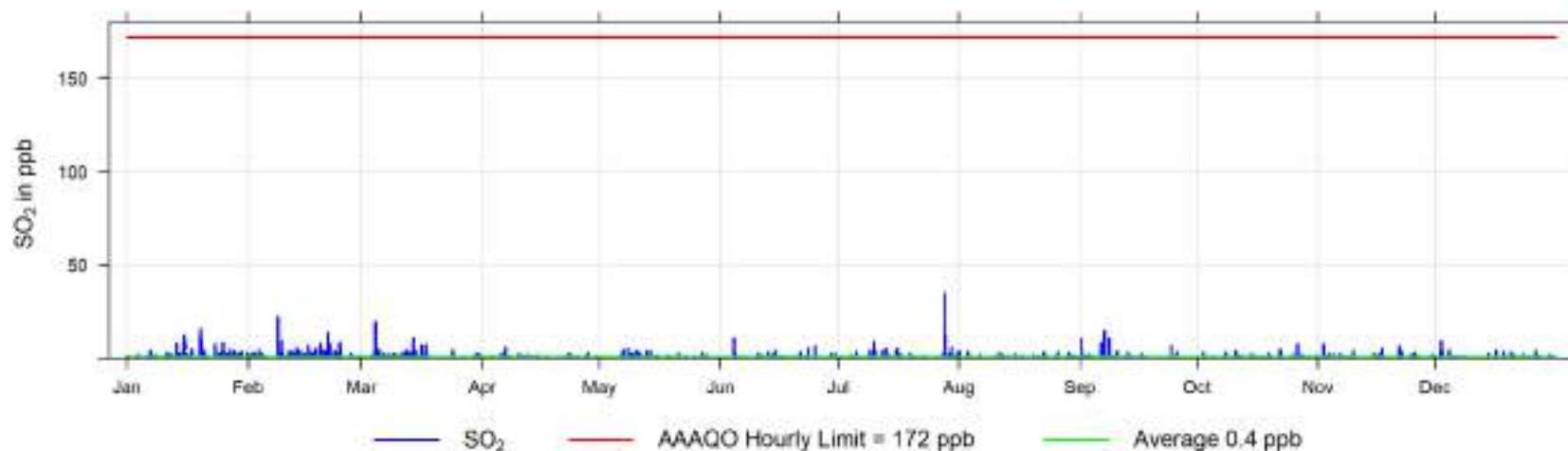
## 6.2 Sulphur Dioxide (SO<sub>2</sub>) - Henry Pirker 2024 Summary

**Sulphur Dioxide (SO<sub>2</sub>) Frequency Distribution at Henry Pirker**

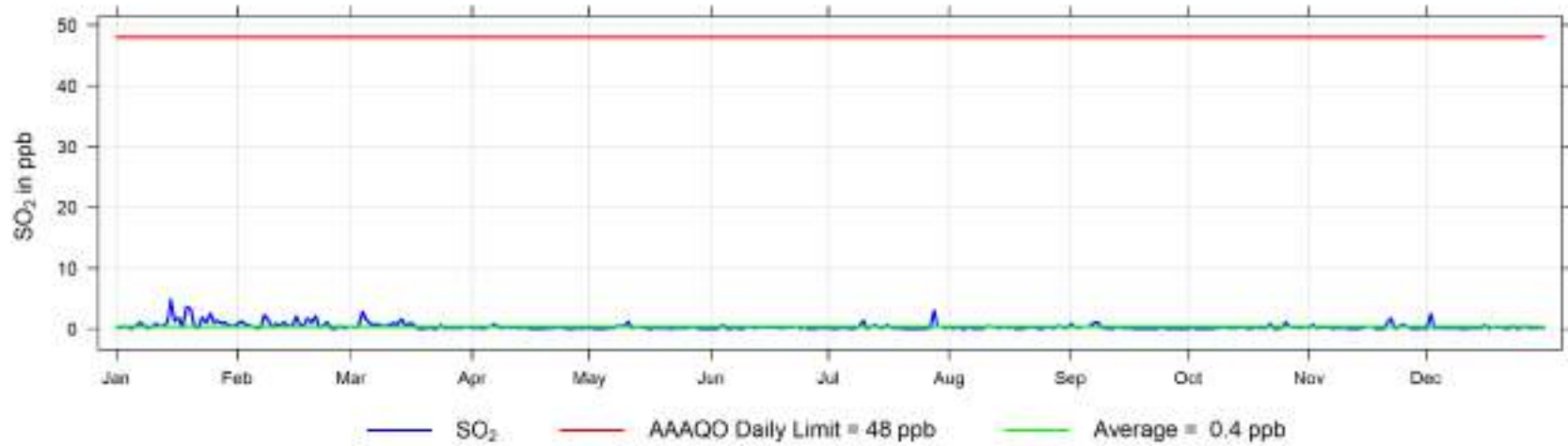
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	709	70.7%	25.2%	2.8%	1.3%	0.0%	0.0%	1.1	5.1	Jan 15	15.9	Jan 19 21:00	100.0%	95.3%	0	0	0
February 2024	657	80.1%	17.8%	1.5%	0.6%	0.0%	0.0%	0.8	2.4	Feb 08	22.2	Feb 08 18:00	99.1%	94.4%	0	0	0
March 2024	695	84.9%	14.0%	0.7%	0.4%	0.0%	0.0%	0.6	2.9	Mar 04	19.5	Mar 04 17:00	97.9%	93.4%	0	0	0
April 2024	684	95.2%	4.7%	0.1%	0.0%	0.0%	0.0%	0.2	0.7	Apr 07	5.5	Apr 07 01:00	99.7%	95.0%	0	0	0
May 2024	706	94.3%	5.7%	0.0%	0.0%	0.0%	0.0%	0.2	1.2	May 11	5.0	May 08 07:00	99.6%	94.9%	0	0	0
June 2024	686	96.4%	3.2%	0.3%	0.1%	0.0%	0.0%	0.2	0.8	Jun 04	10.9	Jun 04 12:00	100.0%	95.3%	0	0	0
July 2024	708	93.1%	6.2%	0.4%	0.3%	0.0%	0.0%	0.3	3.0	Jul 28	35.0	Jul 28 09:00	99.9%	95.2%	0	0	0
August 2024	709	94.8%	5.2%	0.0%	0.0%	0.0%	0.0%	0.2	0.6	Aug 29	3.7	Aug 01 02:00	100.0%	95.3%	0	0	0
September 2024	682	95.2%	4.0%	0.3%	0.6%	0.0%	0.0%	0.2	1.1	Sep 08	14.9	Sep 07 09:00	100.0%	94.7%	0	0	0
October 2024	709	94.2%	5.6%	0.1%	0.0%	0.0%	0.0%	0.2	1.2	Oct 26	7.5	Oct 26 17:00	100.0%	95.3%	0	0	0
November 2024	685	91.4%	8.0%	0.6%	0.0%	0.0%	0.0%	0.3	1.7	Nov 22	7.2	Nov 02 13:00	100.0%	95.1%	0	0	0
December 2024	709	94.2%	5.4%	0.4%	0.0%	0.0%	0.0%	0.3	2.5	Dec 02	9.3	Dec 02 13:00	100.0%	95.3%	0	0	0
<b>Annual</b>	<b>8339</b>	<b>90.4%</b>	<b>8.7%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.4</b>	<b>MAXIMUM VALUES</b>				<b>99.7%</b>	<b>94.9%</b>	<b>0</b>	<b>0</b>	<b>0</b>

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

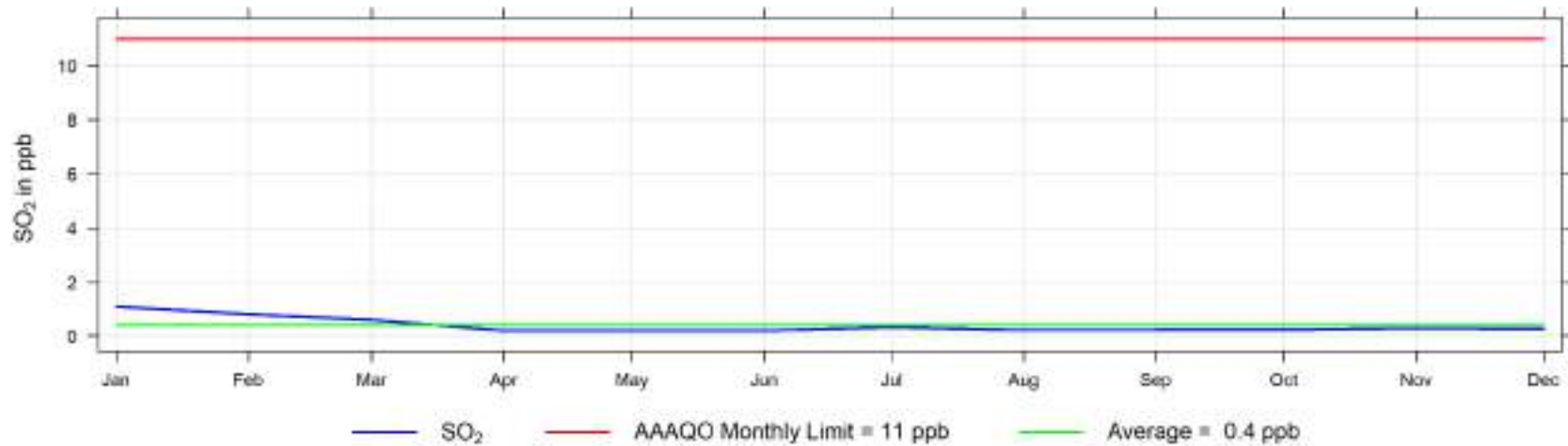
**2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker**

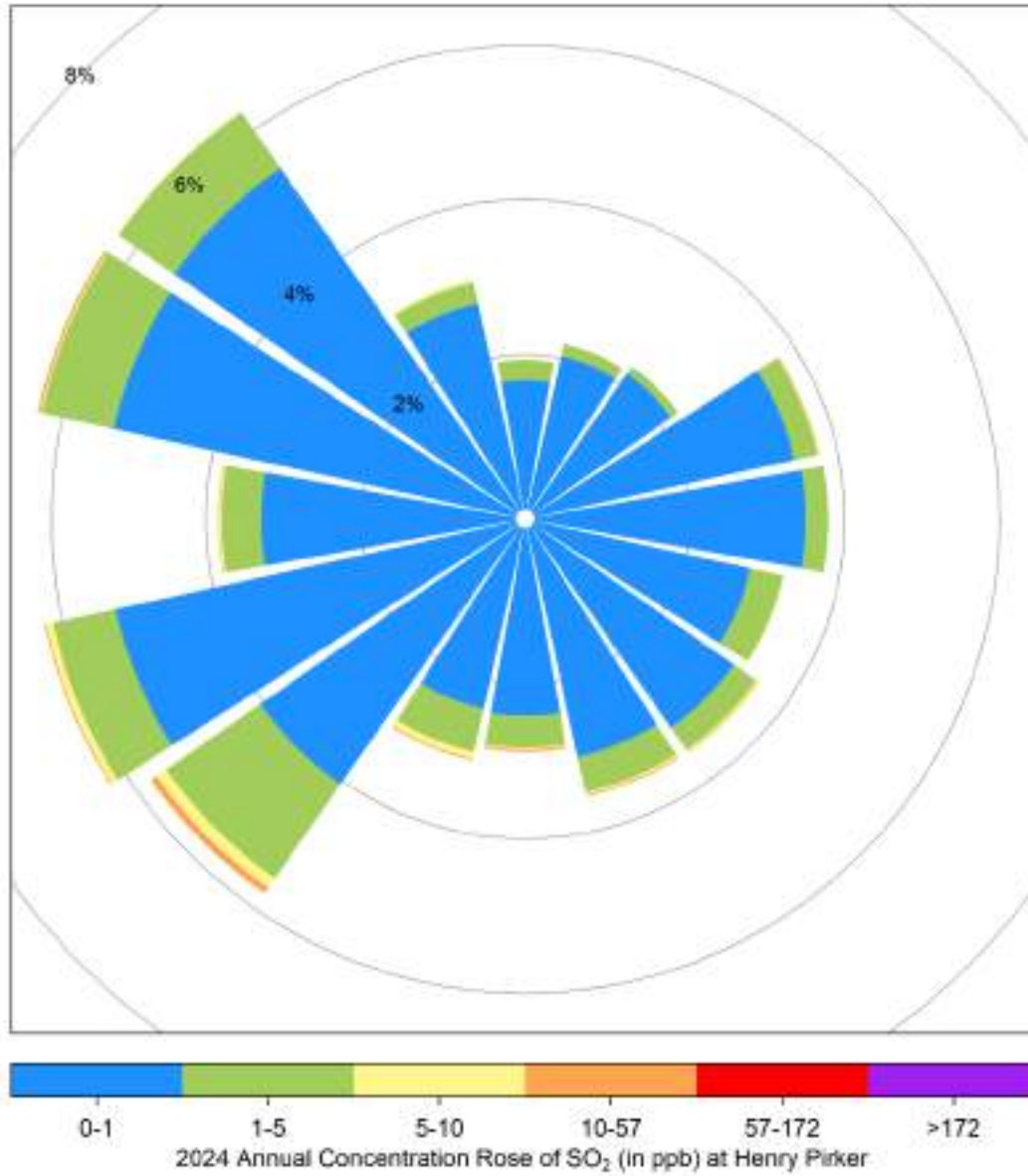


2024 Daily Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker

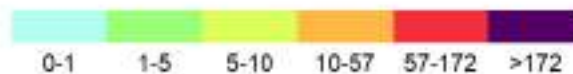
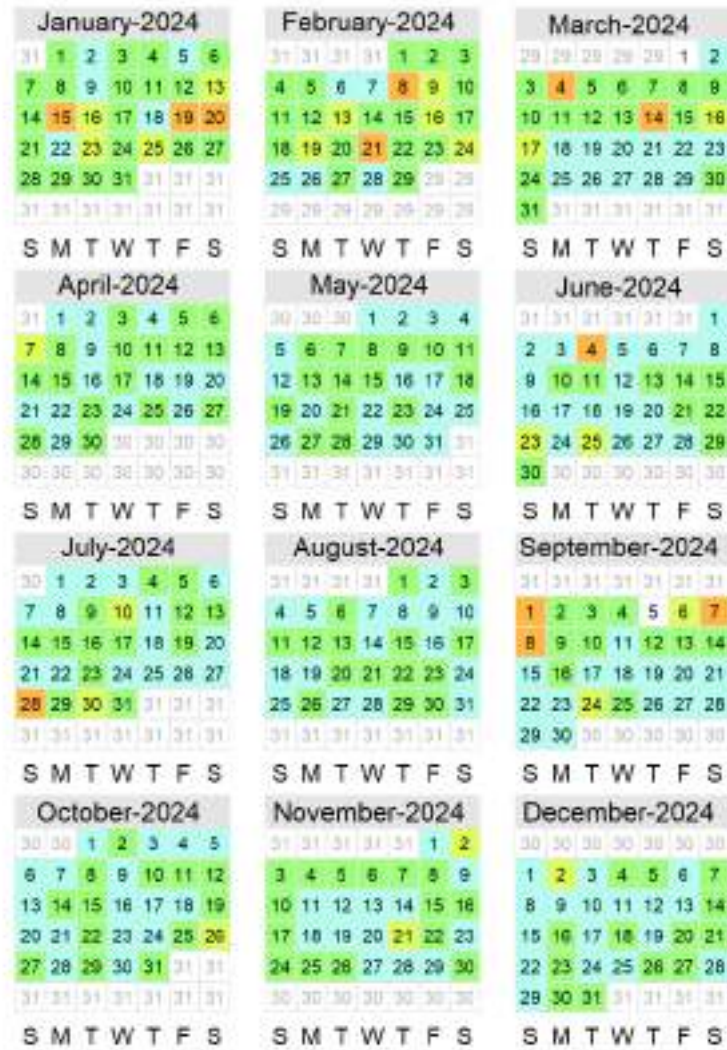


2024 Monthly Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker





## Hourly Maximum SO<sub>2</sub> (in ppb) for 2024 at Henry Pirker



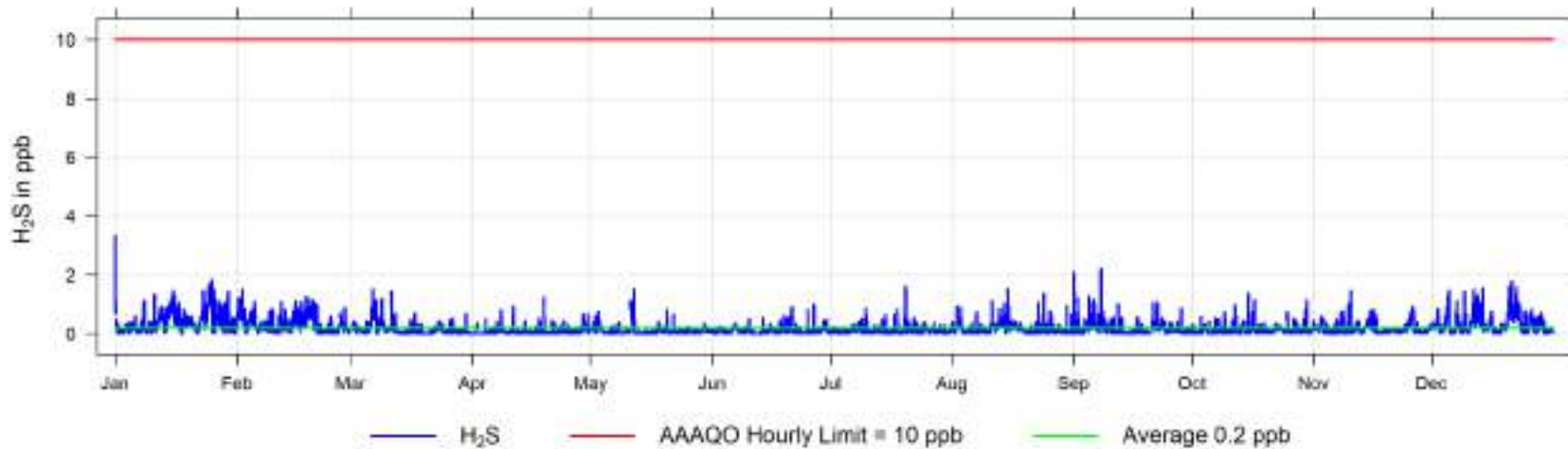
### 6.3 Hydrogen Sulphide (H<sub>2</sub>S) - Henry Pirker 2024 Summary

Hydrogen Sulphide (H<sub>2</sub>S) Frequency Distribution at Henry Pirker

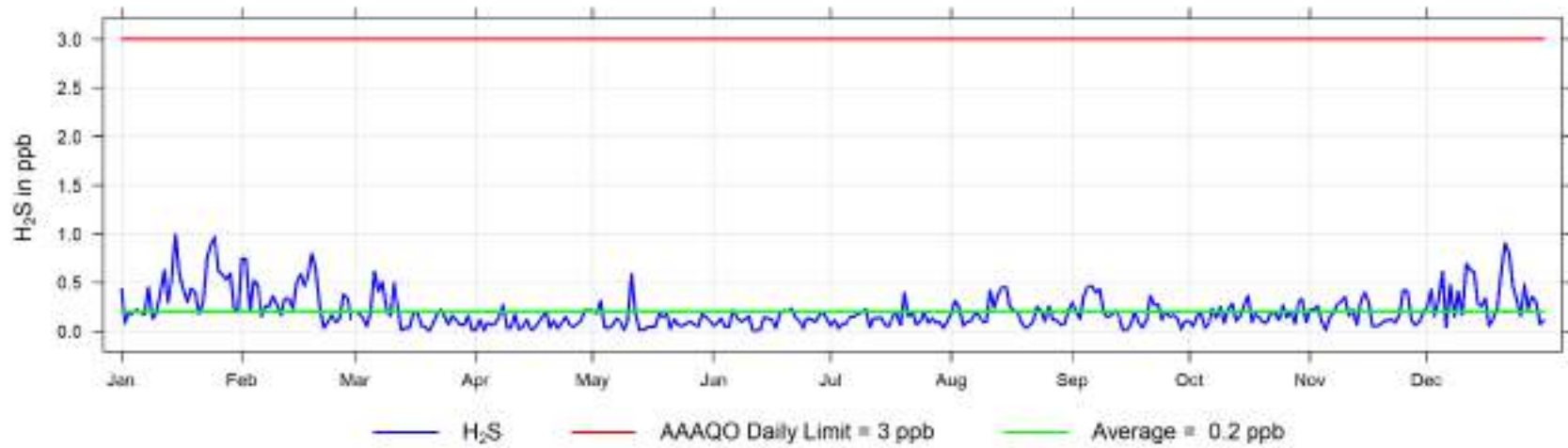
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb
January 2024	708	91.2%	8.8%	0.0%	0.0%	0.0%	0.0%	0.4	1.0	Jan 15	1.8	Jan 25 12:00	100.0%	95.2%	0	0
February 2024	657	96.5%	3.5%	0.0%	0.0%	0.0%	0.0%	0.3	0.8	Feb 19	1.5	Feb 02 10:00	99.1%	94.4%	0	0
March 2024	694	98.6%	1.4%	0.0%	0.0%	0.0%	0.0%	0.2	0.6	Mar 06	1.5	Mar 06 14:00	97.9%	93.3%	0	0
April 2024	685	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Apr 08	1.2	Apr 19 04:00	100.0%	95.1%	0	0
May 2024	709	99.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.6	May 11	1.5	May 12 04:00	100.0%	95.3%	0	0
June 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Jun 06	1.0	Jun 26 22:00	100.0%	95.3%	0	0
July 2024	708	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	Jul 20	1.6	Jul 20 06:00	100.0%	95.2%	0	0
August 2024	709	98.9%	1.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Aug 14	2.1	Aug 31 23:00	100.0%	95.3%	0	0
September 2024	686	98.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Sep 06	2.2	Sep 07 23:00	100.0%	95.3%	0	0
October 2024	709	99.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Oct 16	1.4	Oct 15 09:00	100.0%	95.3%	0	0
November 2024	686	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.2	0.4	Nov 25	1.5	Nov 10 12:00	100.0%	95.3%	0	0
December 2024	709	95.1%	4.9%	0.0%	0.0%	0.0%	0.0%	0.4	0.9	Dec 21	1.8	Dec 21 11:00	100.0%	95.3%	0	0
<b>Annual</b>	<b>8346</b>	<b>98.0%</b>	<b>2.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2</b>	<b>1.0</b>	<b>Jan 15</b>	<b>2.2</b>	<b>Sep 07 23:00</b>	<b>99.8%</b>	<b>95.0%</b>	<b>0</b>	<b>0</b>

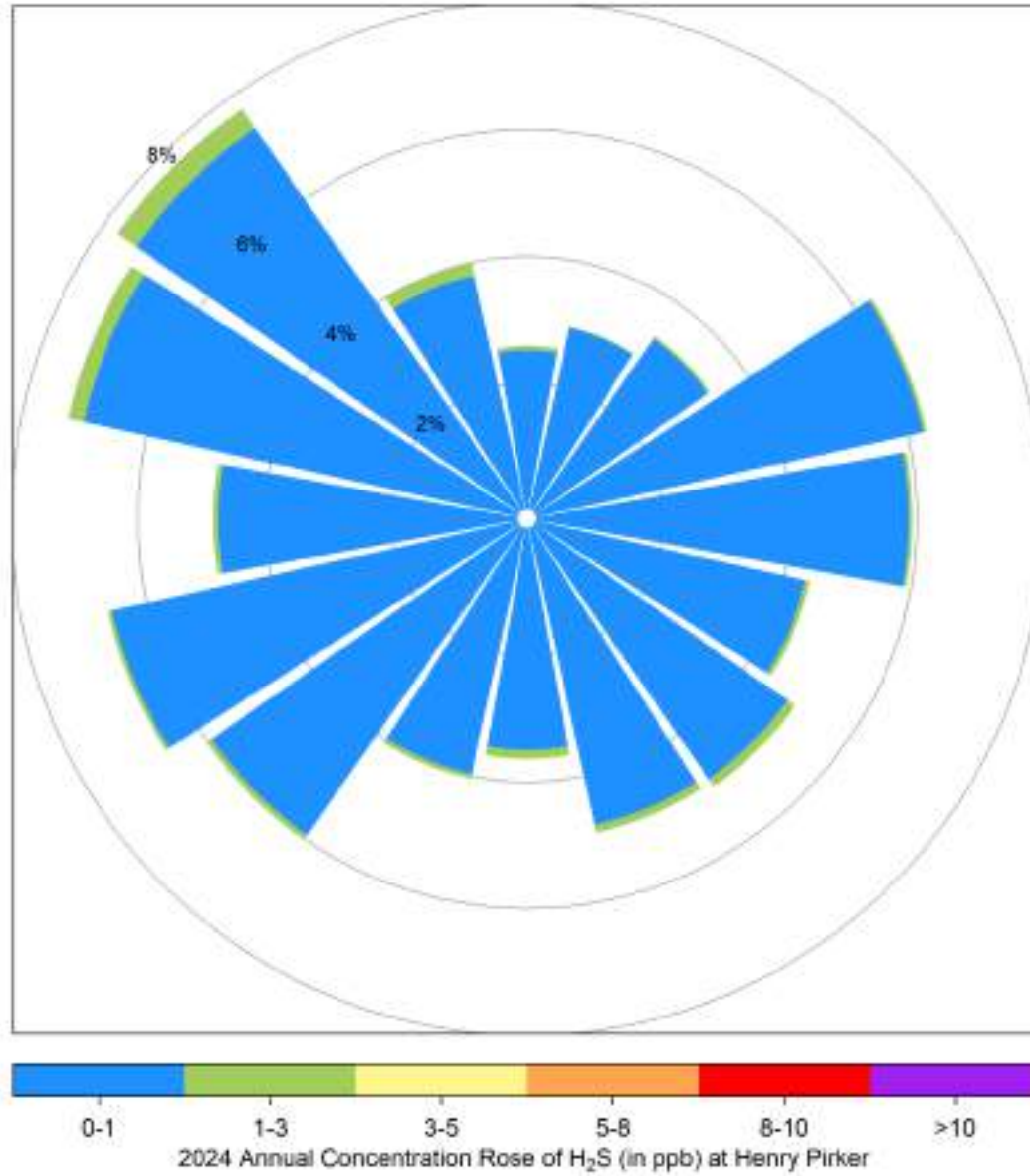
AAAQO Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

2024 Hourly Concentration Readings of H<sub>2</sub>S (in ppb) at Henry Pirker



2024 Daily Concentration Readings of H<sub>2</sub>S (in ppb) at Henry Pirker







## Hourly Maximum H<sub>2</sub>S (in ppb) for 2024 at Henry Pirker



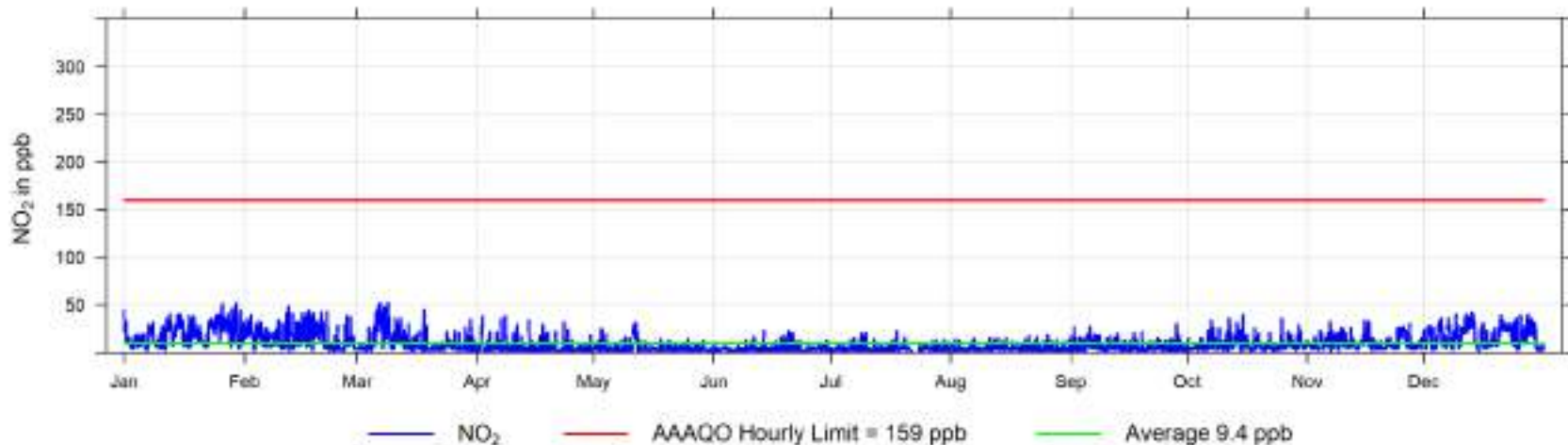
## 6.4 Nitrogen Dioxide (NO<sub>2</sub>) - Henry Pirker 2024 Summary

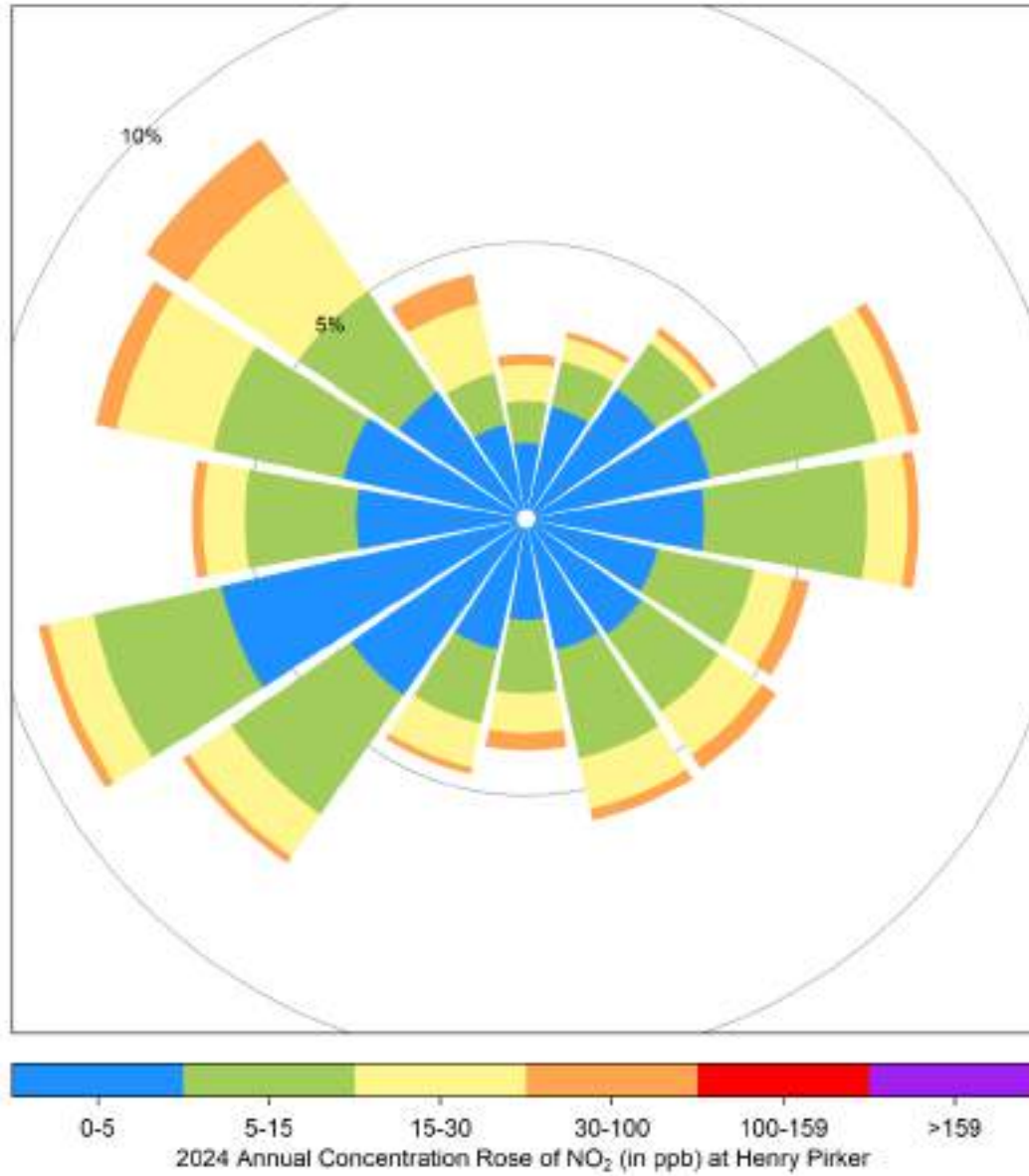
**Nitrogen Dioxide (NO<sub>2</sub>) Frequency Distribution at Henry Pirker**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			
January 2024	708	6.2%	36.2%	35.0%	22.6%	0.0%	0.0%	19.7	35.9	Jan 26	51.6	Jan 29 21:00	100.0%	95.2%	0
February 2024	655	18.9%	31.1%	38.5%	11.5%	0.0%	0.0%	16.1	25.3	Feb 16	48.3	Feb 12 09:00	99.1%	94.1%	0
March 2024	693	39.4%	35.8%	15.9%	8.9%	0.0%	0.0%	11.1	35.6	Mar 06	52.2	Mar 07 00:00	97.9%	93.1%	0
April 2024	682	66.6%	22.7%	9.4%	1.3%	0.0%	0.0%	5.9	12.3	Apr 02	38.2	Apr 08 07:00	99.7%	94.7%	0
May 2024	707	72.6%	21.9%	5.4%	0.1%	0.0%	0.0%	4.7	20.3	May 11	31.5	May 11 22:00	99.9%	95.0%	0
June 2024	684	76.3%	20.5%	3.2%	0.0%	0.0%	0.0%	4.1	8.2	Jun 20	23.7	Jun 14 01:00	100.0%	95.0%	0
July 2024	669	72.8%	24.7%	2.5%	0.0%	0.0%	0.0%	4.2	8.7	Jul 09	23.1	Jul 18 06:00	94.8%	89.9%	0
August 2024	707	69.7%	29.3%	1.0%	0.0%	0.0%	0.0%	4.6	7.1	Aug 15	18.5	Aug 26 01:00	100.0%	95.0%	0
September 2024	684	55.1%	38.3%	6.4%	0.1%	0.0%	0.0%	6.0	9.6	Sep 08	30.3	Sep 28 08:00	100.0%	95.0%	0
October 2024	708	37.7%	44.2%	16.1%	2.0%	0.0%	0.0%	9.0	17.0	Oct 13	39.9	Oct 15 08:00	100.0%	95.2%	0
November 2024	684	25.1%	54.5%	19.3%	1.0%	0.0%	0.0%	10.1	21.3	Nov 25	34.1	Nov 15 19:00	100.0%	95.0%	0
December 2024	706	16.7%	28.5%	42.4%	12.5%	0.0%	0.0%	17.4	32.1	Dec 13	42.1	Dec 13 07:00	100.0%	94.9%	0
<b>Annual</b>	<b>8287</b>	<b>46.4%</b>	<b>32.3%</b>	<b>16.3%</b>	<b>5.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>9.4</b>	<b>MAXIMUM VALUES</b>				<b>99.3%</b>	<b>94.3%</b>	<b>0</b>

AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

**2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Henry Pirker**





## Hourly Maximum NO<sub>2</sub> (in ppb) for 2024 at Henry Pirker



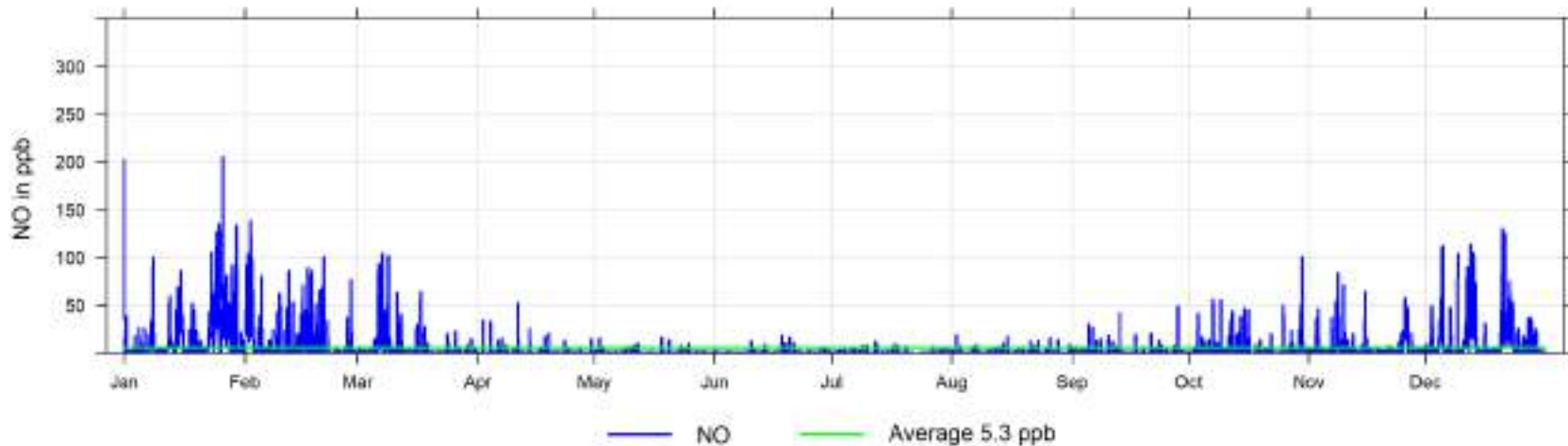
## 6.5 Nitric Oxide (NO) - Henry Pirker 2024 Summary

**Nitric Oxide (NO) Frequency Distribution at Henry Pirker**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date		
January 2024	708	54.7%	13.8%	12.3%	17.5%	1.6%	0.1%	16.4	62.4	Jan 26	204.8	Jan 26 10:00	100.0%	95.2%
February 2024	655	60.5%	13.3%	12.5%	13.0%	0.8%	0.0%	12.6	57.7	Feb 02	138.7	Feb 02 10:00	99.1%	94.1%
March 2024	693	83.8%	6.2%	3.6%	6.1%	0.3%	0.0%	5.6	36.0	Mar 06	103.6	Mar 07 09:00	97.9%	93.1%
April 2024	682	94.6%	3.7%	1.3%	0.4%	0.0%	0.0%	1.2	5.1	Apr 11	51.9	Apr 11 07:00	99.7%	94.7%
May 2024	707	96.2%	3.5%	0.3%	0.0%	0.0%	0.0%	0.8	3.0	May 20	15.9	May 18 07:00	99.9%	95.0%
June 2024	684	96.8%	2.8%	0.4%	0.0%	0.0%	0.0%	0.8	3.0	Jun 18	18.1	Jun 18 07:00	100.0%	95.0%
July 2024	669	97.5%	2.5%	0.0%	0.0%	0.0%	0.0%	0.6	2.5	Jul 12	11.5	Jul 12 08:00	94.8%	89.9%
August 2024	707	95.8%	4.0%	0.3%	0.0%	0.0%	0.0%	0.9	2.6	Aug 15	18.1	Aug 02 07:00	100.0%	95.0%
September 2024	684	93.3%	5.0%	1.3%	0.4%	0.0%	0.0%	1.5	3.8	Sep 13	48.6	Sep 28 08:00	100.0%	95.0%
October 2024	708	80.6%	10.9%	4.1%	4.2%	0.1%	0.0%	4.6	20.2	Oct 30	100.5	Oct 30 08:00	100.0%	95.2%
November 2024	684	80.4%	9.6%	5.3%	4.7%	0.0%	0.0%	5.2	21.4	Nov 25	84.1	Nov 08 10:00	100.0%	95.0%
December 2024	706	59.5%	13.7%	12.9%	12.3%	1.6%	0.0%	13.0	44.2	Dec 12	130.3	Dec 20 19:00	100.0%	94.9%
<b>Annual</b>	<b>8287</b>	<b>82.8%</b>	<b>7.4%</b>	<b>4.5%</b>	<b>4.9%</b>	<b>0.4%</b>	<b>0.0%</b>	<b>5.3</b>	<b>MAXIMUM VALUES</b>				<b>99.3%</b>	<b>94.3%</b>

AAAQO Objectives: none

**2024 Hourly Concentration Readings of NO (in ppb) at Henry Pirker**



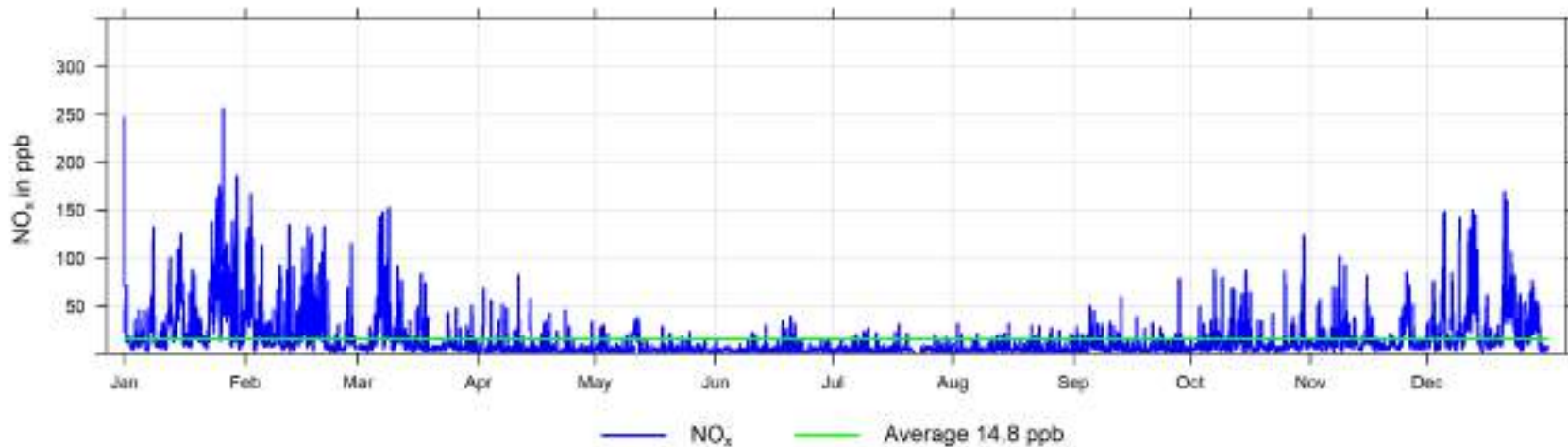
## 6.6 Oxides of Nitrogen (NO<sub>x</sub>) - Henry Pirker 2024 Summary

**Nitrogen Oxides (NO<sub>x</sub>) Frequency Distribution at Henry Pirker**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date		
January 2024	708	3.1%	33.8%	20.2%	36.6%	5.5%	0.8%	36.2	98.6	Jan 26	256.3	Jan 26 10:00	100.0%	95.2%
February 2024	655	13.9%	30.7%	21.2%	30.5%	3.5%	0.2%	28.9	81.1	Feb 02	167.1	Feb 02 10:00	99.1%	94.1%
March 2024	693	33.0%	38.7%	13.9%	12.4%	2.0%	0.0%	16.8	71.8	Mar 06	152.1	Mar 08 21:00	97.9%	93.1%
April 2024	682	64.5%	22.7%	8.7%	4.1%	0.0%	0.0%	7.1	15.8	Apr 02	82.2	Apr 11 07:00	99.7%	94.7%
May 2024	707	69.4%	22.2%	7.1%	1.3%	0.0%	0.0%	5.5	21.7	May 11	38.2	May 12 02:00	99.9%	95.0%
June 2024	684	72.1%	23.0%	4.4%	0.6%	0.0%	0.0%	5.0	10.9	Jun 20	39.1	Jun 20 05:00	100.0%	95.0%
July 2024	669	68.2%	27.5%	4.2%	0.1%	0.0%	0.0%	4.8	9.8	Jul 09	30.8	Jul 18 06:00	94.8%	89.9%
August 2024	707	65.1%	28.7%	5.9%	0.3%	0.0%	0.0%	5.5	9.8	Aug 15	31.6	Aug 15 08:00	100.0%	95.0%
September 2024	684	50.0%	38.0%	9.6%	2.3%	0.0%	0.0%	7.5	12.7	Sep 06	79.1	Sep 28 08:00	100.0%	95.0%
October 2024	708	29.5%	44.6%	15.1%	10.5%	0.3%	0.0%	13.7	32.2	Oct 30	123.7	Oct 30 08:00	100.0%	95.2%
November 2024	684	13.3%	56.7%	18.0%	11.8%	0.1%	0.0%	15.4	43.0	Nov 25	101.4	Nov 08 10:00	100.0%	95.0%
December 2024	706	11.5%	30.9%	19.5%	33.7%	4.1%	0.3%	30.5	76.4	Dec 13	169.9	Dec 20 19:00	100.0%	94.9%
<b>Annual</b>	<b>8287</b>	<b>41.1%</b>	<b>33.1%</b>	<b>12.3%</b>	<b>12.0%</b>	<b>1.3%</b>	<b>0.1%</b>	<b>14.8</b>	<b>MAXIMUM VALUES</b>				<b>99.3%</b>	<b>94.3%</b>

AAAQO Objectives: none

2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Henry Pirker



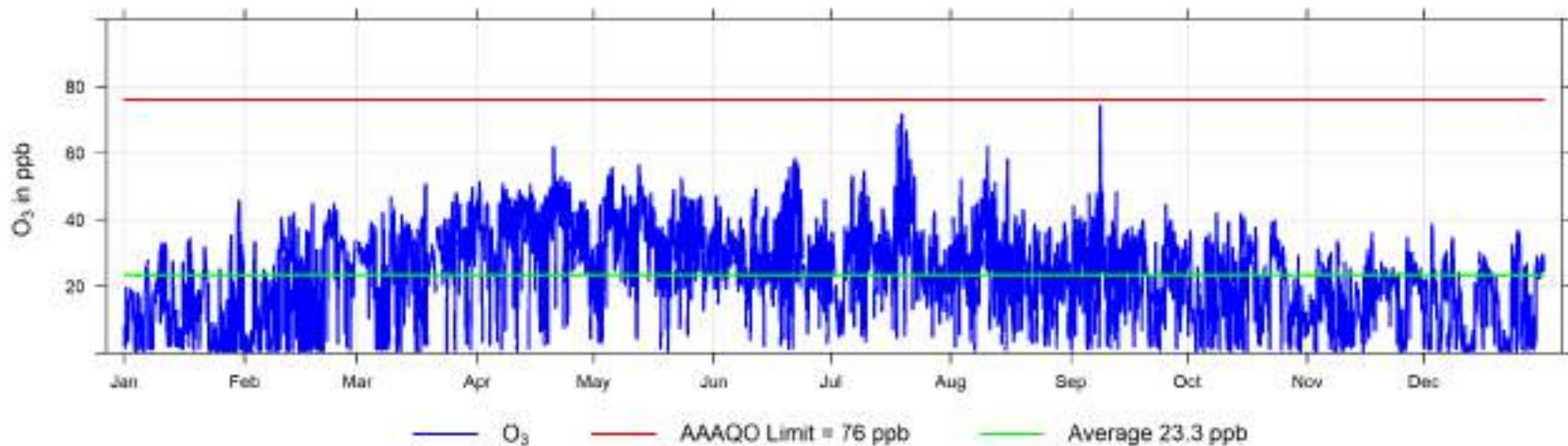
## 6.7 Ozone (O<sub>3</sub>) - Henry Pirker 2024 Summary

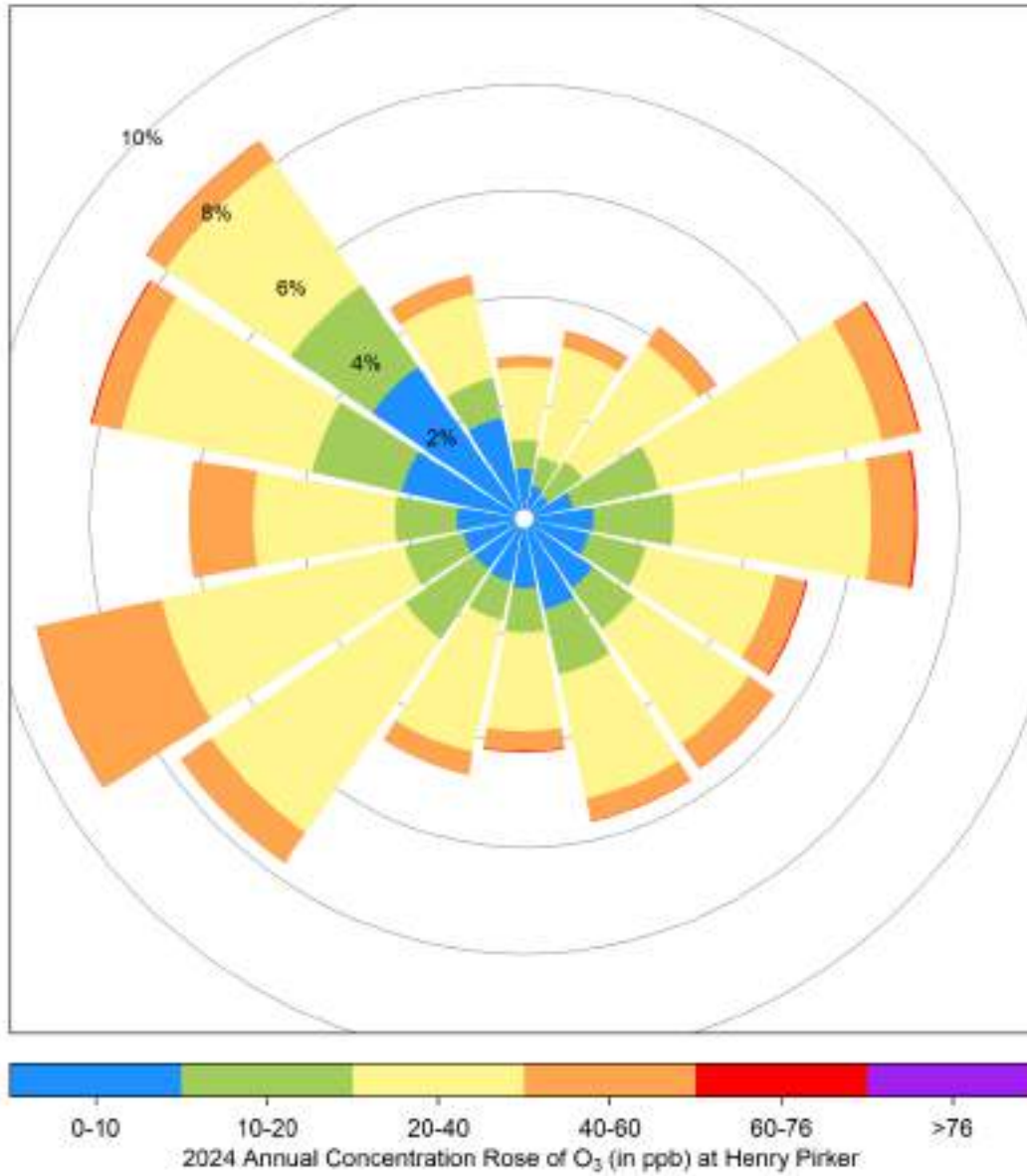
Ozone (O<sub>3</sub>) Frequency Distribution at Henry Pirker

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 76 ppb
		0 to 10 (ppb)	10 to 20 (ppb)	20 to 40 (ppb)	40 to 60 (ppb)	60 to 76 (ppb)	> 76 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			
January 2024	709	46.4%	29.9%	22.4%	1.3%	0.0%	0.0%	12.5	28.2	Jan 30	45.7	Jan 30 14:00	100.0%	95.3%	0
February 2024	657	38.4%	13.5%	42.9%	5.2%	0.0%	0.0%	18.0	38.1	Feb 23	44.6	Feb 18 15:00	99.1%	94.4%	0
March 2024	694	13.7%	9.7%	66.1%	10.5%	0.0%	0.0%	27.1	37.9	Mar 31	50.6	Mar 18 16:00	97.9%	93.3%	0
April 2024	684	6.3%	7.5%	44.4%	41.4%	0.4%	0.0%	34.7	47.1	Apr 20	61.9	Apr 20 17:00	99.7%	95.0%	0
May 2024	708	4.9%	10.2%	55.1%	29.8%	0.0%	0.0%	33.0	46.0	May 13	56.4	May 12 17:00	99.9%	95.2%	0
June 2024	686	5.2%	13.3%	65.5%	16.0%	0.0%	0.0%	29.2	40.9	Jun 22	58.1	Jun 21 18:00	100.0%	95.3%	0
July 2024	709	6.2%	19.7%	58.0%	14.2%	1.8%	0.0%	28.7	43.6	Jul 21	71.5	Jul 19 13:00	100.0%	95.3%	0
August 2024	710	12.0%	22.7%	54.2%	11.0%	0.1%	0.0%	25.2	40.8	Aug 10	62.0	Aug 10 16:00	100.0%	95.4%	0
September 2024	687	15.9%	22.6%	56.6%	4.4%	0.6%	0.0%	23.7	31.3	Sep 03	74.2	Sep 08 15:00	100.0%	95.4%	0
October 2024	709	31.0%	24.4%	44.1%	0.4%	0.0%	0.0%	17.8	33.7	Oct 23	41.9	Oct 08 16:00	100.0%	95.3%	0
November 2024	686	28.1%	33.7%	38.2%	0.0%	0.0%	0.0%	15.9	24.3	Nov 28	36.1	Nov 17 14:00	99.9%	95.3%	0
December 2024	709	44.0%	22.3%	33.7%	0.0%	0.0%	0.0%	13.4	27.4	Dec 25	38.7	Dec 03 02:00	100.0%	95.3%	0
<b>Annual</b>	<b>8348</b>	<b>21.0%</b>	<b>19.1%</b>	<b>48.4%</b>	<b>11.2%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>23.3</b>	<b>47.1</b>	<b>MAXIMUM VALUES</b>		<b>99.7%</b>	<b>95.0%</b>	<b>0</b>	

AAAQO Objectives: 1-Hr: 76ppb

2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Henry Pirker







### Hourly Maximum O<sub>3</sub> (in ppb) for 2024 at Henry Pirker



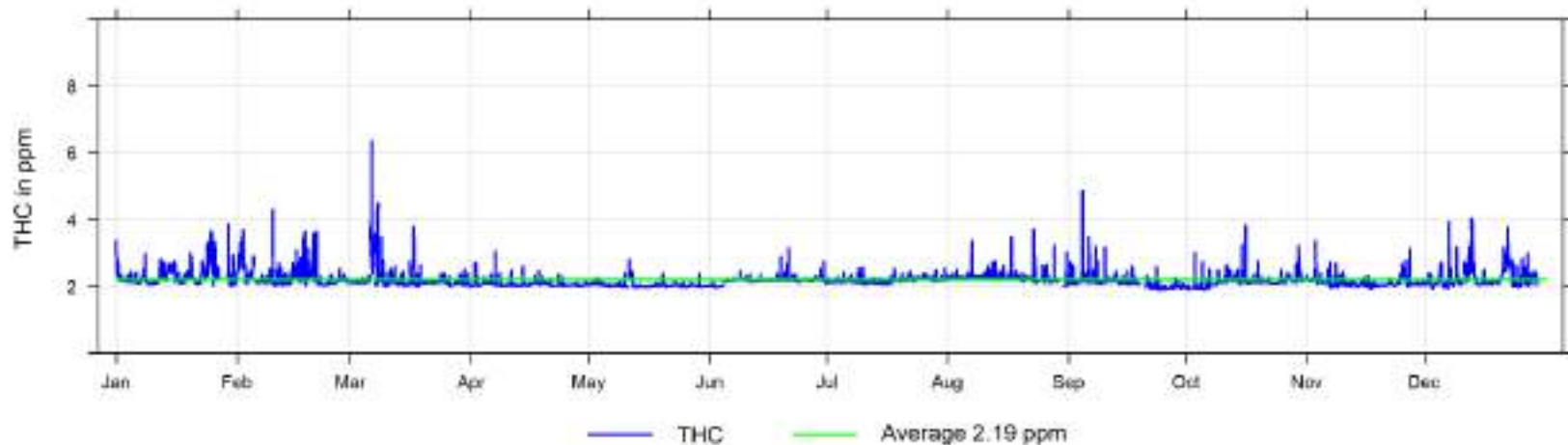
## 6.8 Total Hydrocarbons (THC) - Henry Pirker 2024 Summary

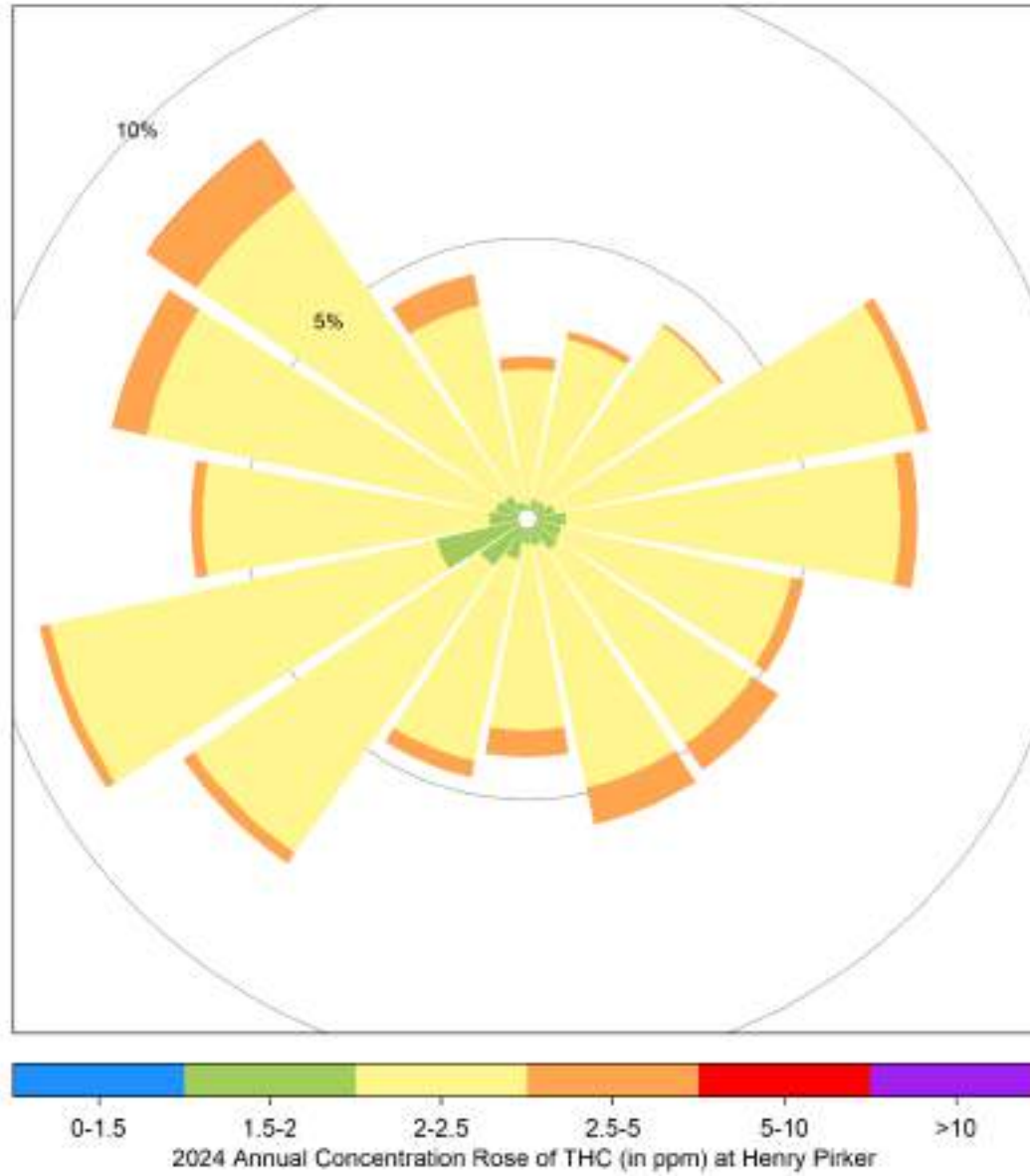
**Total Hydrocarbons (THC) Frequency Distribution at Henry Pirker**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 1.5 (ppm)	1.5 to 2 (ppm)	2 to 2.5 (ppm)	2.5 to 5 (ppm)	5 to 10 (ppm)	> 10 (ppm)		24-hr (ppm)	Date	1-hr (ppm)	Date		
January 2024	652	0.0%	0.0%	80.5%	19.5%	0.0%	0.0%	2.32	2.9	Jan 25	3.9	Jan 29 21:00	92.1%	87.6%
February 2024	656	0.0%	0.0%	80.6%	19.4%	0.0%	0.0%	2.32	3.0	Feb 02	4.3	Feb 10 05:00	99.0%	94.3%
March 2024	693	0.0%	1.7%	90.5%	7.6%	0.1%	0.0%	2.21	3.0	Mar 06	6.4	Mar 06 11:00	97.7%	93.1%
April 2024	686	0.0%	2.6%	96.5%	0.9%	0.0%	0.0%	2.09	2.2	Apr 18	3.1	Apr 07 04:00	100.0%	95.3%
May 2024	709	0.0%	23.8%	75.7%	0.4%	0.0%	0.0%	2.05	2.3	May 11	2.8	May 11 10:00	100.0%	95.3%
June 2024	686	0.0%	5.4%	93.3%	1.3%	0.0%	0.0%	2.18	2.3	Jun 21	3.1	Jun 21 07:00	100.0%	95.3%
July 2024	709	0.0%	0.0%	99.2%	0.8%	0.0%	0.0%	2.19	2.3	Jul 22	2.6	Jul 10 06:00	100.0%	95.3%
August 2024	684	0.0%	0.6%	94.4%	5.0%	0.0%	0.0%	2.27	2.5	Aug 07	3.7	Aug 23 01:00	96.8%	91.9%
September 2024	657	0.0%	27.2%	68.5%	4.3%	0.0%	0.0%	2.13	2.4	Sep 06	4.9	Sep 04 12:00	95.7%	91.3%
October 2024	687	0.0%	16.9%	79.6%	3.5%	0.0%	0.0%	2.17	2.4	Oct 29	3.8	Oct 16 09:00	96.9%	92.3%
November 2024	686	0.0%	9.2%	86.4%	4.4%	0.0%	0.0%	2.13	2.4	Nov 25	3.4	Nov 03 06:00	100.0%	95.3%
December 2024	665	0.0%	6.9%	75.9%	17.1%	0.0%	0.0%	2.27	2.8	Dec 22	4.0	Dec 13 04:00	94.0%	89.4%
<b>Annual</b>	<b>8170</b>	<b>0.0%</b>	<b>7.9%</b>	<b>85.1%</b>	<b>7.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>2.19</b>	<b>3.0</b>	<b>MAXIMUM VALUES</b>		<b>97.7%</b>	<b>93.0%</b>	

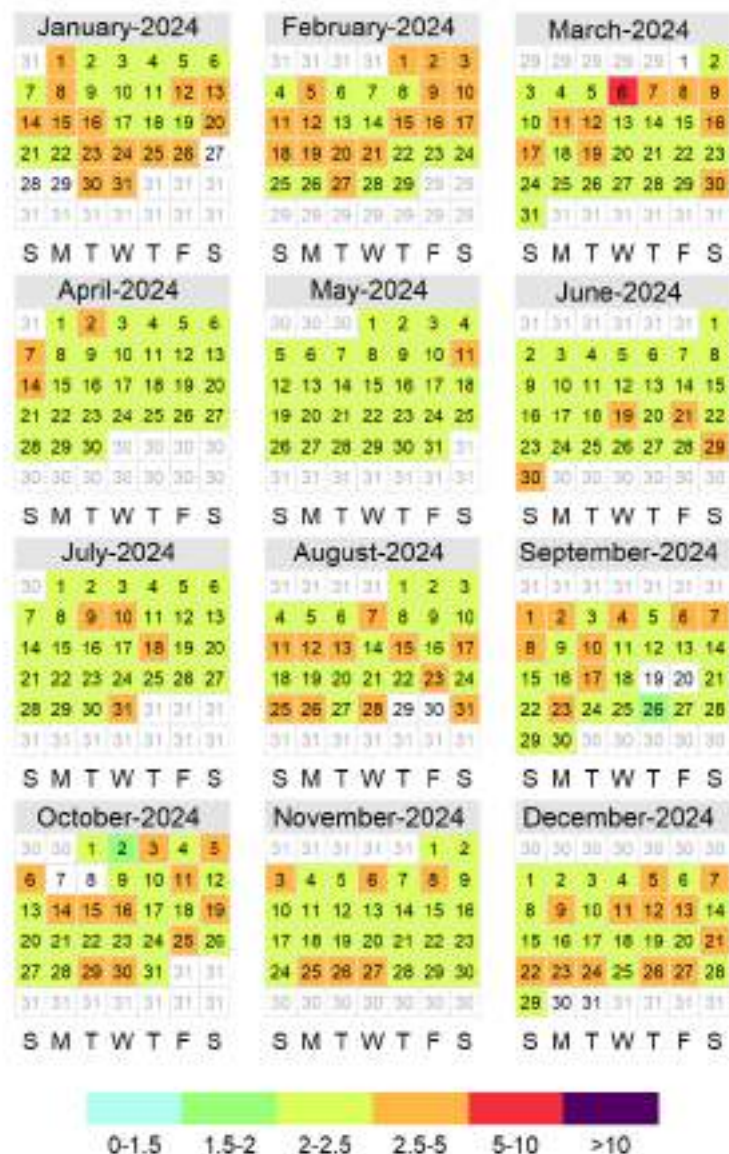
AAAQO Objectives: none

**2024 Hourly Concentration Readings of THC (in ppm) at Henry Pirker**





### Hourly Maximum THC (in ppm) for 2024 at Henry Pirker



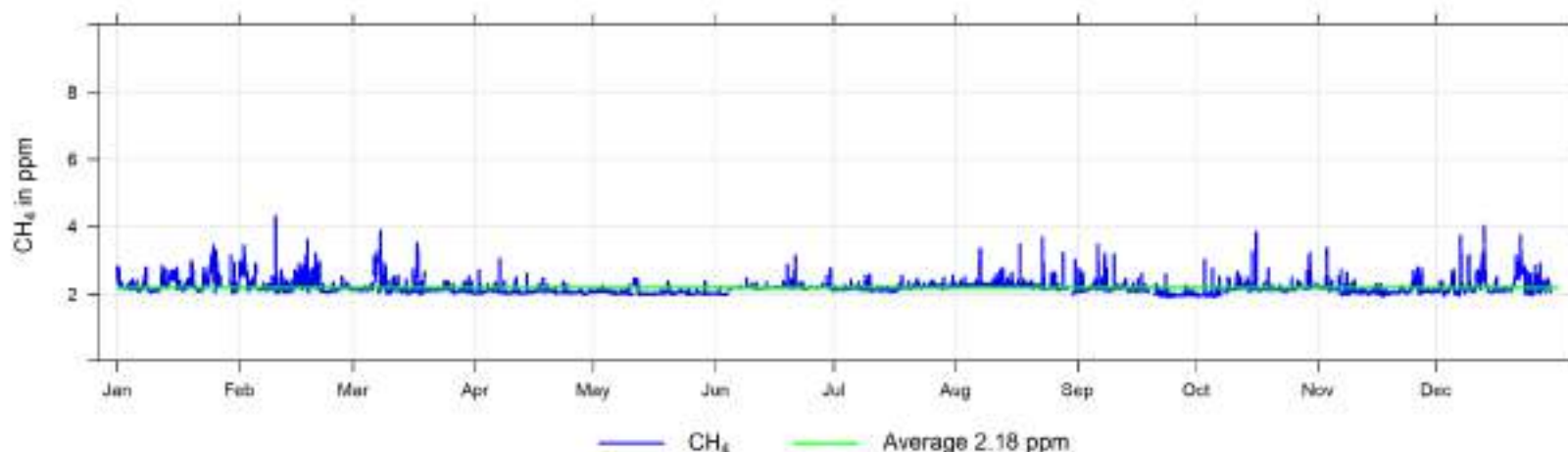
## 6.9 Methane (CH<sub>4</sub>) - Henry Pirker 2024 Summary

### Methane (CH<sub>4</sub>) Frequency Distribution at Henry Pirker

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 1.5 (ppm)	1.5 to 2 (ppm)	2 to 2.5 (ppm)	2.5 to 5 (ppm)	5 to 10 (ppm)	> 10 (ppm)		24-hr (ppm)	Date	1-hr (ppm)	Date		
January 2024	652	0.0%	0.0%	81.4%	18.6%	0.0%	0.0%	2.30	2.8	Jan 25	3.5	Jan 25 12:00	92.1%	87.6%
February 2024	656	0.0%	0.0%	82.2%	17.8%	0.0%	0.0%	2.30	2.9	Feb 02	4.3	Feb 10 05:00	99.0%	94.3%
March 2024	693	0.0%	2.2%	90.8%	7.1%	0.0%	0.0%	2.18	2.6	Mar 06	3.9	Mar 08 02:00	97.7%	93.1%
April 2024	686	0.0%	5.2%	93.9%	0.9%	0.0%	0.0%	2.08	2.2	Apr 18	3.0	Apr 07 04:00	100.0%	95.3%
May 2024	709	0.0%	27.6%	72.4%	0.0%	0.0%	0.0%	2.04	2.3	May 11	2.5	May 11 10:00	100.0%	95.3%
June 2024	686	0.0%	5.8%	93.0%	1.2%	0.0%	0.0%	2.18	2.3	Jun 21	3.1	Jun 21 07:00	100.0%	95.3%
July 2024	709	0.0%	0.0%	99.2%	0.8%	0.0%	0.0%	2.18	2.3	Jul 22	2.6	Jul 10 06:00	100.0%	95.3%
August 2024	684	0.0%	0.6%	94.4%	5.0%	0.0%	0.0%	2.27	2.4	Aug 07	3.7	Aug 23 01:00	96.8%	91.9%
September 2024	657	0.0%	28.2%	67.9%	4.0%	0.0%	0.0%	2.12	2.4	Sep 06	3.5	Sep 06 02:00	95.7%	91.3%
October 2024	687	0.0%	17.0%	79.8%	3.2%	0.0%	0.0%	2.16	2.4	Oct 29	3.8	Oct 16 09:00	96.9%	92.3%
November 2024	686	0.0%	10.9%	84.8%	4.2%	0.0%	0.0%	2.12	2.4	Nov 25	3.4	Nov 03 06:00	100.0%	95.3%
December 2024	665	0.0%	7.5%	76.1%	16.4%	0.0%	0.0%	2.26	2.8	Dec 22	4.0	Dec 13 04:00	94.0%	89.4%
<b>Annual</b>	<b>8170</b>	<b>0.0%</b>	<b>8.8%</b>	<b>84.6%</b>	<b>6.6%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>2.18</b>	<b>2.9</b>	<b>Feb 02</b>	<b>4.3</b>	<b>Feb 10 05:00</b>	<b>97.7%</b>	<b>93.0%</b>

AAAQO Objectives: none

2024 Hourly Concentration Readings of CH<sub>4</sub> (in ppm) at Henry Pirker



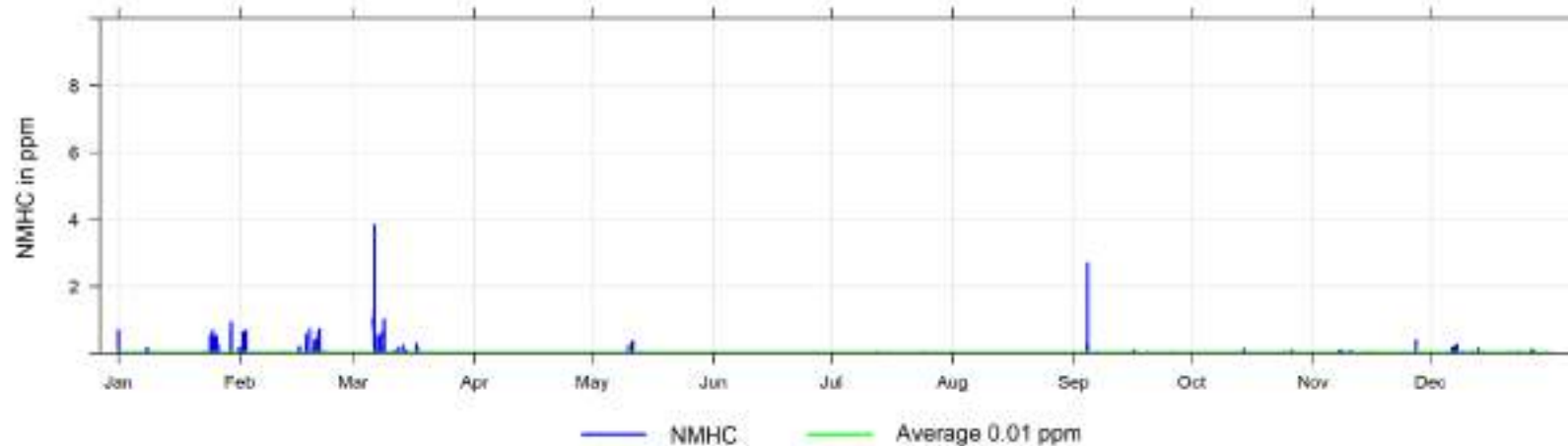
## 6.10 Nonmethane Hydrocarbons (NMHC) - Henry Pirker 2024 Summary

**Nonmethane Hydrocarbons (NMHC) Frequency Distribution at Henry Pirker**

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		0 to 0.25 (ppm)	0.25 to 0.5 (ppm)	0.5 to 0.75 (ppm)	0.75 to 1 (ppm)	1 to 2 (ppm)	>2 (ppm)		24-hr (ppm)	Date	1-hr (ppm)	Date		
January 2024	652	98.0%	1.2%	0.6%	0.2%	0.0%	0.0%	0.01	0.1	Jan 25	0.9	Jan 29 22:00	92.1%	87.6%
February 2024	656	97.6%	1.1%	1.4%	0.0%	0.0%	0.0%	0.02	0.1	Feb 21	0.7	Feb 18 23:00	99.0%	94.3%
March 2024	693	97.5%	0.4%	0.9%	0.6%	0.4%	0.1%	0.02	0.4	Mar 06	3.8	Mar 06 11:00	97.7%	93.1%
April 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Apr 23	0.0	Apr 11 06:00	100.0%	95.3%
May 2024	709	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	May 11	0.4	May 11 10:00	100.0%	95.3%
June 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Jun 06	0.0	Jun 06 04:00	100.0%	95.3%
July 2024	709	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Jul 12	0.0	Jul 12 15:00	100.0%	95.3%
August 2024	684	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Aug 02	0.0	Aug 02 08:00	96.8%	91.9%
September 2024	657	99.7%	0.2%	0.0%	0.0%	0.0%	0.2%	0.00	0.1	Sep 04	2.7	Sep 04 12:00	95.7%	91.3%
October 2024	687	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Oct 14	0.1	Oct 14 08:00	96.9%	92.3%
November 2024	686	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Nov 27	0.4	Nov 27 08:00	100.0%	95.3%
December 2024	665	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.00	0.0	Dec 07	0.2	Dec 07 19:00	94.0%	89.4%
<b>Annual</b>	<b>8170</b>	<b>99.4%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.01</b>	<b>0.4</b>	<b>MAXIMUM VALUES</b>		<b>97.7%</b>	<b>93.0%</b>	

AAAQO Objectives: none

2024 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



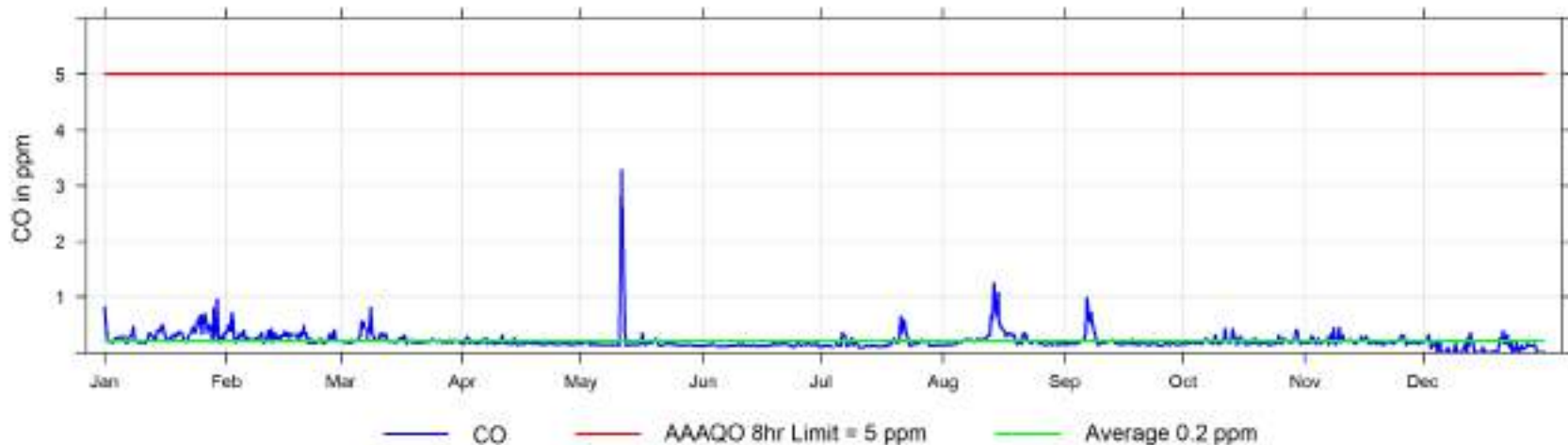
## 6.11 Carbon Monoxide (CO) - Henry Pirker 2024 Summary

### Carbon Monoxide (CO) Frequency Distribution at Henry Pirker

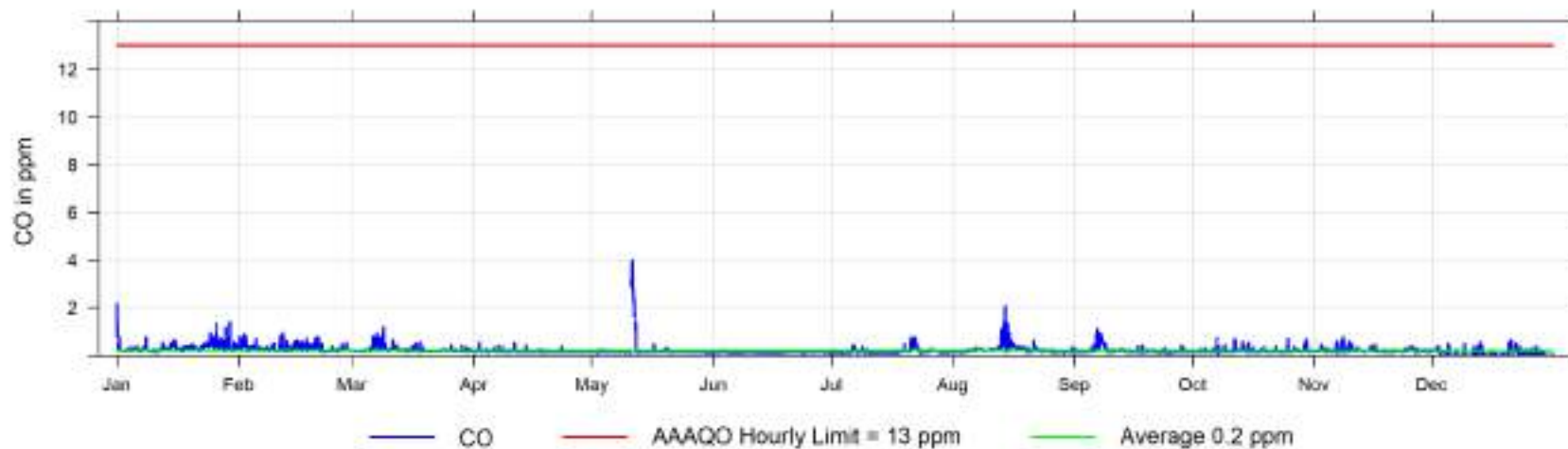
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 0.1 (ppm)	0.1 to 1 (ppm)	1 to 2.5 (ppm)	2.5 to 5 (ppm)	5 to 13 (ppm)	> 13 (ppm)		24-hr (ppm)	Date	1-hr (ppm)	Date			8-hr 5 ppm	1-hr 13 ppm
January 2024	709	0.0%	98.7%	1.3%	0.0%	0.0%	0.0%	0.3	0.6	Jan 26	1.4	Jan 29 21:00	100.0%	95.3%	0	0
February 2024	657	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.3	0.6	Feb 02	1.0	Feb 12 09:00	99.1%	94.4%	0	0
March 2024	694	0.0%	99.7%	0.3%	0.0%	0.0%	0.0%	0.2	0.5	Mar 08	1.2	Mar 08 22:00	97.9%	93.3%	0	0
April 2024	682	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.2	Apr 02	0.6	Apr 02 08:00	100.0%	94.7%	0	0
May 2024	708	0.4%	95.6%	2.1%	1.8%	0.0%	0.0%	0.2	2.6	May 11	4.0	May 11 11:00	100.0%	95.2%	0	0
June 2024	686	9.8%	90.2%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Jun 21	0.2	Jun 03 11:00	100.0%	95.3%	0	0
July 2024	707	20.8%	79.2%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Jul 22	0.8	Jul 21 11:00	100.0%	95.0%	0	0
August 2024	709	0.4%	97.2%	2.4%	0.0%	0.0%	0.0%	0.3	0.9	Aug 14	2.1	Aug 14 09:00	100.0%	95.3%	0	0
September 2024	686	1.0%	98.5%	0.4%	0.0%	0.0%	0.0%	0.2	0.6	Sep 07	1.1	Sep 06 20:00	100.0%	95.3%	0	0
October 2024	709	0.7%	99.3%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Oct 29	0.7	Oct 07 09:00	100.0%	95.3%	0	0
November 2024	687	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Nov 09	0.8	Nov 08 10:00	100.0%	95.4%	0	0
December 2024	710	65.4%	34.6%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Dec 21	0.6	Dec 21 08:00	100.0%	95.4%	0	0
<b>Annual</b>	<b>8344</b>	<b>8.2%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.2</b>	<b>2.6</b>	<b>MAXIMUM VALUES</b>		<b>99.8%</b>	<b>95.0%</b>	<b>0</b>	<b>0</b>	

AAAQO Objectives: 8-Hr: 5ppm, 1-Hr: 13ppm

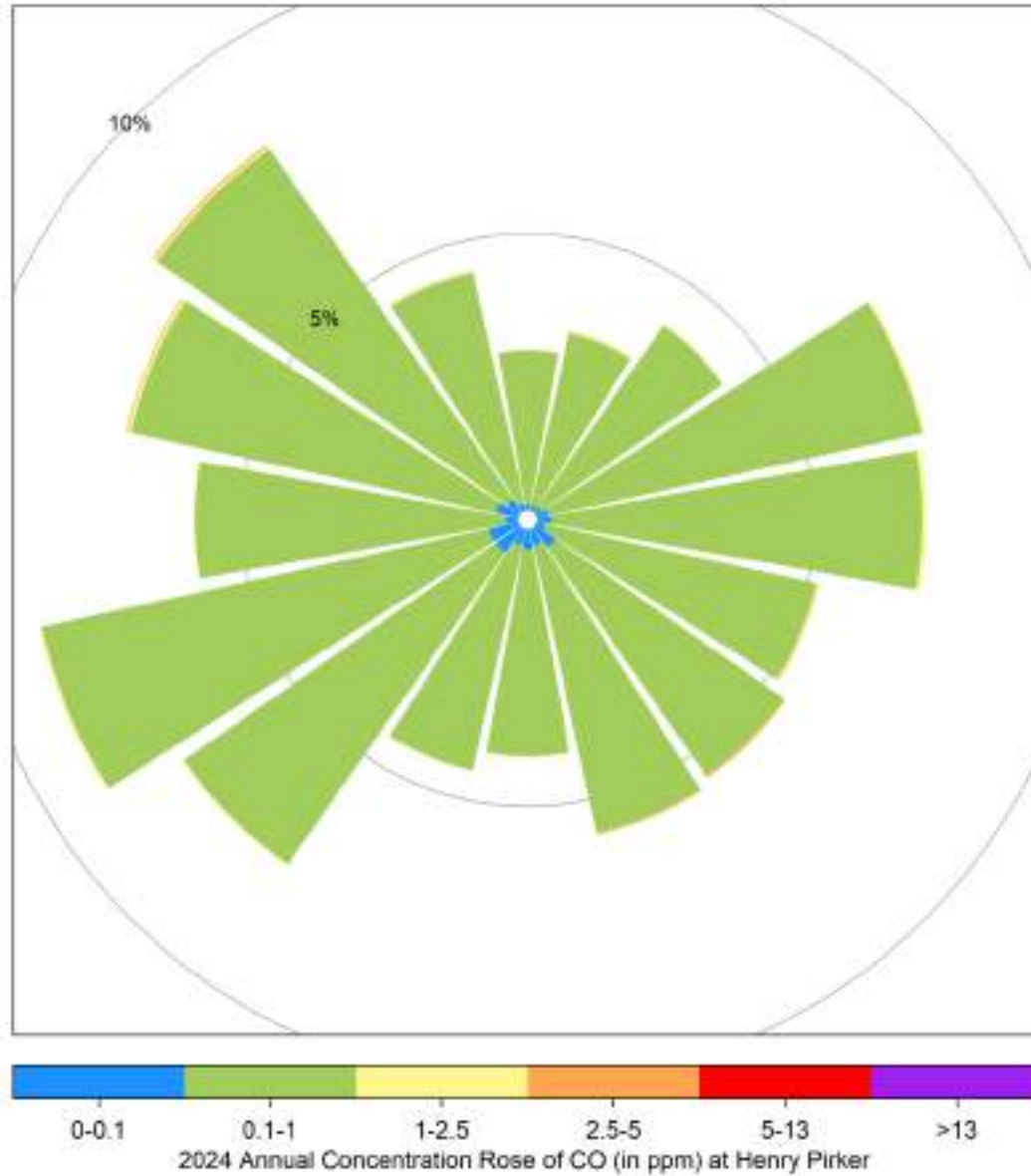
2024 8hr Concentration Readings of CO (in ppm) at Henry Pirker



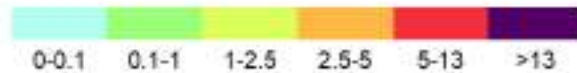
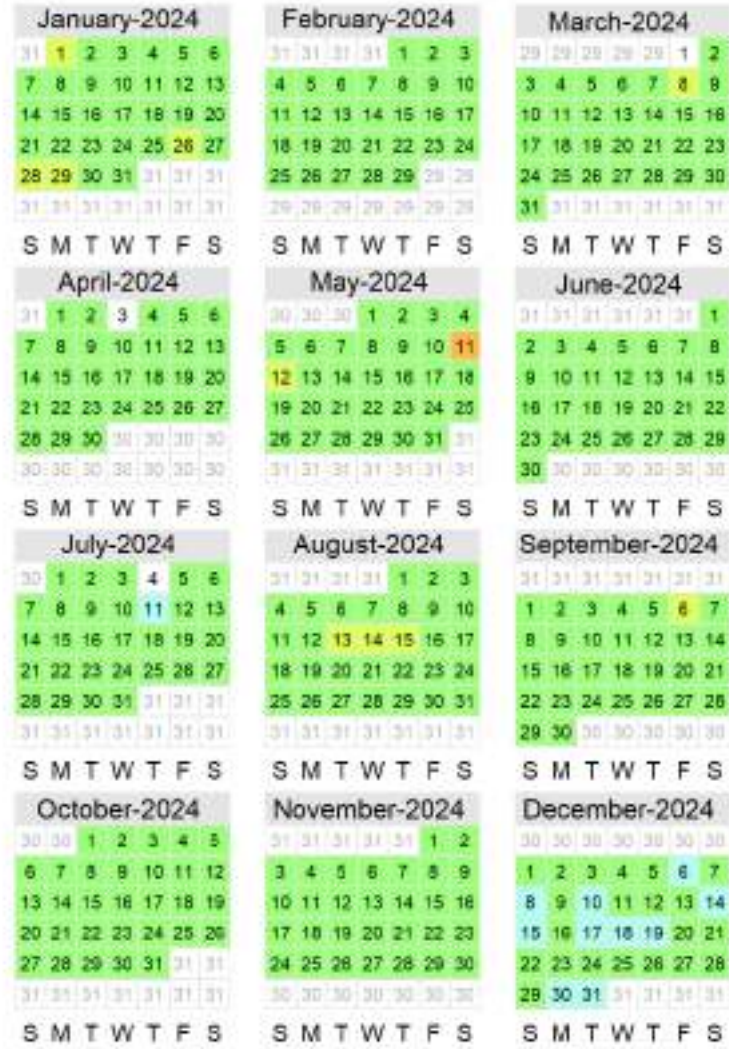
2024 Hourly Concentration Readings of CO (in ppm) at Henry Pirker







## Hourly Maximum CO (in ppm) for 2024 at Henry Pirker



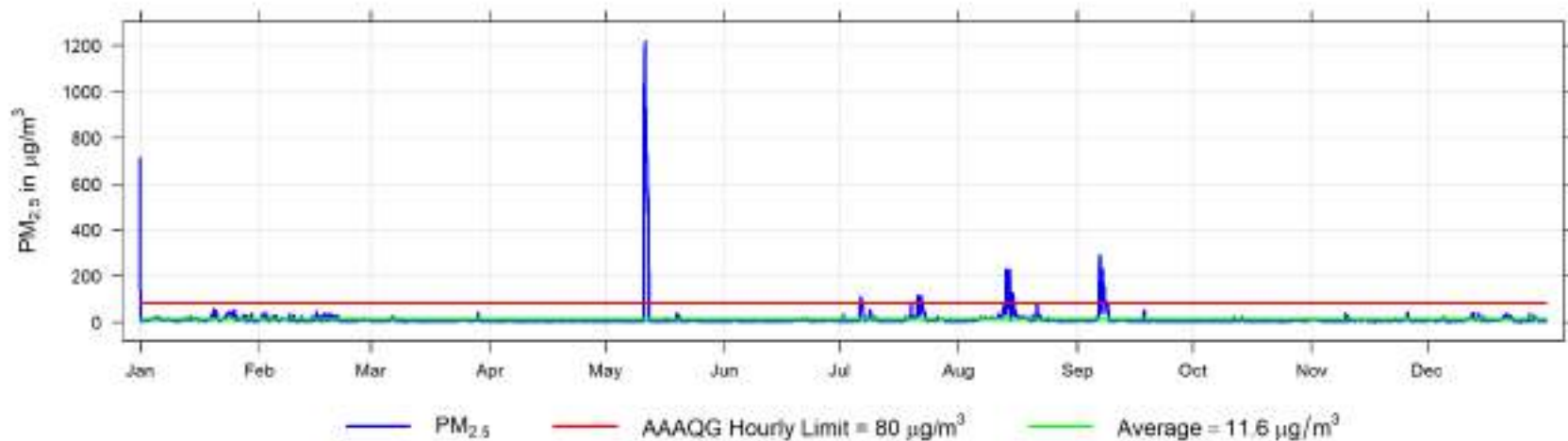
## 6.12 Particulate Matter (PM<sub>2.5</sub>) - Henry Pirker 2024 Summary

### Particulate Matter (PM<sub>2.5</sub>) Frequency Distribution at Henry Pirker

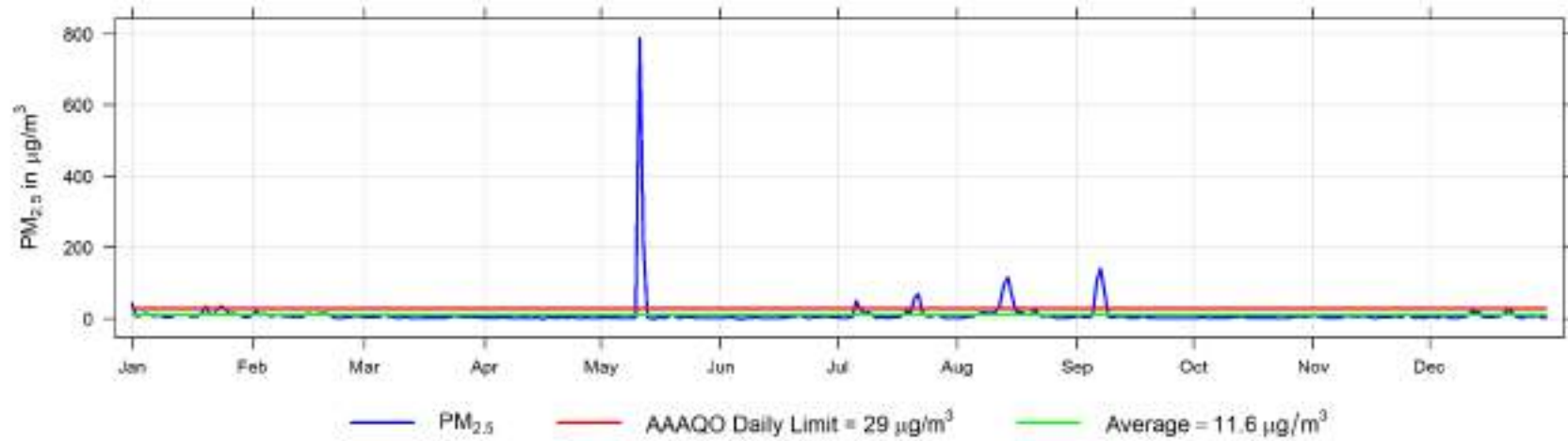
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m <sup>3</sup> )	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m <sup>3</sup> )	5 to 15 (µg/m <sup>3</sup> )	15 to 30 (µg/m <sup>3</sup> )	30 to 50 (µg/m <sup>3</sup> )	50 to 80 (µg/m <sup>3</sup> )	> 80 (µg/m <sup>3</sup> )		24-hr (µg/m <sup>3</sup> )	Date	1-hr (µg/m <sup>3</sup> )	Date			24-hr 29 µg/m <sup>3</sup>	1-hr 80 µg/m <sup>3</sup>
January 2024	743	19.9%	51.8%	18.7%	8.7%	0.7%	0.1%	13.1	36.4	Jan 24	136.7	Jan 01 01:00	100.0%	99.9%	2	1
February 2024	694	33.3%	46.1%	18.7%	1.9%	0.0%	0.0%	9.8	22.9	Feb 02	45.2	Feb 15 22:00	100.0%	99.7%	0	0
March 2024	740	65.4%	32.6%	1.9%	0.1%	0.0%	0.0%	5.0	13.6	Mar 06	40.6	Mar 28 23:00	99.7%	99.5%	0	0
April 2024	719	84.1%	15.9%	0.0%	0.0%	0.0%	0.0%	3.2	5.3	Apr 06	13.7	Apr 24 00:00	100.0%	99.9%	0	0
May 2024	743	80.9%	12.0%	2.4%	0.5%	0.0%	4.2%	35.7	811.6	May 11	1218.1	May 11 11:00	100.0%	99.9%	2	31
June 2024	718	64.5%	34.7%	0.8%	0.0%	0.0%	0.0%	4.4	10.2	Jun 21	20.0	Jun 22 10:00	100.0%	99.7%	0	0
July 2024	743	49.1%	30.1%	9.4%	3.4%	4.6%	3.4%	13.4	69.0	Jul 22	114.3	Jul 21 11:00	100.0%	99.9%	3	25
August 2024	741	26.5%	34.4%	27.5%	4.7%	2.0%	4.9%	19.7	112.9	Aug 14	228.7	Aug 13 10:00	99.9%	99.6%	4	36
September 2024	718	61.6%	28.1%	1.4%	1.5%	1.5%	5.8%	14.8	138.3	Sep 07	288.1	Sep 06 20:00	100.0%	99.7%	3	42
October 2024	743	72.4%	26.1%	1.5%	0.0%	0.0%	0.0%	4.2	8.7	Oct 13	23.6	Oct 13 20:00	100.0%	99.9%	0	0
November 2024	719	54.7%	42.7%	2.1%	0.6%	0.0%	0.0%	6.0	14.3	Nov 25	43.4	Nov 25 23:00	100.0%	99.9%	0	0
December 2024	742	41.4%	41.8%	13.7%	3.1%	0.0%	0.0%	8.8	24.5	Dec 21	40.4	Dec 13 03:00	100.0%	99.7%	0	0
<b>Annual</b>	<b>8763</b>	<b>54.5%</b>	<b>33.0%</b>	<b>8.2%</b>	<b>2.0%</b>	<b>0.7%</b>	<b>1.5%</b>	<b>11.6</b>	<b>811.6</b>	<b>May 11</b>	<b>1218.1</b>	<b>May 11 11:00</b>	<b>100.0%</b>	<b>99.8%</b>	<b>14</b>	<b>135</b>

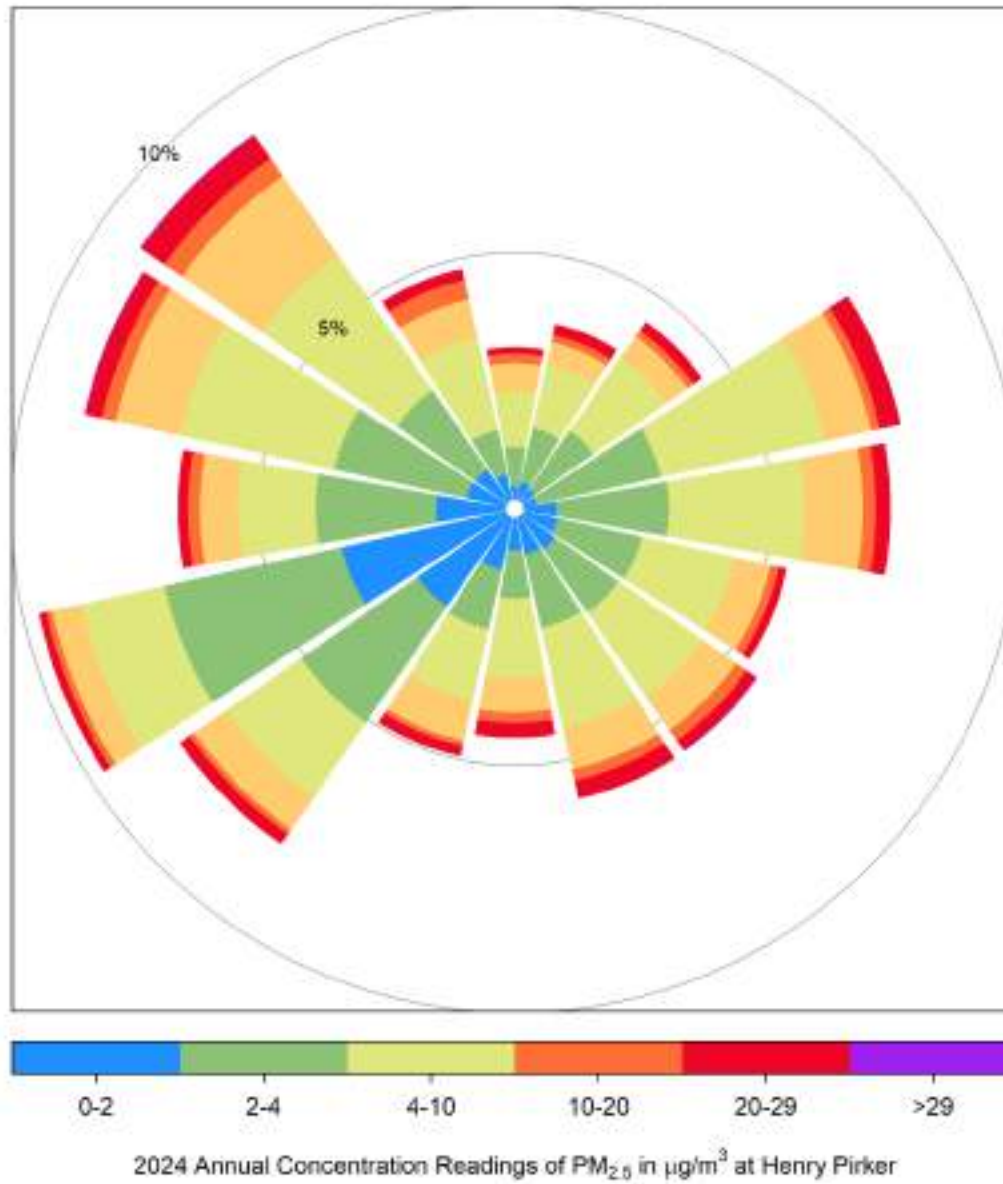
AAAQO Objectives: 24-Hr: 29 µg/m<sup>3</sup>, AAAQO Guideline: 1-Hr: 80 µg/m<sup>3</sup>

2024 Hourly Concentration Readings of PM<sub>2.5</sub> in µg/m<sup>3</sup> at Henry Pirker

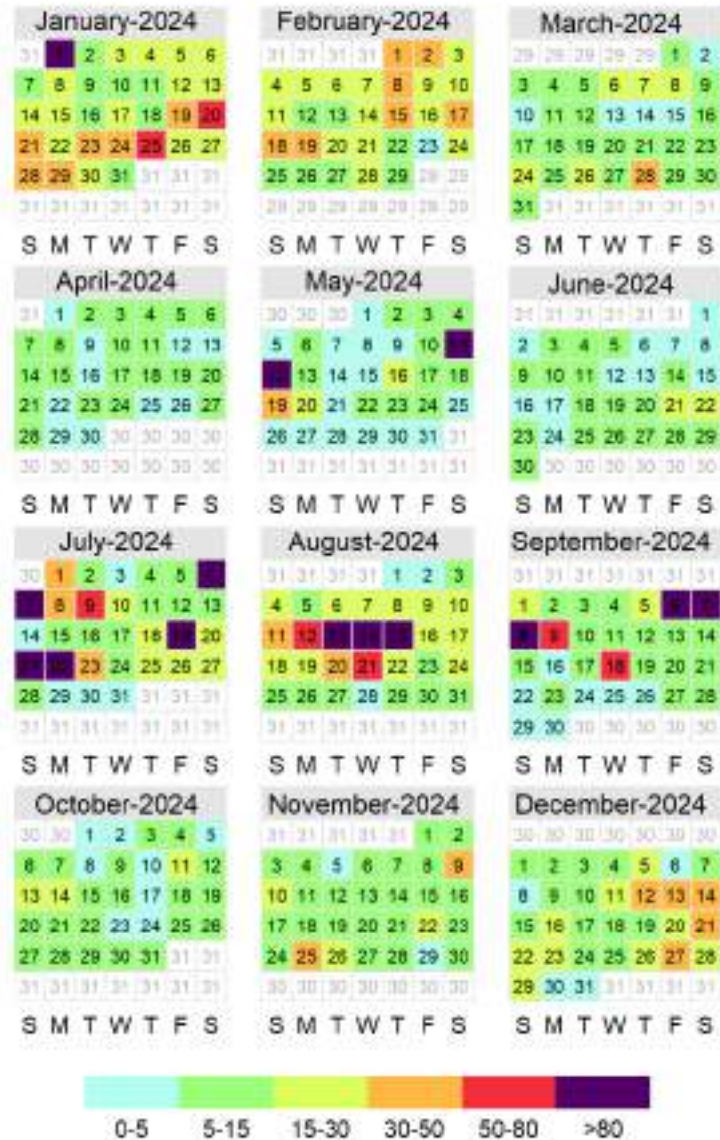


2024 Daily Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Henry Pirker





## Hourly Maximum PM<sub>2.5</sub> (in µg/m<sup>3</sup>) for 2024 at Henry Pirker

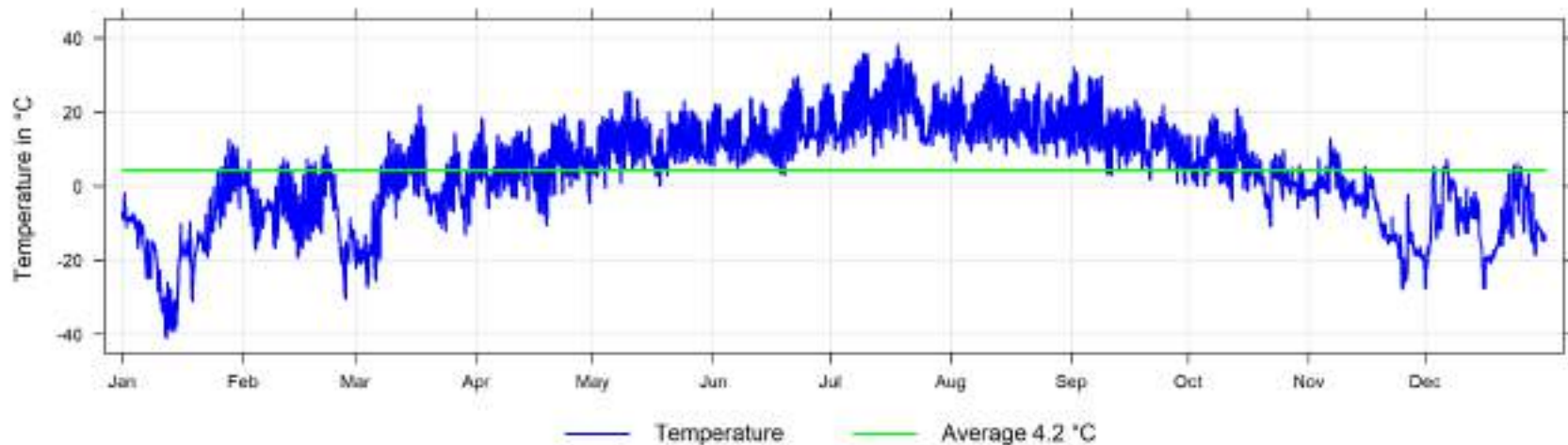


## 6.13 Temperature (ET) - Henry Pirker 2024 Summary

Temperature (ET) Frequency Distribution at Henry Pirker

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)			
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date	
January 2024	744	-14.5	4.7	Jan 30	12.6	Jan 28 14:00	-36.3	Jan 12	-41.1	Jan 12 08:00	100.0%	100.0%	
February 2024	696	-6.6	3.9	Feb 22	10.8	Feb 22 15:00	-21.7	Feb 27	-30.5	Feb 27 08:00	100.0%	100.0%	
March 2024	744	-2.4	9.3	Mar 17	21.9	Mar 17 15:00	-20.7	Mar 04	-27.3	Mar 04 05:00	100.0%	100.0%	
April 2024	720	6.0	11.0	Apr 22	19.0	Apr 23 15:00	-1.3	Apr 04	-10.6	Apr 19 06:00	100.0%	100.0%	
May 2024	742	11.7	17.7	May 10	25.7	May 09 17:00	5.2	May 01	-0.6	May 04 06:00	100.0%	99.7%	
June 2024	720	14.6	20.7	Jun 22	29.5	Jun 22 14:00	8.0	Jun 08	2.8	Jun 19 05:00	100.0%	100.0%	
July 2024	744	21.1	28.0	Jul 18	38.3	Jul 18 13:00	12.3	Jul 25	8.1	Jul 12 05:00	100.0%	100.0%	
August 2024	744	18.1	22.7	Aug 11	32.5	Aug 11 15:00	13.7	Aug 05	6.8	Aug 02 06:00	100.0%	100.0%	
September 2024	720	13.7	20.8	Sep 01	32.1	Sep 01 15:00	7.0	Sep 30	0.5	Sep 30 06:00	100.0%	100.0%	
October 2024	744	4.4	12.5	Oct 07	21.0	Oct 13 14:00	-4.6	Oct 21	-10.9	Oct 22 05:00	100.0%	100.0%	
November 2024	720	-6.8	6.6	Nov 07	12.9	Nov 06 14:00	-24.9	Nov 25	-28.0	Nov 25 05:00	100.0%	100.0%	
December 2024	741	-8.9	4.8	Dec 06	7.1	Dec 06 14:00	-23.1	Dec 16	-27.9	Dec 16 05:00	99.6%	99.6%	
		<b>AVERAGE</b>	<b>MAXIMUM VALUES</b>			<b>MINIMUM VALUES</b>							
		8779	4.2	28.0	Jul 18	38.3	Jul 18 13:00	-36.3	Jan 12	-41.1	Jan 12 08:00	100.0%	99.9%

2024 Hourly Temperature Readings (in °C) at Henry Pirker

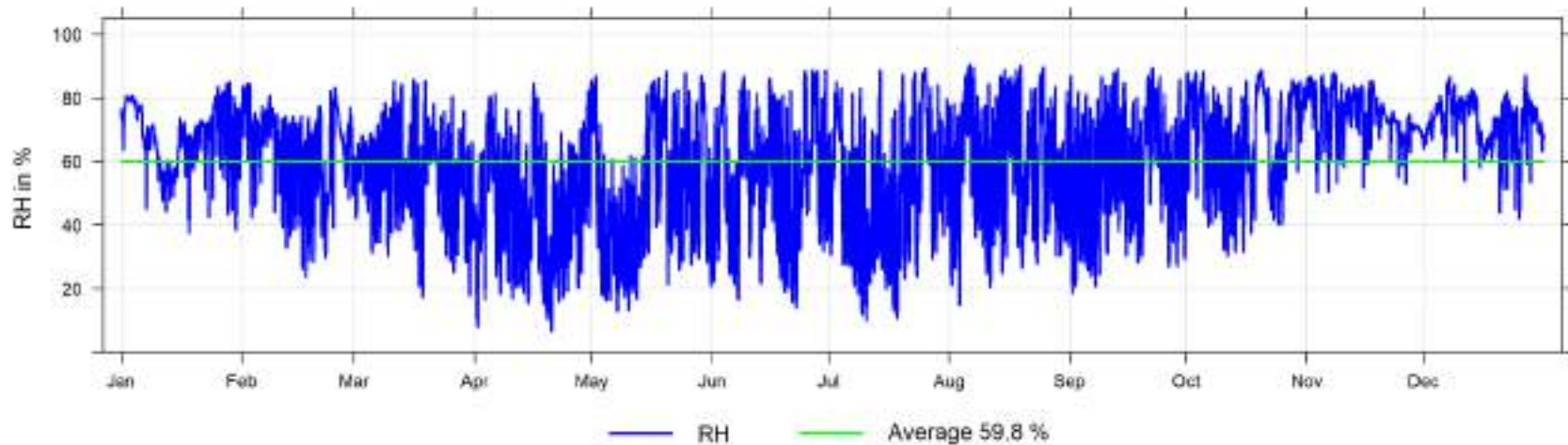


## 6.14 Relative Humidity (RH) - Henry Pirker 2024 Summary

Relative Humidity (RH) Frequency Distribution at Henry Pirker

Month	Valid Hours	Monthly Average (%)	Maximum Values			Operational time (%)	Valid time (%)	
			24-hr (%)	Date	1-hr (%)			Date
January 2024	744	67.3	79.9	Jan 03	85.0	Jan 29 00:00	100.0%	100.0%
February 2024	696	62.8	77.6	Feb 25	84.5	Feb 02 10:00	100.0%	100.0%
March 2024	744	56.4	68.0	Mar 21	85.7	Mar 16 08:00	100.0%	100.0%
April 2024	720	45.1	67.3	Apr 30	84.7	May 01 00:00	100.0%	100.0%
May 2024	742	50.1	82.3	May 29	88.2	May 20 07:00	100.0%	99.7%
June 2024	720	55.5	79.8	Jun 27	88.6	Jun 26 23:00	100.0%	100.0%
July 2024	744	50.7	86.7	Jul 25	89.1	Jul 25 21:00	100.0%	100.0%
August 2024	744	58.9	82.0	Aug 05	90.3	Aug 06 07:00	100.0%	100.0%
September 2024	720	57.3	79.4	Sep 22	89.3	Sep 22 07:00	100.0%	100.0%
October 2024	744	67.1	86.0	Oct 20	88.6	Oct 20 09:00	100.0%	100.0%
November 2024	720	73.5	83.6	Nov 01	87.8	Nov 07 22:00	100.0%	100.0%
December 2024	741	72.3	83.8	Dec 07	87.0	Dec 27 09:00	99.6%	99.6%
<b>8779</b>		<b>AVERAGE</b>	<b>86.7</b>	<b>MAXIMUM VALUES</b>		<b>100.0%</b>	<b>99.9%</b>	
				<b>Jul 25</b>	<b>90.3</b>	<b>Aug 06 07:00</b>		

2024 Hourly Readings of Relative Humidity (in %) at Henry Pirker



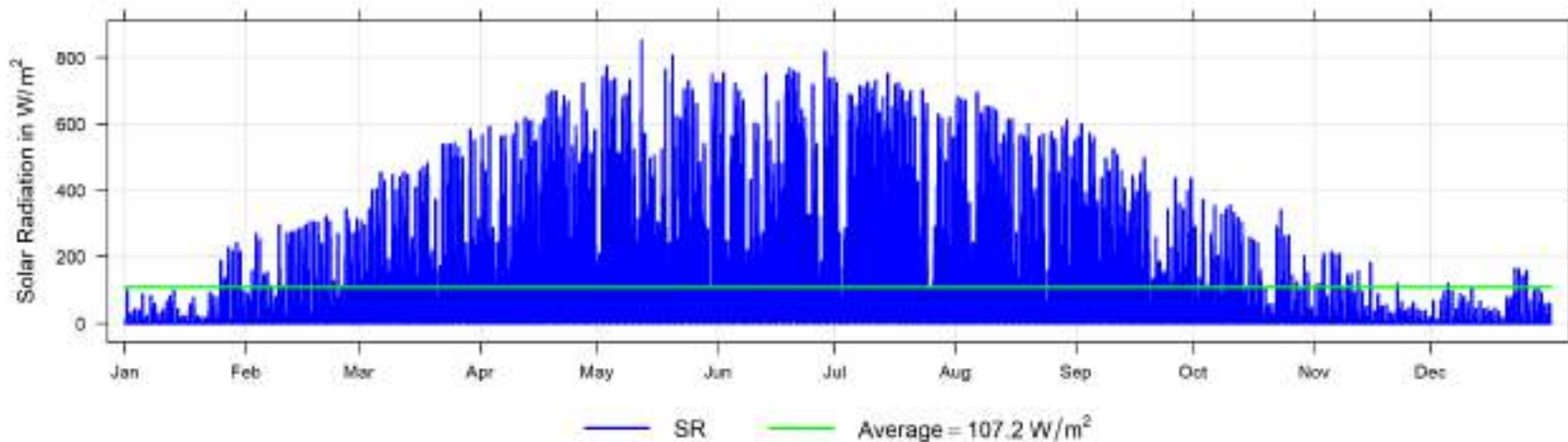


## 6.15 Solar Radiation (SR) - Henry Pirker 2024 Summary

Solar Radiation (SR) Frequency Distribution at Henry Pirker

Month	Valid Hours	Monthly Average (W/m <sup>2</sup> )	24-hr (W/m <sup>2</sup> )	Maximum Values		Operational time (%)	Valid time (%)	
				Date	1-hr (W/m <sup>2</sup> )			Date
January 2024	744	14.9	43.4	Jan 30	239.7	Jan 29 14:00	100.0%	100.0%
February 2024	696	51.5	73.6	Feb 22	343.1	Feb 26 15:00	100.0%	100.0%
March 2024	744	108.9	177.1	Mar 29	584.3	Mar 29 13:00	100.0%	100.0%
April 2024	720	169.6	248.5	Apr 20	723.3	Apr 27 13:00	100.0%	100.0%
May 2024	742	184.4	268.3	May 09	851.5	May 12 13:00	100.0%	99.7%
June 2024	720	196.4	296.3	Jun 19	820.5	Jun 28 14:00	100.0%	100.0%
July 2024	744	208.4	281.2	Jul 11	751.1	Jul 14 14:00	100.0%	100.0%
August 2024	744	166.8	249.6	Aug 01	696.2	Aug 06 14:00	100.0%	100.0%
September 2024	720	108.6	183.7	Sep 01	600.8	Sep 02 13:00	100.0%	100.0%
October 2024	744	46.0	90.7	Oct 03	370.6	Oct 03 14:00	100.0%	100.0%
November 2024	720	16.7	42.0	Nov 06	214.0	Nov 05 13:00	100.0%	100.0%
December 2024	741	12.2	25.5	Dec 23	165.5	Dec 22 13:00	99.6%	99.6%
		<b>AVERAGE</b>	<b>296.3</b>	<b>MAXIMUM VALUES</b>				
		<b>8779</b>		<b>Jun 19</b>	<b>851.5</b>	<b>May 12 13:00</b>	<b>100.0%</b>	<b>99.9%</b>

2024 Hourly Concentration Readings of Solar Radiation in W/m<sup>2</sup> at Henry Pirker

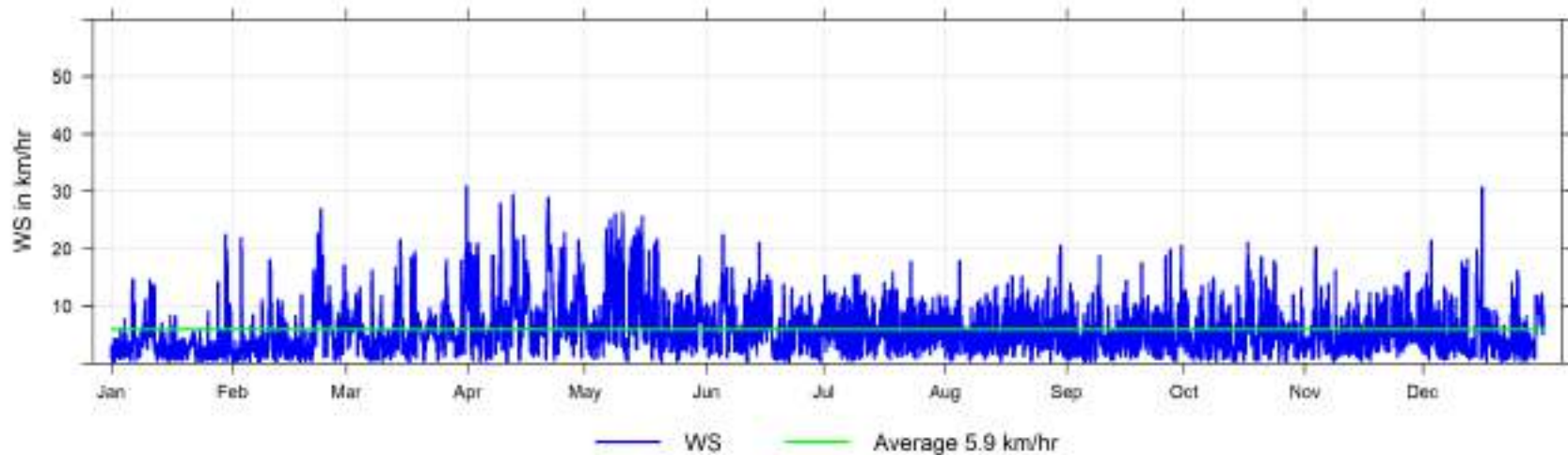


## 6.16 Wind Speed and Wind Direction (WS and WD) - Henry Pirker 2024 Summary

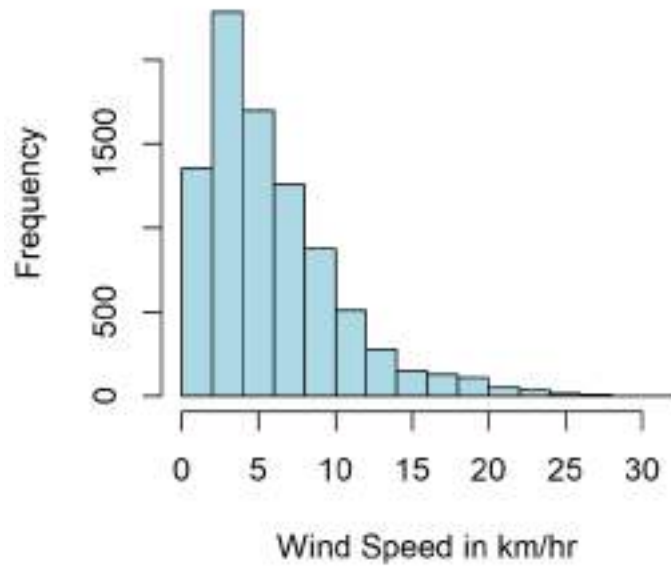
Wind Speed Frequency Distribution at Henry Pirker

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)		24-hr (km/hr)	Date	1-hr (km/hr)	Date		
January 2024	739	2.7%	78.5%	14.9%	3.7%	0.3%	0.0%	3.6	10.2	Jan 30	22.5	Jan 30 07:00	99.3%	99.3%
February 2024	696	3.4%	62.2%	25.1%	7.8%	1.4%	0.0%	4.9	13.0	Feb 23	26.9	Feb 23 15:00	100.0%	100.0%
March 2024	744	1.1%	51.3%	35.5%	10.3%	1.6%	0.1%	5.9	13.0	Mar 31	30.9	Mar 31 19:00	100.0%	100.0%
April 2024	720	1.1%	29.2%	40.7%	20.4%	8.2%	0.4%	9.0	17.4	Apr 21	29.5	Apr 12 15:00	100.0%	100.0%
May 2024	742	0.4%	33.6%	39.8%	16.8%	9.4%	0.0%	8.5	16.1	May 07	26.3	May 10 16:00	100.0%	99.7%
June 2024	720	1.0%	43.3%	44.0%	11.4%	0.3%	0.0%	6.1	13.2	Jun 05	22.5	Jun 05 08:00	100.0%	100.0%
July 2024	744	0.4%	40.3%	51.5%	7.8%	0.0%	0.0%	6.1	8.8	Jul 01	17.7	Jul 23 08:00	100.0%	100.0%
August 2024	744	0.8%	45.7%	46.5%	6.6%	0.4%	0.0%	5.8	8.9	Aug 20	20.6	Aug 30 11:00	100.0%	100.0%
September 2024	720	1.3%	56.7%	36.4%	5.4%	0.3%	0.0%	5.1	9.2	Sep 09	20.6	Sep 30 10:00	100.0%	100.0%
October 2024	744	2.0%	55.0%	33.1%	9.7%	0.3%	0.0%	5.4	13.5	Oct 17	21.1	Oct 17 06:00	100.0%	100.0%
November 2024	720	0.6%	55.8%	36.7%	6.7%	0.3%	0.0%	5.4	8.5	Nov 03	20.2	Nov 03 18:00	100.0%	100.0%
December 2024	741	0.9%	57.8%	32.8%	7.7%	0.7%	0.1%	5.4	9.6	Dec 30	30.8	Dec 16 08:00	99.6%	99.6%
<b>Annual</b>	<b>8774</b>	<b>1.3%</b>	<b>50.8%</b>	<b>36.4%</b>	<b>9.5%</b>	<b>1.9%</b>	<b>0.1%</b>	<b>5.9</b>	<b>17.4</b>	<b>MAXIMUM VALUES</b>		<b>99.9%</b>	<b>99.9%</b>	

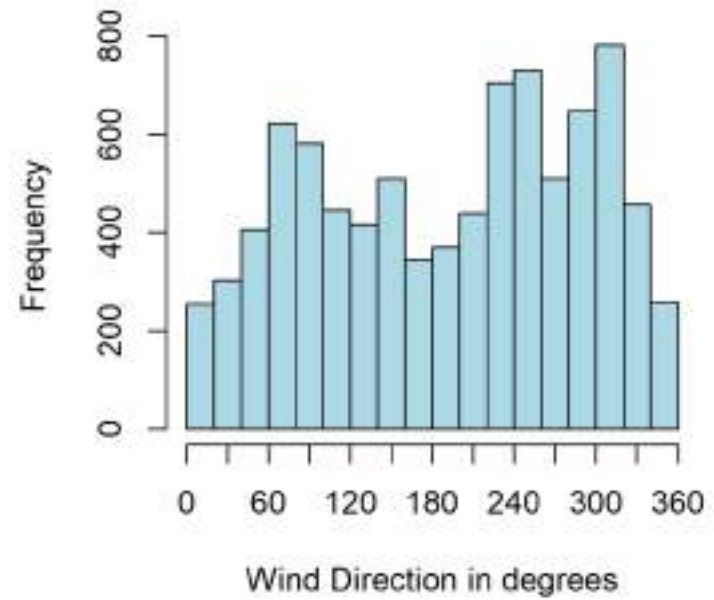
2024 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker



**2024 Wind Speed Histogram**

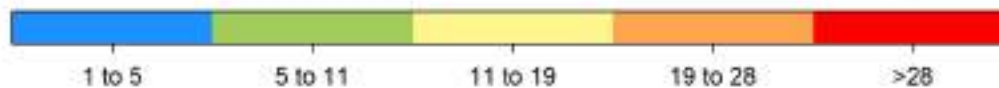
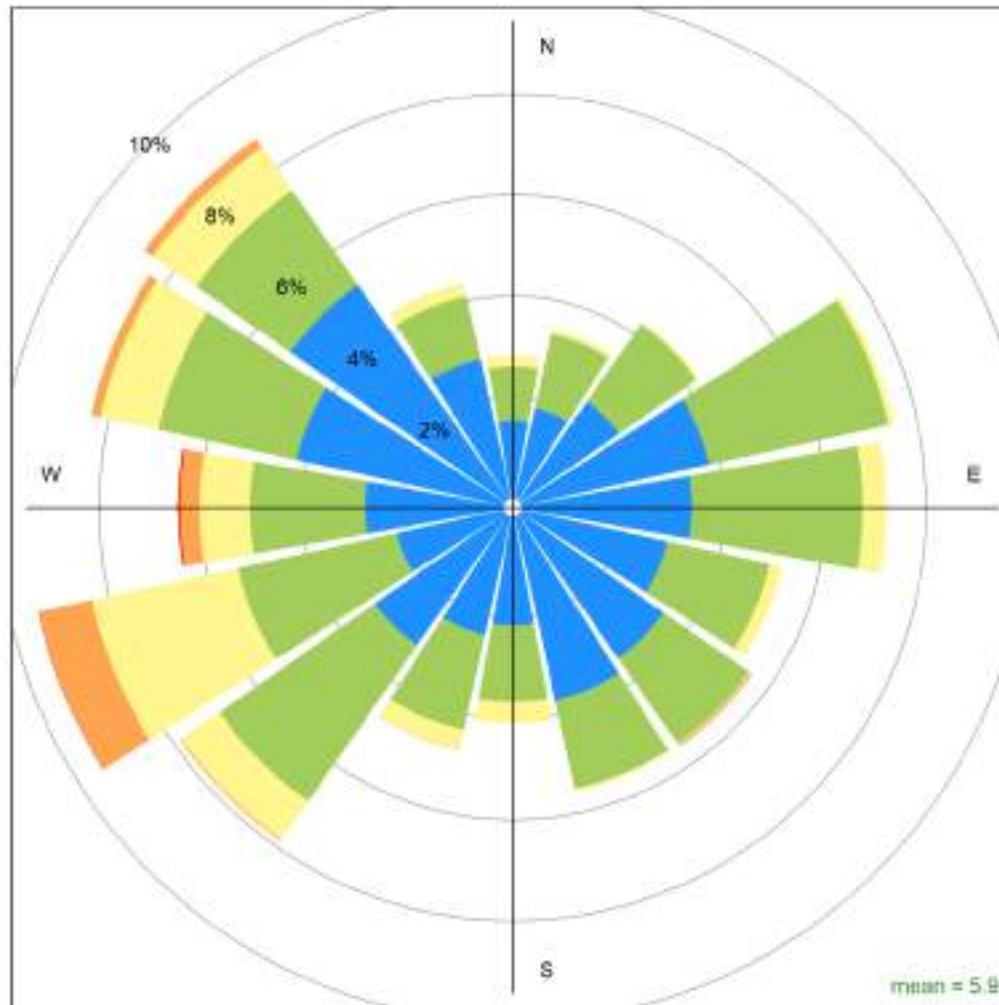


**2024 Wind Direction Histogram**



### Wind Speed and Wind Direction Frequency Distribution at Henry Pirker

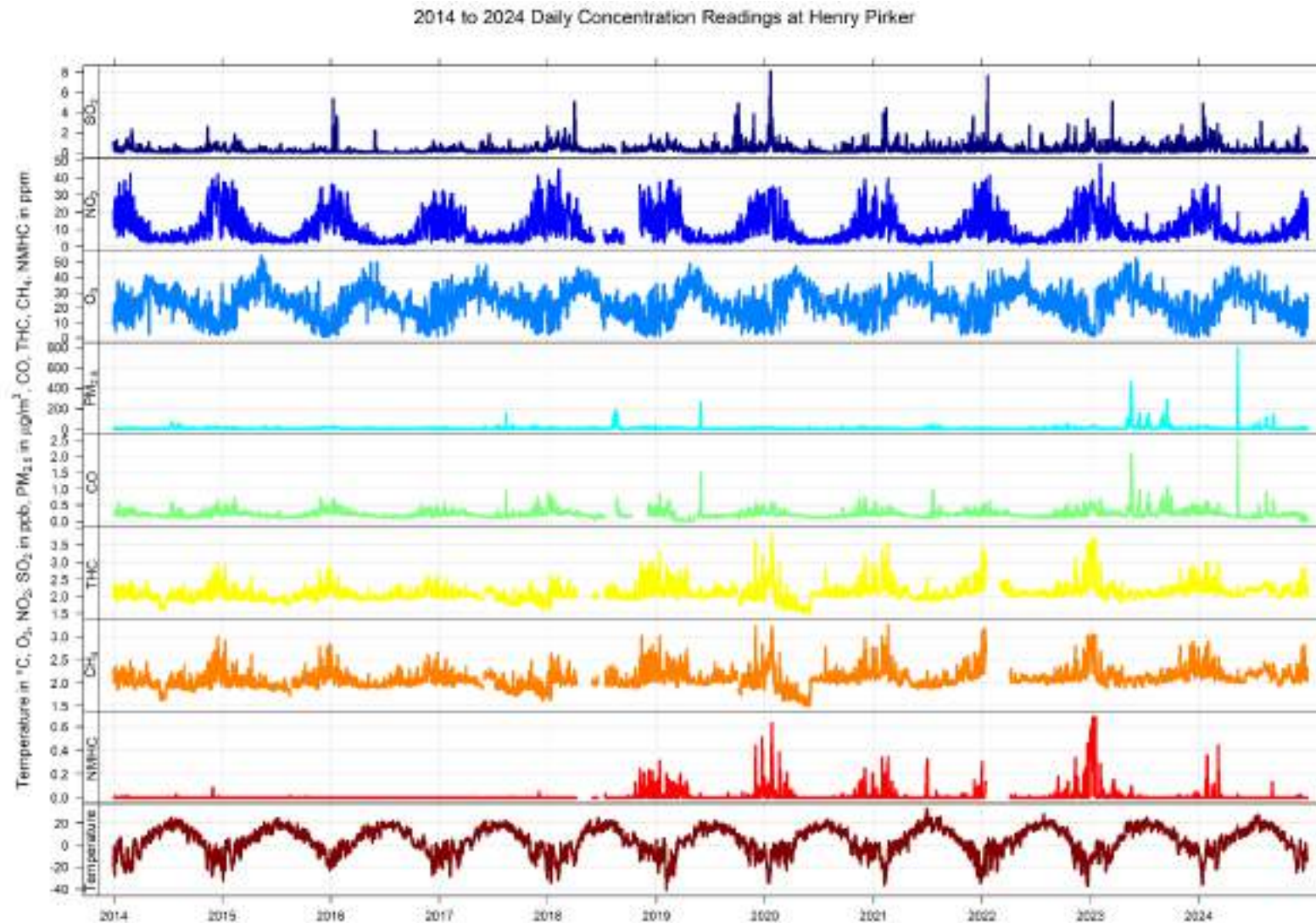
Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	270	0.1%	1.7%	1.1%	0.2%	0.0%	0.0%	3.1%
NNE	320	0.1%	2.0%	1.5%	0.1%	0.0%	0.0%	3.6%
NE	391	0.0%	2.5%	1.9%	0.1%	0.0%	0.0%	4.5%
ENE	685	0.1%	4.0%	3.6%	0.1%	0.0%	0.0%	7.8%
E	654	0.0%	3.6%	3.4%	0.5%	0.0%	0.0%	7.5%
ESE	482	0.1%	3.1%	2.1%	0.3%	0.0%	0.0%	5.5%
SE	511	0.1%	3.6%	2.1%	0.0%	0.0%	0.0%	5.8%
SSE	513	0.1%	3.9%	1.8%	0.0%	0.0%	0.0%	5.8%
S	390	0.1%	2.4%	1.5%	0.4%	0.0%	0.0%	4.4%
SSW	433	0.1%	2.5%	1.9%	0.4%	0.0%	0.0%	4.9%
SW	710	0.1%	3.3%	3.8%	0.9%	0.0%	0.0%	8.1%
WSW	850	0.1%	2.3%	3.2%	3.0%	1.1%	0.0%	9.7%
W	584	0.0%	2.9%	2.3%	1.0%	0.4%	0.0%	6.7%
WNW	767	0.2%	4.4%	2.8%	1.2%	0.2%	0.0%	8.7%
NW	797	0.0%	5.5%	2.3%	1.0%	0.2%	0.0%	9.1%
NNW	421	0.2%	3.1%	1.3%	0.3%	0.0%	0.0%	4.8%
<b>Total</b>	<b>8778</b>	<b>1.3%</b>	<b>50.8%</b>	<b>36.4%</b>	<b>9.5%</b>	<b>1.9%</b>	<b>0.1%</b>	<b>100.0%</b>



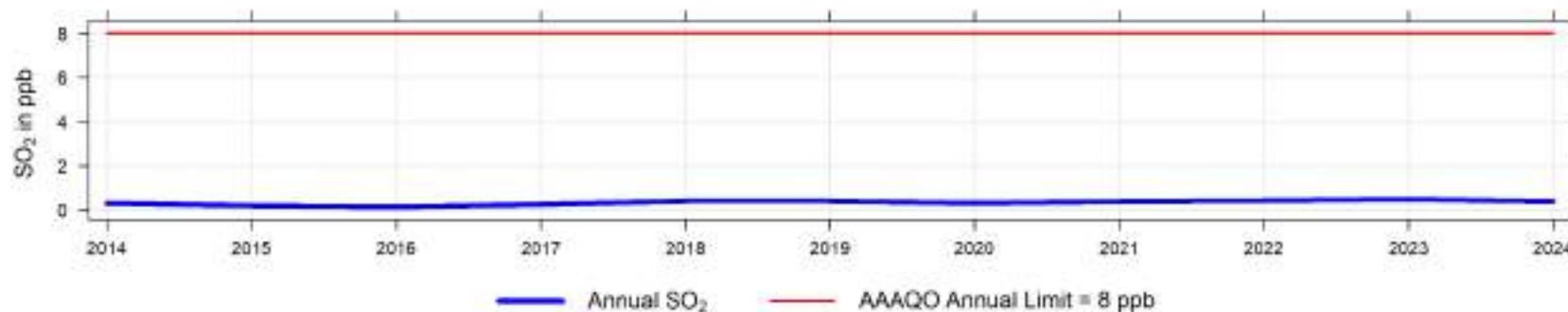
Henry Pirker 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 4.2 %**

## 6.17 Henry Pirker Annual Trends, 2014 to 2024

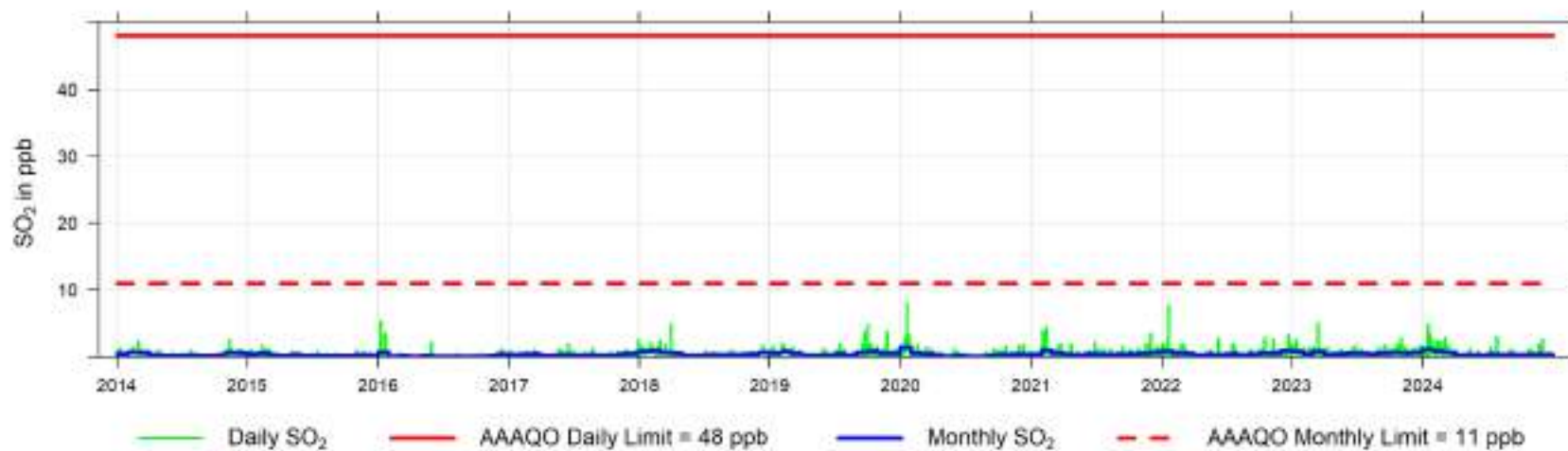
The following pages include historical annual charts collected between 2014 and 2024 at the Henry Pirker Station.



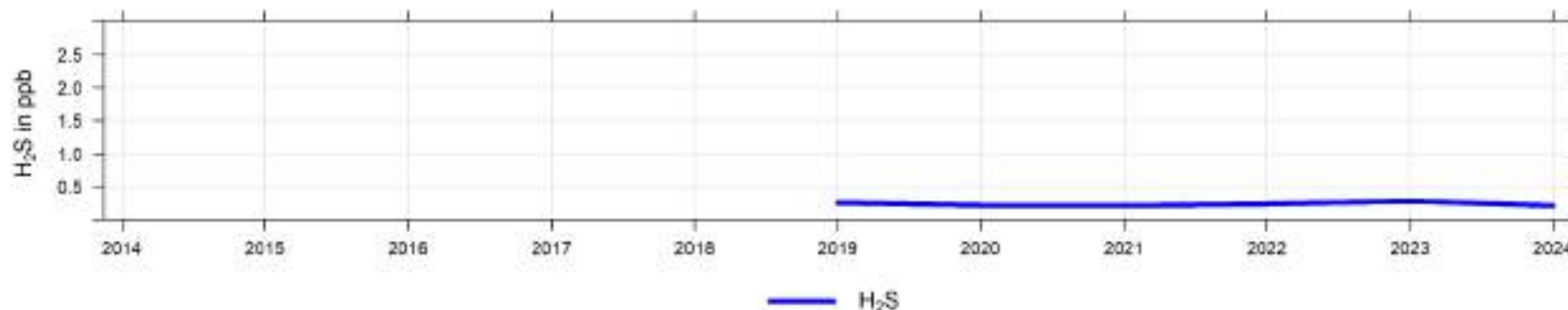
Years 2014 to 2024 Annual Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker



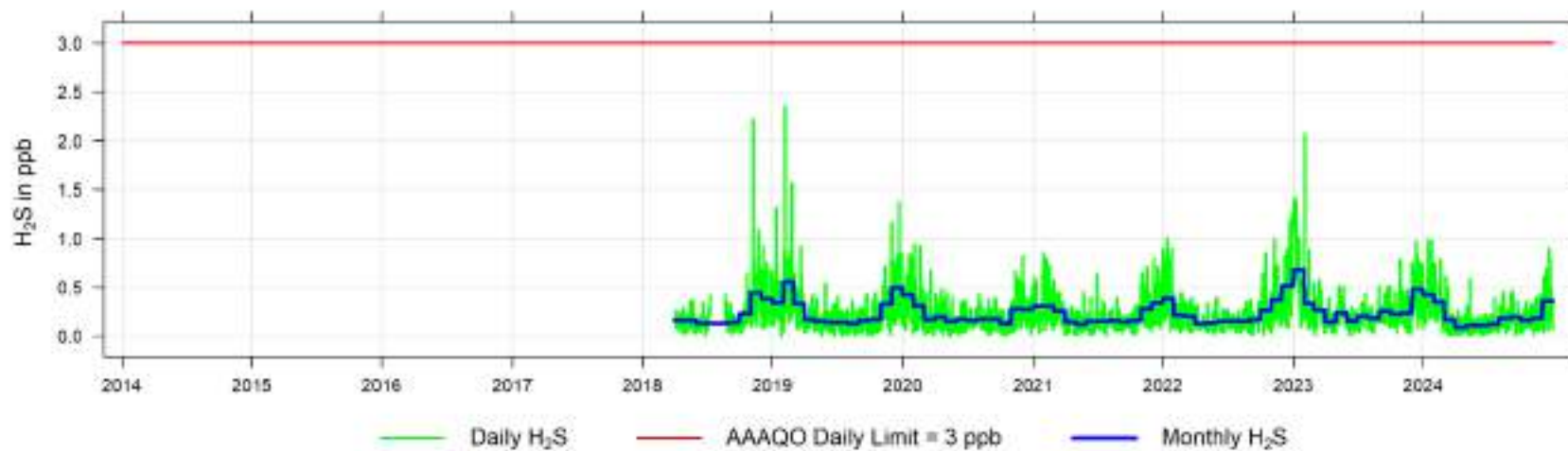
Years 2014 to 2024 Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker



Years 2014 to 2024 Annual Concentration Readings of H<sub>2</sub>S (in ppb) at Henry Pirker

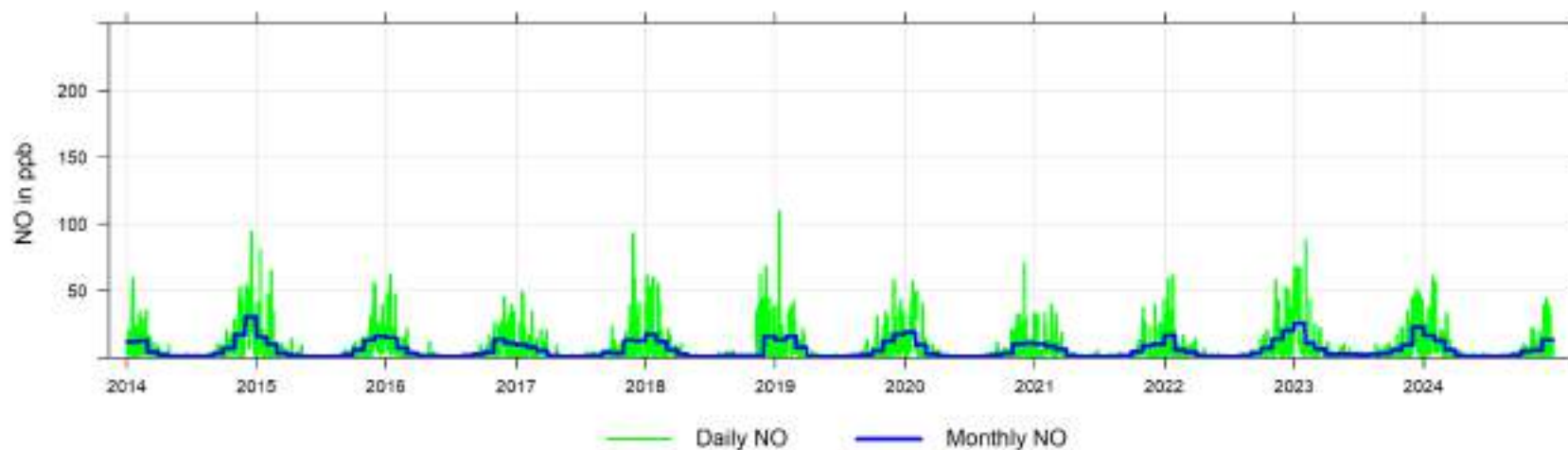


Years 2014 to 2024 Concentration Readings of H<sub>2</sub>S (in ppb) at Henry Pirker

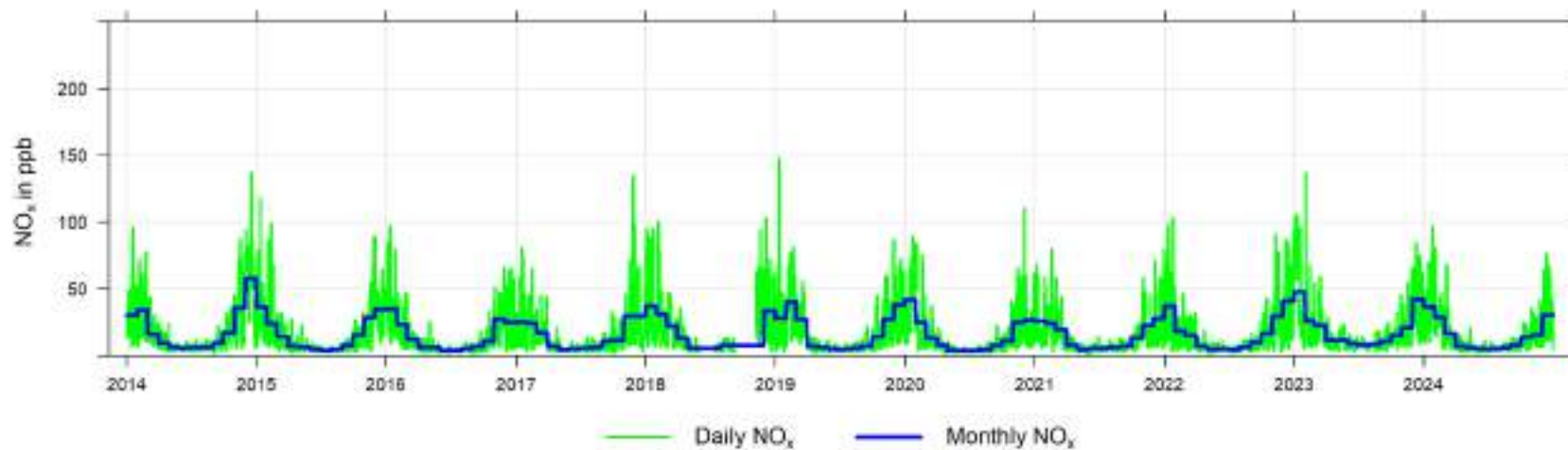




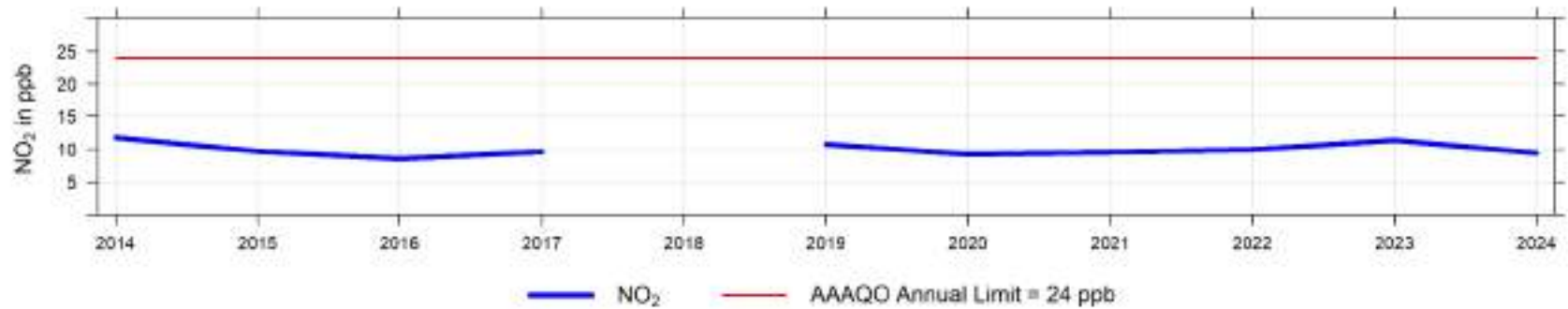
Years 2014 to 2024 Concentration Readings of NO (in ppb) at Henry Pirker



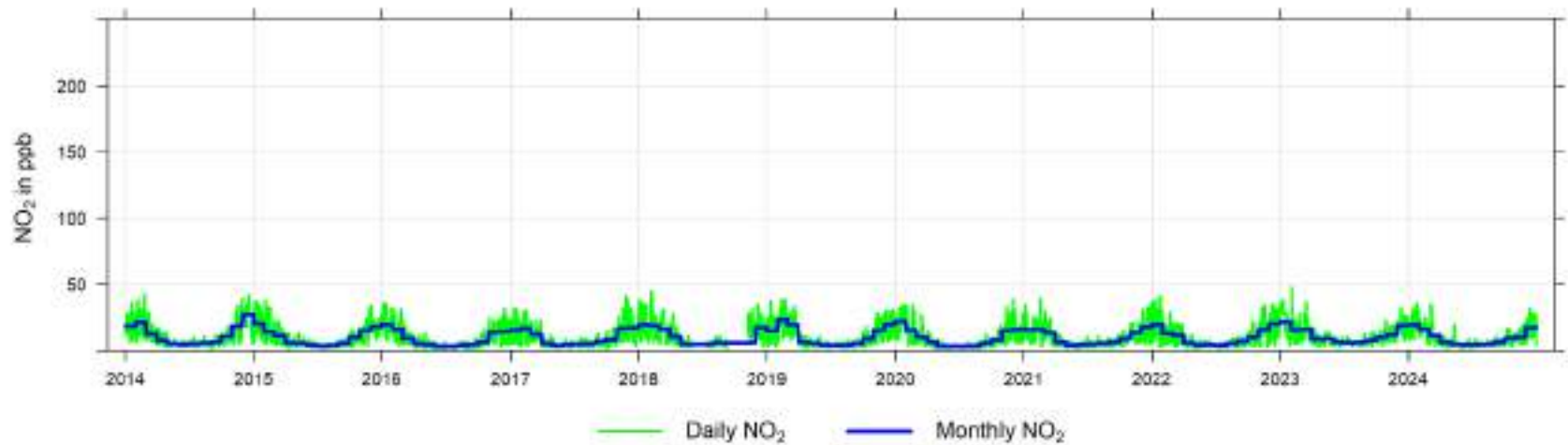
Years 2014 to 2024 Concentration Readings of NO<sub>x</sub> (in ppb) at Henry Pirker



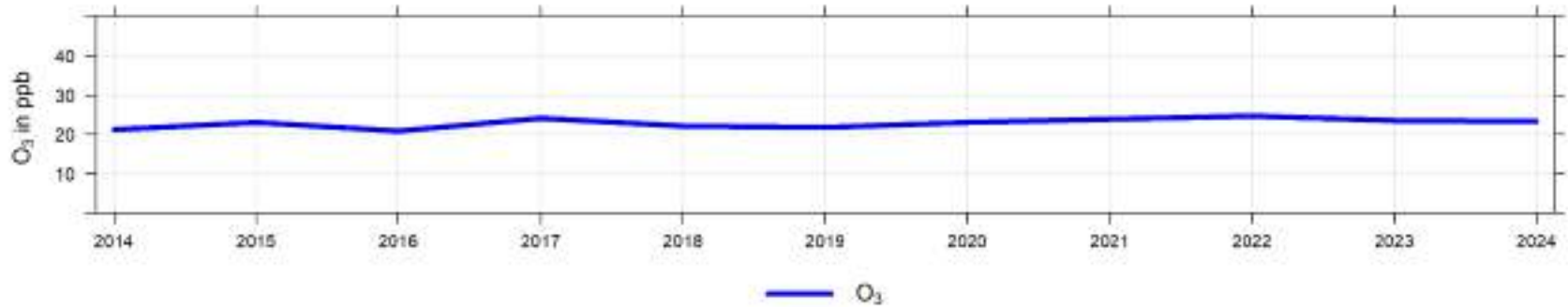
Years 2014 to 2024 Annual Concentration Readings of NO<sub>2</sub> (in ppb) at Henry Pirker



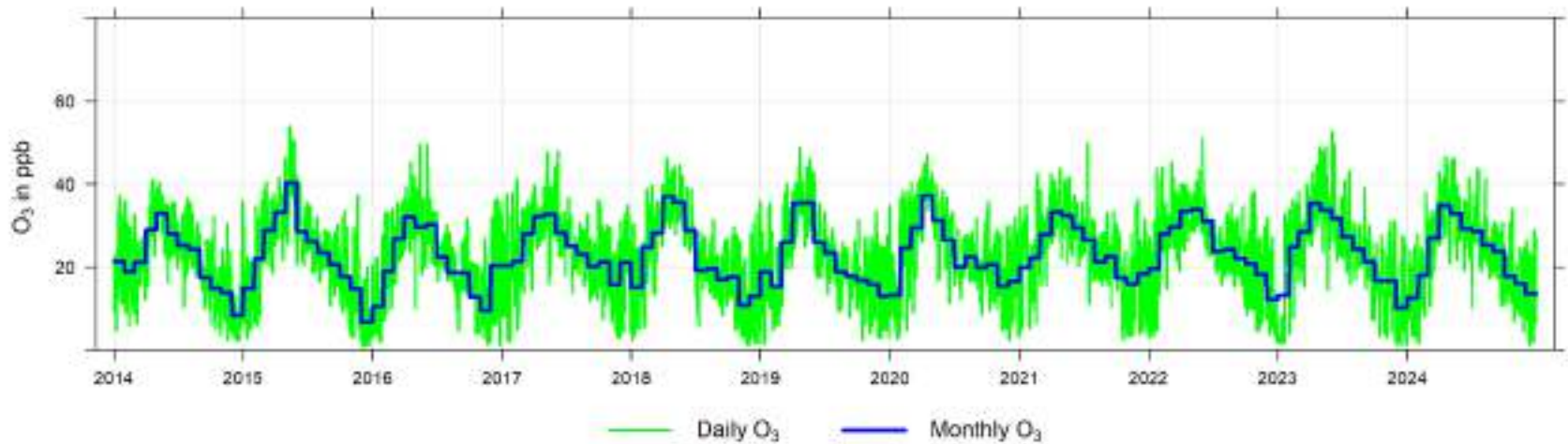
Years 2014 to 2024 Concentration Readings of NO<sub>2</sub> (in ppb) at Henry Pirker



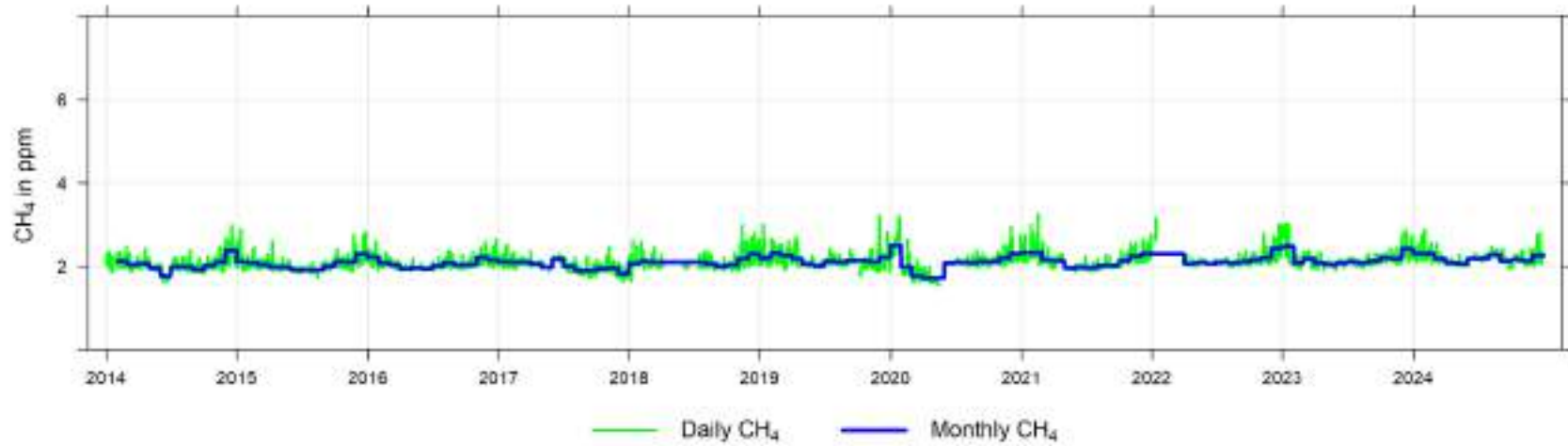
Years 2014 to 2024 Annual Concentration Readings of O<sub>3</sub> (in ppb) at Henry Pirker



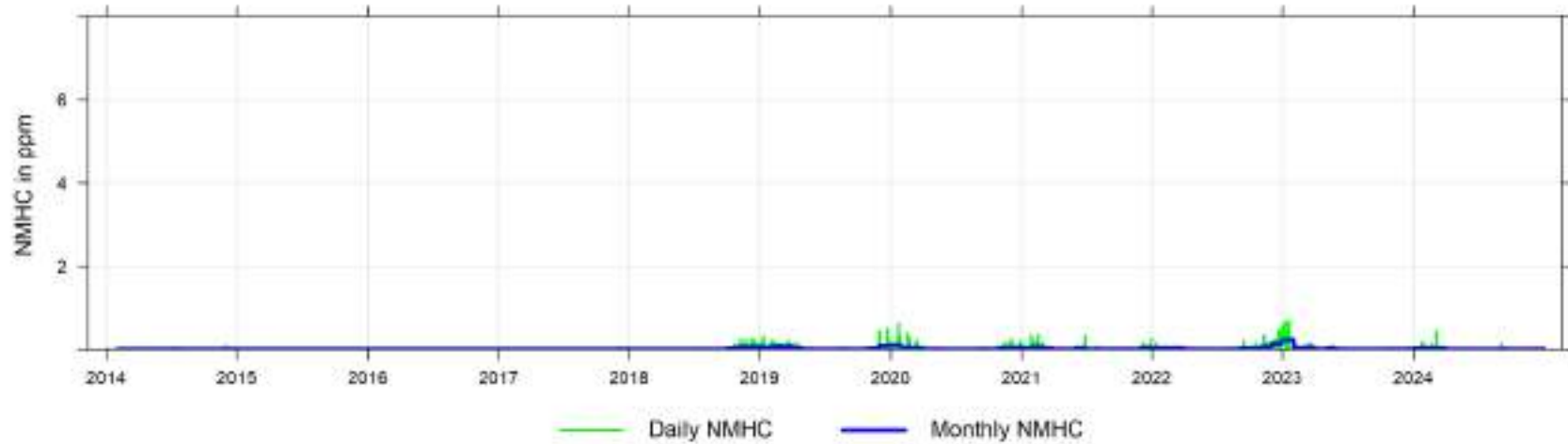
Years 2014 to 2024 Concentration Readings of O<sub>3</sub> (in ppb) at Henry Pirker



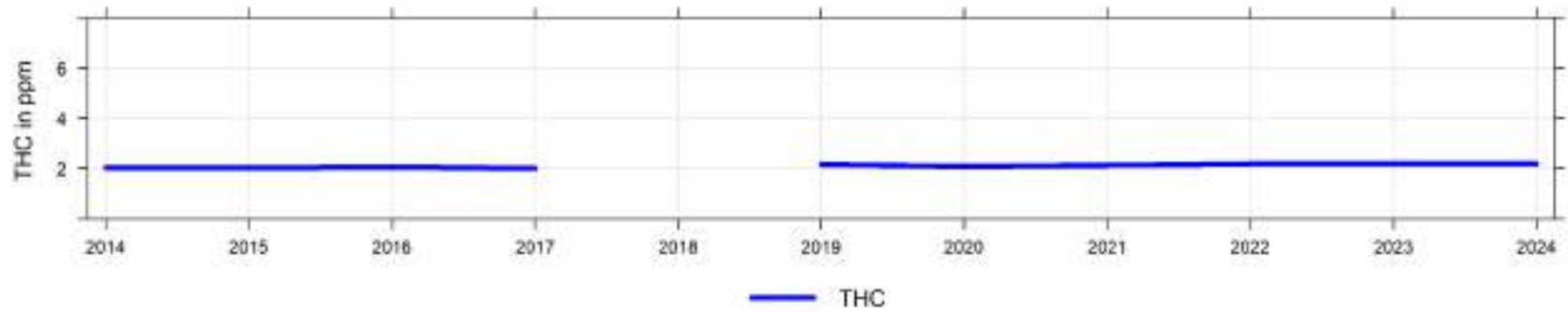
Years 2014 to 2024 Concentration Readings of CH<sub>4</sub> (in ppm) at Henry Pirker



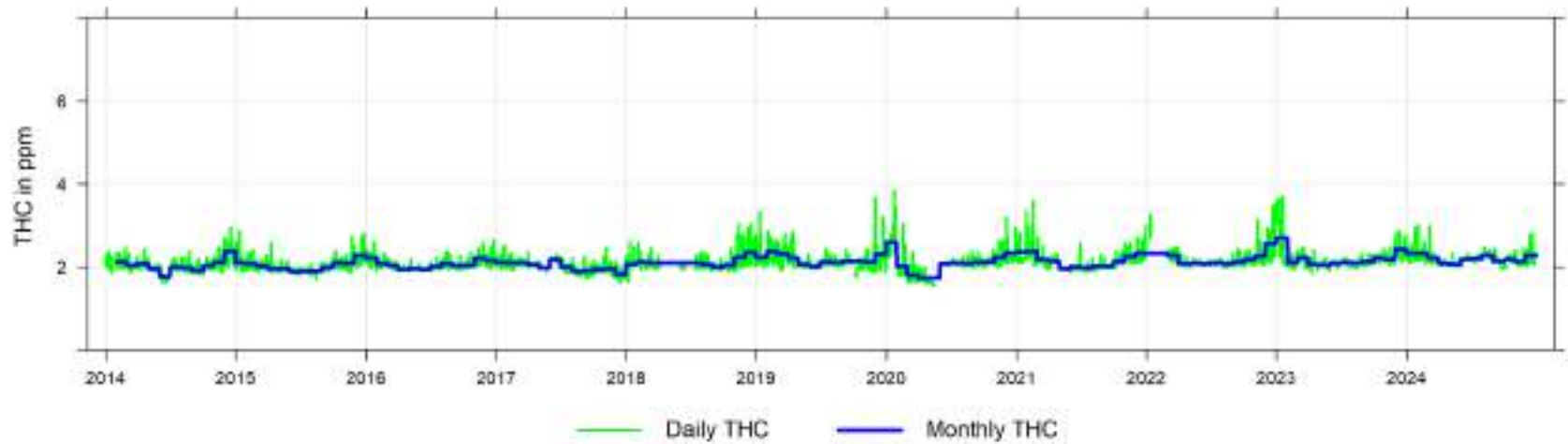
Years 2014 to 2024 Concentration Readings of NMHC (in ppm) at Henry Pirker



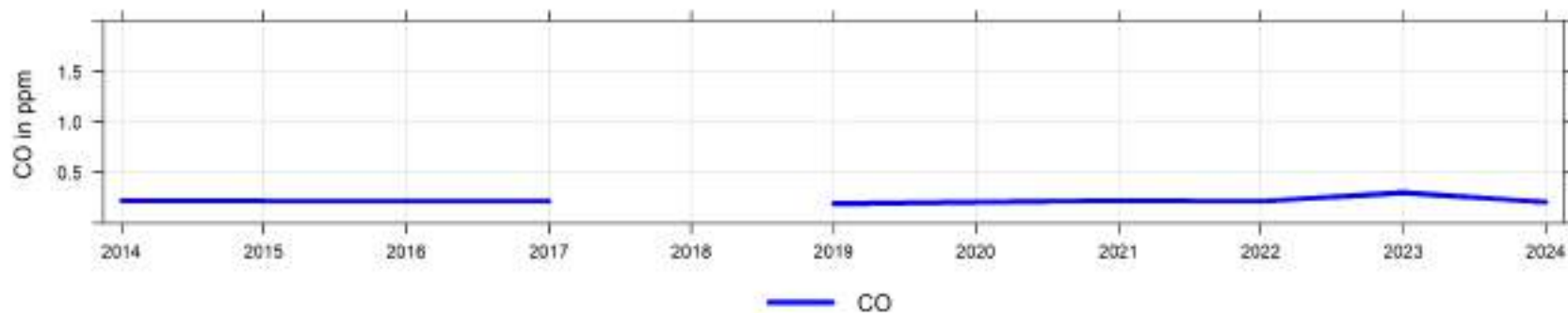
Years 2024 Annual Concentration Readings of THC (in ppm) at Henry Pirker



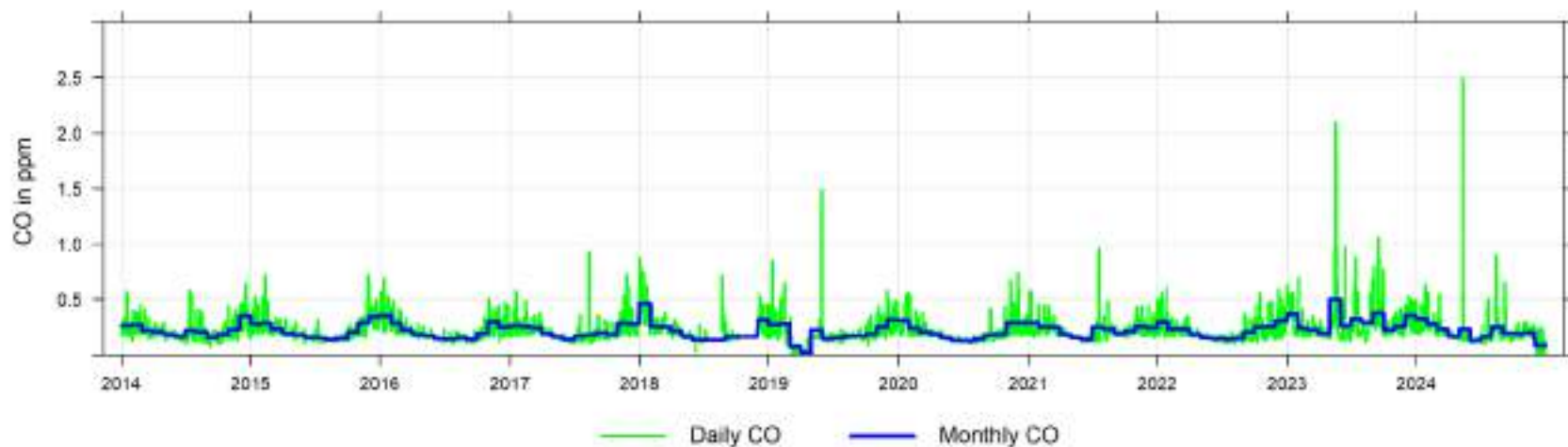
Years 2014 to 2024 Concentration Readings of THC (in ppm) at Henry Pirker



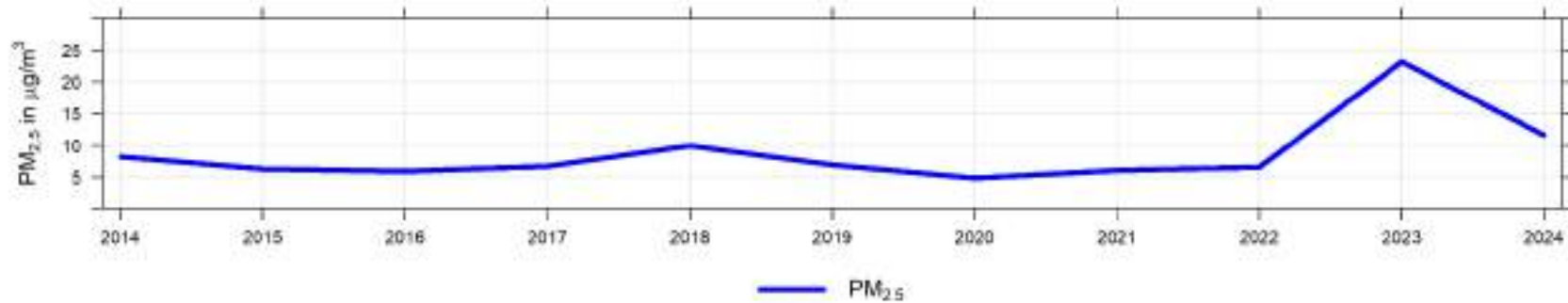
Years 2024 Annual Concentration Readings of CO (in ppm) at Henry Pirker



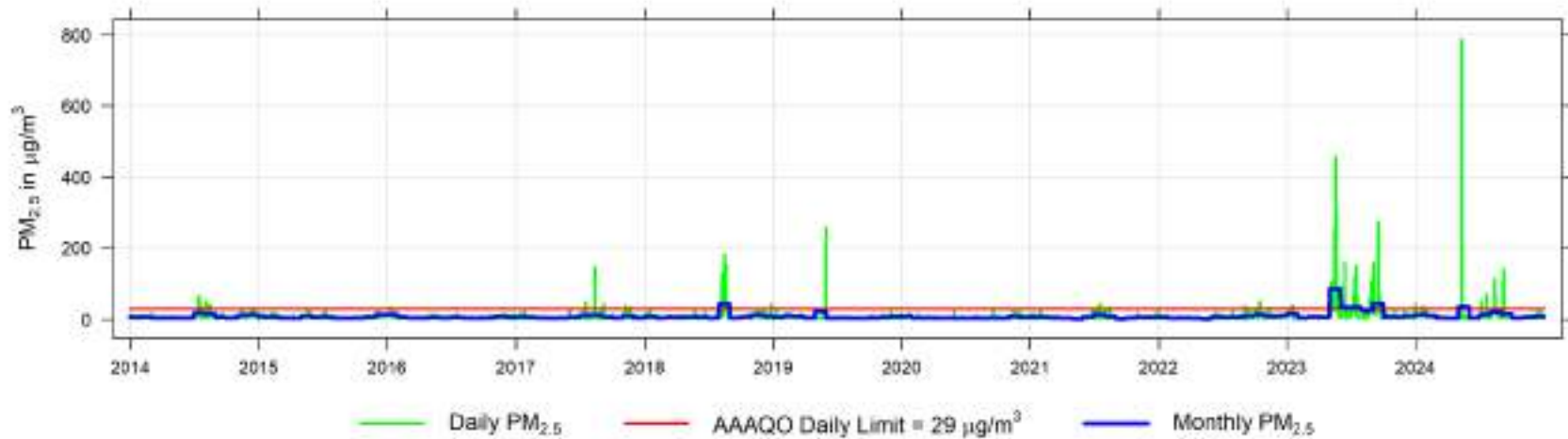
Years 2014 to 2024 Concentration Readings of CO (in ppm) at Henry Pirker



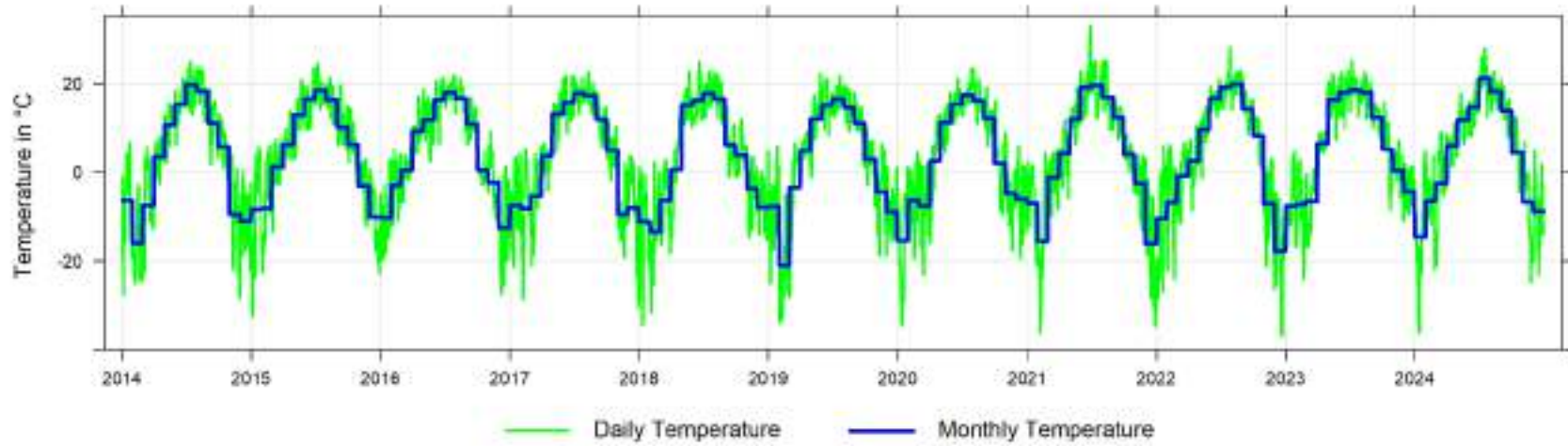
2014 to 2024 Annual Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Henry Pirker



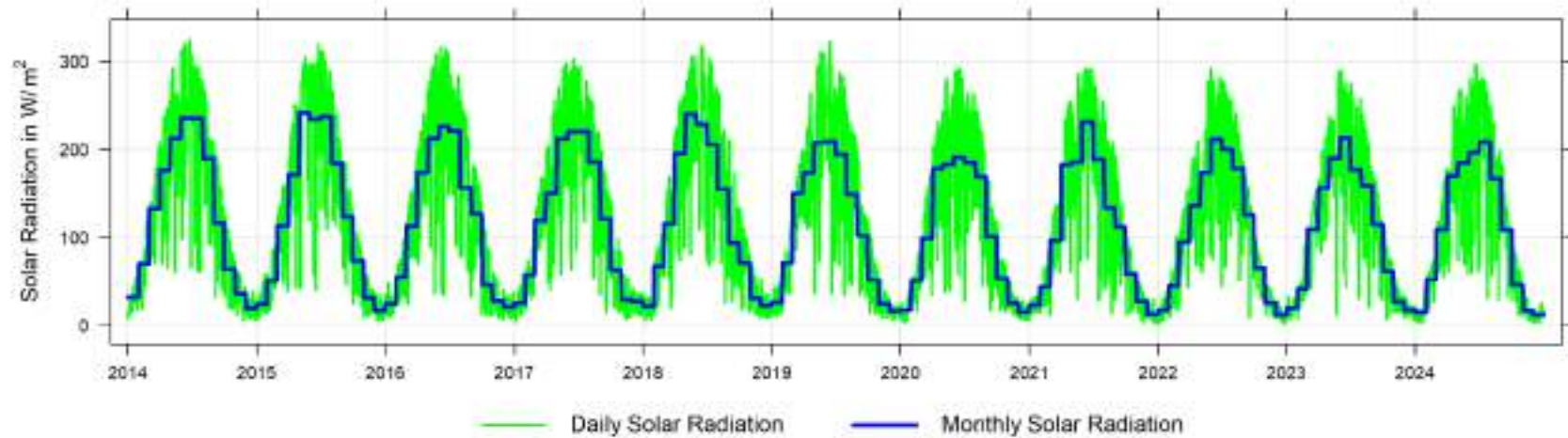
Years 2014 to 2024 Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Henry Pirker



Years 2014 to 2024 Temperature Readings (in °C) at Henry Pirker

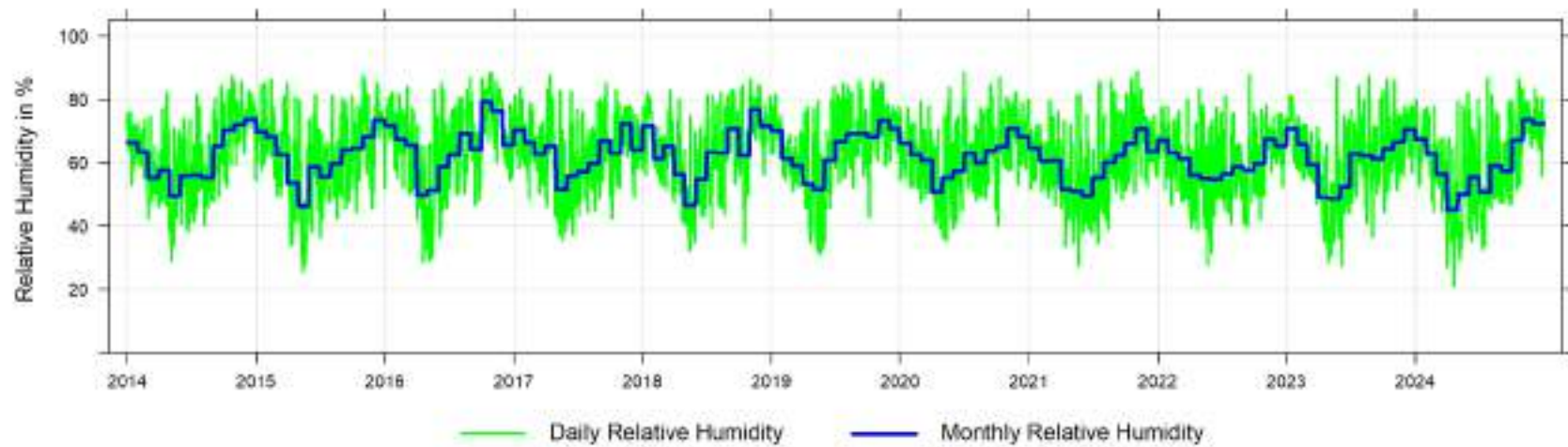


Years 2014 to 2024 Solar Radiation in  $W/m^2$  at Henry Pirker

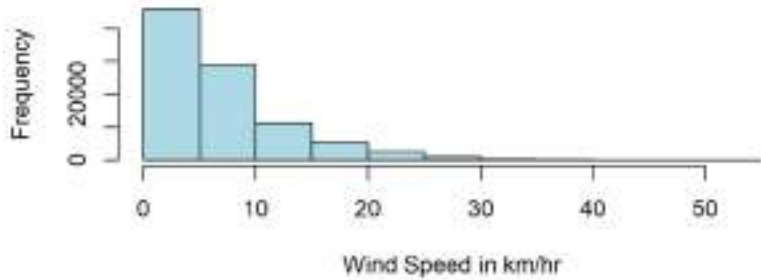




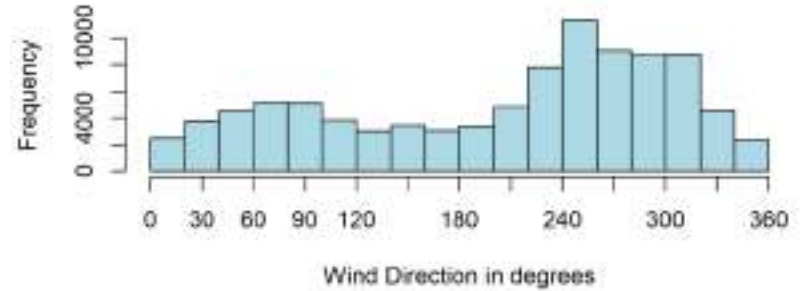
Years 2014 to 2024 Relative Humidity Readings (in %) at Henry Pirker



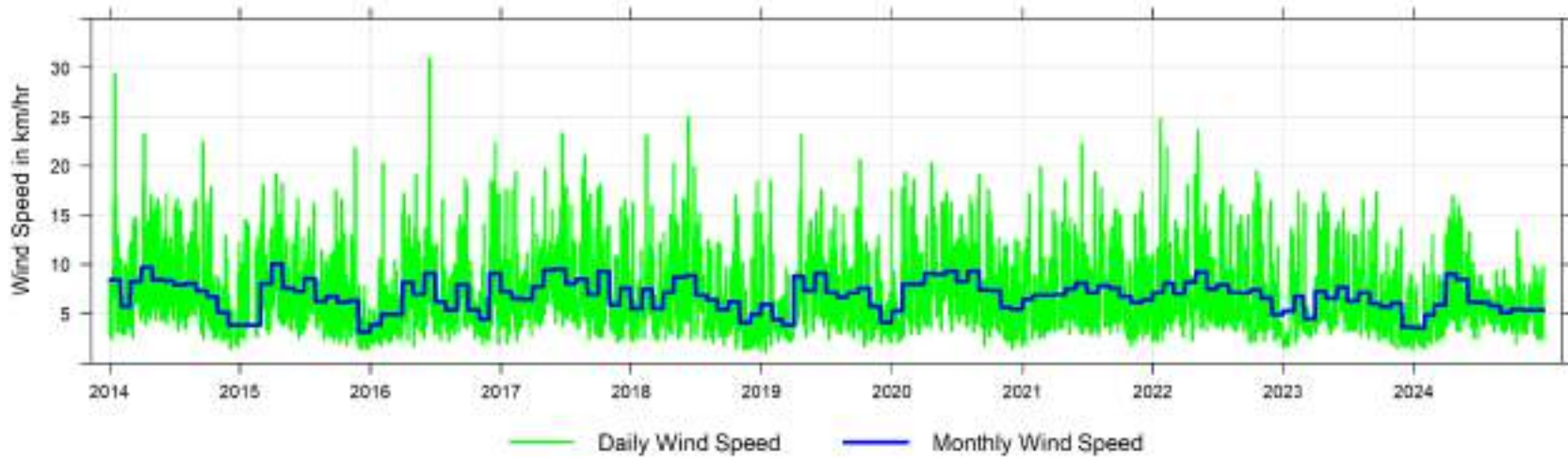
Years 2014 to 2024 Wind Speed Histogram

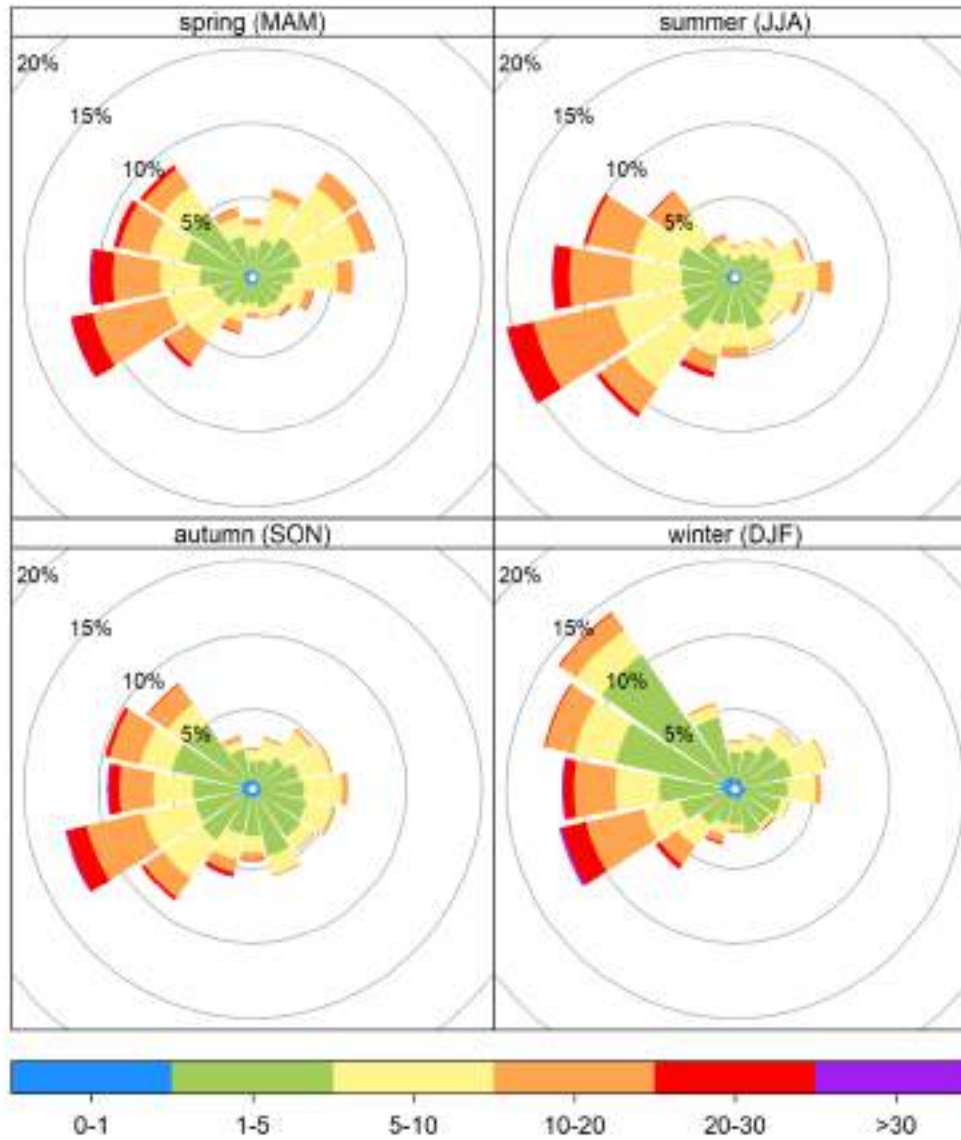


Years 2014 to 2024 Wind Direction Histogram



Years 2014 to 2024 Wind Speed Readings (in km/hr) at Henry Pirker





Henry Parker 2014 to 2024 Seasonal Wind Rose, wind speed in km/hr

