



# **Peace Airshed Zone Association**

## **Ambient Air Monitoring Network Summary**

**Ambient Air Quality Monitoring Program**

**Monthly Report**

**July 2024**

August 31, 2024

**Alberta Environment and Protected Areas**

11th Floor, Oxbridge Place  
9820-106 Street  
Edmonton Alberta T5K 2J6

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

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Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of July 2024.

The representative of the Person Responsible for this monitoring program is:

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This report was prepared by Dr. Kevin McCullum, P.Eng., and reviewed by Mandeep Dhaliwal. PAZA has retained the services of WSP Canada Inc. to conduct continuous ambient monitoring and Dr. Kevin McCullum, P.Eng. 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 monthly summary report includes the operational summaries and hourly continuous monitoring and monthly passive results. The Milner station is being reported under the PAZA Monthly report.

**Continuous Monitoring:**

Eight (8) Stations including Henry Pirker (Grande Prairie), Dunes, Smoky Heights, Beaverlodge, Valleyview, Fox Creek, Happy Valley-Portable and Milner.  
Detailed Summaries are included in the report.

**Calibration and Data Submission:**

Monthly report, hourly data and calibration reports for July 2024 were submitted to the ETS data system.

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

Company	Facility	LSD	EPEA Approval No.
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
	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 (Maximum Levels) Regulation:**

- There was two (duplicate set) SO<sub>2</sub> passives above 30day SO<sub>2</sub> AAAQO (11ppb)
- There was one residential dustfall above the monthly AAAQG (53mg/100cm<sup>2</sup>/30d)
- There were 17 readings above the 24hr PM<sub>2.5</sub> AAAQO, 74 readings above the 1hr PM<sub>2.5</sub> AAAQG for the month

One-hr readings above the PM<sub>2.5</sub> AAAQO (80µg/m<sup>3</sup>) recorded as follows:

Site	reference	Pollutant	Date	From MST	To MST	Average µg/m <sup>3</sup>	WS km/hr	WD degrees
Beaverlodge	430029	PM <sub>2.5</sub>	06-Jul-24	12:00	13:00	93.9	7.4	168
Beaverlodge	430029	PM <sub>2.5</sub>	06-Jul-24	13:00	14:00	85.0	3.7	169
Beaverlodge	430029	PM <sub>2.5</sub>	19-Jul-24	15:00	16:00	123.8	13.1	268
Beaverlodge	430029	PM <sub>2.5</sub>	19-Jul-24	16:00	17:00	192.6	12.0	338
Beaverlodge	430029	PM <sub>2.5</sub>	19-Jul-24	17:00	18:00	260.8	18.5	268
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	96.2	14.1	85
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	101.1	14.6	85
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	108.7	19.8	83
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	113.6	22.8	91
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	96.6	25.7	83
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	13:00	14:00	89.0	27.9	83
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	17:00	18:00	89.2	23.9	91
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	80.3	0.7	143
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	82.6	8.8	334
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	92.2	3.5	273
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	88.4	8.4	1
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	104.9	9.7	291
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	10:00	11:00	90.6	17.3	216
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	11:00	12:00	83.6	6.7	286
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	12:00	13:00	93.9	1.5	59
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	13:00	14:00	98.3	8.9	9
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	14:00	15:00	92.9	7.3	92
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	15:00	16:00	81.8	2.6	74
Dunes	430030	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	81.8	4.3	87
Dunes	430030	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	81.2	5.2	75
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	09:00	10:00	81.0	5.0	28
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	10:00	11:00	85.9	2.9	38
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	11:00	12:00	85.2	1.1	35
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	12:00	13:00	89.4	5.0	159
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	13:00	14:00	109.5	3.0	167
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	14:00	15:00	95.2	6.2	73
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	21:00	22:00	86.3	4.5	97
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	22:00	23:00	89.1	4.9	100
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	23:00	00:00	81.9	4.7	117
Henry Pirker	430032	PM <sub>2.5</sub>	19-Jul-24	18:00	19:00	86.6	8.1	271
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	07:00	08:00	88.6	1.1	313
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	97.6	7.2	272
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	09:00	10:00	109.7	2.1	338
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	114.3	6.4	287
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	106.4	5.0	306
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	111.4	4.4	331
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	13:00	14:00	80.3	3.7	321
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	16:00	17:00	89.4	5.1	277
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	02:00	03:00	82.6	5.3	285
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	87.6	2.4	71

Site	reference	Pollutant	Date	From MST	To MST	Average µg/m <sup>3</sup>	WS km/hr	WD degrees
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	90.7	2.7	67
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	96.9	2.0	271
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	111.0	1.5	247
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	102.0	7.3	12
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	87.8	9.4	171
Smoky Heights	430033	PM <sub>2.5</sub>	06-Jul-24	06:00	07:00	83.8	1.7	6
Smoky Heights	430033	PM <sub>2.5</sub>	15-Jul-24	13:00	14:00	84.1	10.5	257
Smoky Heights	430033	PM <sub>2.5</sub>	15-Jul-24	15:00	16:00	80.2	22.2	250
Smoky Heights	430033	PM <sub>2.5</sub>	19-Jul-24	19:00	20:00	140.6	17.7	302
Smoky Heights	430033	PM <sub>2.5</sub>	19-Jul-24	20:00	21:00	138.7	2.3	139
Smoky Heights	430033	PM <sub>2.5</sub>	19-Jul-24	21:00	22:00	110.3	9.9	183
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	00:00	01:00	111.3	9.7	14
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	01:00	02:00	127.4	10.4	27
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	23:00	03:00	119.5	7.0	21
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	105.5	7.8	13
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	94.2	7.0	21
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	81.4	6.2	356
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	01:00	02:00	81.1	0.7	225
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	02:00	03:00	81.5	1.1	219
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	03:00	04:00	87.6	1.7	192
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	04:00	05:00	90.8	0.1	235
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	05:00	06:00	95.1	0.7	202
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	06:00	07:00	101.4	0.9	192
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	07:00	08:00	123.8	0.9	198
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	08:00	09:00	145.1	4.5	115
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	23:00	10:00	113.3	9.3	139
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	10:00	11:00	100.1	12.0	125
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	11:00	12:00	93.6	13.2	127
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	12:00	13:00	83.7	13.8	125
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	00:00	01:00	87.9	13.6	129
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	01:00	02:00	106.9	12.8	140
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	02:00	03:00	109.3	13.8	143
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	03:00	04:00	107.9	11.0	164
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	04:00	05:00	96.7	2.7	189
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	05:00	06:00	84.8	1.9	220
Happy Valley	430031	PM <sub>2.5</sub>	06-Jul-24	05:00	06:00	112.0	1.0	230
Happy Valley	430031	PM <sub>2.5</sub>	06-Jul-24	06:00	07:00	134.2	3.4	159
Happy Valley	430031	PM <sub>2.5</sub>	06-Jul-24	07:00	08:00	134.3	3.2	253
Happy Valley	430031	PM <sub>2.5</sub>	06-Jul-24	23:00	00:00	94.1	4.9	147
Happy Valley	430031	PM <sub>2.5</sub>	07-Jul-24	00:00	01:00	88.2	6.0	54
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	05:00	06:00	93.2	6.0	101
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	14:00	15:00	93.1	19.4	287
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	15:00	16:00	173.2	18.1	291
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	23:00	17:00	194.4	15.4	283
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	17:00	18:00	152.3	8.7	182
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	19:00	20:00	246.7	12.2	259
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	20:00	21:00	268.5	3.7	156
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	21:00	22:00	170.8	9.5	196
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	10:00	11:00	95.7	3.6	299
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	11:00	12:00	108.9	4.9	28
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	12:00	13:00	103.1	3.9	34
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	13:00	14:00	84.5	4.4	330
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	17:00	18:00	82.9	10.2	49
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	18:00	19:00	100.6	10.7	43

Site	reference	Pollutant	Date	From MST	To MST	Average µg/m <sup>3</sup>	WS km/hr	WD degrees
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	19:00	20:00	86.6	6.7	62
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	20:00	21:00	97.2	3.0	119
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	21:00	22:00	97.9	1.2	179
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	22:00	23:00	88.6	1.0	209
Happy Valley	430031	PM <sub>2.5</sub>	20-Jul-24	23:00	00:00	89.2	1.4	226
Happy Valley	430031	PM <sub>2.5</sub>	21-Jul-24	19:00	20:00	81.0	16.0	68
Happy Valley	430031	PM <sub>2.5</sub>	21-Jul-24	20:00	21:00	85.6	12.0	71
Happy Valley	430031	PM <sub>2.5</sub>	21-Jul-24	21:00	22:00	90.5	5.1	102
Happy Valley	430031	PM <sub>2.5</sub>	21-Jul-24	22:00	23:00	91.9	6.4	104
Happy Valley	430031	PM <sub>2.5</sub>	21-Jul-24	23:00	00:00	100.7	7.0	107
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	00:00	01:00	118.0	11.5	110
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	01:00	02:00	139.9	10.6	109
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	02:00	03:00	162.1	9.3	106
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	03:00	04:00	196.0	4.9	89
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	04:00	05:00	224.0	3.0	21
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	05:00	06:00	228.3	2.1	248
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	06:00	07:00	212.8	1.4	261
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	07:00	08:00	214.0	1.1	67
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	08:00	09:00	208.4	2.2	85
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	09:00	10:00	204.5	4.4	5
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	10:00	11:00	185.5	4.1	31
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	11:00	12:00	149.0	4.2	133
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	12:00	13:00	117.3	6.4	147
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	13:00	14:00	81.9	3.7	179
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	14:00	15:00	81.9	5.2	44
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	15:00	16:00	91.1	11.3	76
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	16:00	17:00	91.1	6.1	7
Happy Valley	430031	PM <sub>2.5</sub>	22-Jul-24	17:00	18:00	80.8	5.2	84

24-hr readings above the PM<sub>2.5</sub> AAAQO (29µg/m<sup>3</sup>) recorded as follows:

Site	reference	Pollutant	Date	Average µg/m <sup>3</sup>	WS km/hr	WD degrees
Beaverlodge	430029	PM <sub>2.5</sub>	06-Jul-24	38.5	5.3	71
Beaverlodge	430029	PM <sub>2.5</sub>	19-Jul-24	40.4	9.1	314
Beaverlodge	430029	PM <sub>2.5</sub>	21-Jul-24	58.4	17.9	83
Beaverlodge	430029	PM <sub>2.5</sub>	22-Jul-24	76.0	8.5	79
Dunes	430030	PM <sub>2.5</sub>	06-Jul-24	34.5	3.0	311
Dunes	430030	PM <sub>2.5</sub>	21-Jul-24	42.3	5.4	83
Dunes	430030	PM <sub>2.5</sub>	22-Jul-24	42.3	3.3	190
Henry Pirker	430032	PM <sub>2.5</sub>	06-Jul-24	53.4	5.7	87
Henry Pirker	430032	PM <sub>2.5</sub>	21-Jul-24	59.3	4.9	339
Henry Pirker	430032	PM <sub>2.5</sub>	22-Jul-24	69.0	5.7	104
Smoky Heights	430033	PM <sub>2.5</sub>	06-Jul-24	44.8	8.1	291
Smoky Heights	430033	PM <sub>2.5</sub>	15-Jul-24	33.6	12.3	254
Smoky Heights	430033	PM <sub>2.5</sub>	19-Jul-24	36.4	9.3	210
Smoky Heights	430033	PM <sub>2.5</sub>	22-Jul-24	45.1	7.4	31
Fox Creek	430782	PM <sub>2.5</sub>	20-Jul-24	30.3	2.8	132
Fox Creek	430782	PM <sub>2.5</sub>	21-Jul-24	82.3	9.0	127
Fox Creek	430782	PM <sub>2.5</sub>	22-Jul-24	44.2	8.3	138
Fox Creek	430782	PM <sub>2.5</sub>	23-Jul-24	37.4	6.7	3
Fox Creek	430782	PM <sub>2.5</sub>	25-Jul-24	30.0	7.0	313
Happy Valley	430031	PM <sub>2.5</sub>	06-Jul-24	50.8	6.2	267
Happy Valley	430031	PM <sub>2.5</sub>	19-Jul-24	75.2	8.3	246

Site	reference	Pollutant	Date	Average µg/m <sup>3</sup>	WS km/hr	WD degrees
Happy Valley	<b>430031</b>	PM <sub>2.5</sub>	20-Jul-24	60.2	4.7	39
Happy Valley	<b>430031</b>	PM <sub>2.5</sub>	21-Jul-24	54.3	12.5	86
Happy Valley	<b>430031</b>	PM <sub>2.5</sub>	22-Jul-24	126.1	5.1	98
Milner	<b>430850</b>	PM <sub>2.5</sub>	21-Jul-24	36.3	5.4	53
Milner	<b>430851</b>	PM <sub>2.5</sub>	22-Jul-24	38.3	3.2	277

Readings above the SO<sub>2</sub> monthly AAAQO (11ppb) recorded as:

Site	reference	Pollutant	Date	Average ppb
Kakwa 3	<b>432261</b>	SO <sub>2</sub> Passive	July 2024	16.3
Kakwa 3, duplicate	<b>432261</b>	SO <sub>2</sub> Passive	July 2024	16.9

Readings above the residential dustfall monthly AAAQG (53mg/100cm<sup>2</sup>/30d) recorded as:

Site	reference	Pollutant	Date	Average mg/100cm <sup>2</sup> /30d
Milner Wanyandie	<b>432262</b>	Total Dustfall	July 2024	54.8

### Operational times less than 90 percent

Fox Creek had a power issue which resulted in all instruments less than 90% uptime in July, **reference 430241**.

All other instruments in the network were in operation >90% during the month.

### Air Incidents

Wildfire smoke in the region resulted in periods of elevated AQHI during the month.

### Deviations from Authorized Monitoring Methods

None were reported.

### Passive Monitoring

- 52 Stations throughout the PAZA zone
  - Passive sample analyses were performed by Bureau Veritas Laboratories

There were 18 duplicates sampled in the month of July:

- Seven SO<sub>2</sub> duplicates located at Forth Creek, Hythe, Smoky Heights, East Prairie, Kakwa 3, Milner Wanyandie, Jayar5 Camp
  - RPD ranging from 3% to 22% (no fails)
  - Milner Wanyandie duplicate was both <0.1ppb
  - **Kakwa 3 duplicate was 16.3 and 16.9ppb, >11ppb (SO<sub>2</sub> monthly AAAQO)**
- One O<sub>3</sub> duplicate located at Kinuso
  - RPD 4% (no fails)

- Seven NO<sub>2</sub> duplicates at Steeprock Creek, Spirit River, Sunset House, Kinuso, Kakwa 4, Milner Ambient Trailer, Jayar4 7-8 or 8-8 Pad
  - RPD ranging from 0% to 21% (no fails)
- Three H<sub>2</sub>S duplicates at Duvernay 3, Kakwa 1, Jayar3 Bone Yard
  - RPD ranging from 12% to 55% (one fail at Jayar3 with one passive at 0.14ppb and other at 0.08ppb)
  - Kakwa 1 site had one passive 0.10ppb and the other at <0.02ppb

### Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- Total dustfall ranged from 31.5 to 102.0 mg/100cm<sup>2</sup>/30day
  - Milner Wanyandie site was 54.8, >53 mg/100cm<sup>2</sup>/30day (residential and recreational AAAQG)
- RPD ranged from 11% to 29% (no fails)

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.



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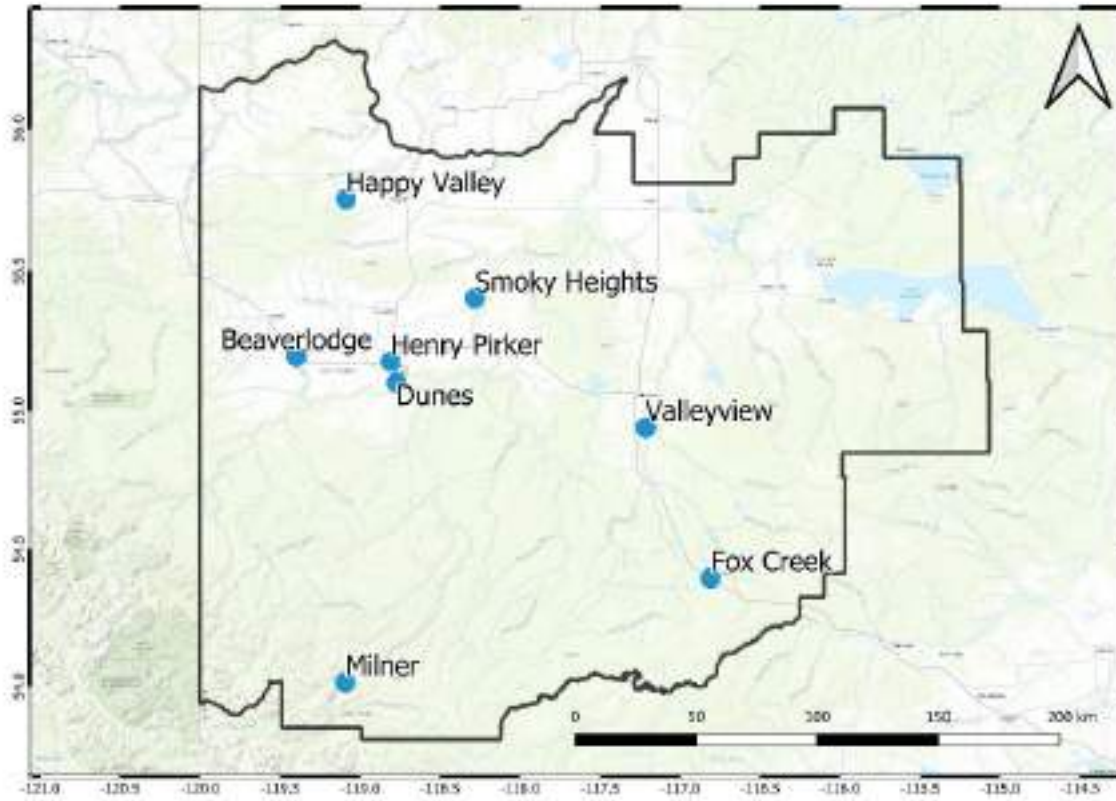
Mandeep Dhaliwal, B.Sc., P.Chem.  
Program Manager



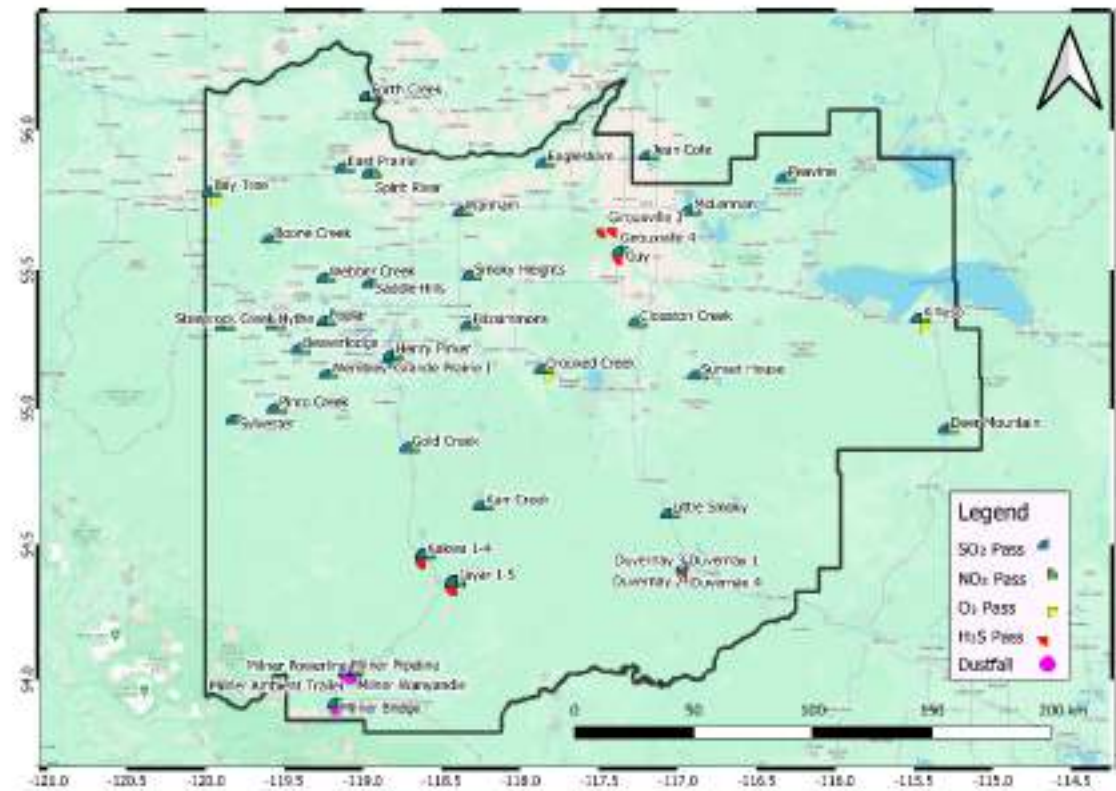
## TABLE OF CONTENTS

1	JULY 2024 MONTHLY STATION SUMMARIES.....	2
1.1	Beaverlodge Air Monitoring Station .....	2
1.2	Dunes Air Monitoring Station .....	2
1.3	Grande Prairie - Henry Pirker Air Monitoring Station.....	3
1.4	Smoky Heights Air Monitoring Station .....	3
1.5	Valleyview Air Monitoring Station .....	4
1.6	Fox Creek Air Monitoring Station .....	4
1.7	Happy Valley Air Monitoring Station .....	5
1.8	Milner Air Monitoring Station.....	5
2	BEAVERLODGE CHARTS.....	6
3	DUNES CHARTS .....	16
4	GRANDE PRAIRIE - HENRY PIRKER CHARTS.....	23
5	SMOKY HEIGHTS CHARTS.....	37
6	VALLEYVIEW CHARTS .....	44
7	FOX CREEK CHARTS.....	51
8	HAPPY VALLEY (PORTABLE) CHARTS.....	61
9	MILNER CHARTS.....	72
10	CONCENTRATION SUMMARIES AND ROSES FOR PAZA.....	79
10.1	Air Quality Health Index (AQHI) Plots .....	80
10.2	Wind Roses .....	81
10.3	Carbon Monoxide (CO) Plots .....	81
10.4	Sulphur Dioxide (SO <sub>2</sub> ) Plots.....	82
10.5	Nitrogen Dioxide (NO <sub>2</sub> ) Plots .....	83
10.6	Ozone (O <sub>3</sub> ) Plots.....	84
10.7	Fine Particulate Matter (PM <sub>2.5</sub> ) Plots.....	85
10.8	Hydrogen Sulphide (H <sub>2</sub> S) Plots.....	86
10.9	Total Reduced Sulphur (TRS) Plots.....	87
10.10	Total Hydrocarbon (THC) Plots .....	88
10.11	Meteorology Summary .....	89
11	PASSIVE MONITORING DATA.....	90
12	DUSTFALL MONITORING DATA.....	99
13	END OF REPORT .....	100

**PAZA Continuous Monitoring Station Locations**



**PAZA Passive Monitoring Station Locations**



# 1 July 2024 Monthly Station Summaries

The following summaries are for the equipment and data results from the continuous ambient work

## 1.1 Beaverlodge Air Monitoring Station

PAZA - July 2024 Beaverlodge Station Report

Parameter	July				1-hour			24-hour			Exceedance				Calibration Date																													
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	5hr	24hr	30d																														
NO (ppb)	0.5	0.0	95.0%	100.0%	11.0	-	Jul-17 05:00	0.9	-	Jul-17	-	-	-	-	Jul 05, 2024																													
NO <sub>2</sub> (ppb)	2.9	0.5	95.0%	100.0%	18.8	150	Jul-09 00:00	6.9	-	Jul-19	0	-	-	-	Jul 05, 2024																													
NO <sub>x</sub> (ppb)	3.2	0.5	95.0%	100.0%	29.0	-	Jul-17 05:00	7.2	-	Jul-19	-	-	-	-	Jul 05, 2024																													
O <sub>3</sub> (ppb)	29.4	4.0	95.3%	100.0%	60.4	78	Jul-21 16:00	47.2	-	Jul-21	0	-	-	-	Jul 05, 2024																													
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	15.4	0.5	96.0%	96.1%	293.8	80	Jul-19 18:00	70.0	29	Jul-23	21	-	4	-	Jul 02, 2024																													
SO <sub>2</sub> (ppb)	0.5	0.0	95.3%	100.0%	6.4	172	Jul-09 18:00	0.9	48	Jul-22	0	-	0	0	Jul 02, 2024																													
<table border="1"> <thead> <tr> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>19.7</td> <td>9.2</td> <td>95.4%</td> <td>95.4%</td> <td>33.8</td> </tr> <tr> <td>RH (%)</td> <td>53.8</td> <td>13.0</td> <td>100.0%</td> <td>100.0%</td> <td>99.4</td> </tr> <tr> <td>WS (km/hr)</td> <td>12.5</td> <td>0.4</td> <td>100.0%</td> <td>100.0%</td> <td>44.8</td> </tr> <tr> <td>WD (deg)</td> <td>280</td> <td>0.7</td> <td>100.0%</td> <td>100.0%</td> <td>359.0</td> </tr> </tbody> </table>																Average	Minimum	Valid	Operational	Maximum	Temp (°C)	19.7	9.2	95.4%	95.4%	33.8	RH (%)	53.8	13.0	100.0%	100.0%	99.4	WS (km/hr)	12.5	0.4	100.0%	100.0%	44.8	WD (deg)	280	0.7	100.0%	100.0%	359.0
Average	Minimum	Valid	Operational	Maximum																																								
Temp (°C)	19.7	9.2	95.4%	95.4%	33.8																																							
RH (%)	53.8	13.0	100.0%	100.0%	99.4																																							
WS (km/hr)	12.5	0.4	100.0%	100.0%	44.8																																							
WD (deg)	280	0.7	100.0%	100.0%	359.0																																							
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> <p>Average Wind Direction: 280 W</p>																																												

**Update Summary:**

Parameter	Make	Model	Equipment summary
NO/NO <sub>2</sub> /NO <sub>x</sub>	Thermo	420L	No Operational issues noted during the month
O <sub>3</sub>	Thermo	490L	No Operational issues noted during the month
PM <sub>2.5</sub>	API	T640	July 6 to 22, 29x1hr readings above AAQGS and 4x24hr readings above AAQGS; July 23 to 24, 29hrs removed due to data malfunction (invalid data)
SO <sub>2</sub>	Thermo	43i-TLE	No Operational issues noted during the month
Met Equip	MetOne	50.5	For ET, daily drop removed every day 04:21-04:45 (51hrs); July 2 additional 3hrs removed

## 1.2 Dunes Air Monitoring Station

PAZA - July 2024 Dunes Station Report

Parameter	July				1-hour			24-hour			Exceedance				Calibration Date																													
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	5hr	24hr	30d																														
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	9.1	0.0	97.0%	97.5%	87.8	80	Jul-21 09:00	42.1	29	Jul-22	2	-	1	-	Jul-29-2024																													
SO <sub>2</sub> (ppb)	0.5	0.0	94.0%	98.5%	19.3	172	Jul-29 18:00	1.1	48	Jul-29	0	-	0	0	Jul-29-2024																													
THS (ppb)	0.5	0.0	94.0%	98.5%	1.4	10	Jul-07 02:00	0.6	3	Jul-22	0	-	0	-	Jul-29-2024																													
<table border="1"> <thead> <tr> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>19.9</td> <td>7.1</td> <td>98.8%</td> <td>98.8%</td> <td>36.0</td> </tr> <tr> <td>RH (%)</td> <td>55.4</td> <td>12.5</td> <td>98.8%</td> <td>98.8%</td> <td>99.9</td> </tr> <tr> <td>WS (km/hr)</td> <td>4.2</td> <td>0.1</td> <td>98.8%</td> <td>98.8%</td> <td>15.5</td> </tr> <tr> <td>WD (deg)</td> <td>259</td> <td>0.8</td> <td>98.8%</td> <td>98.8%</td> <td>359.7</td> </tr> </tbody> </table>																Average	Minimum	Valid	Operational	Maximum	Temp (°C)	19.9	7.1	98.8%	98.8%	36.0	RH (%)	55.4	12.5	98.8%	98.8%	99.9	WS (km/hr)	4.2	0.1	98.8%	98.8%	15.5	WD (deg)	259	0.8	98.8%	98.8%	359.7
Average	Minimum	Valid	Operational	Maximum																																								
Temp (°C)	19.9	7.1	98.8%	98.8%	36.0																																							
RH (%)	55.4	12.5	98.8%	98.8%	99.9																																							
WS (km/hr)	4.2	0.1	98.8%	98.8%	15.5																																							
WD (deg)	259	0.8	98.8%	98.8%	359.7																																							
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> <p>Average Wind Direction: 259 W</p>																																												

**Update Summary:**

Parameter	Make	Model	Equipment summary
PM <sub>2.5</sub>	Thermo	SHARP 503D	July 6 to 22, 2x2hr readings above AAQGS and 1x24hr readings above AAQGS; July 19 to 20 power failure, 9hrs removed; July 25, data failure (9hrs) and maintenance (2hrs)
SO <sub>2</sub>	Thermo	43i	July 19 to 20, 11hrs removed due to power failure
FRS	Thermo	43i	July 19 to 20, 11hrs removed due to power failure
Met Equip	SII/RMYoung	MetPak/RMY96004	July 19 to 20, 9hrs removed due to power failure

### 1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - July 2024 Henry Pirker Station Report

Parameter	July				1-hour			8-hour / 24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
NO (ppb)	0.6	0.0	89.9%	94.8%	11.5	-	Jul-22 08:00	2.5	-	Jul-12	-	-	-	-	Jul 23, 2024	
NO <sub>2</sub> (ppb)	4.2	0.7	89.0%	94.8%	23.1	150	Jul-18 06:00	8.7	-	Jul-09	0	-	-	-	Jul 23, 2024	
NO <sub>x</sub> (ppb)	4.8	0.8	89.0%	94.8%	30.8	-	Jul-18 06:00	9.8	-	Jul-09	-	-	-	-	Jul 23, 2024	
O <sub>3</sub> (ppb)	28.7	3.1	95.3%	100.0%	71.5	78	Jul-19 15:00	45.8	-	Jul-21	0	-	-	-	Jul 03, 2024	
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	13.4	0.6	89.9%	100.0%	124.1	80	Jul-21 11:00	80.0	25	Jul-21	23	-	1	-	Jul 17, 2024	
SO <sub>2</sub> (ppb)	0.5	0.0	95.2%	99.0%	15.0	172	Jul-28 09:00	3.0	48	Jul-28	0	-	0	0	Jul 17, 2024	
H <sub>2</sub> S (ppb)	0.1	0.0	95.2%	100.0%	1.6	10	Jul-20 06:00	0.4	5	Jul-20	0	-	0	-	Jul 04, 2024	
CH <sub>4</sub> (ppm)	2.2	2.0	95.3%	100.0%	2.6	-	Jul-19 06:00	2.5	-	Jul-21	-	-	-	-	Jul 17, 2024	
THC (ppm)	2.2	2.0	95.3%	100.0%	2.6	-	Jul-19 06:00	2.5	-	Jul-21	-	-	-	-	Jul 17, 2024	
NMHC (ppm)	0.0	0.0	95.3%	100.0%	0.0	-	Jul-12 17:00	0.0	-	Jul-12	-	-	-	-	Jul 17, 2024	
CO (ppm)	0.2	0.1	95.0%	100.0%	0.8	11	Jul-21 11:00	0.5	5	Jul-21	0	0	-	-	Jul 04, 2024	
<b>Average</b>	<b>Minimum</b>	<b>Valid</b>	<b>Operational</b>	<b>Maximum</b>												
Temp (°C)	21.0	8.1	100.0%	100.0%	38.3	<div style="border: 1px solid black; padding: 2px;">                     Note: Valid hours must be greater than 75%                      Operational hours must be greater than 90%                 </div>										May 23, 2024
RH (%)	50.7	10.1	100.0%	100.0%	89.1											May 23, 2024
SR (W/m <sup>2</sup> )	208.1	0.0	100.0%	100.0%	751.1											May 23, 2024
WS (km/hr)	6.1	0.4	100.0%	100.0%	17.7											May 23, 2024
WD (deg)	178	1.7	100.0%	100.0%	358.8	<div style="border: 1px solid black; padding: 2px;">                     Average Wind Direction      178      5                 </div>										May 23, 2024

**Update Summary:**

Parameter	Make	Model	Equipment summary
NO/NO <sub>2</sub> /NO <sub>x</sub>	Thermo	42i	July 22 to second calibration July 23 removed due to dropping span over several days (33hrs removed), second calibration marked maintenance (8hrs)
O <sub>3</sub>	TECO	49i	No operational issues noted during the month
PM <sub>2.5</sub>	API	T540	July 6, July 19 to 22, 25x1hr readings over the AAQO and 3x24hr readings over the AAQO
SO <sub>2</sub>	Thermo	43i-TLE	July 3 calibrator issues, returned with different cylinder and calibrator to complete (1hr maintenance)
H <sub>2</sub> S	TEI	45Di	No operational issues noted during the month
THC/CH <sub>4</sub> /NMHC	TEI	55i	No operational issues noted during the month
CO	Thermo	48i-TLE	July 4 removal calibration for dryer replacement, no issues, no loss time
Met Equip	MetOne	50.5	No operational issues noted during the month

### 1.4 Smoky Heights Air Monitoring Station

PAZA - July 2024 Smoky Heights Station Report

Parameter	July				1-hour			24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	14.3	0.0	93.0%	96.9%	140.6	80	Jul-19 20:00	40.3	25	Jul-22	12	-	4	-	Jul 04, 2024	
SO <sub>2</sub> (ppb)	0.5	0.0	93.7%	98.4%	5.8	172	Jul-02 01:00	1.0	48	Jul-02	0	-	0	0	Jul 04, 2024	
TRs (ppb)	0.2	0.0	95.3%	100.0%	2.1	10	Jul-20 06:00	0.5	5	Jul-20	0	-	0	-	Jul 04, 2024	
<b>Average</b>	<b>Minimum</b>	<b>Valid</b>	<b>Operational</b>	<b>Maximum</b>												
Temp (°C)	19.5	6.5	100.0%	100.0%	35.3	<div style="border: 1px solid black; padding: 2px;">                     Note: Valid hours must be greater than 75%                      Operational hours must be greater than 90%                 </div>										
WS (km/hr)	13.1	0.6	100.0%	100.0%	43.3											
WD (deg)	253	0.1	100.0%	100.0%	350.3	<div style="border: 1px solid black; padding: 2px;">                     Average Wind Direction      253      WNW                 </div>										

**Update Summary:**

Parameter	Make	Model	Equipment summary
PM <sub>2.5</sub>	Sharp	5030	July 8 to July 23, 12x1hr readings above AAQO and 4x24hr readings above AAQO; July 22, 1hr maintenance
SO <sub>2</sub>	TECO	43i	July 18 to 31, 12hrs removed for maintenance (3x calibrations)
TRs	TEI	43i/APSAA	No operational issues noted during the month
Met Equip	MetOne	50.5	No operational issues noted during the month

## 1.5 Valleyview Air Monitoring Station

PAZA - July 2024 Valleyview Station Report

Parameter	July				1-hour			24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	5hr	24hr	30d	
SO <sub>2</sub> (ppb)	0.1	0.0	95.4%	100.0%	1.0	172	Jul-22 16:00	0.2	48	Jul-22	0	-	0	0	Jul 16, 2024
H <sub>2</sub> S (ppb)	0.1	0.0	95.3%	100.0%	1.4	38	Jul-09 22:00	0.3	3	Jul-25	0	-	0	-	Jul 16, 2024
	<b>Average</b>	<b>Minimum</b>	<b>Valid</b>	<b>Operational</b>	<b>Maximum</b>										
Temp (°C)	19.7	8.2	100.0%	100.0%	35.7	<div style="border: 1px solid black; padding: 5px;"> <p>Note: Valid hours must be greater than 75%</p> <p>Operational hours must be greater than 50%</p> </div>									
RH (%)	85.2	20.5	100.0%	100.0%	100.0										
WS (km/hr)	3.8	0.1	100.0%	100.0%	13.1										
WD (deg)	270	0.5	100.0%	100.0%	392.0										
								Average Wind Direction		270 MW					
<b>Update Summary:</b>															
Parameter	Make	Model	Equipment summary												
SO <sub>2</sub>	TEI	431-AP5CB	No operational issues noted during the month												
H <sub>2</sub> S	TEI	450-APHAA / 43C	No operational issues noted during the month												
Met Equip	RMYoung	RMFB006	No operational issues noted during the month												

## 1.6 Fox Creek Air Monitoring Station

PAZA - July 2024 Fox Creek Station Report

Parameter	July				1-hour			8-hour / 24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	5hr	24hr	30d	
NO (ppb)	2.8	0.0	76.4%	80.3%	32.6	-	Jul-21 07:00	5.1	-	Jul-31	-	-	-	-	Jul 16, 2024
NO <sub>2</sub> (ppb)	4.1	0.0	76.4%	80.3%	24.3	159	Jul-25 05:00	5.7	-	Jul-22	0	-	-	-	Jul 16, 2024
NO <sub>x</sub> (ppb)	7.1	0.0	76.4%	80.3%	41.9	-	Jul-25 05:00	12.8	-	Jul-22	-	-	-	-	Jul 16, 2024
O <sub>3</sub> (ppb)	25.5	0.2	76.0%	79.7%	64.8	78	Jul-21 18:00	39.2	-	Jul-22	0	-	-	-	Jul 16, 2024
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	14.7	0.7	83.2%	83.2%	149.1	80	Jul-21 09:00	82.3	25	Jul-21	18	-	3	-	Jul 16, 2024
SO <sub>2</sub> (ppb)	0.5	0.0	76.5%	80.3%	38.4	172	Jul-29 16:00	3.5	48	Jul-29	0	-	0	0	Jul 16, 2024
H <sub>2</sub> S (ppb)	-	0.0	67.4%	71.0%	0.7	38	Jul-28 04:00	0.3	3	Jul-24	0	-	0	-	Jul 01, 2024
	<b>Average</b>	<b>Minimum</b>	<b>Valid</b>	<b>Operational</b>	<b>Maximum</b>										
Temp (°C)	19.1	8.0	83.2%	83.2%	36.8	<div style="border: 1px solid black; padding: 5px;"> <p>Note: Valid hours must be greater than 75%</p> <p>Operational hours must be greater than 90%</p> </div>									
WS (km/hr)	3.8	0.1	83.2%	83.2%	19.9										
WD (deg)	283	0.9	83.2%	83.2%	399.1										
<b>Update Summary:</b>															
Parameter	Make	Model	Equipment summary												
NO/NO <sub>2</sub> /NO <sub>x</sub>	Thermo	420Q	July 4 to 9, power failure (126hrs); July 9 to 30, 21hrs data removed to calibration; <90%												
O <sub>3</sub>	TECO	891	July 4 to 9, power failure (126hrs); July 9 to 30, 21hrs data removed to calibration; <90%												
PM <sub>2.5</sub>	API	T640	July 4 to 9, power failure (126hrs); July 20 to 25, 18x24hr readings above AAADQ, 5x24hr readings above AAADQ, <90%												
SO <sub>2</sub>	TEI	431-TLE	July 4 to 9, power failure (126hrs); July 9 to 30, 21hrs data removed to calibration; <90%												
H <sub>2</sub> S	TEI	450L	July 1, 11hrs removed from last month, upto calibration; July 4 to 9, power failure (126hrs); July 11, 5hrs maintenance for calibration check; July 19 to 20, 30hrs removed from last good span to calibration check (8hrs maintenance); July 22 to 23, 34hrs removed to not good span to span check (2hrs maintenance); <73%												
Met Equip	MetOne	50.5	July 4 to 9, power failure (126hrs); <90%												

Note: average not shown for H<sub>2</sub>S due to monthly average <75%

## 1.7 Happy Valley Air Monitoring Station

PAZA - July 2024 Happy Valley Station Report

Parameter	July				1-hour			24-hour			Exceedance				Calibration Date																								
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d																									
NO (ppb)	0.4	0.0	94.8%	99.6%	4.6	-	Jul-20 07:00	1.1	-	Jul-20	-	-	-	-	Jul 09, 2024																								
NO <sub>2</sub> (ppb)	2.0	0.0	94.8%	99.6%	19.8	150	Jul-21 23:00	6.4	-	Jul-21	0	-	-	-	Jul 09, 2024																								
NO <sub>x</sub> (ppb)	2.4	0.3	94.8%	99.6%	24.1	-	Jul-21 23:00	7.5	-	Jul-21	-	-	-	-	Jul 09, 2024																								
O <sub>3</sub> (ppb)	29.7	8.1	94.9%	99.6%	64.0	78	Jul-20 12:00	45.4	-	Jul-18	0	-	-	-	Jul 09, 2024																								
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	10.1	0.6	99.5%	99.6%	299.1	80	Jul-29 21:00	126.1	29	Jul-22	47	-	5	-	Jul 15, 2024																								
SO <sub>2</sub> (ppb)	0.5	0.0	94.9%	99.5%	11.3	172	Jul-18 09:00	1.5	48	Jul-16	0	-	0	0	Jul 09, 2024																								
TRS (ppb)	0.5	0.1	90.1%	94.6%	4.1	30	Jul-29 21:00	1.1	3	Jul-20	0	-	0	-	Jul 15, 2024																								
THC (ppm)	2.0	1.8	93.8%	98.5%	3.0	-	Jul-20 23:00	2.2	-	Jul-22	-	-	-	-	Jul 15, 2024																								
<table border="1"> <thead> <tr> <th></th> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>19.3</td> <td>8.2</td> <td>99.6%</td> <td>99.6%</td> <td>34.7</td> </tr> <tr> <td>WS (km/hr)</td> <td>10.6</td> <td>0.5</td> <td>99.6%</td> <td>99.6%</td> <td>27.7</td> </tr> <tr> <td>WD (deg)</td> <td>253</td> <td>1.7</td> <td>99.6%</td> <td>99.6%</td> <td>358.7</td> </tr> </tbody> </table>																	Average	Minimum	Valid	Operational	Maximum	Temp (°C)	19.3	8.2	99.6%	99.6%	34.7	WS (km/hr)	10.6	0.5	99.6%	99.6%	27.7	WD (deg)	253	1.7	99.6%	99.6%	358.7
	Average	Minimum	Valid	Operational	Maximum																																		
Temp (°C)	19.3	8.2	99.6%	99.6%	34.7																																		
WS (km/hr)	10.6	0.5	99.6%	99.6%	27.7																																		
WD (deg)	253	1.7	99.6%	99.6%	358.7																																		
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 50%</p> <p>Average Wind Direction: 253 WSW</p>																																							

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO <sub>2</sub> /NO <sub>x</sub>	TEI	421	July 24, 3hrs missing data
O <sub>3</sub>	TEI	451	July 24, 3hrs missing data
PM <sub>2.5</sub>	API	T690	July 8 to 23, 4761hr readings above AAQO and 5x24hr readings above AAQO; July 24, 3hrs removed due to drifting
SO <sub>2</sub>	TEI	431	July 24, 4hrs missing data
TRS	TEI	431	July 24, 3hrs missing data; July 25 to 26, 33 hours removed to last good span, 8hrs maintenance
THC	TEI	55i / 516-LT	July 25, 24 and 28 periods of data drifting removed (7hrs); July 28 second calibration (4hrs maintenance)
Met Equip	MetOne	50.5	July 24, 3hrs missing data

## 1.8 Milner Air Monitoring Station

PAZA - July 2024 Milner Station Report

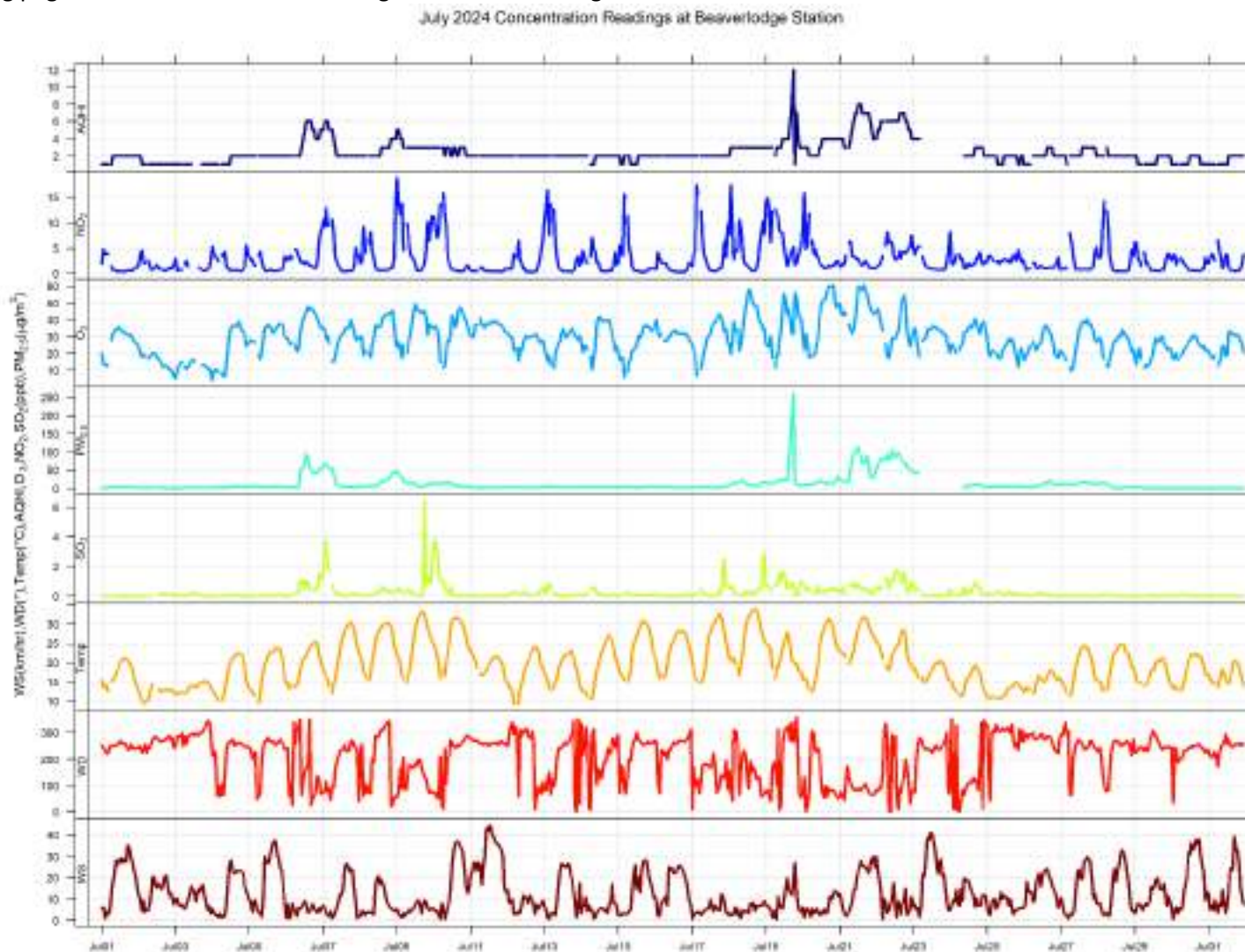
Parameter	July				1-hour			24-hour			Exceedance				Calibration Date																		
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d																			
NO (ppb)	0.5	0.0	95.2%	100.0%	17.2	-	Jul-08 07:00	1.2	-	Jul-05	-	-	-	-	Jul 26, 2024																		
NO <sub>2</sub> (ppb)	2.1	0.0	93.2%	100.0%	12.9	150	Jul-09 05:00	3.9	-	Jul-23	0	-	-	-	Jul 26, 2024																		
NO <sub>x</sub> (ppb)	2.6	0.0	95.2%	100.0%	27.8	-	Jul-08 07:00	4.8	-	Jul-05	-	-	-	-	Jul 26, 2024																		
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	10.0	0.3	99.9%	100.0%	65.5	80	Jul-22 11:00	36.3	29	Jul-22	0	-	2	-	Jul 26, 2024																		
<table border="1"> <thead> <tr> <th></th> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>WS (km/hr)</td> <td>7.2</td> <td>0.4</td> <td>100.0%</td> <td>100.0%</td> <td>24.2</td> </tr> <tr> <td>WD (deg)</td> <td>244</td> <td>0.9</td> <td>100.0%</td> <td>100.0%</td> <td>393.6</td> </tr> </tbody> </table>																	Average	Minimum	Valid	Operational	Maximum	WS (km/hr)	7.2	0.4	100.0%	100.0%	24.2	WD (deg)	244	0.9	100.0%	100.0%	393.6
	Average	Minimum	Valid	Operational	Maximum																												
WS (km/hr)	7.2	0.4	100.0%	100.0%	24.2																												
WD (deg)	244	0.9	100.0%	100.0%	393.6																												
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 50%</p> <p>Average Wind Direction: 244 WSW</p>																																	

Update Summary:

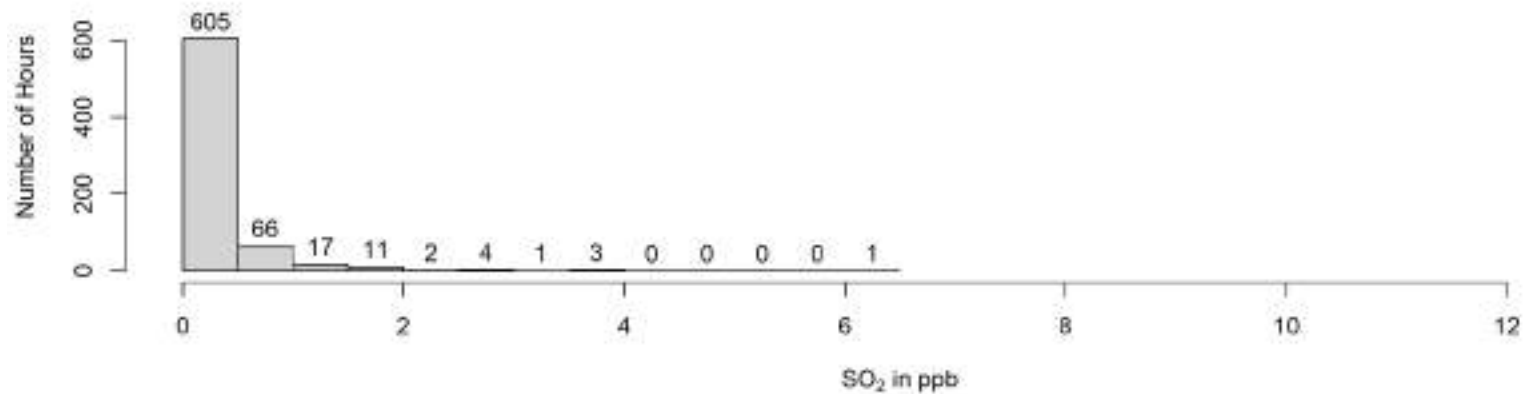
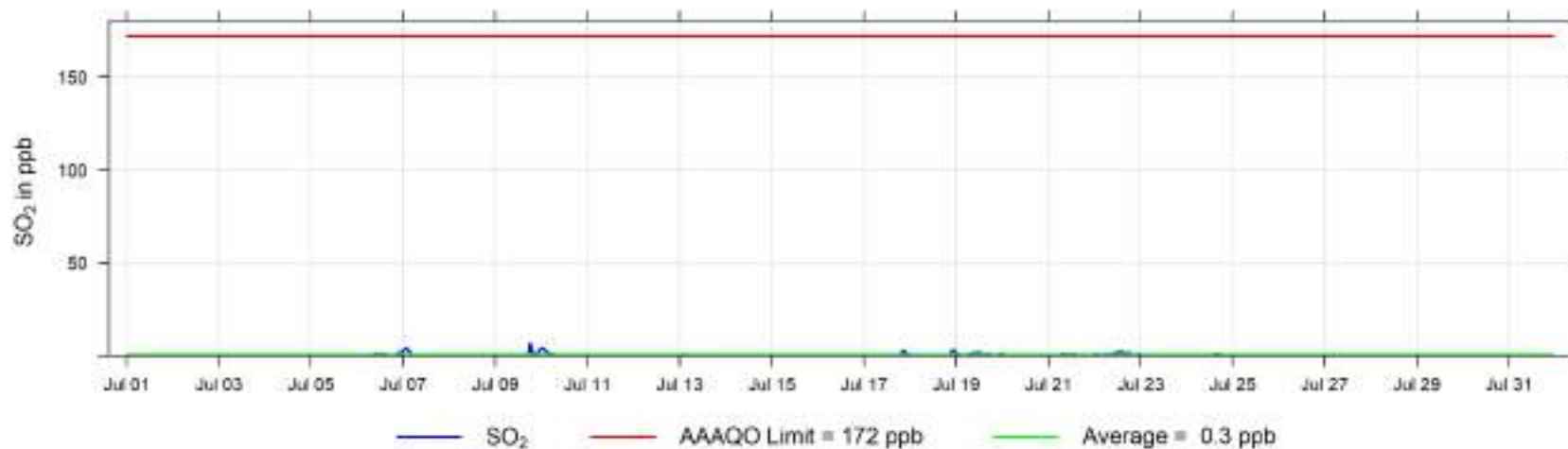
Parameter	Make	Model	Equipment summary
NO/NO <sub>2</sub> /NO <sub>x</sub>	Thermo	421	No Operational issues noted
PM <sub>2.5</sub>	API	T690	July 21 to 22, 2x24hr readings above AAQO
Met Equip	MetOne	50.5	No Operational issues noted

## 2 Beaverlodge Charts

The following pages include the charts and histograms for Beaverlodge Station

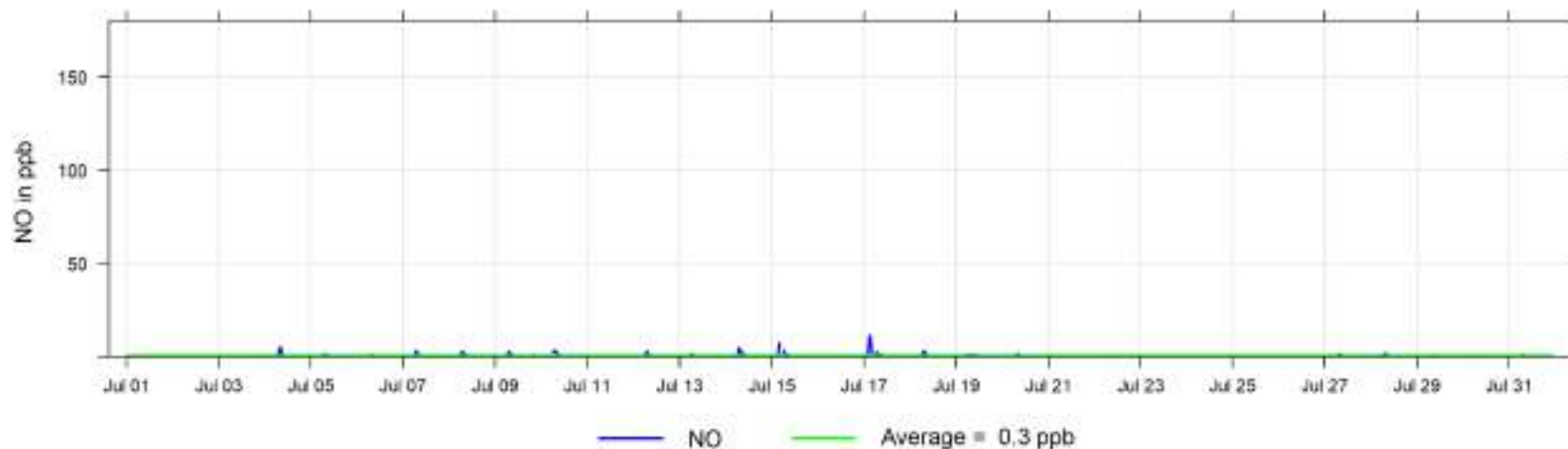


July 2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Beaverlodge

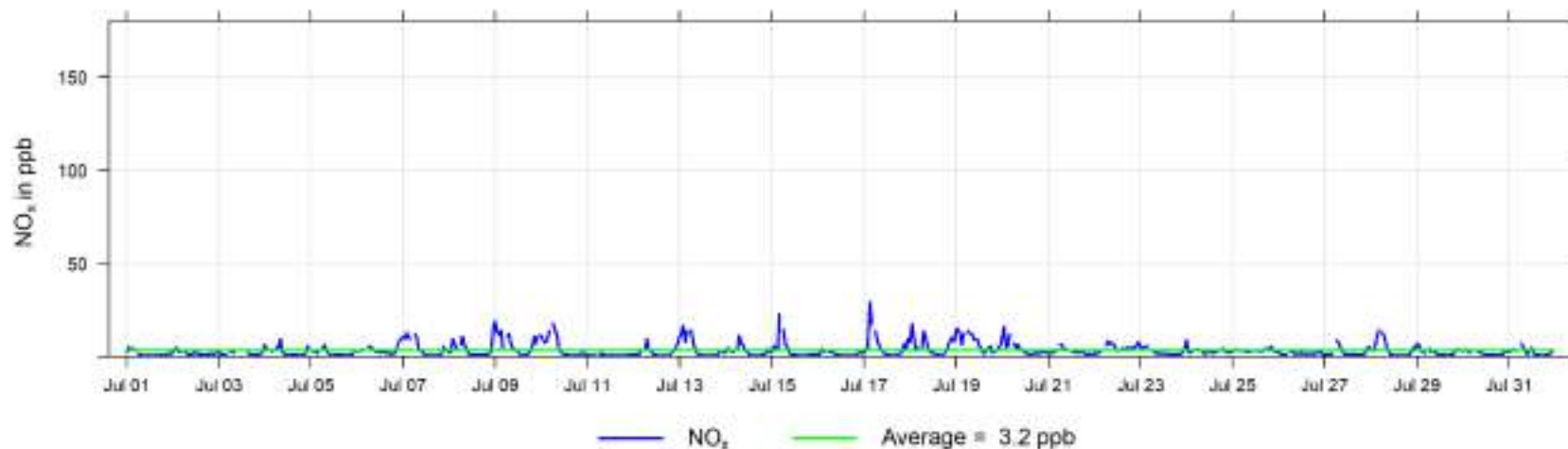




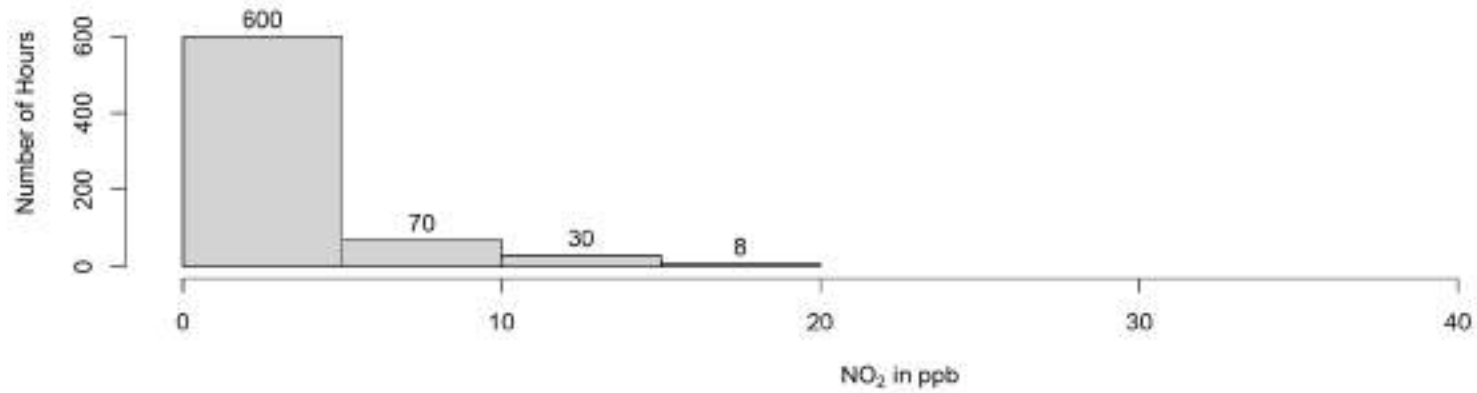
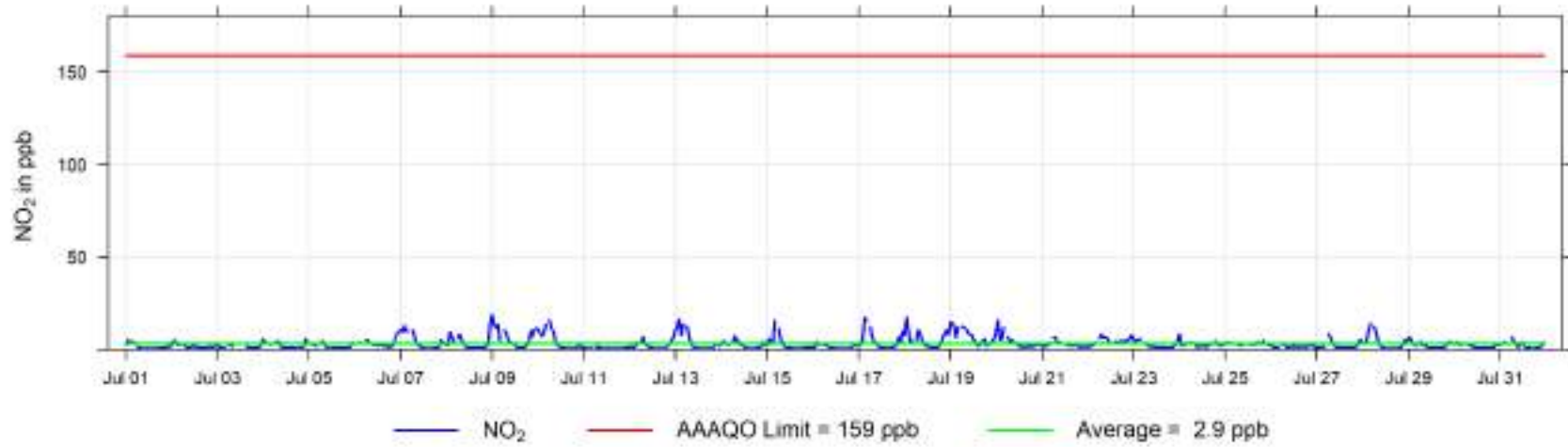
July 2024 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



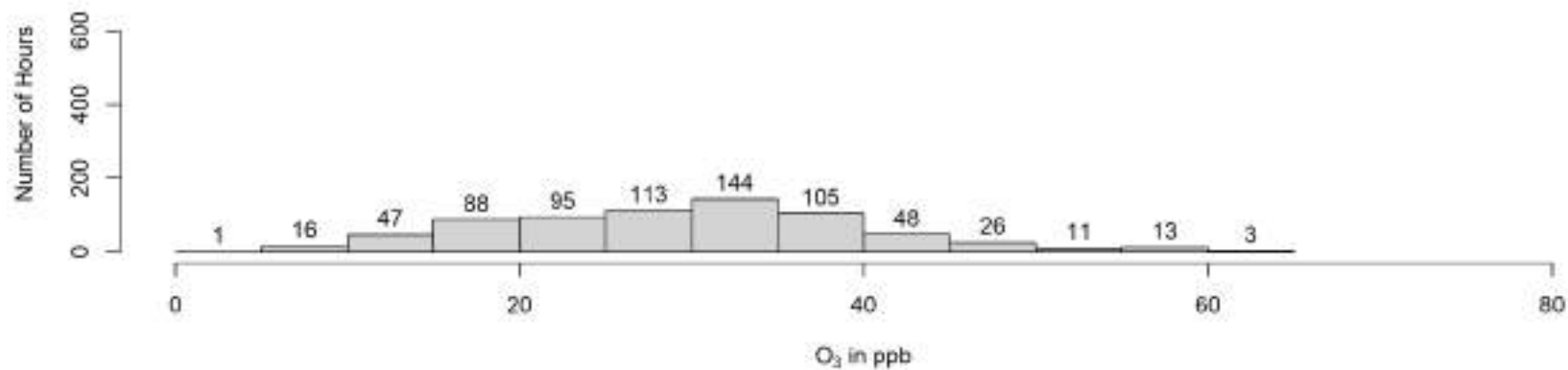
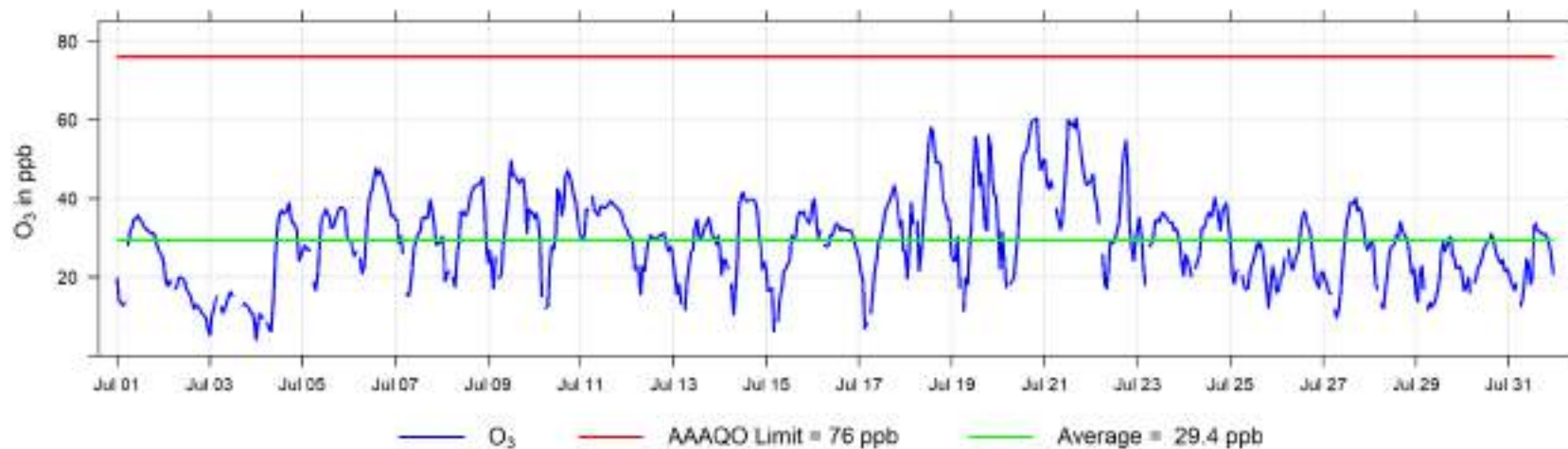
July 2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Beaverlodge



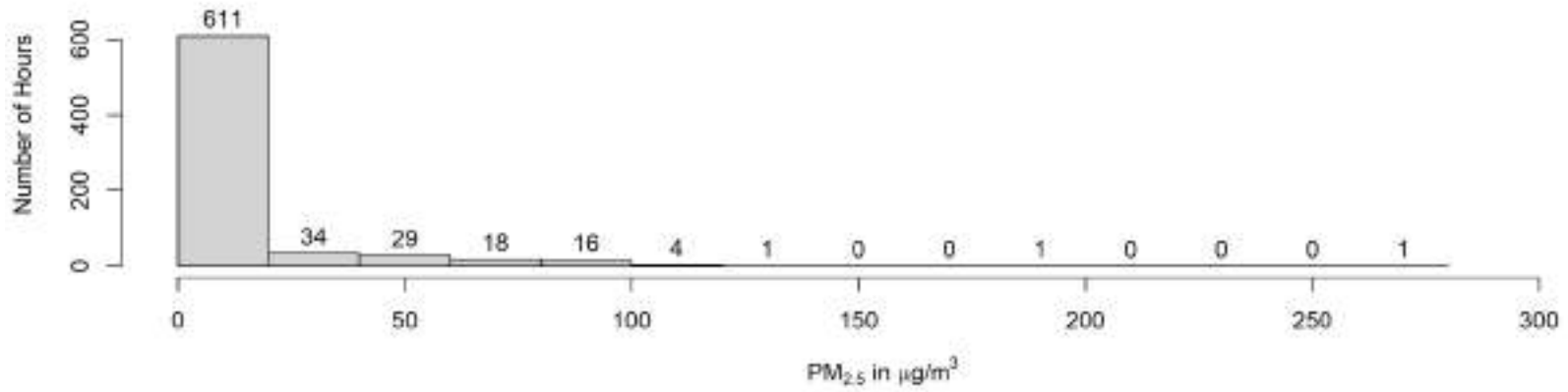
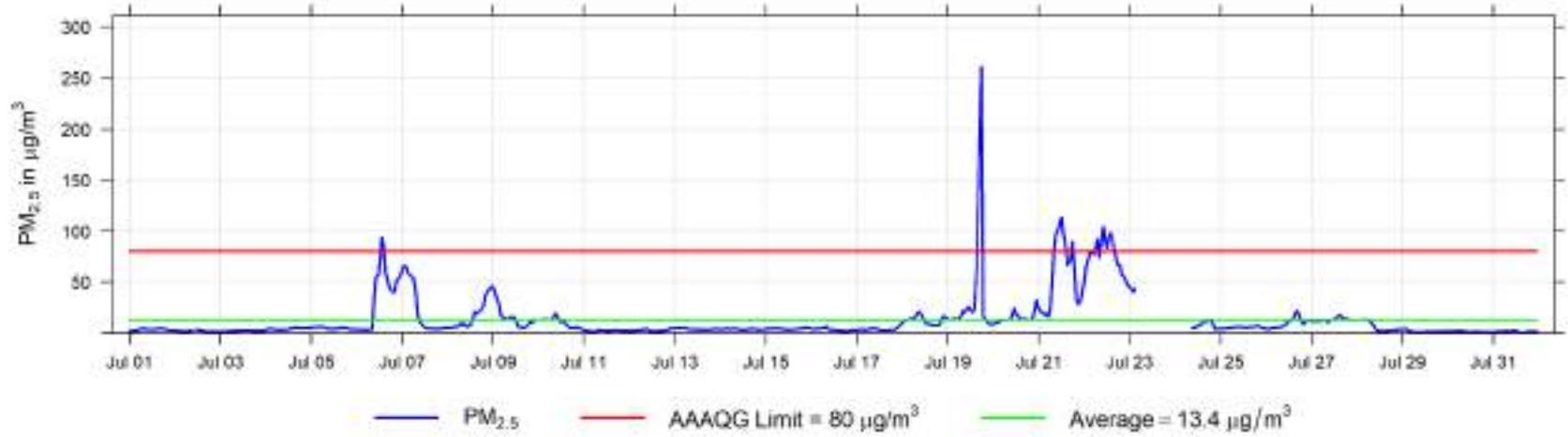
July 2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Beaverlodge



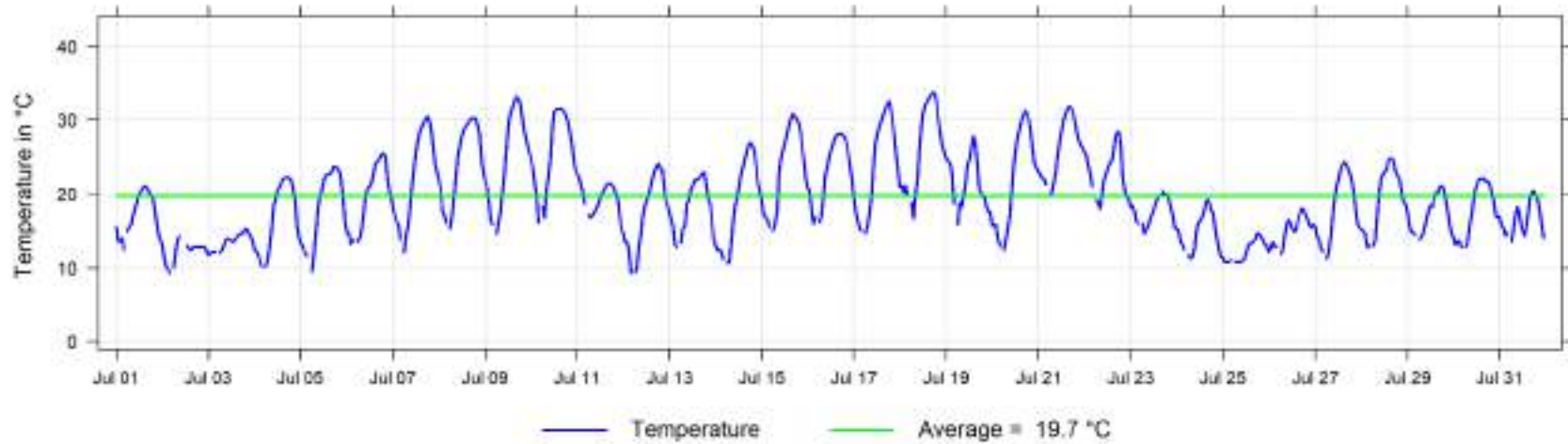
July 2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Beaverlodge



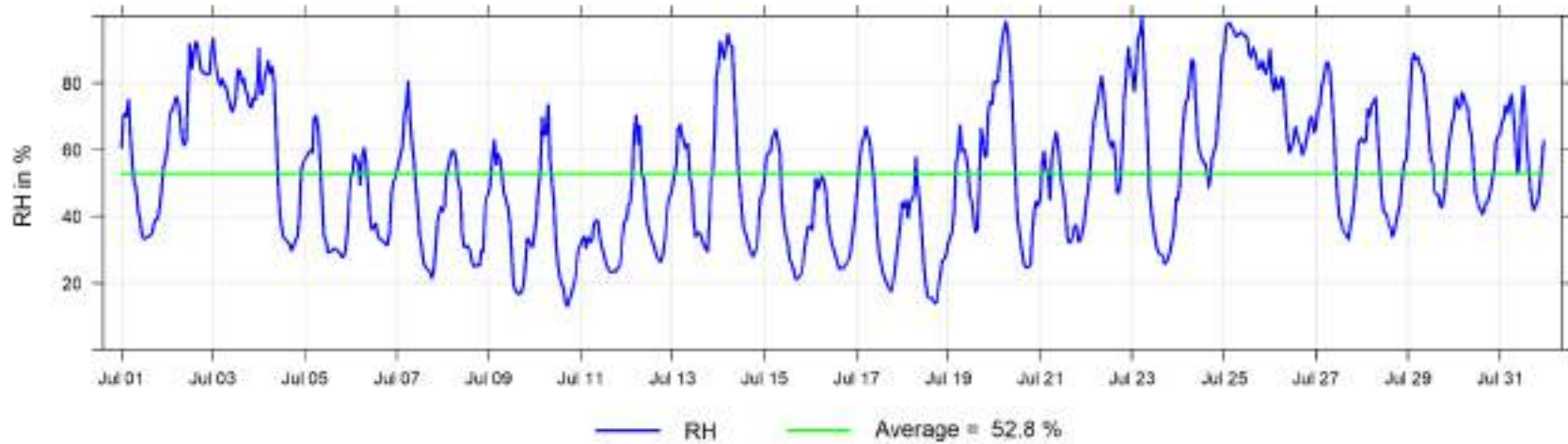
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Beaverlodge



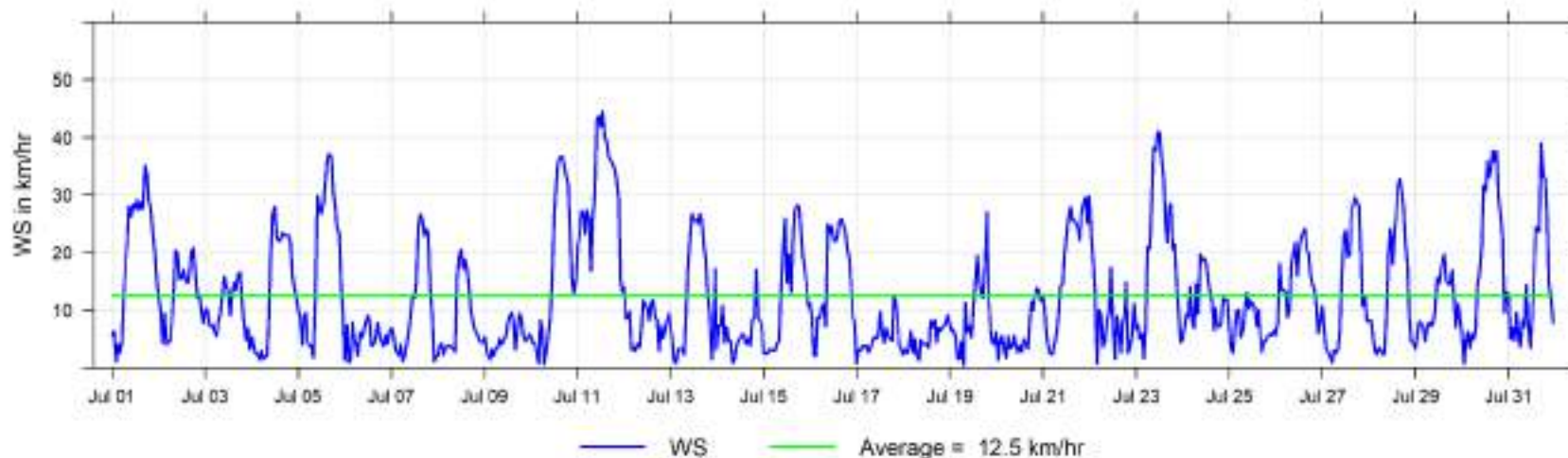
July 2024 Hourly Temperature Readings (in °C) at Beaverlodge



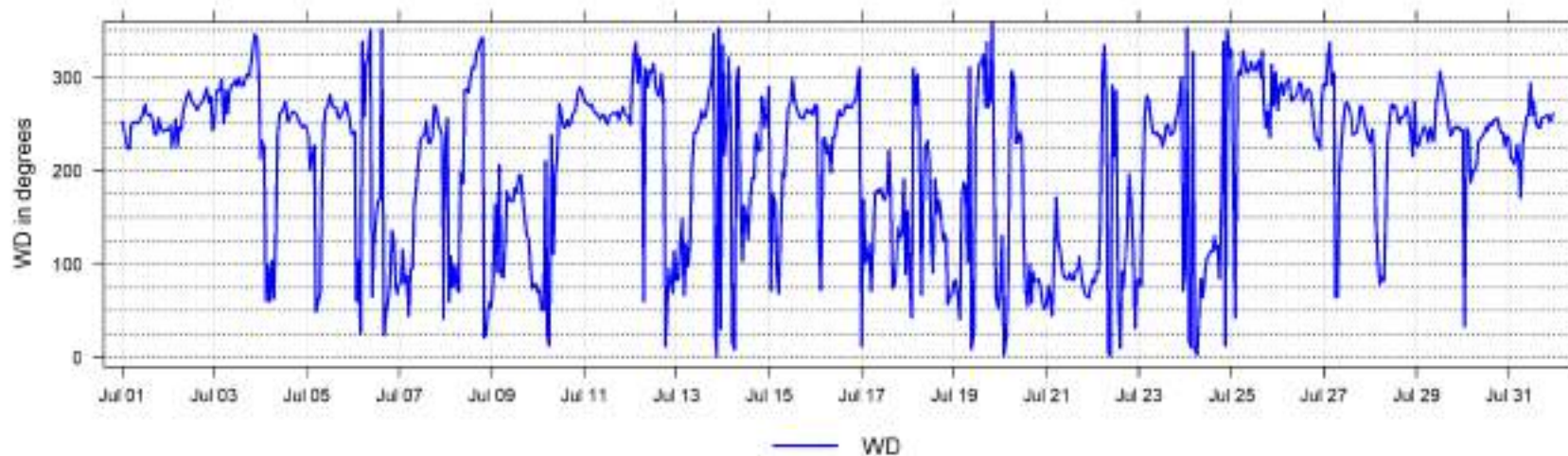
July 2024 Hourly Readings of Relative Humidity (in %) at Beaverlodge



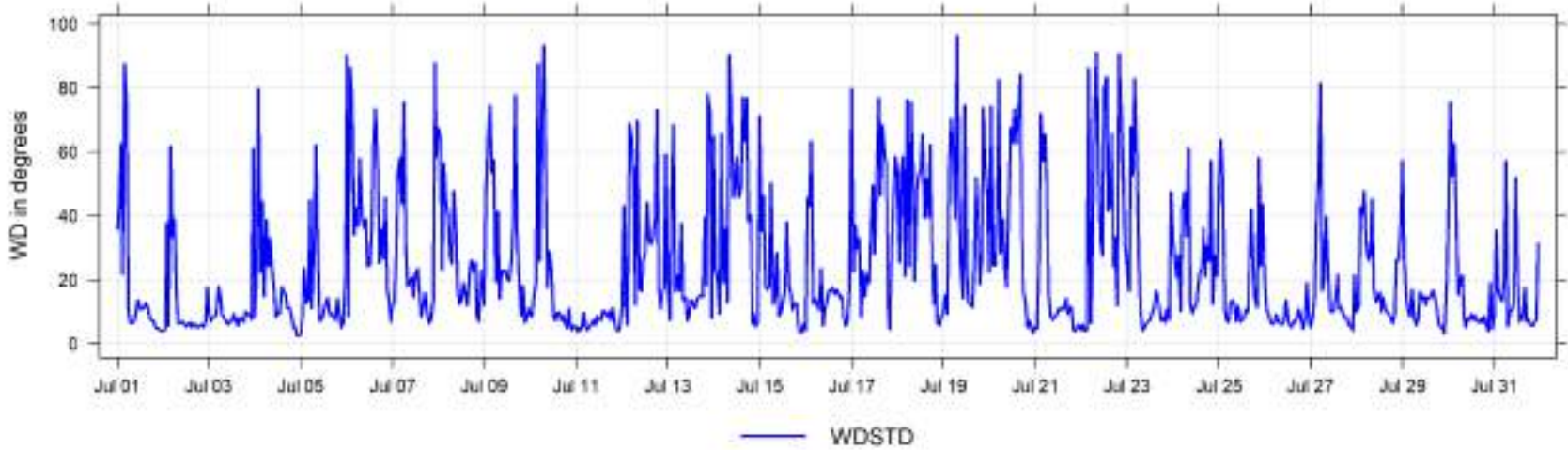
July 2024 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

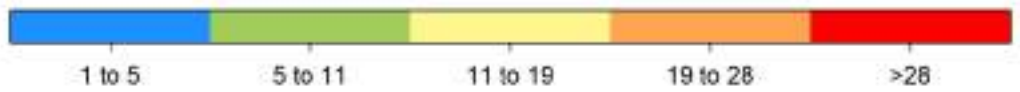
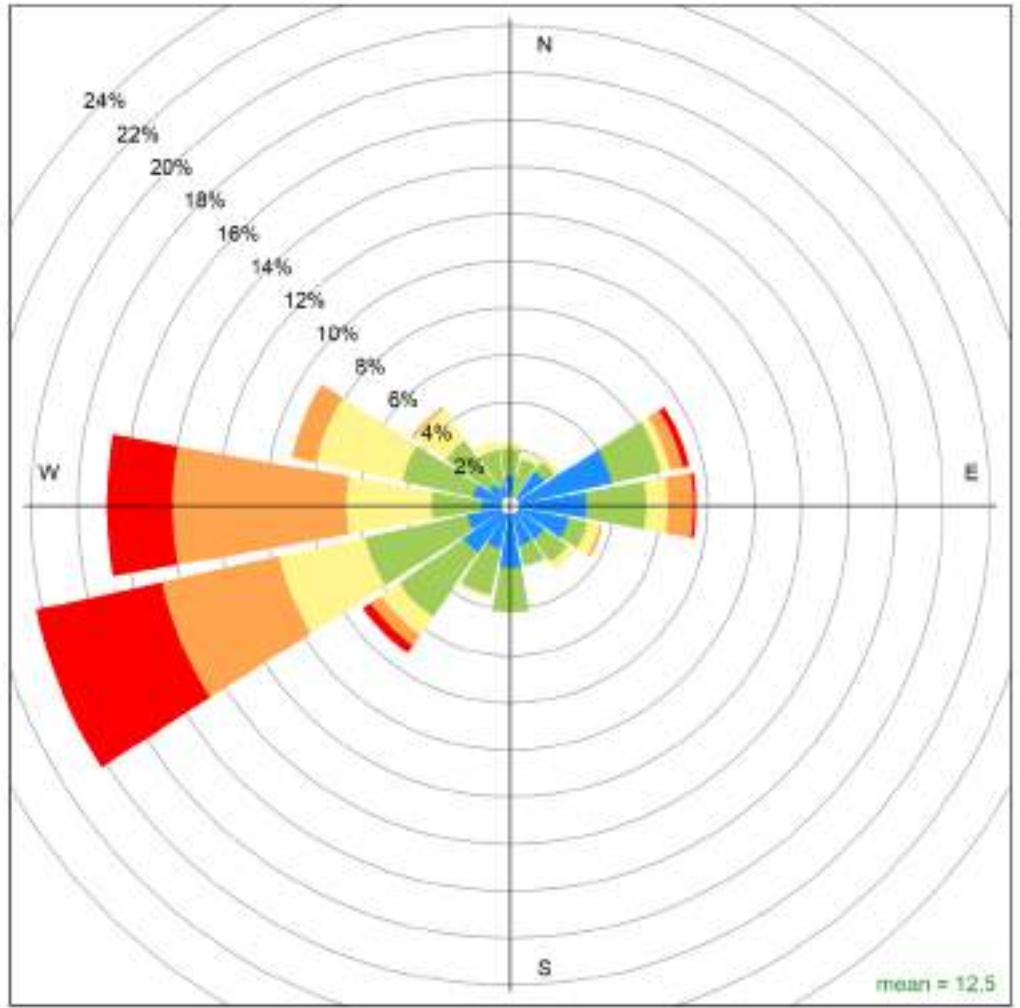


July 2024 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Beaverlodge





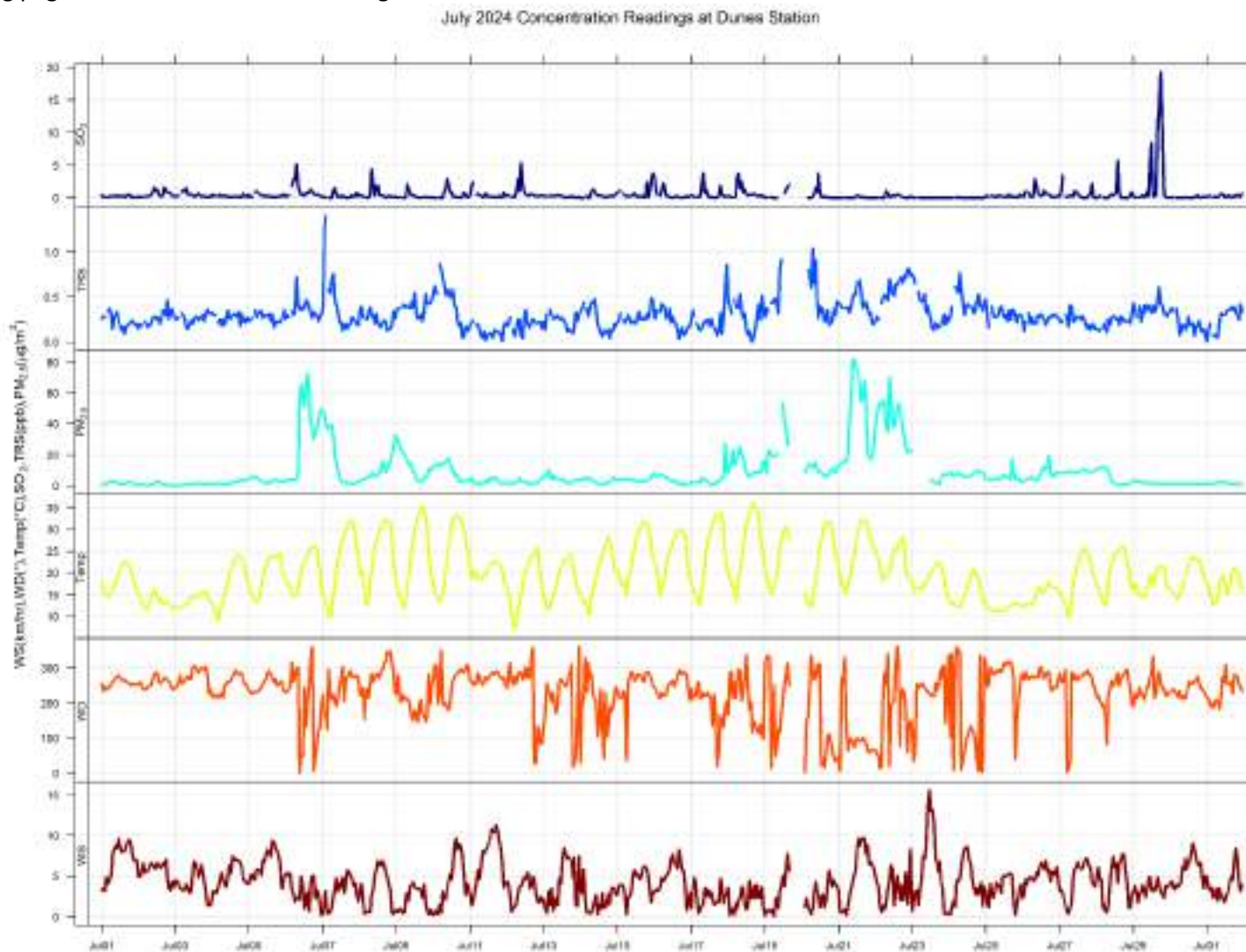
Beaverlodge July 2024 Wind Rose, wind speed in km/hr

**Calms (<1km/hr) = 1.6 %**

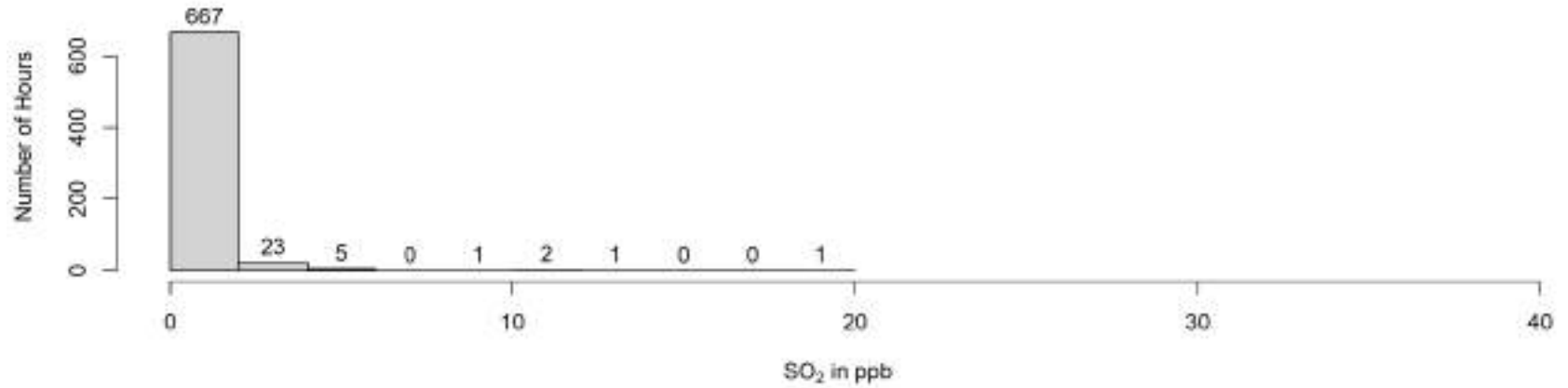
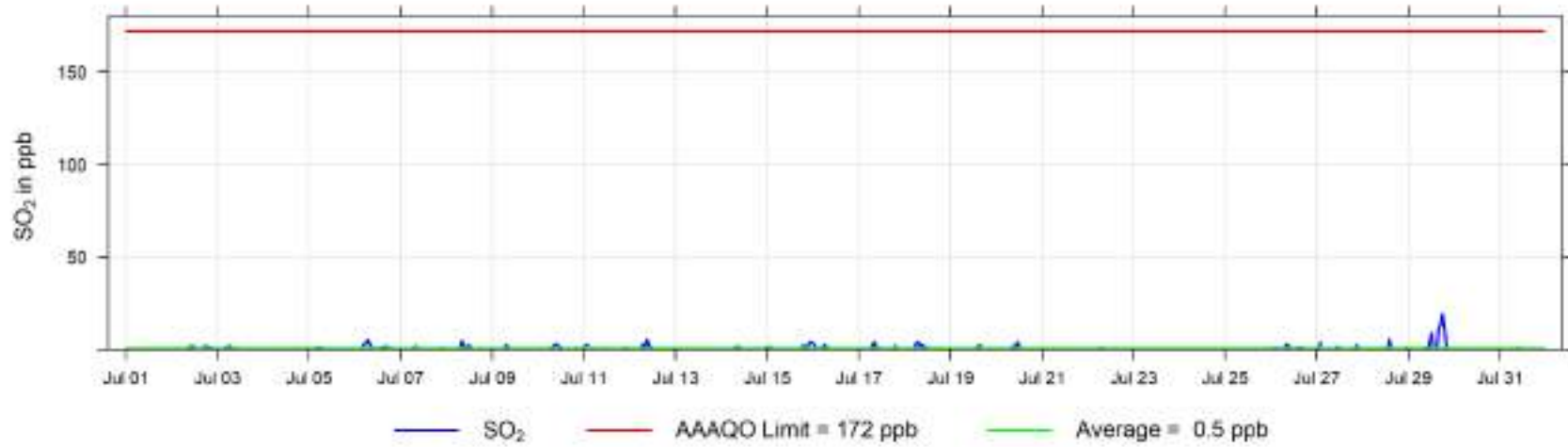


### 3 Dunes Charts

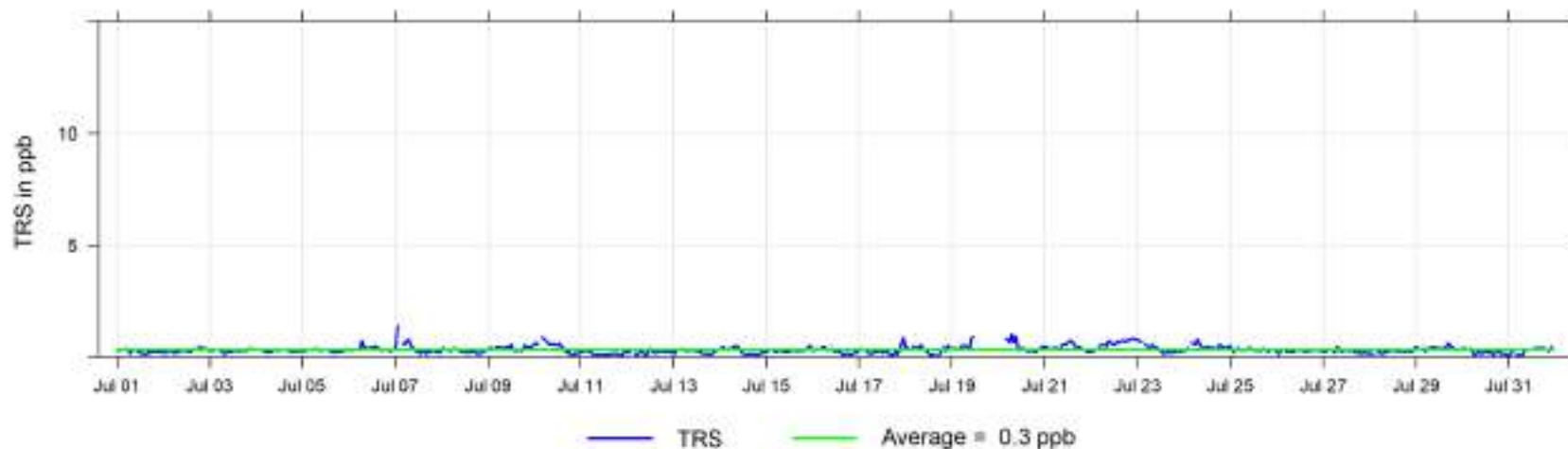
The following pages include the charts and histograms for Dunes Station



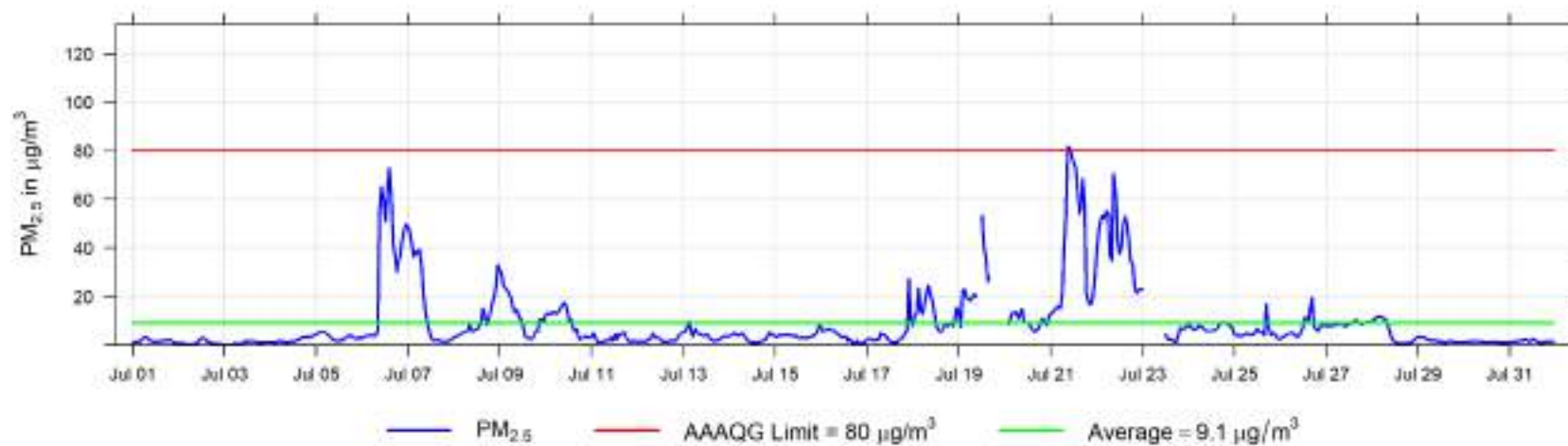
July 2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Dunes

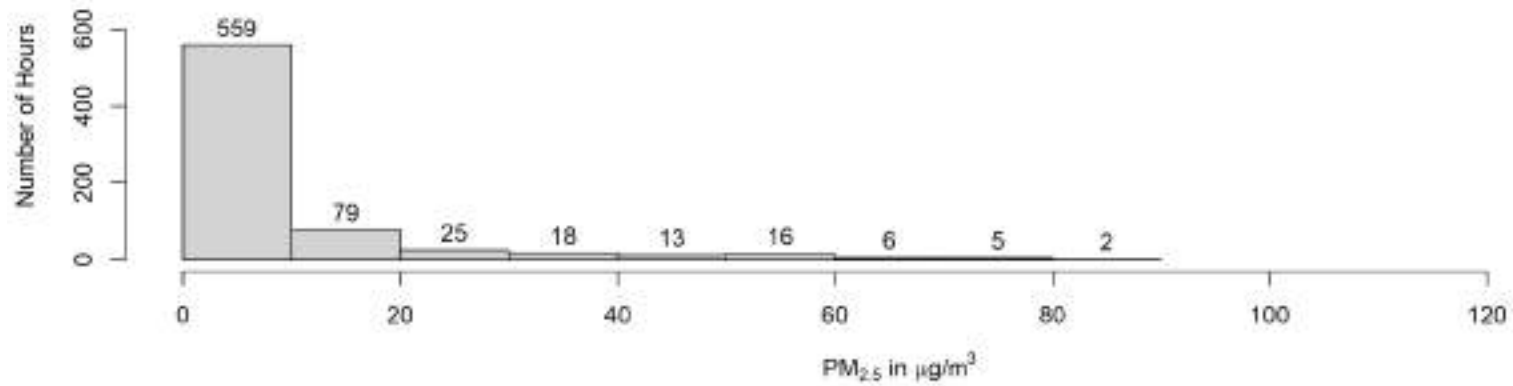


July 2024 Hourly Concentration Readings of TRS (in ppb) at Dunes

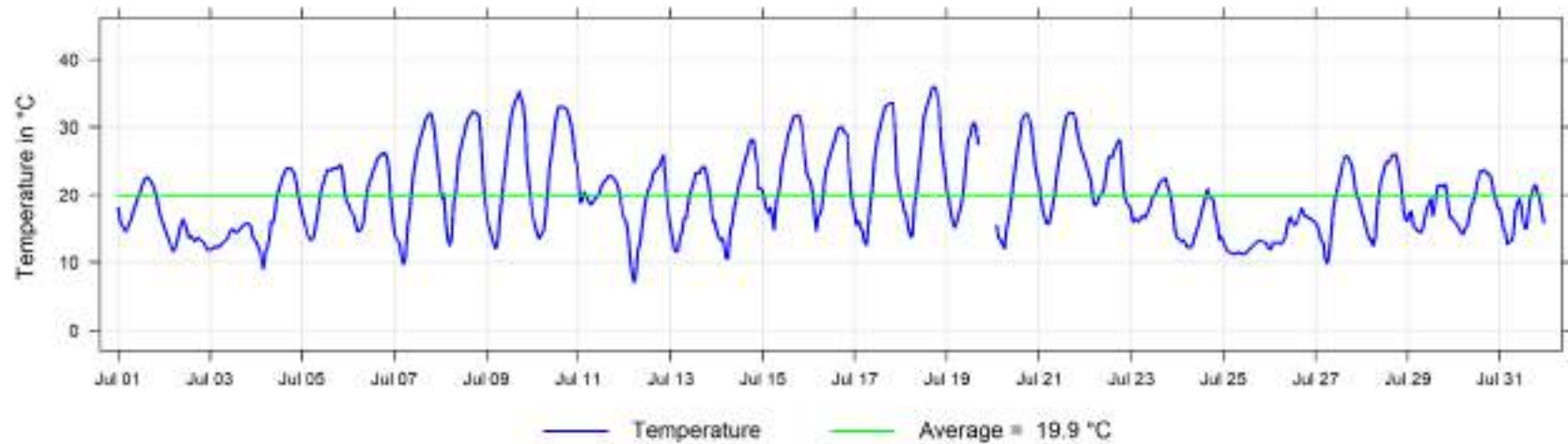


July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Dunes

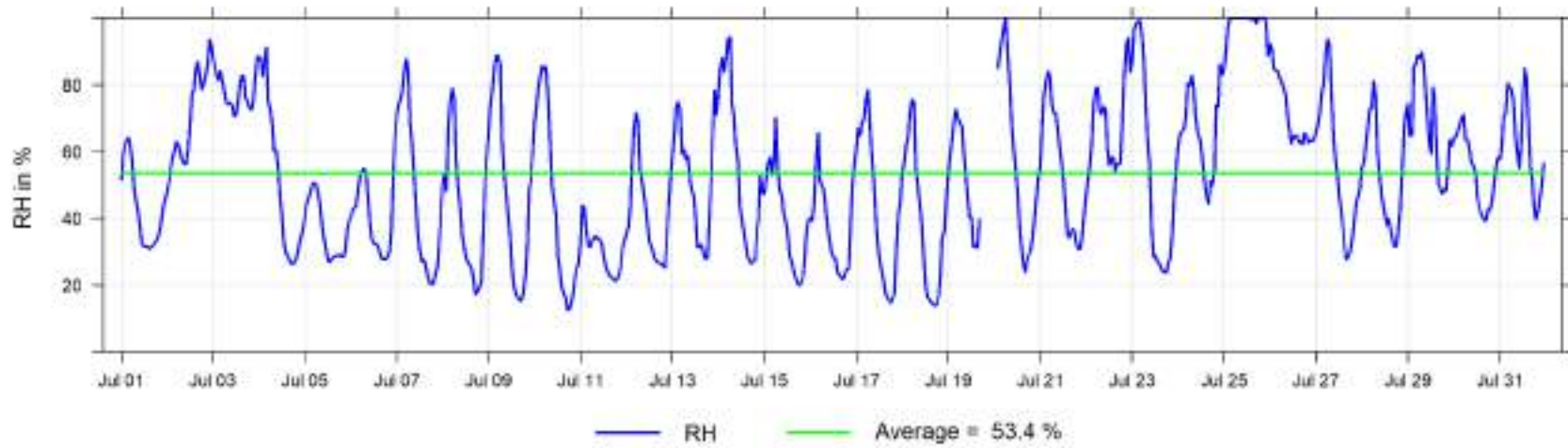




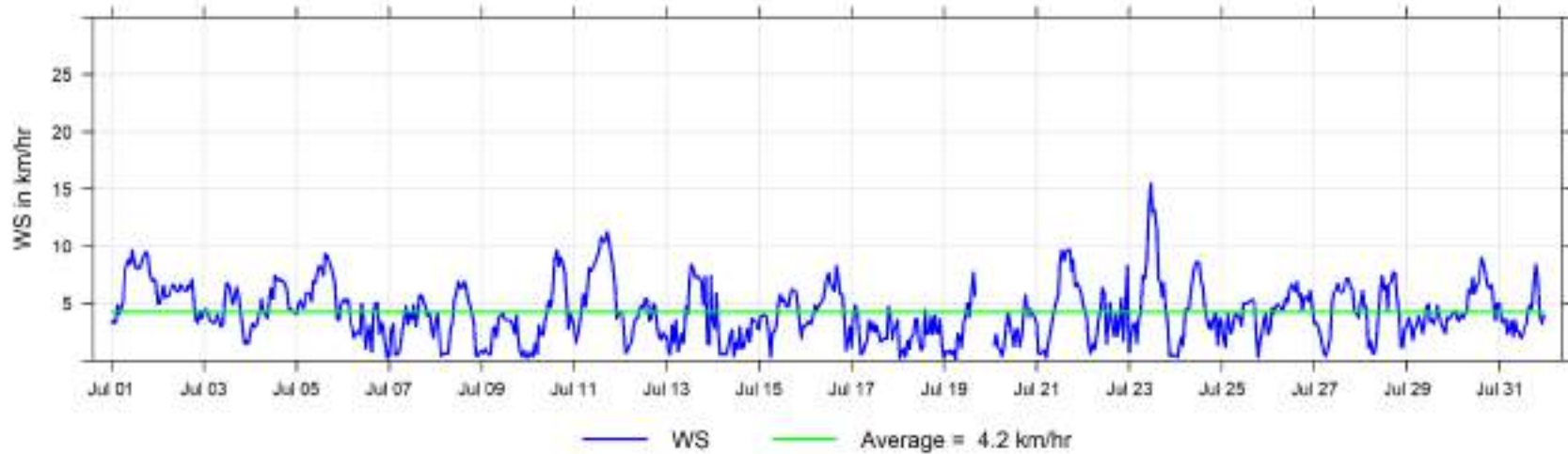
July 2024 Hourly Temperature Readings (in °C) at Dunes



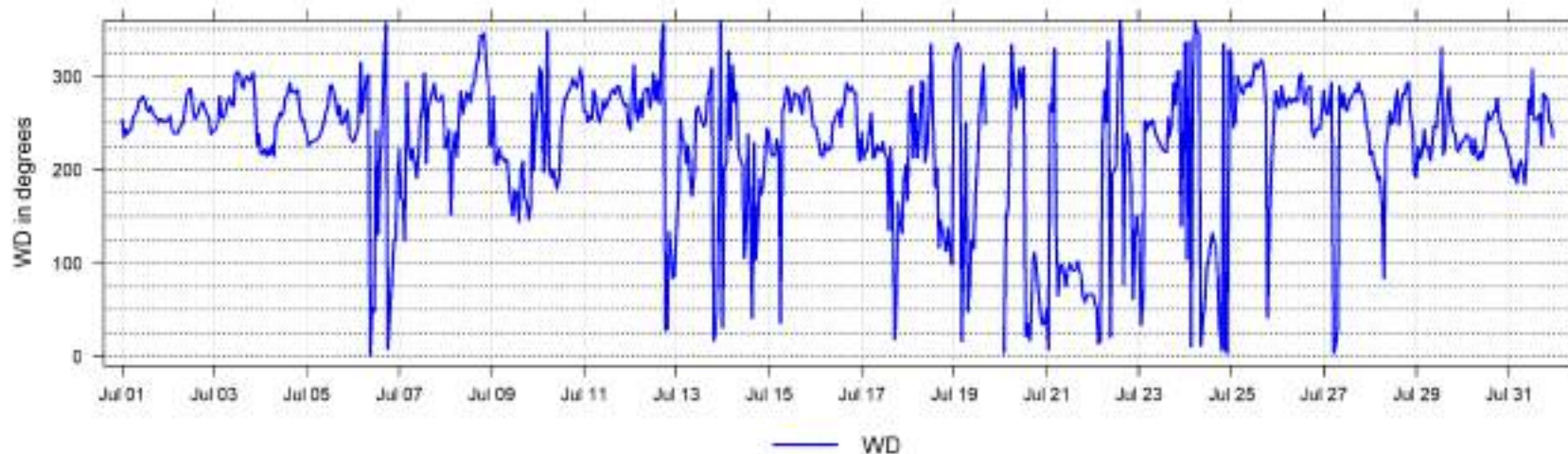
July 2024 Hourly Readings of Relative Humidity (in %) at Dunes



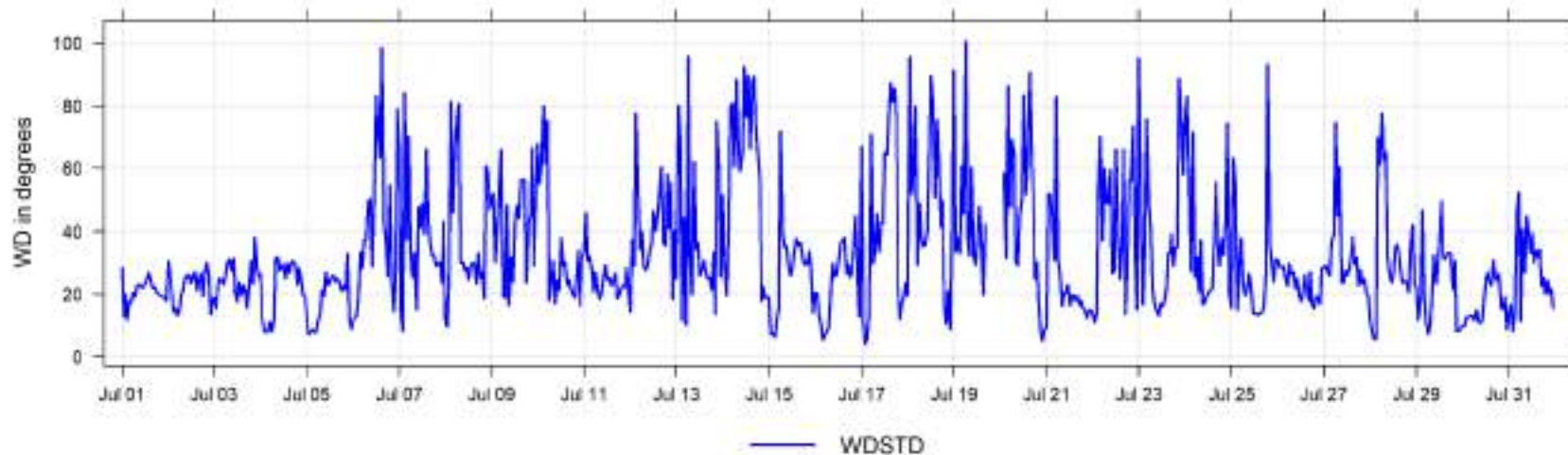
July 2024 Hourly Readings of Wind Speed (in km/hr) at Dunes

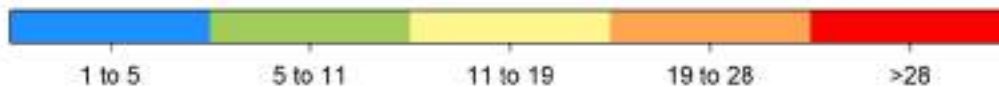
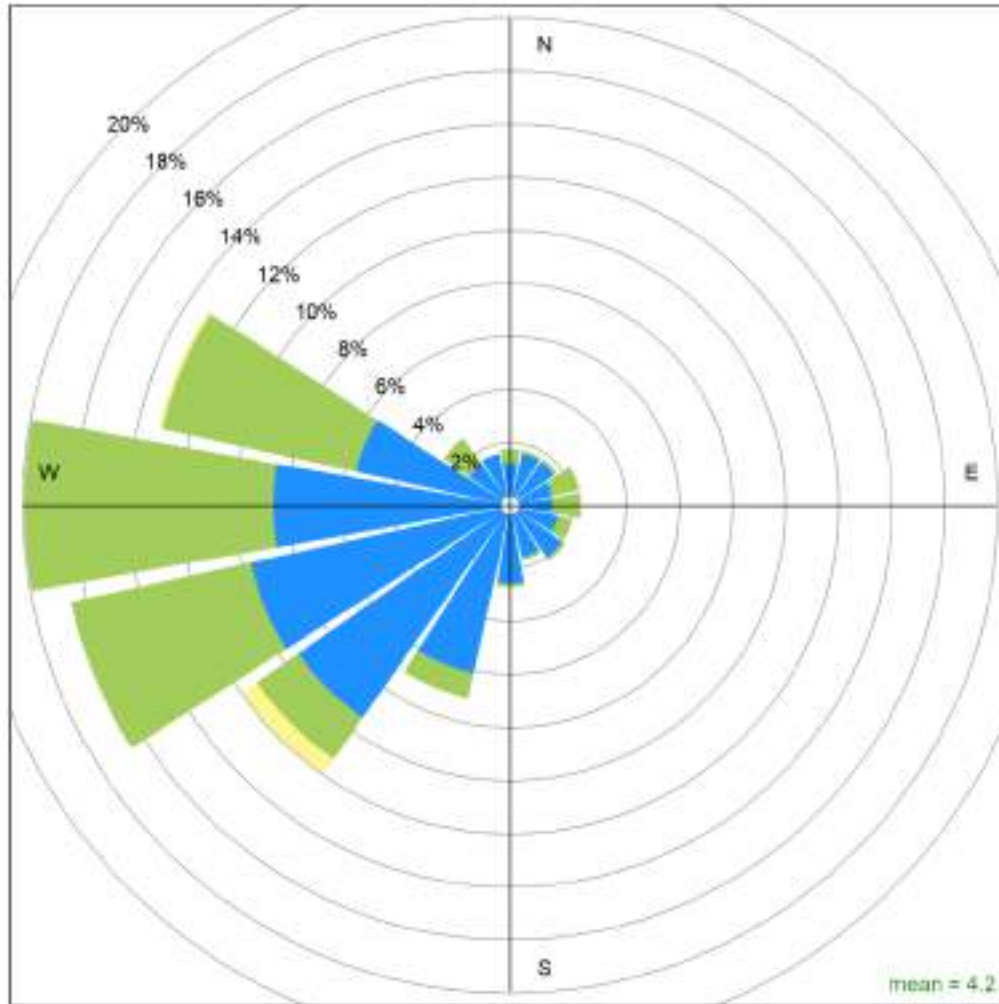


July 2024 Hourly Readings of Wind Direction (in degrees) at Dunes



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Dunes





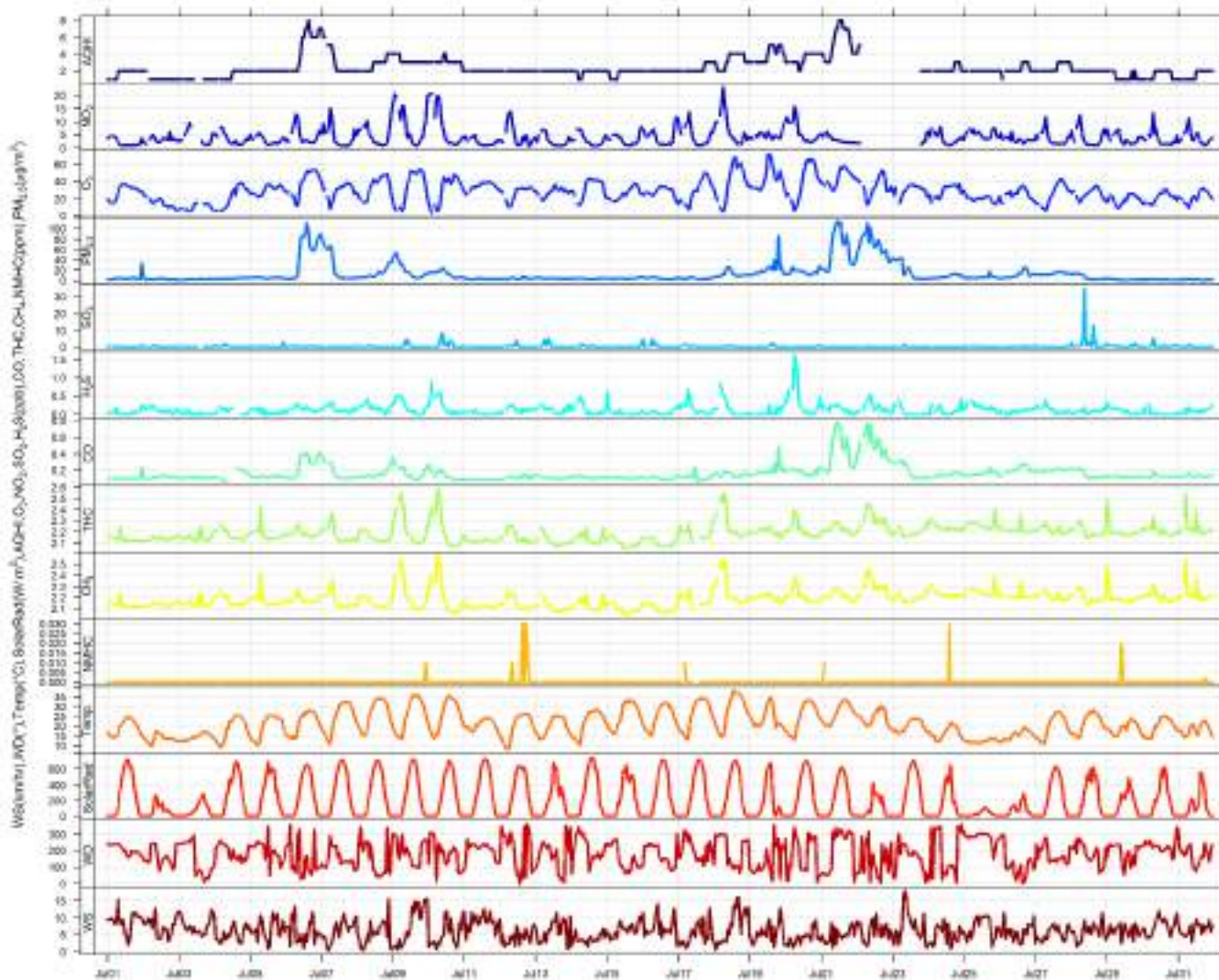
Dunes July 2024 Wind Rose, wind speed in km/hr

**Calms (<1km/hr) = 10.3 %**

## 4 Grande Prairie - Henry Pirker Charts

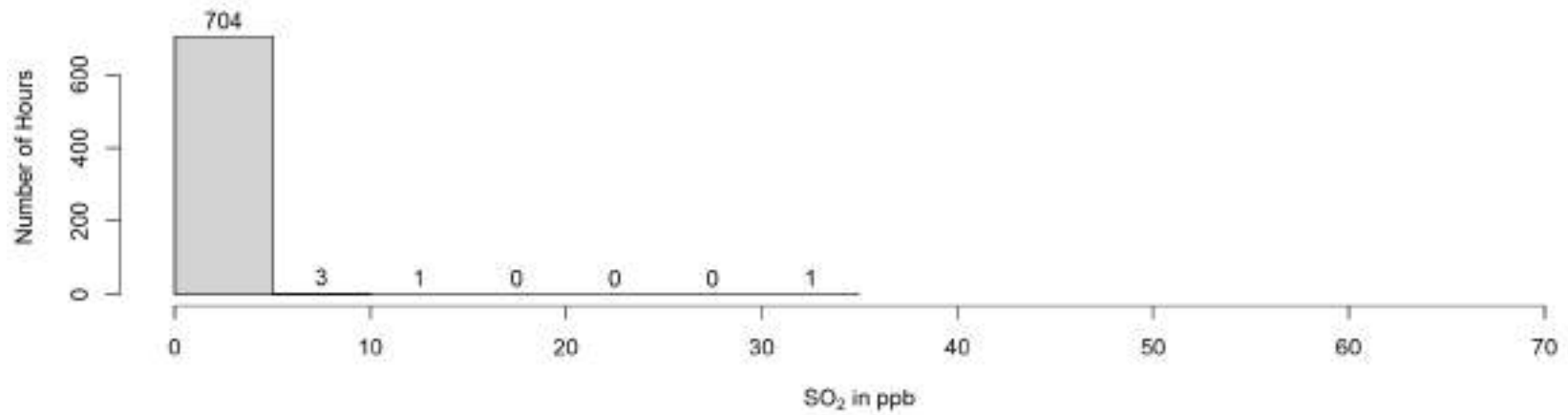
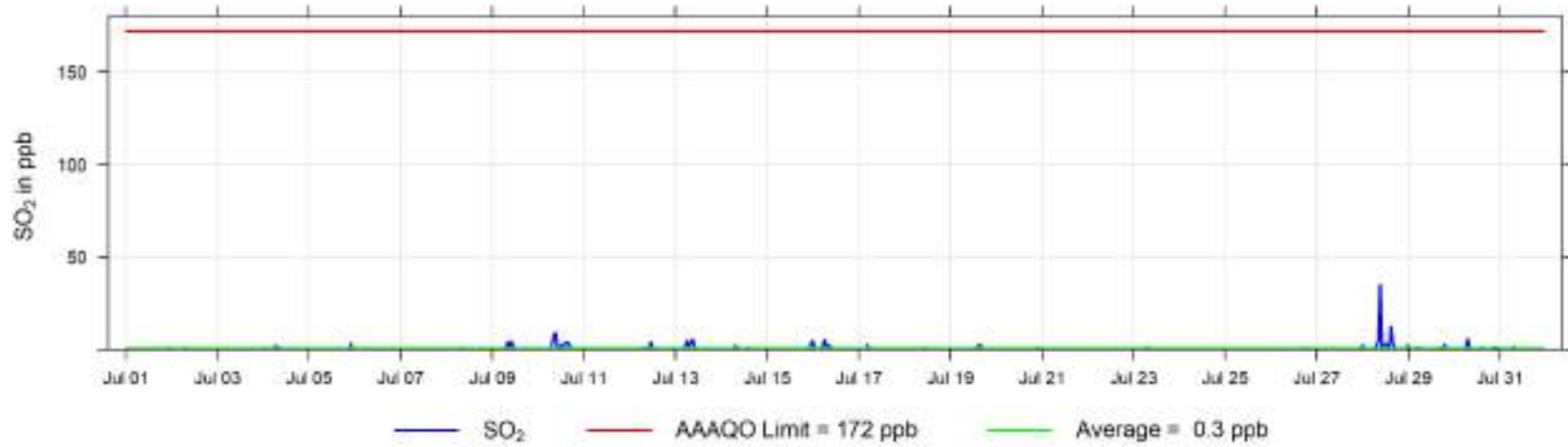
The following pages include the charts and histograms for Henry Pirker Station in Grande Prairie

July 2024 Concentration Readings at Henry Pirker Station

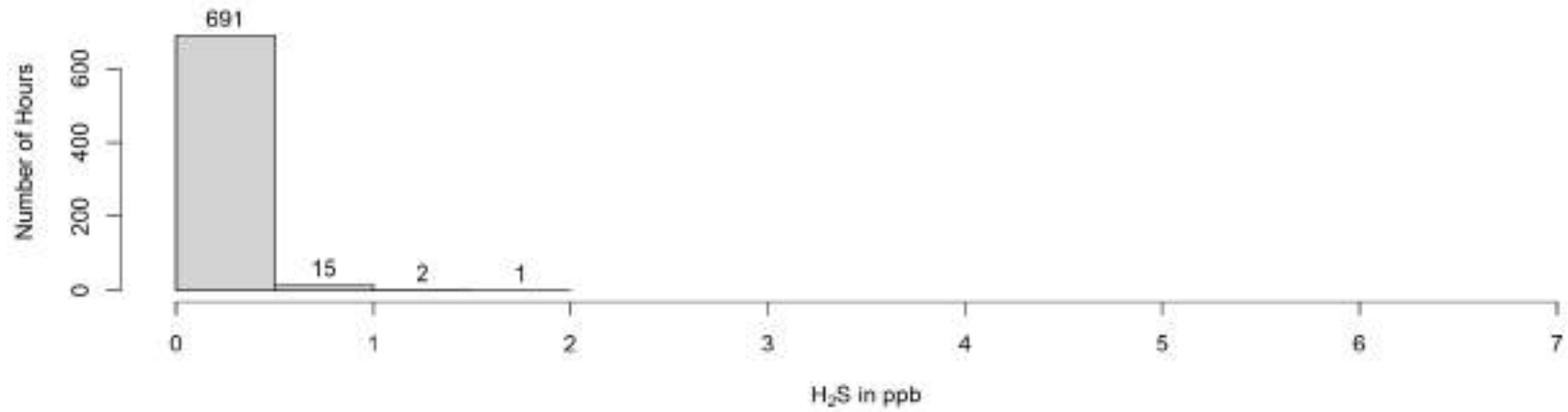
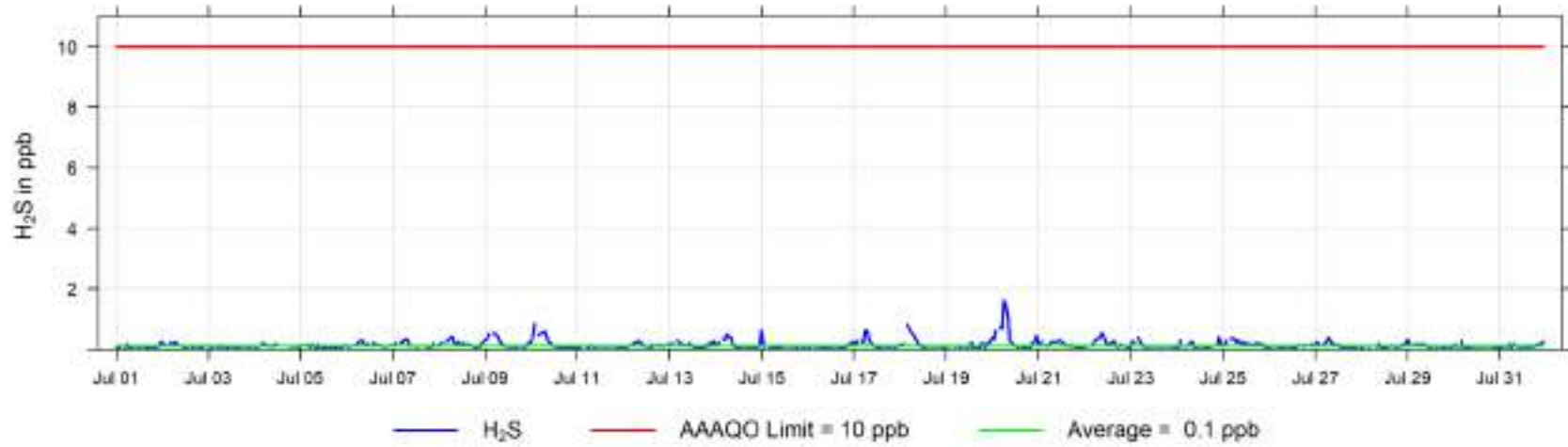




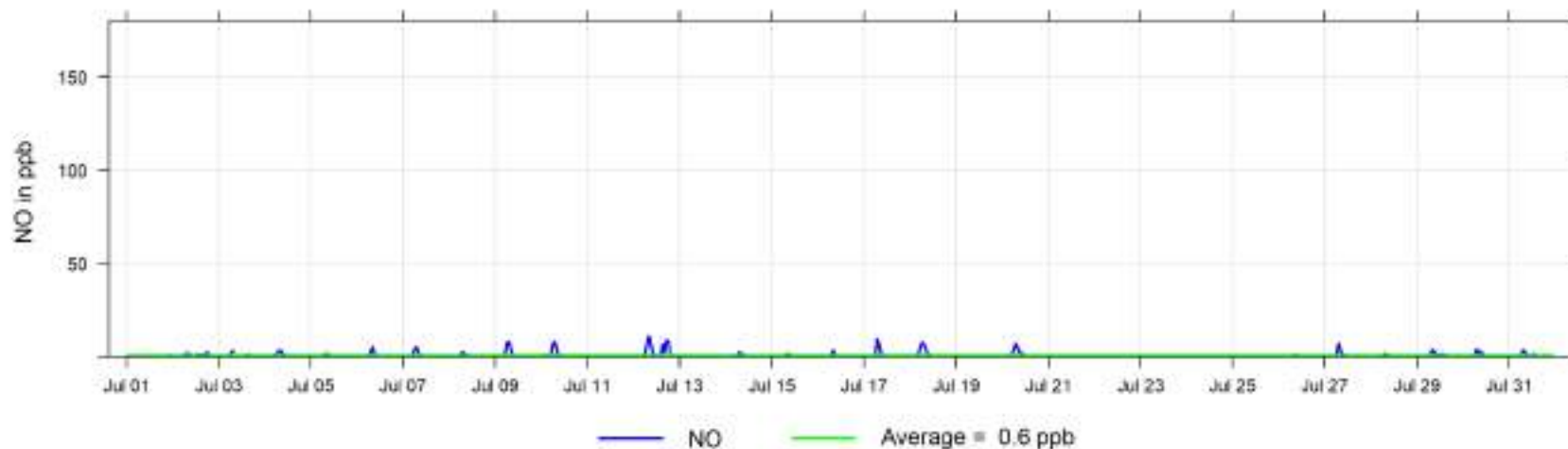
July 2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Henry Pirker



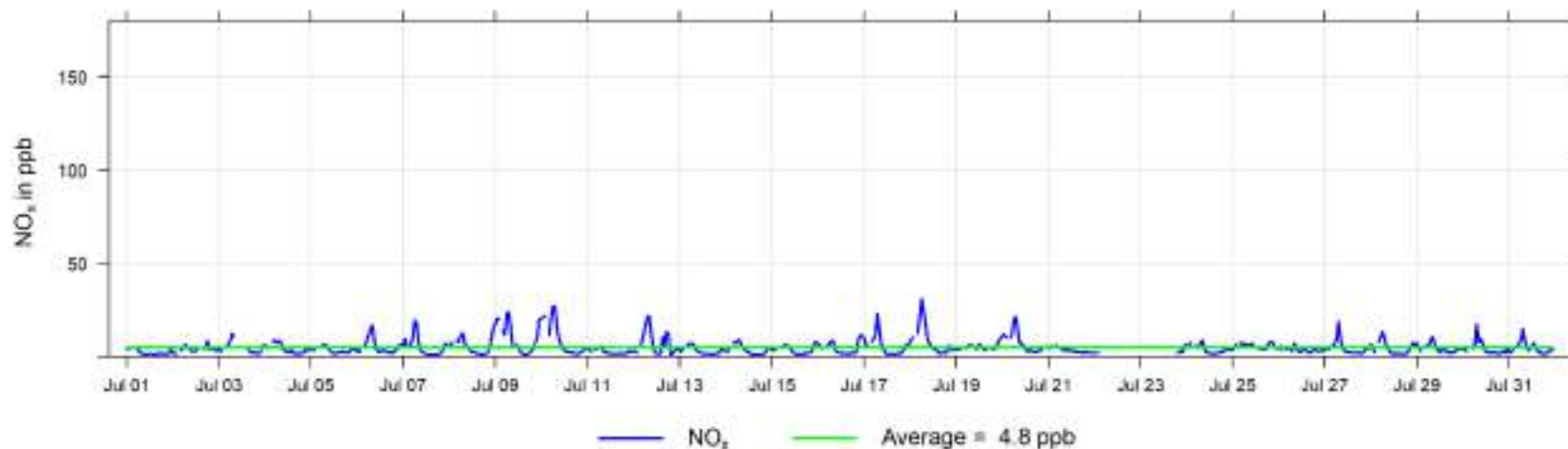
July 2024 Hourly Concentration Readings of H<sub>2</sub>S (in ppb) at Henry Pirker



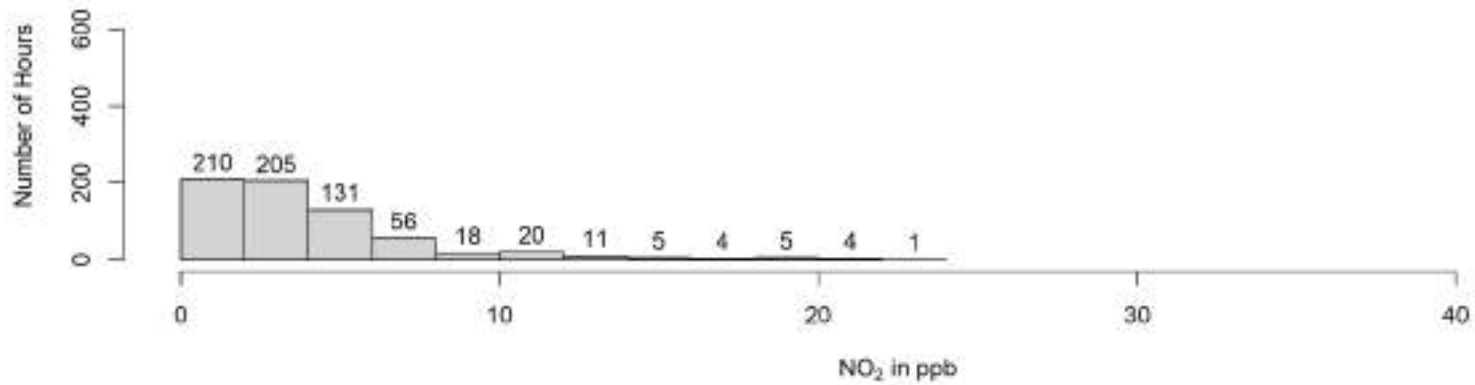
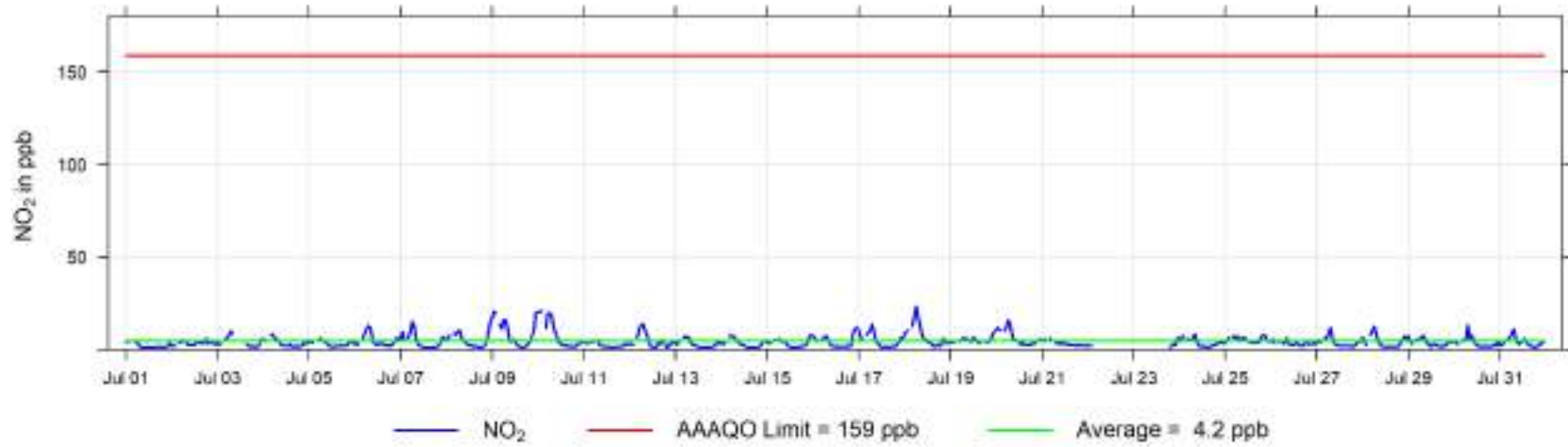
July 2024 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



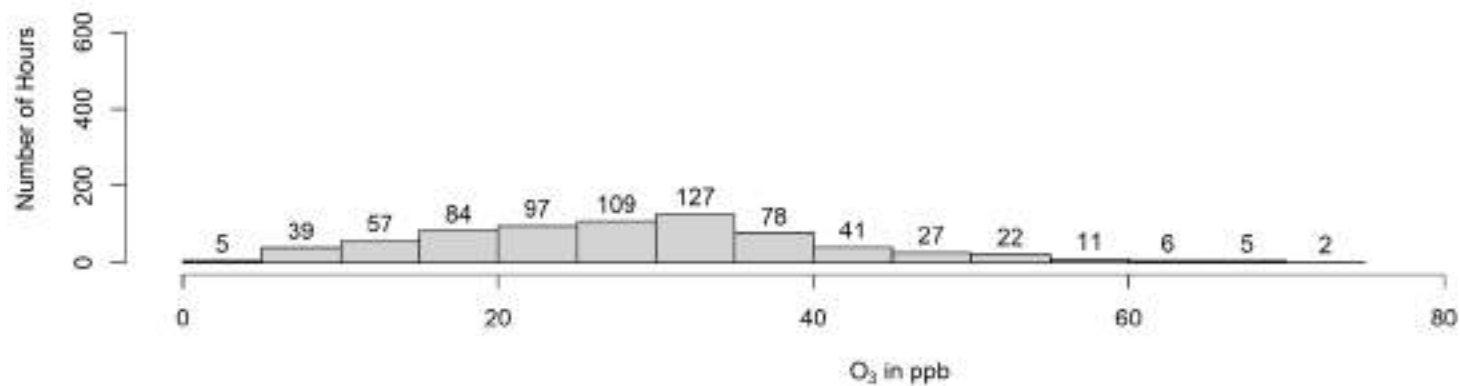
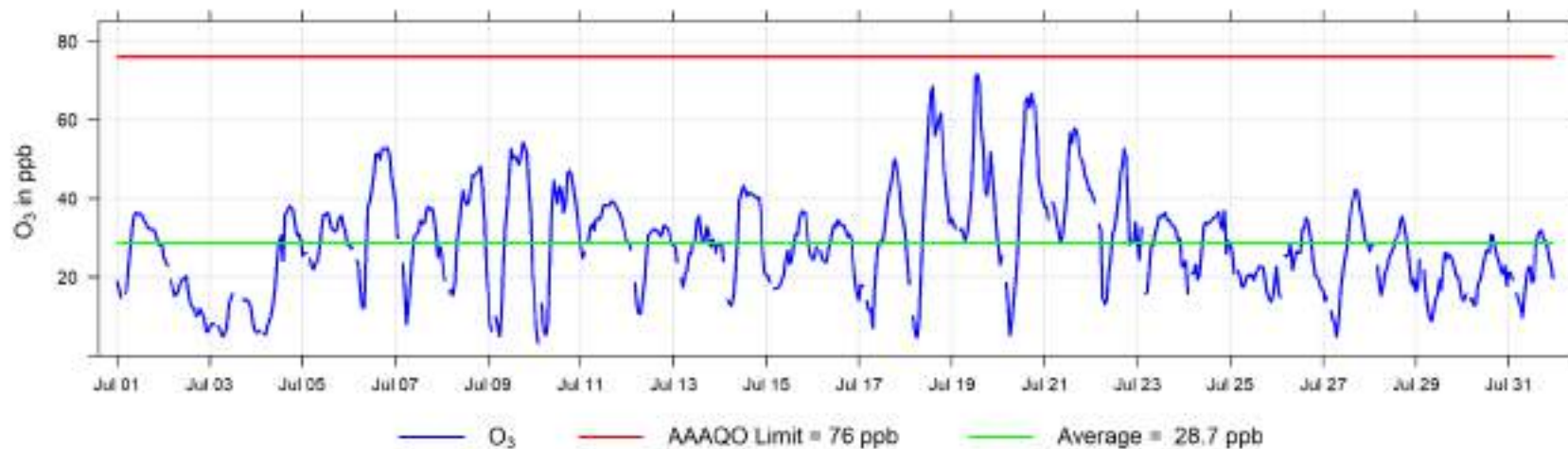
July 2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Henry Pirker



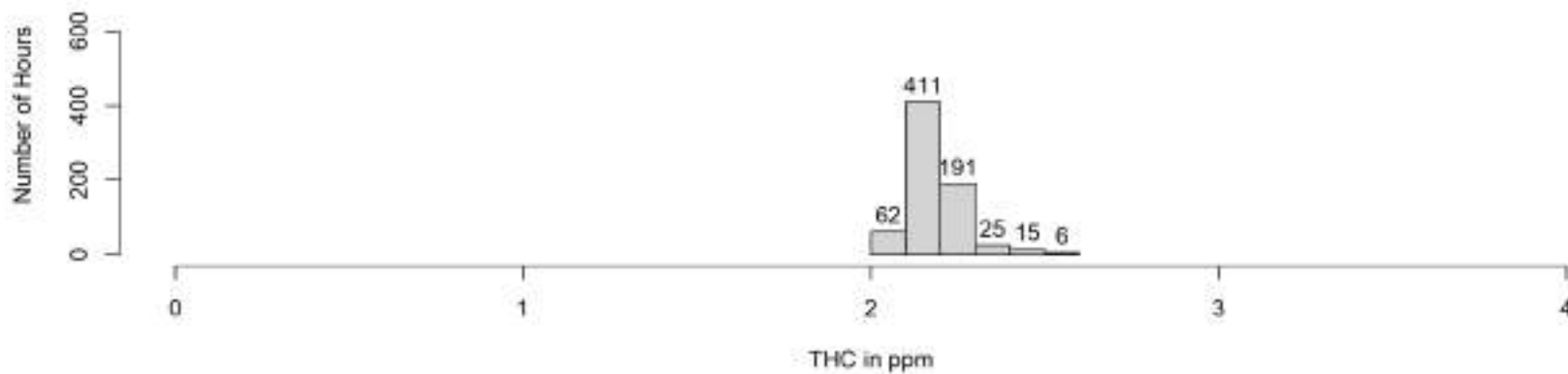
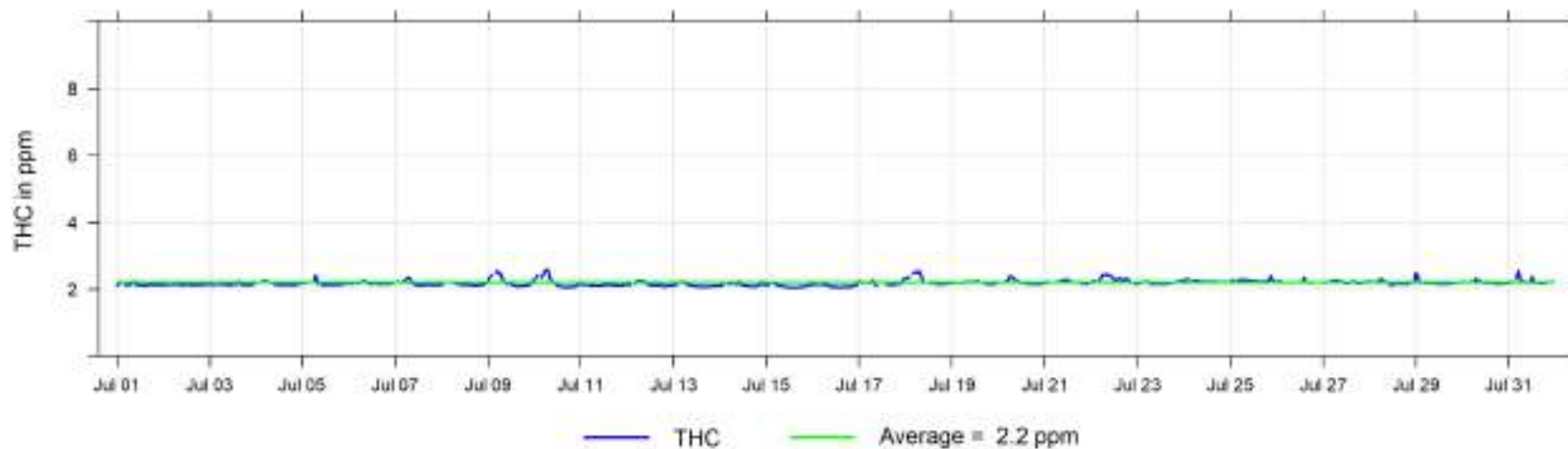
July 2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Henry Pirker



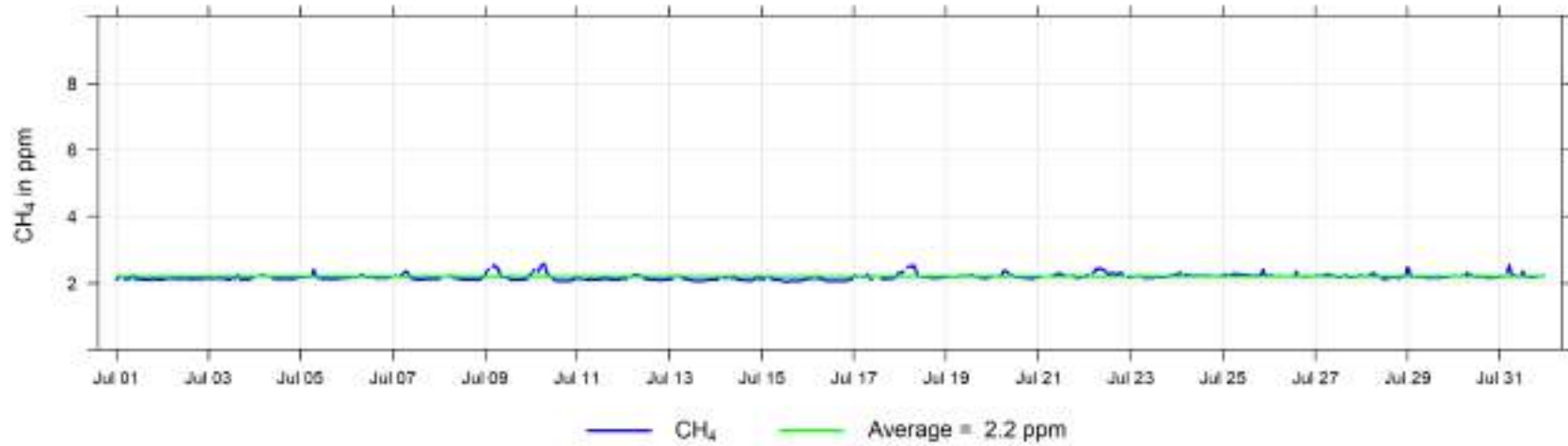
July 2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Henry Pirker



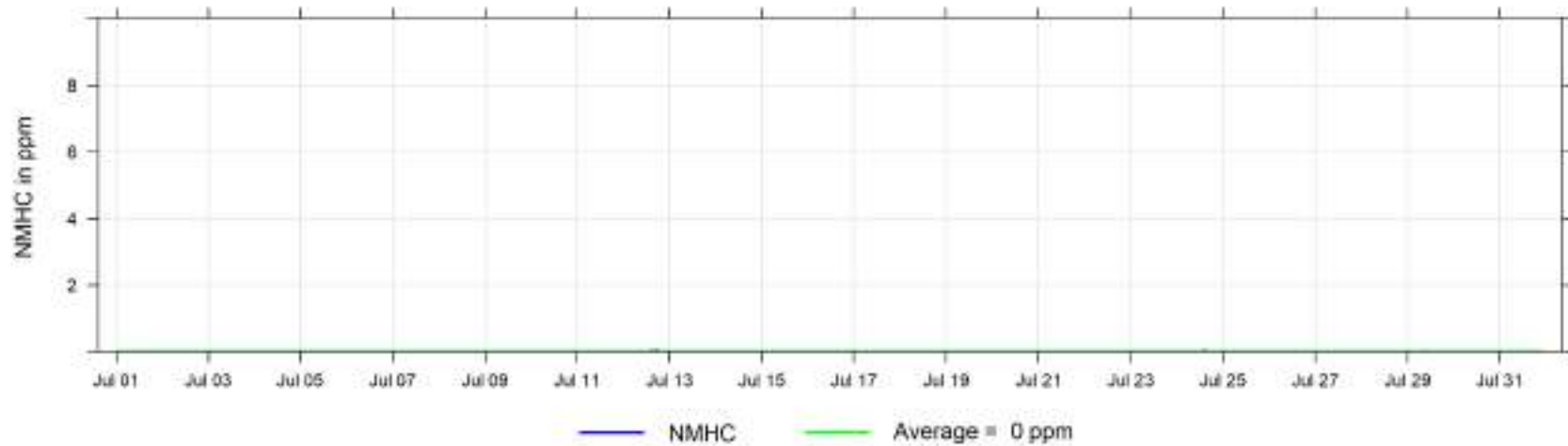
July 2024 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



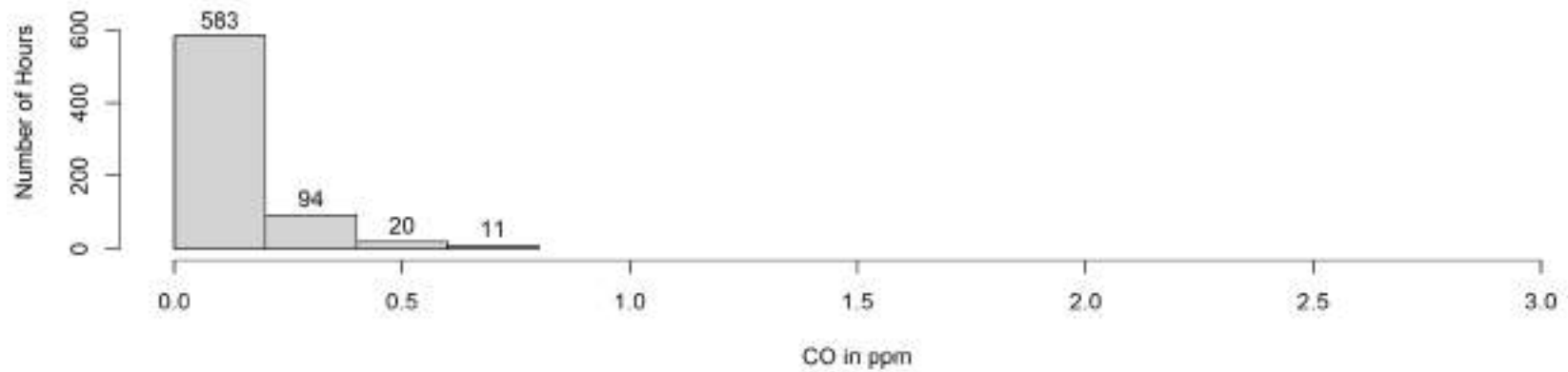
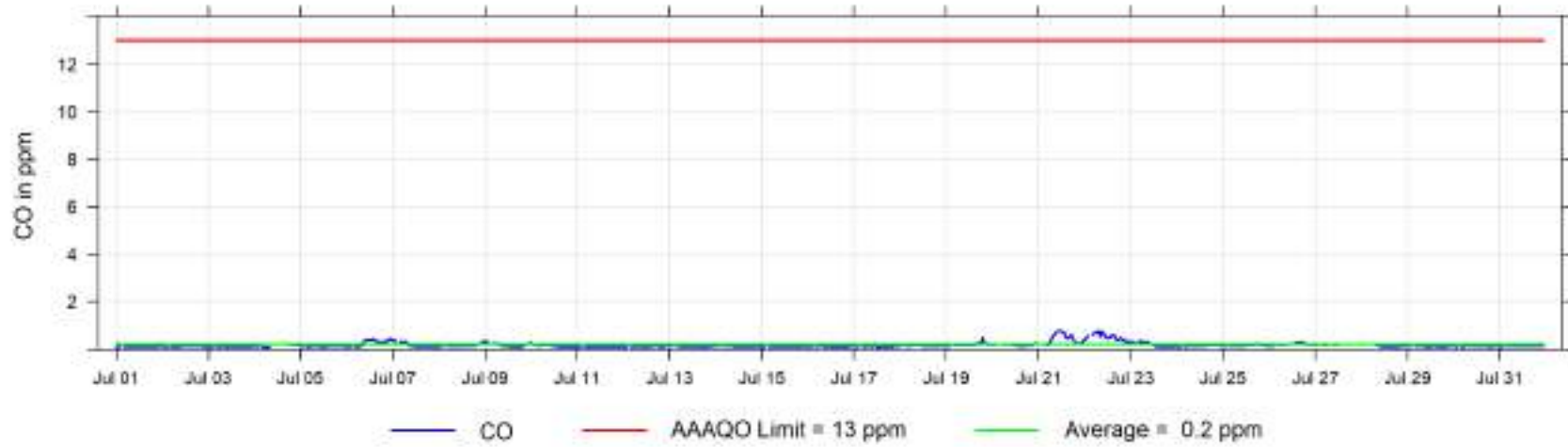
July 2024 Hourly Concentration Readings of CH<sub>4</sub> (in ppm) at Henry Pirker



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

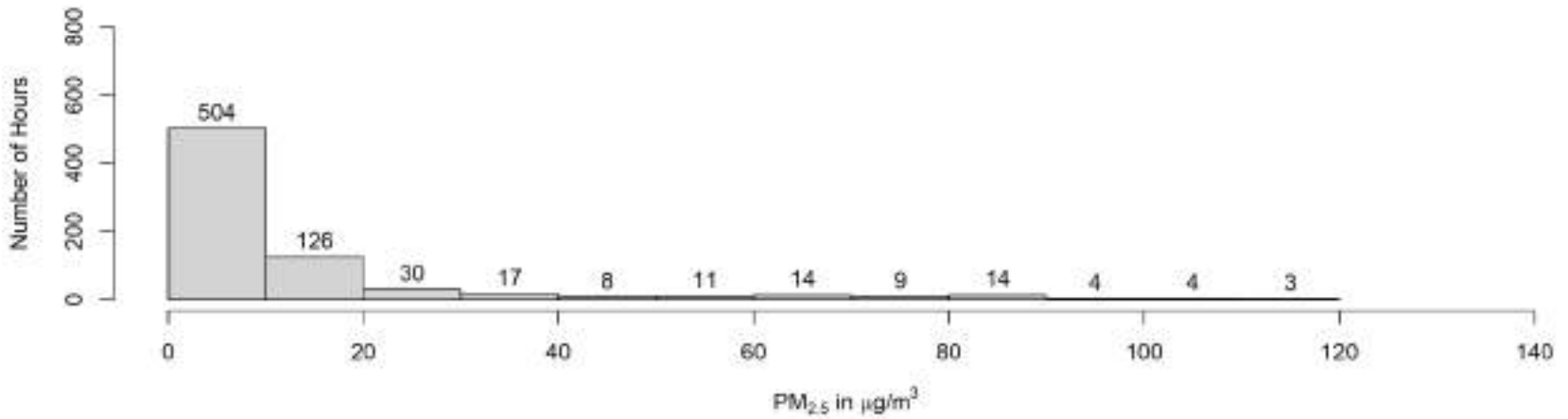
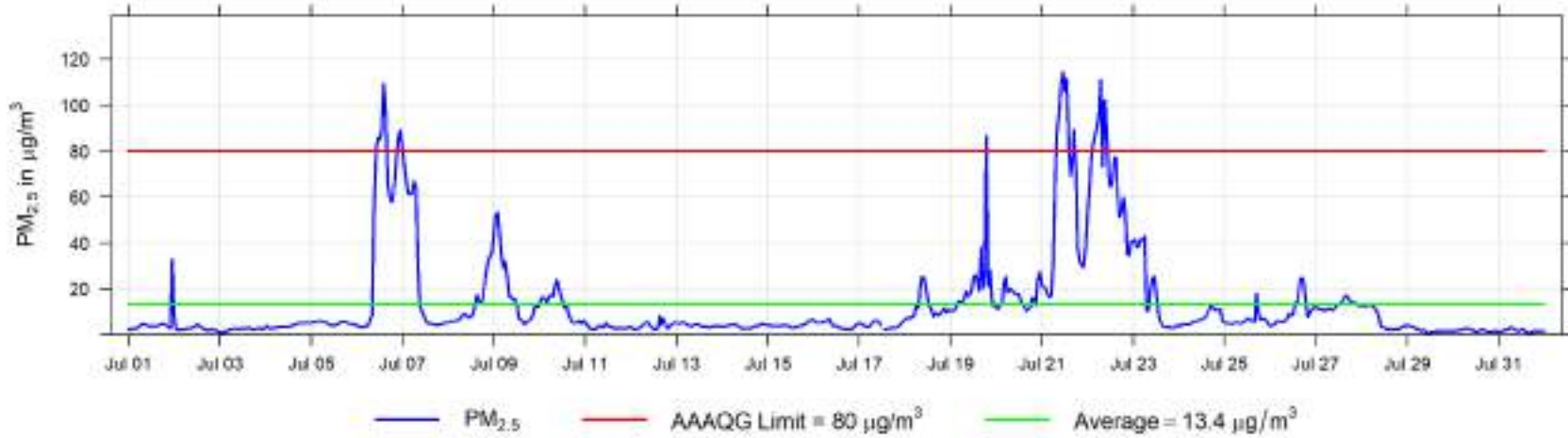


July 2024 Hourly Concentration Readings of CO (in ppm) at Henry Pirker

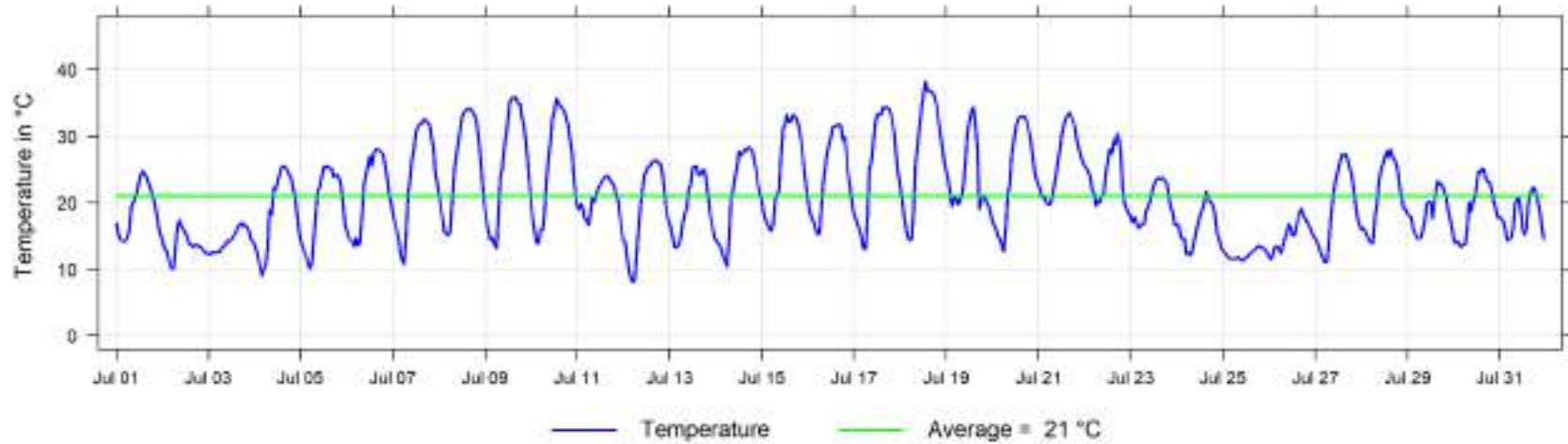




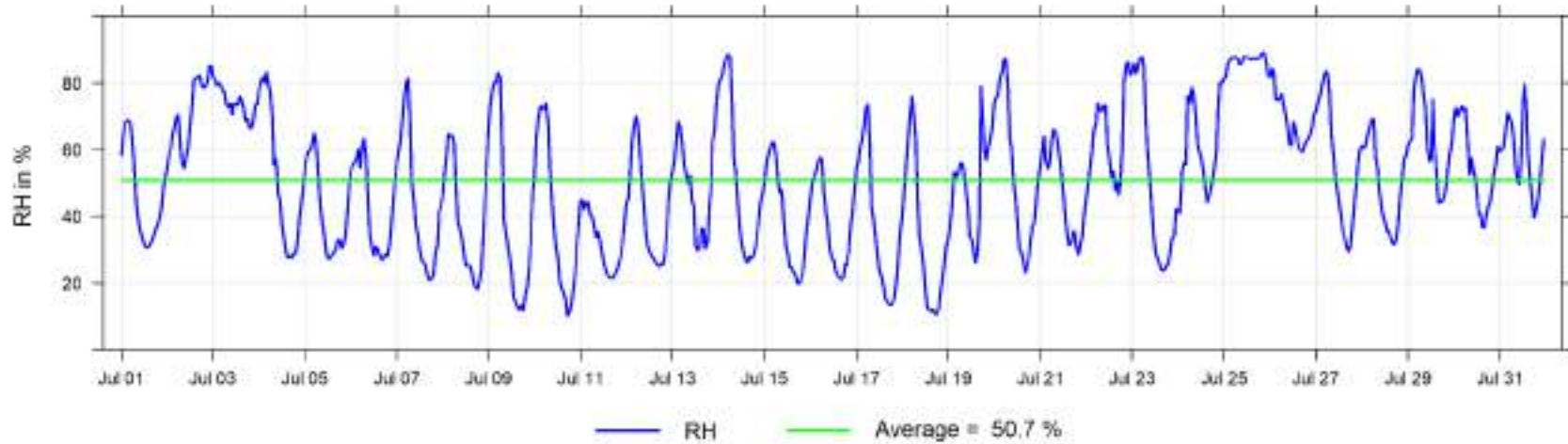
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Henry Pirker



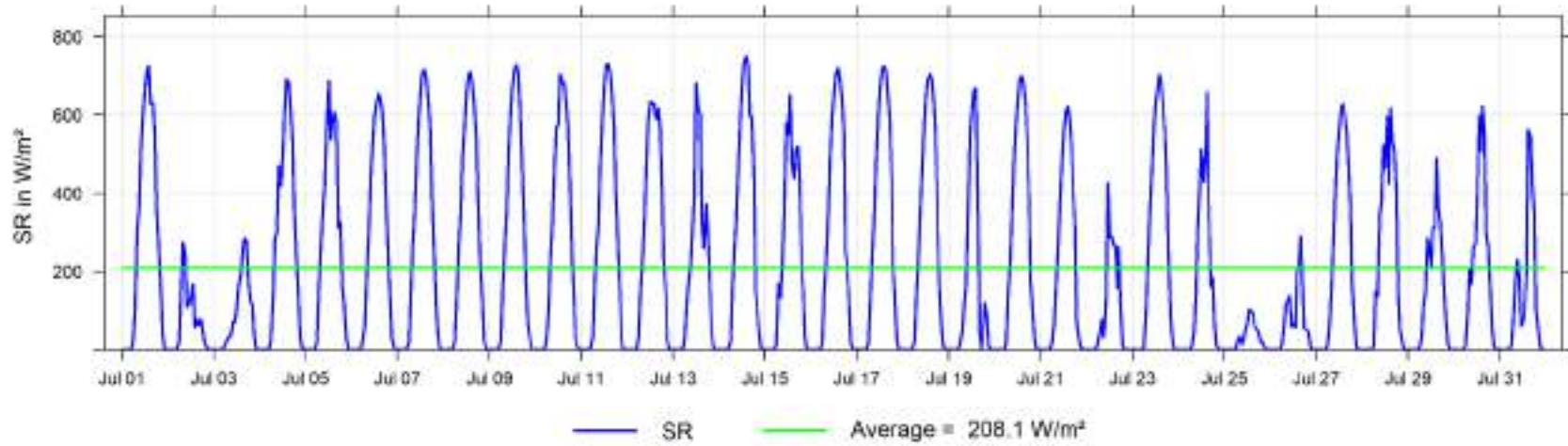
July 2024 Hourly Temperature Readings (in °C) at Henry Pirker



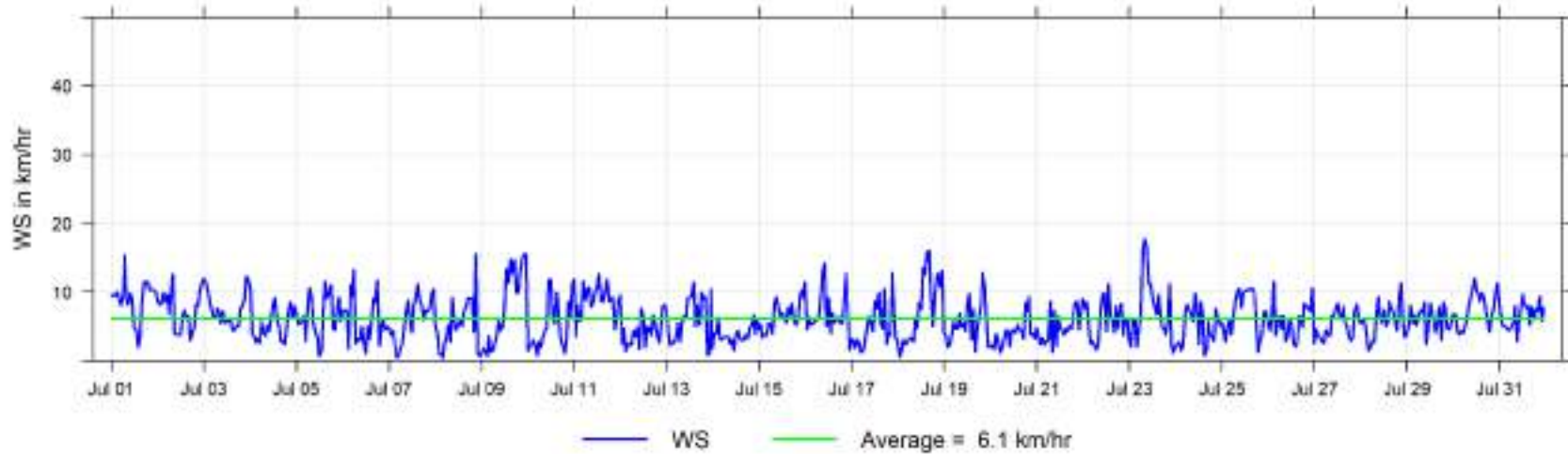
July 2024 Hourly Readings of Relative Humidity (in %) at Henry Pirker



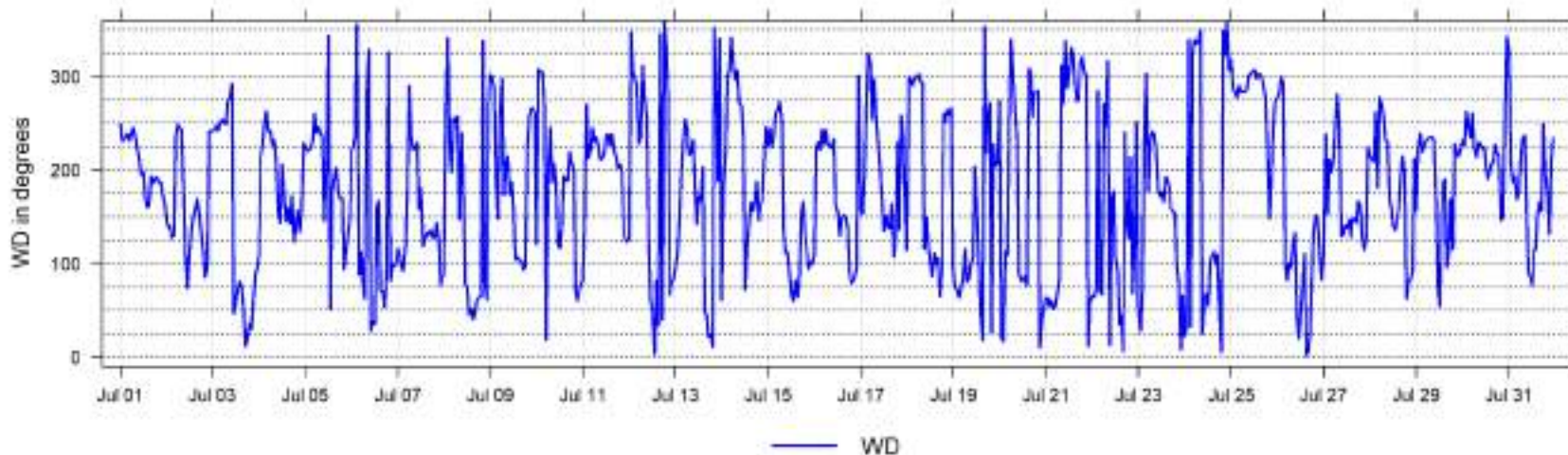
July 2024 Hourly Readings of Solar Radiation (in W/m<sup>2</sup>) at Henry Pirker



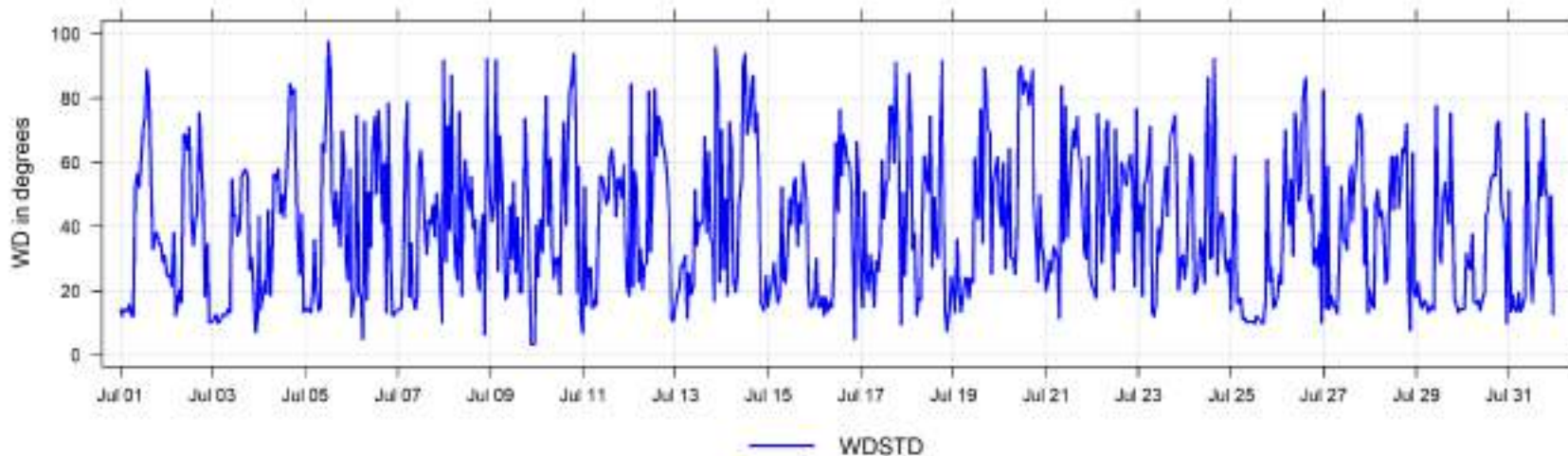
July 2024 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker

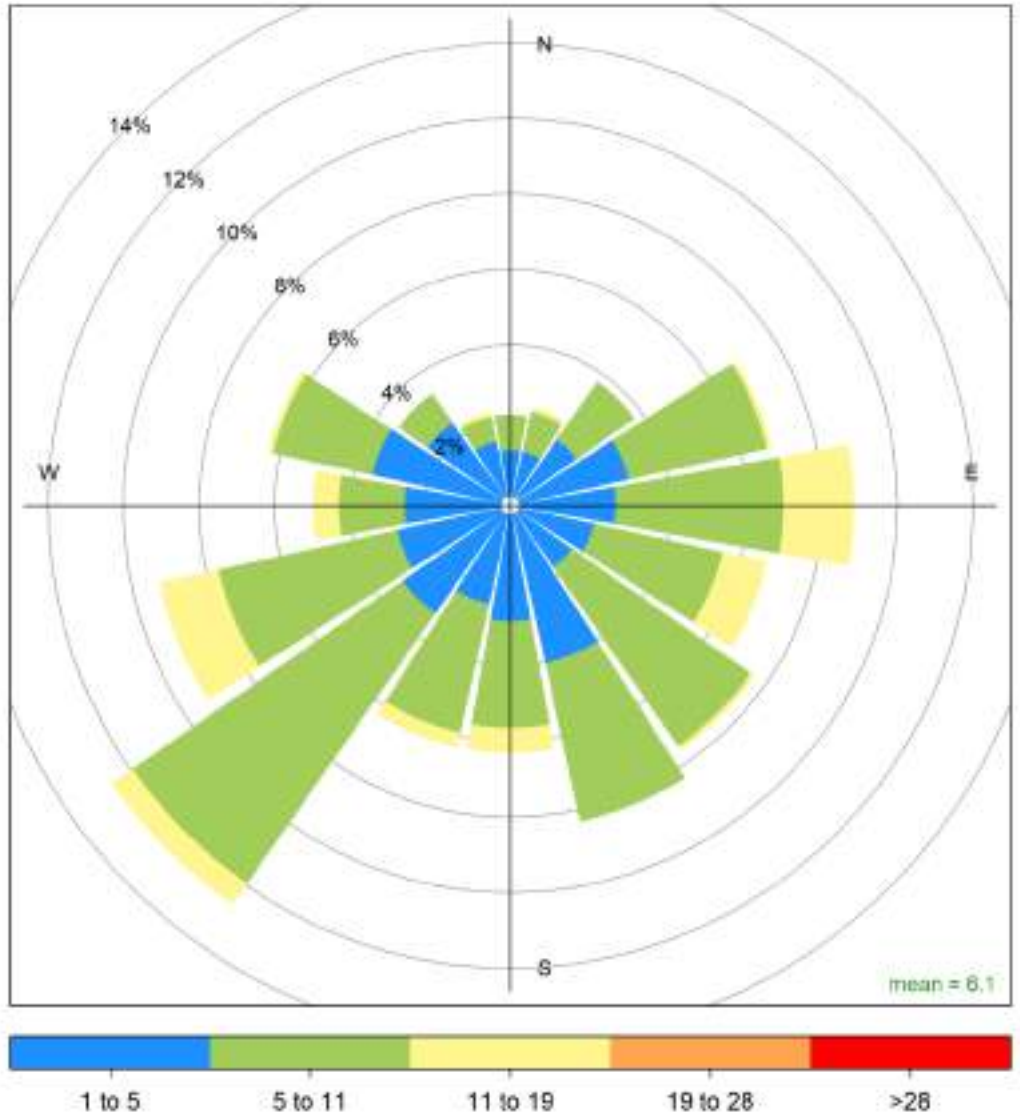


July 2024 Hourly Readings of Wind Direction (in degrees) at Henry Pirker



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Henry Pirker

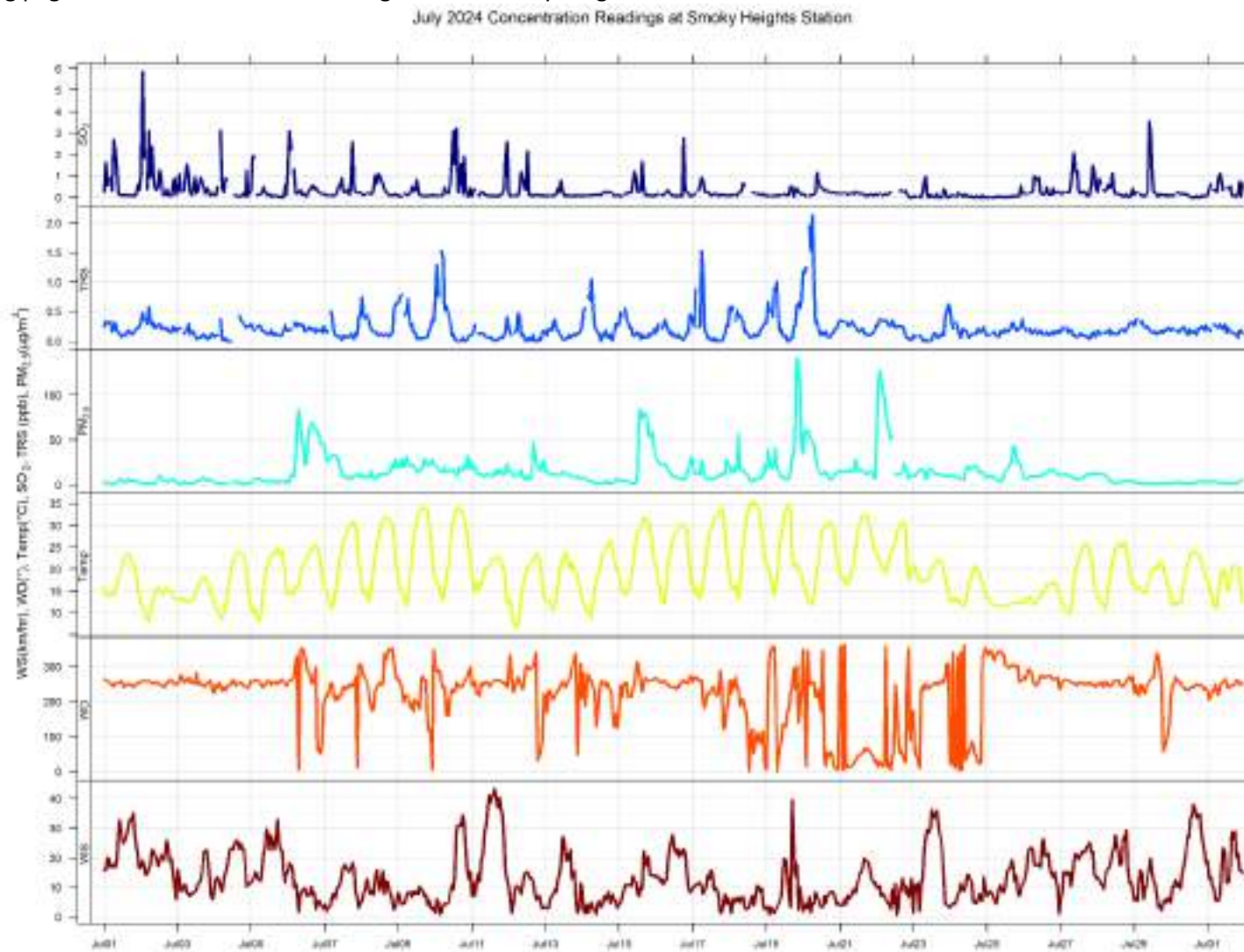




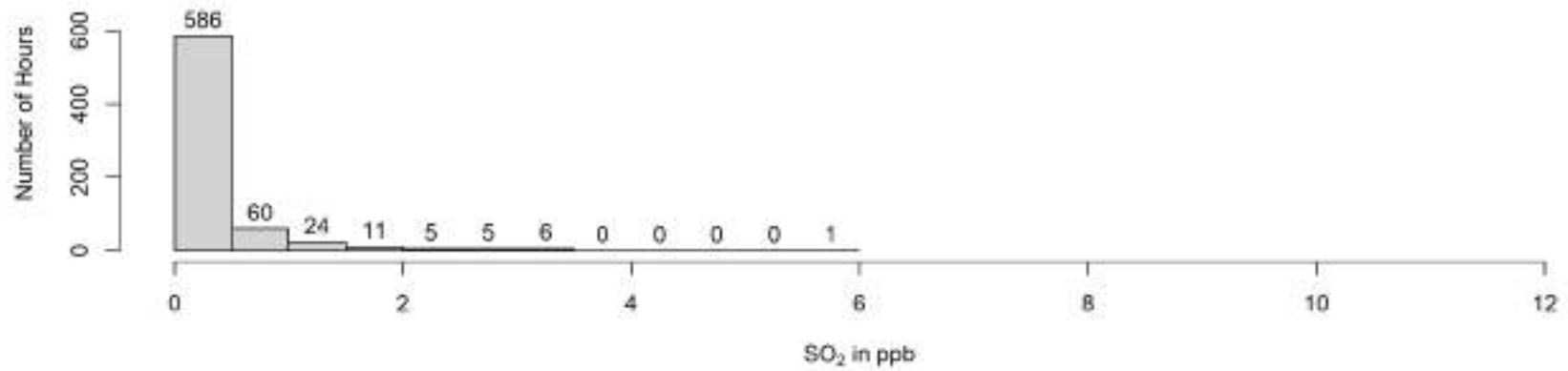
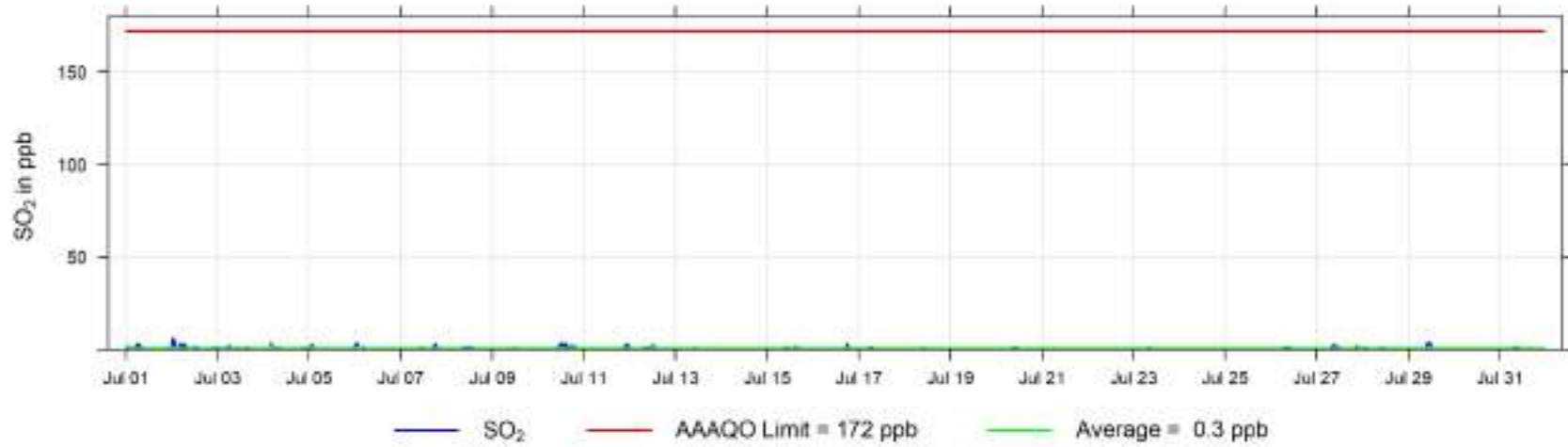
Henry Pirker July 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 1.7 %**

## 5 Smoky Heights Charts

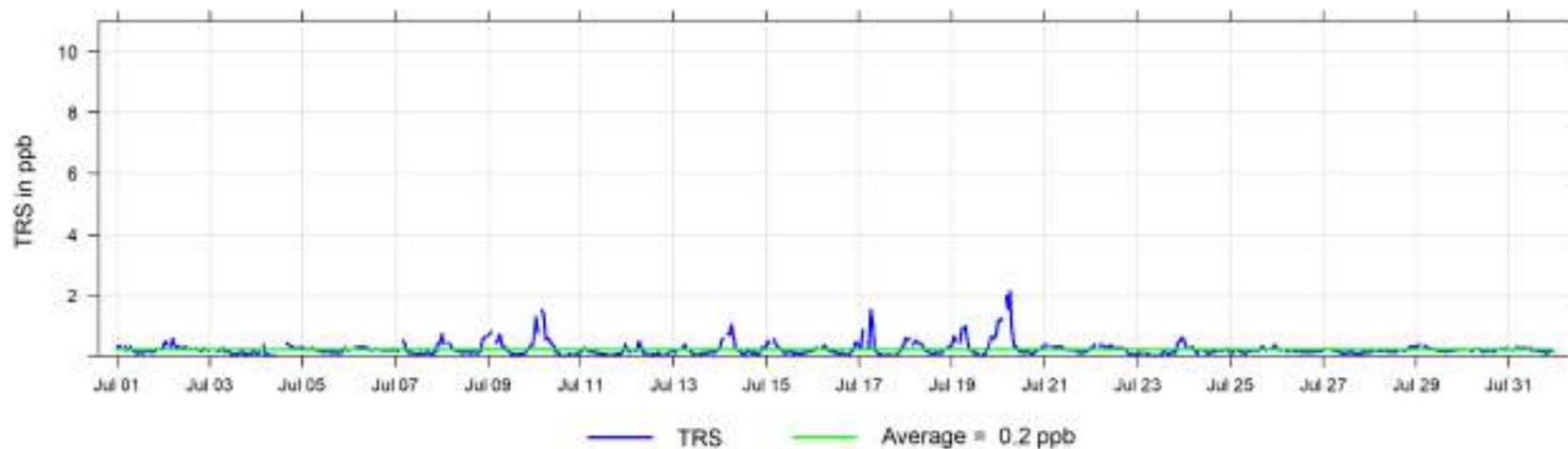
The following pages include the charts and histograms for Smoky Heights Station



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

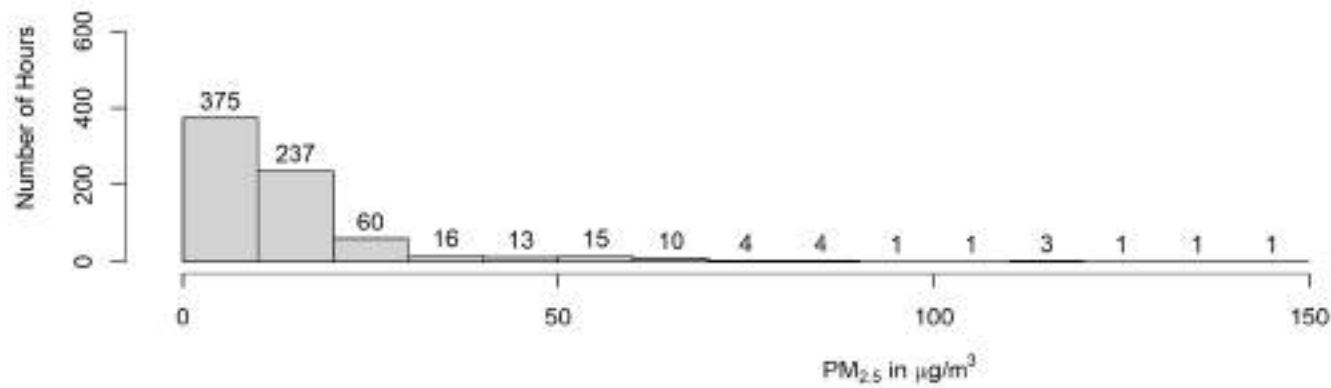
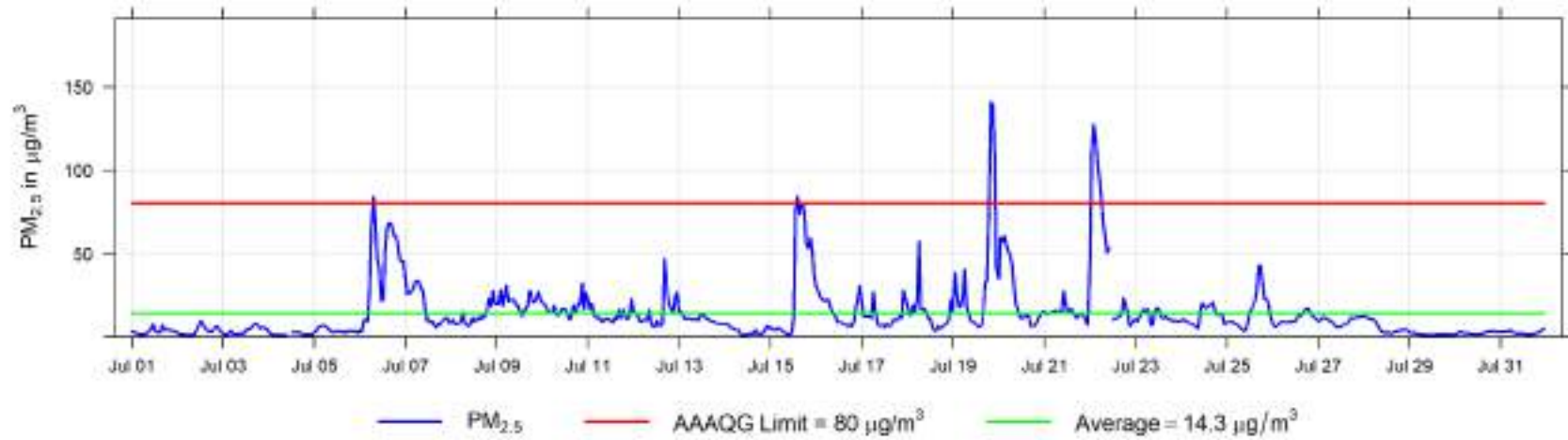


July 2024 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights

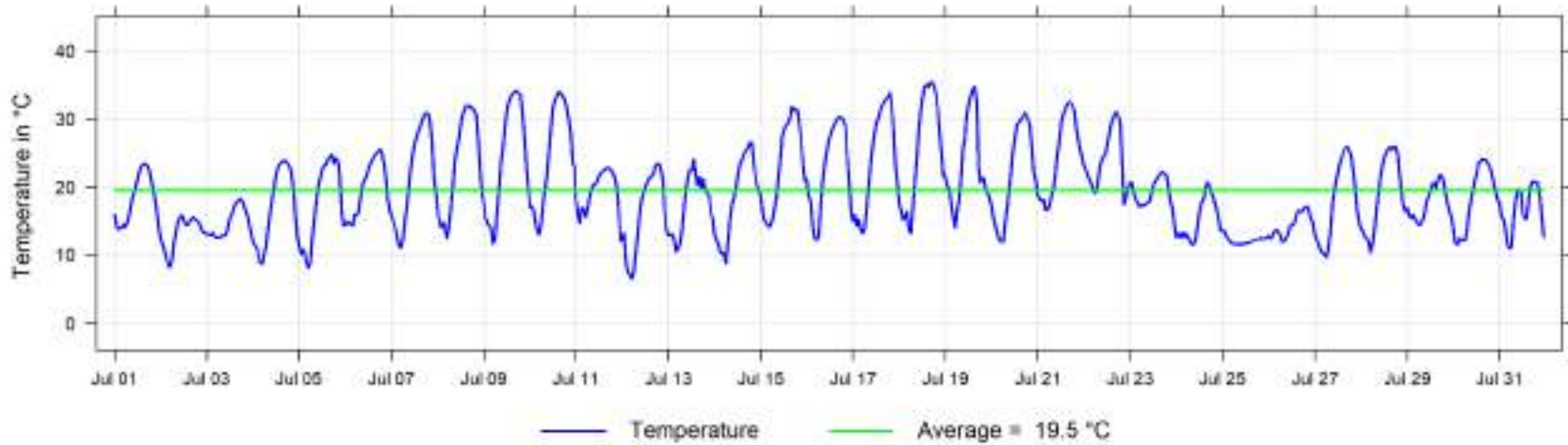




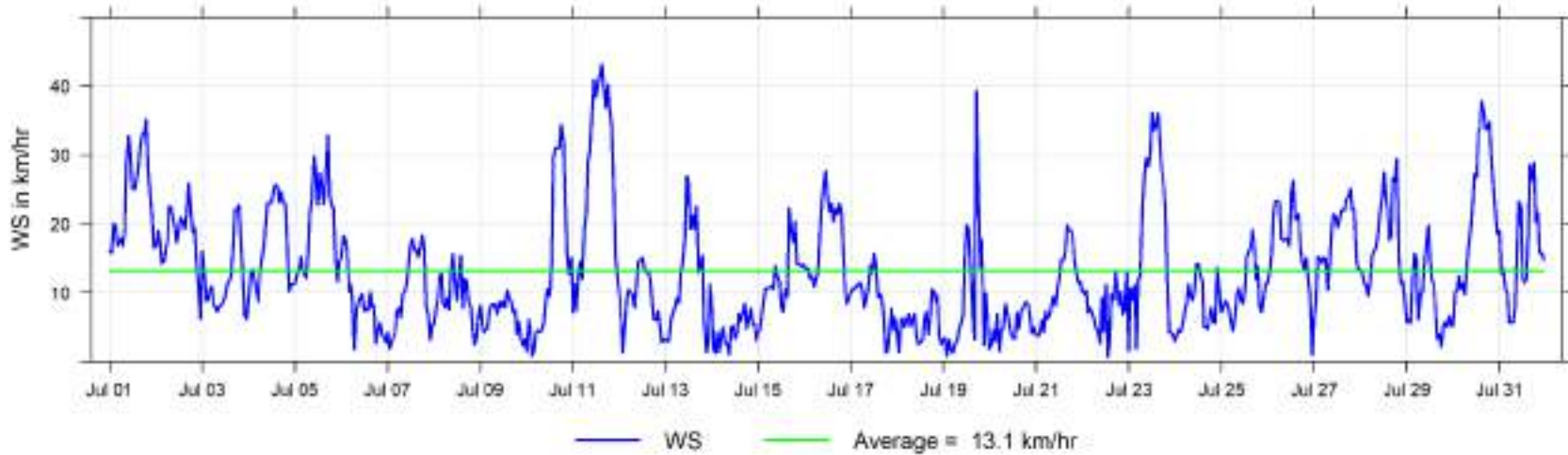
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Smoky Heights



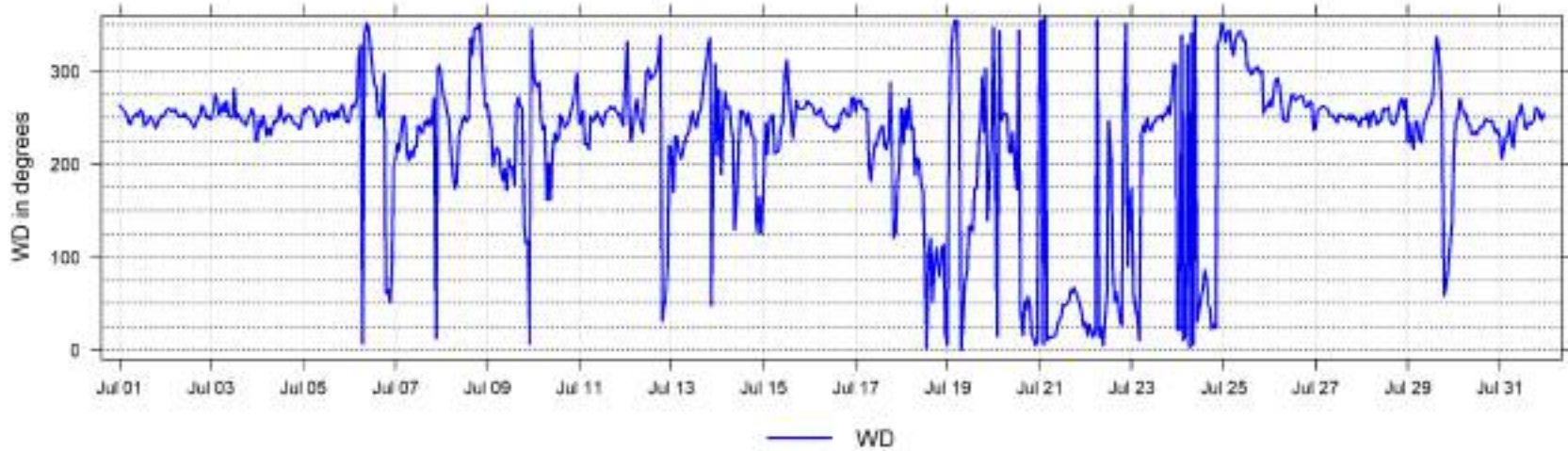
July 2024 Hourly Temperature Readings (in °C) at Smoky Heights



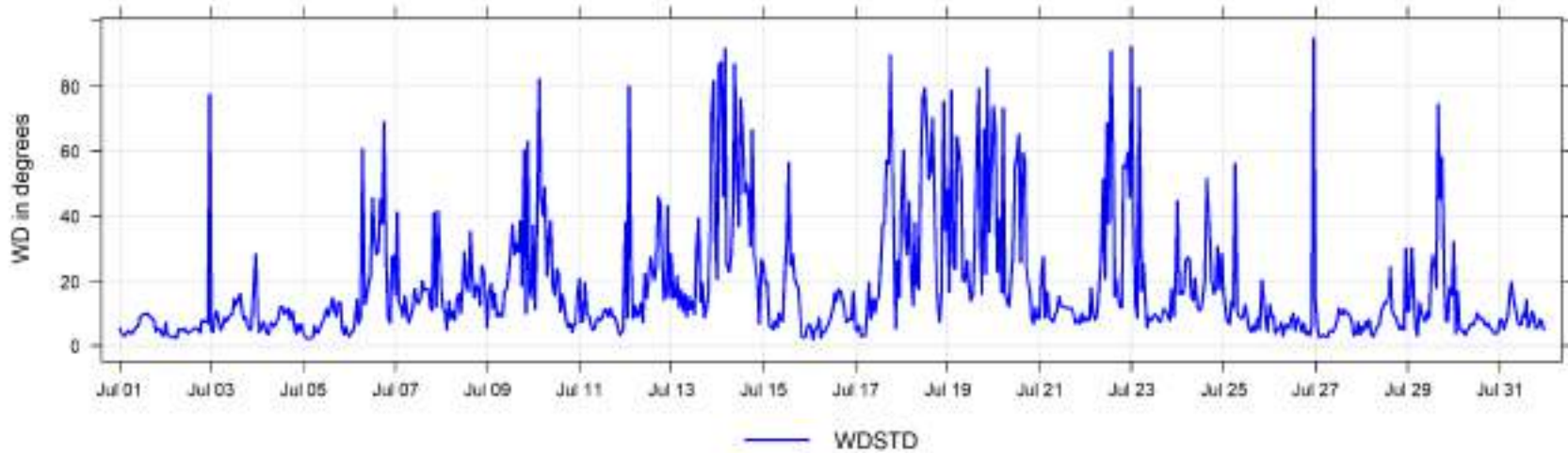
July 2024 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

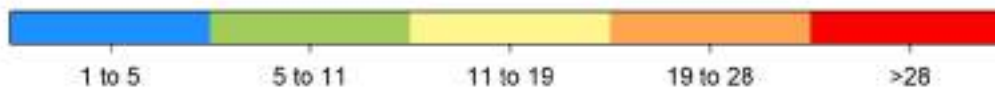
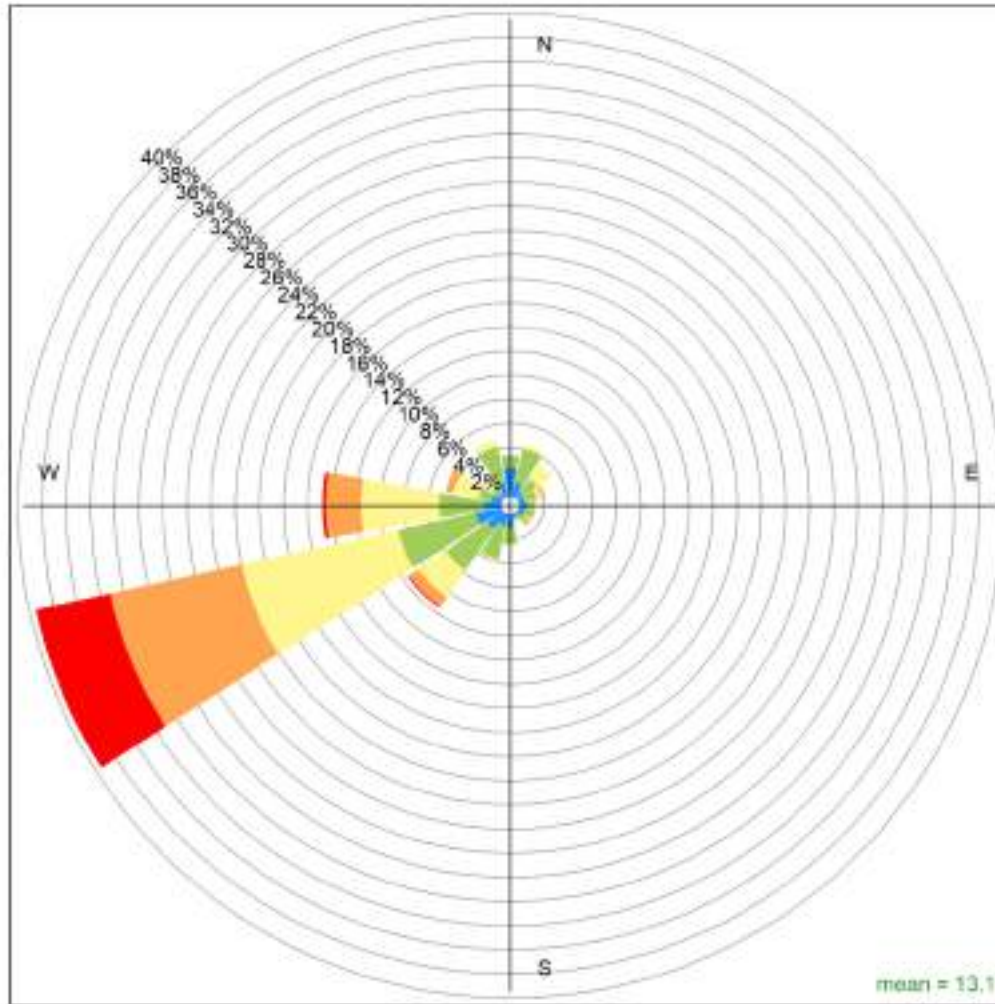


**July 2024 Hourly Readings of Wind Direction (in degrees) at Smoky Heights**



**July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Smoky Heights**



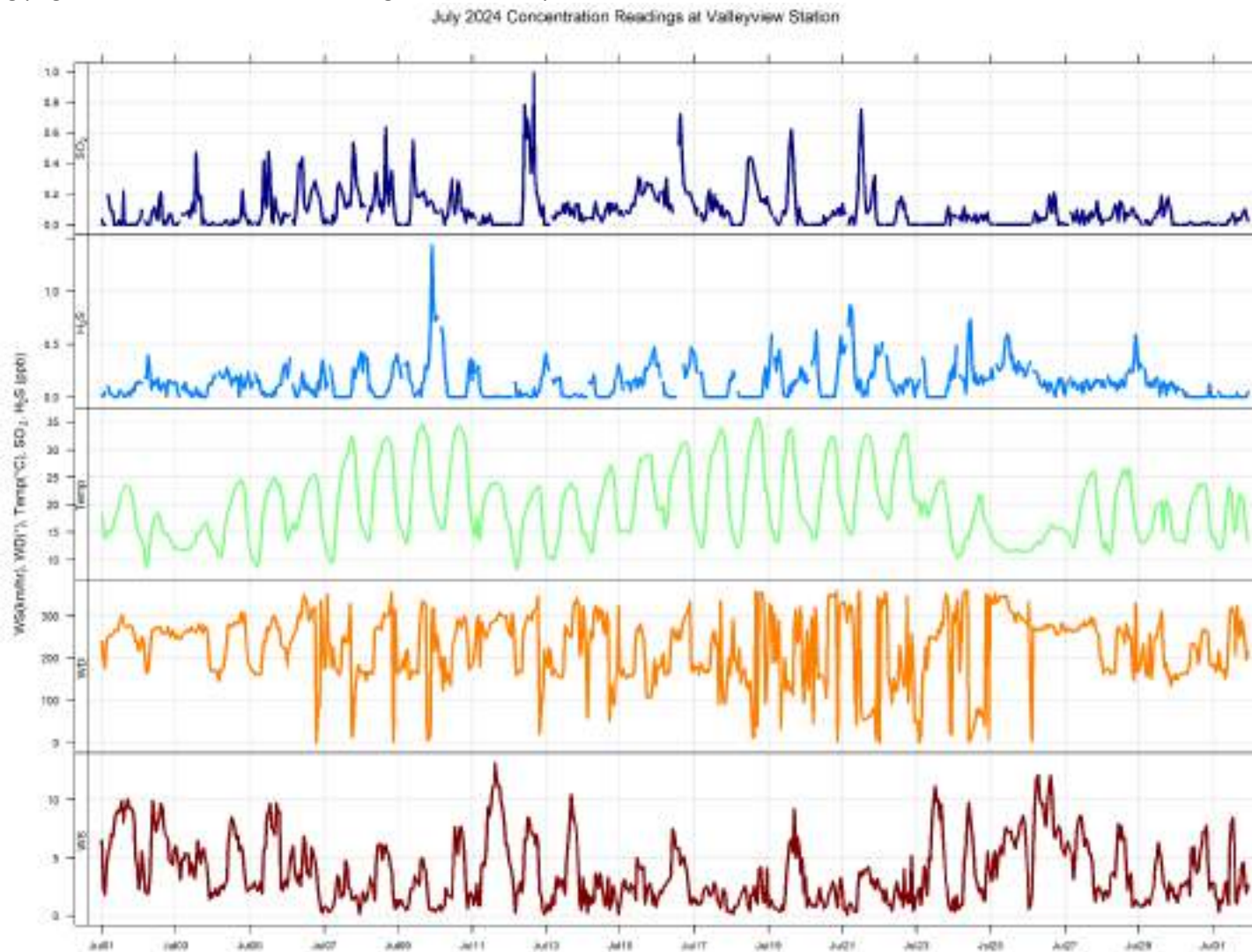


Smoky Heights July 2024 Wind Rose, wind speed in km/hr

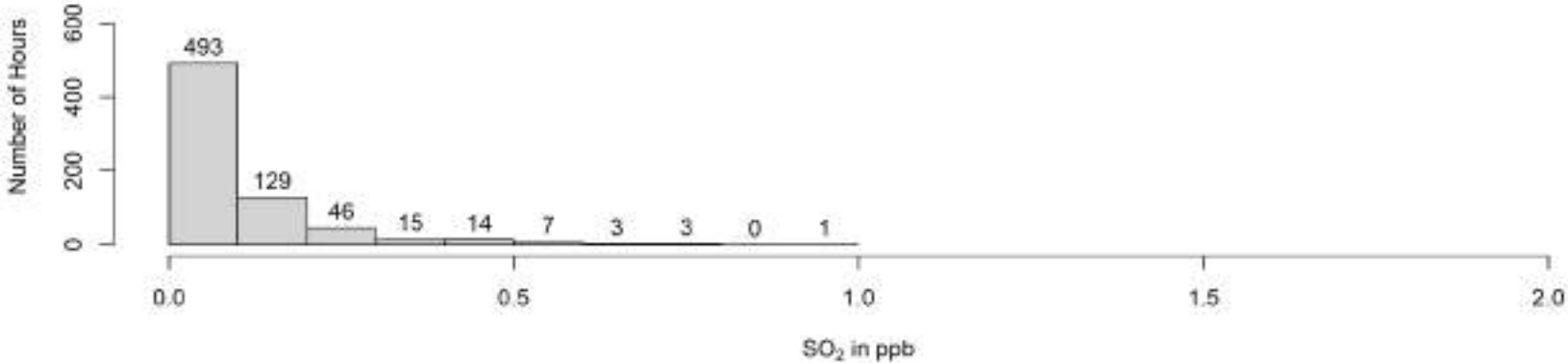
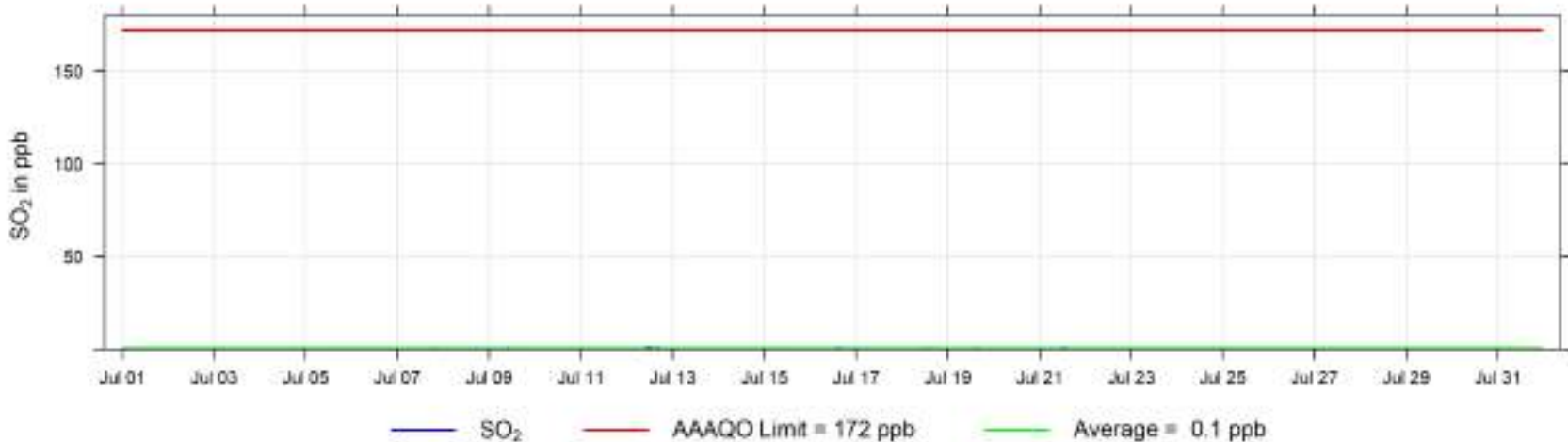
**Calms (<1km/hr) = 0.7 %**

## 6 Valleyview Charts

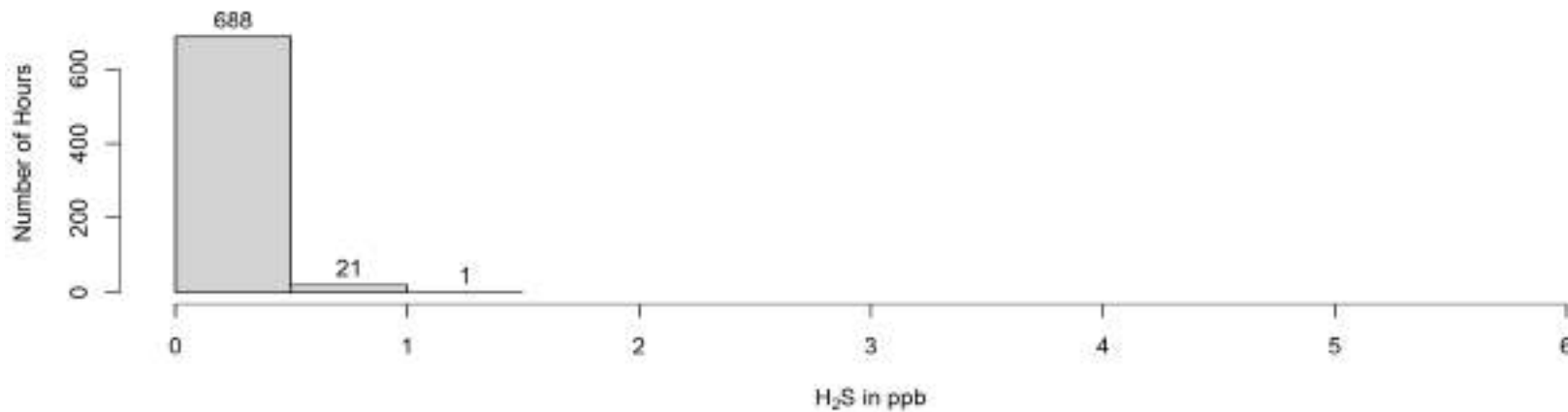
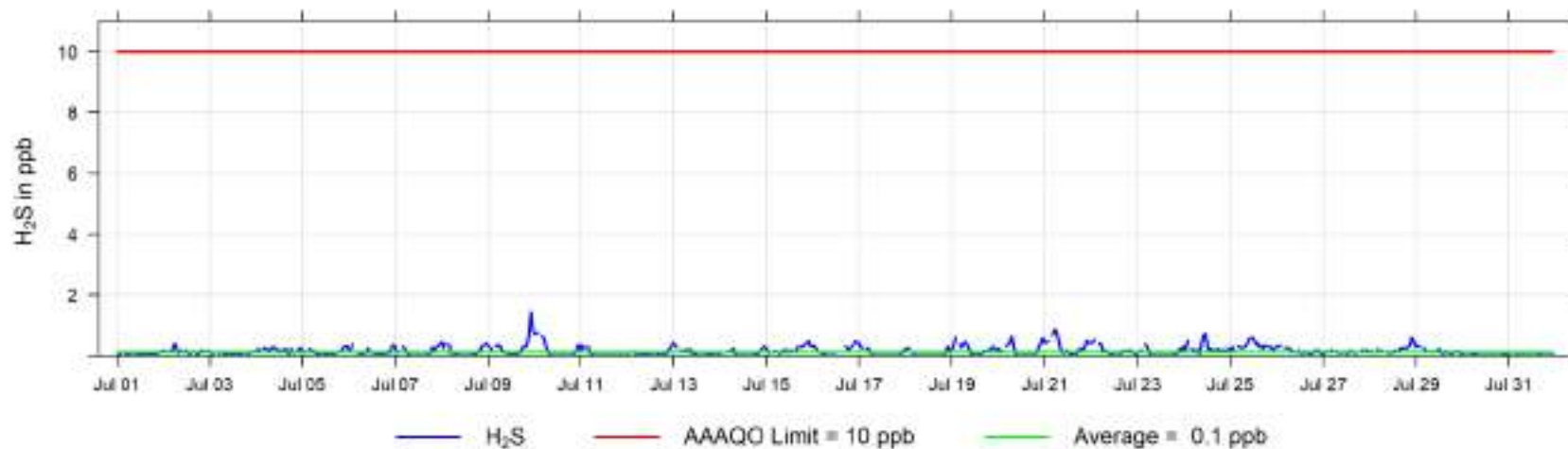
The following pages include the charts and histograms for Valleyview Station



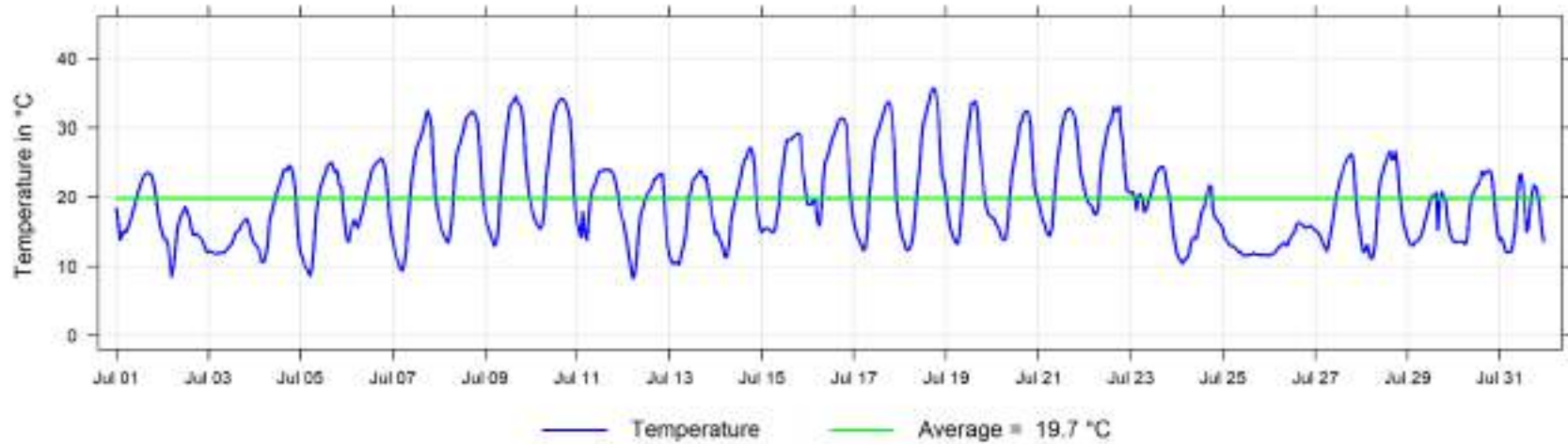
July 2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Valleyview



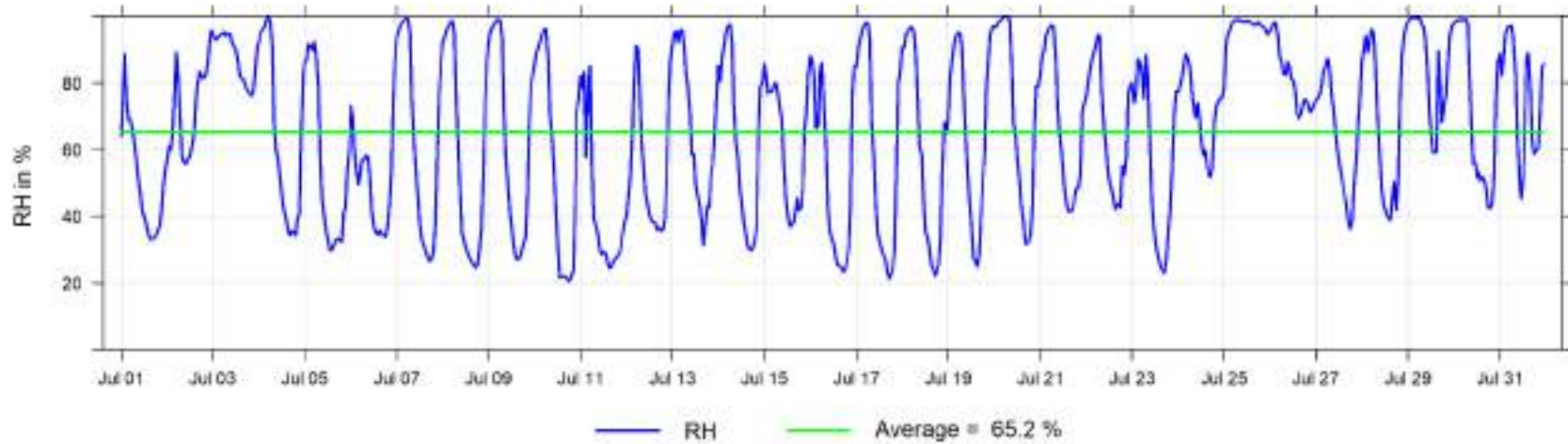
July 2024 Hourly Concentration Readings of H<sub>2</sub>S (in ppb) at Valleyview



July 2024 Hourly Temperature Readings (in °C) at Valleyview

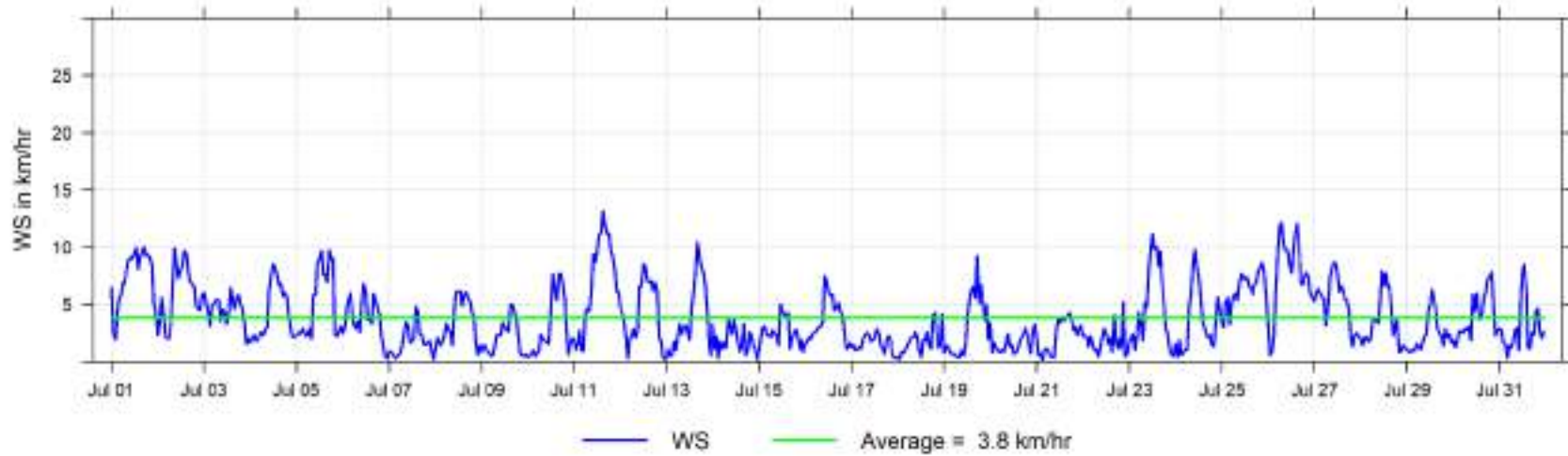


July 2024 Hourly Readings of Relative Humidity (in %) at Valleyview

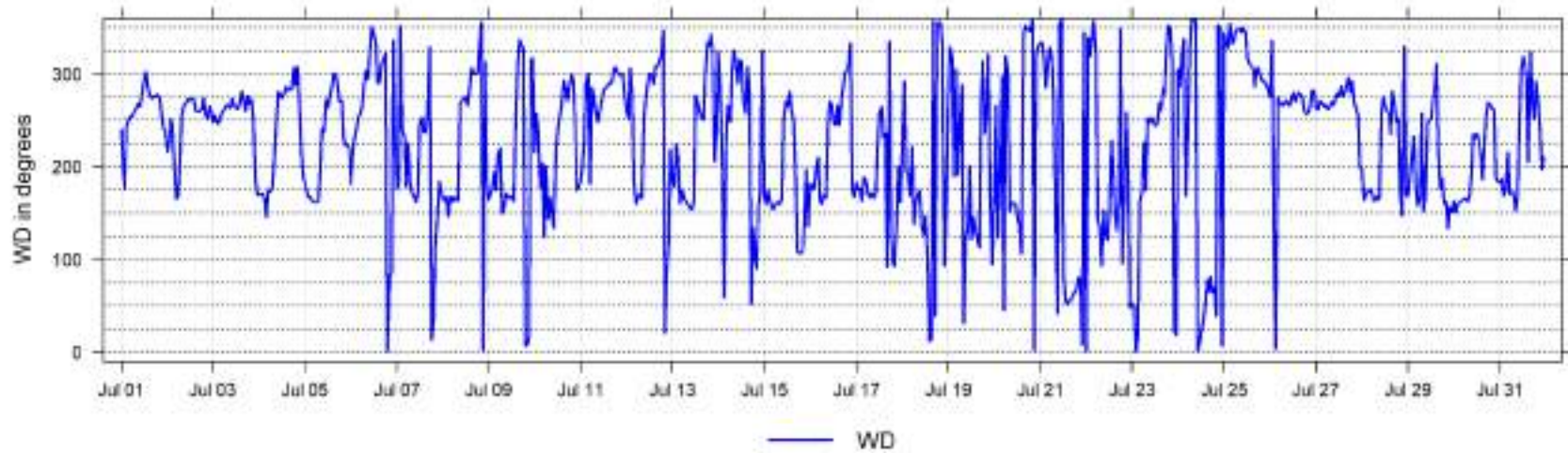




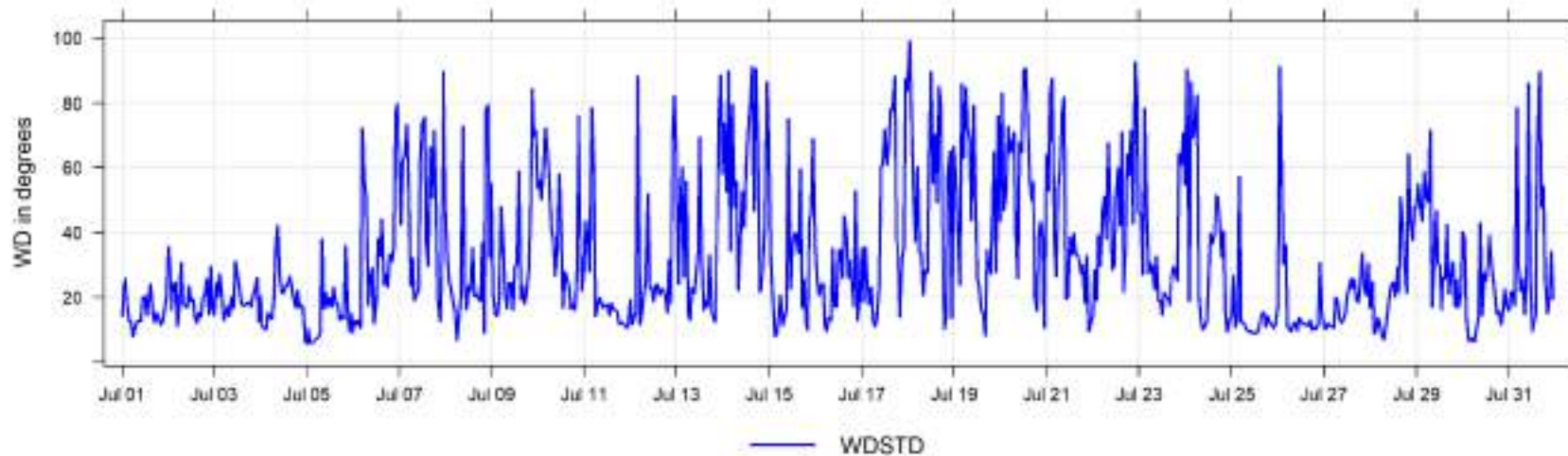
July 2024 Hourly Readings of Wind Speed (in km/hr) at Valleyview

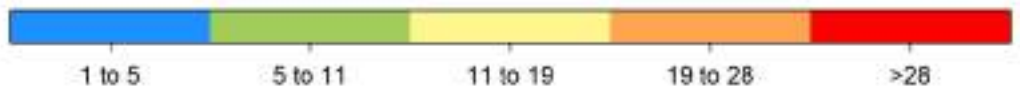
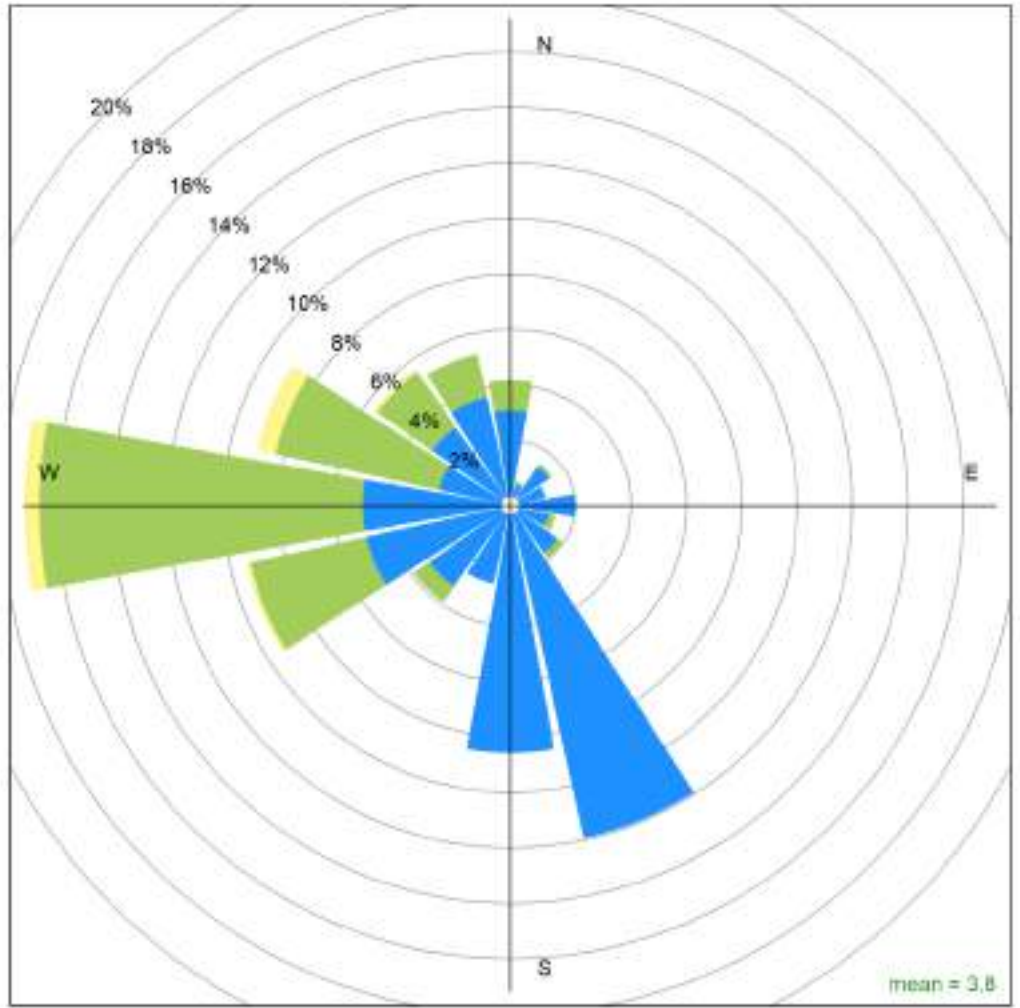


July 2024 Hourly Readings of Wind Direction (in degrees) at Valleyview



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Valleyview





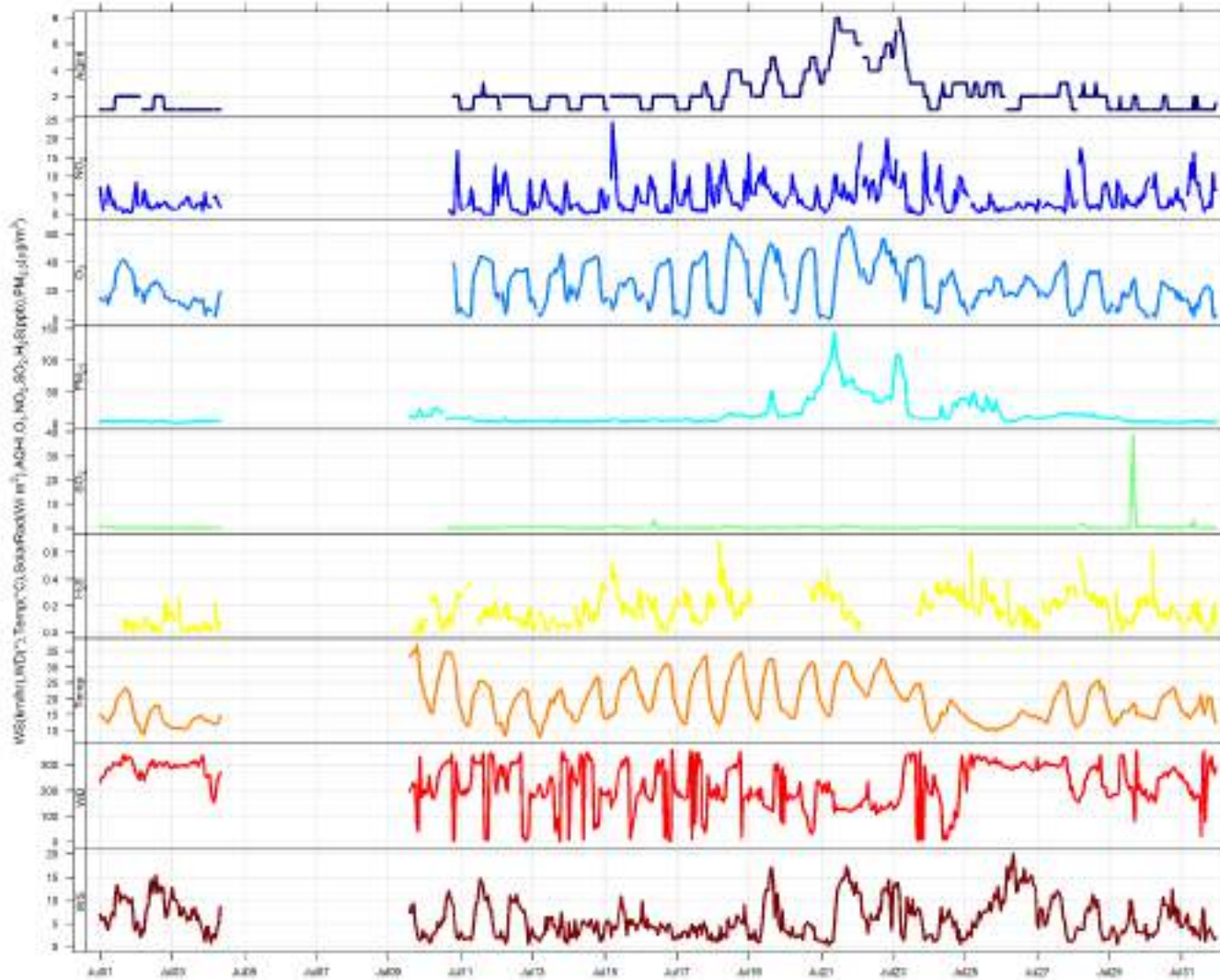
Valleyview July 2024 Wind Rose, wind speed in km/hr

**Calms (<1km/hr) = 14.1 %**

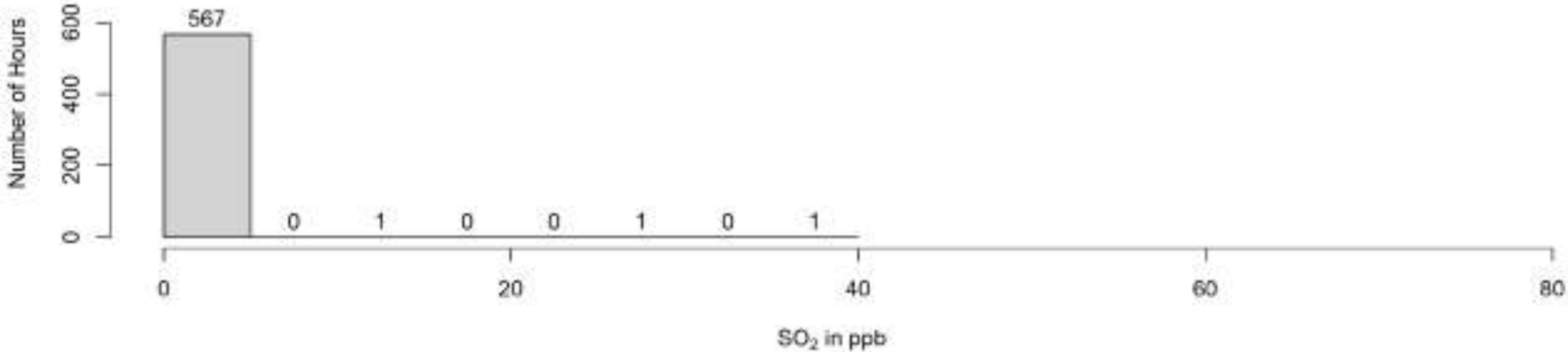
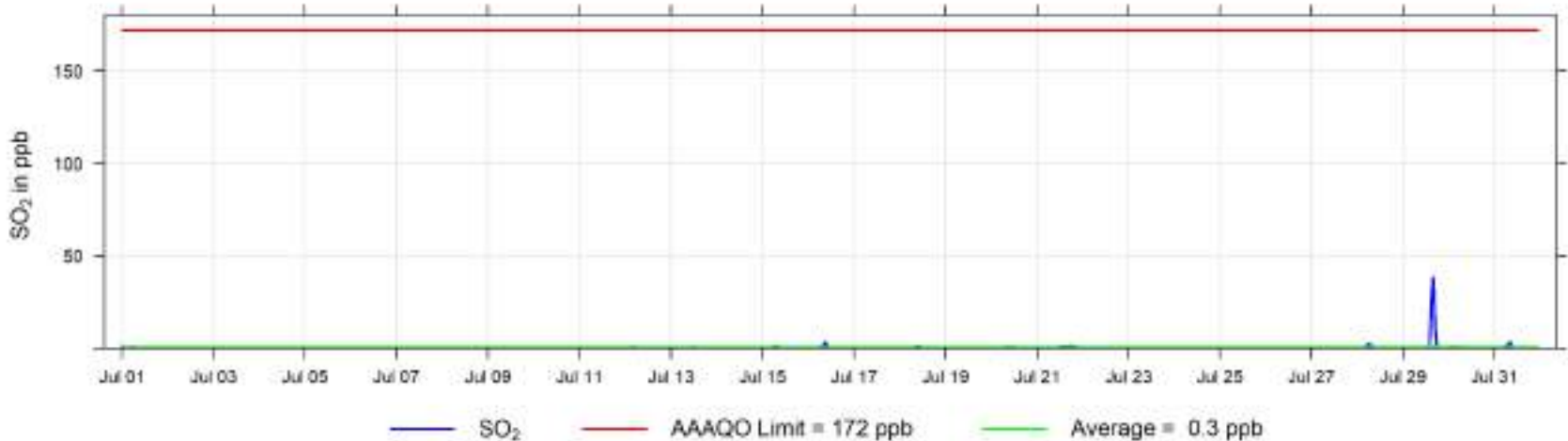
## 7 Fox Creek Charts

The following pages include the charts and histograms for Fox Creek Station

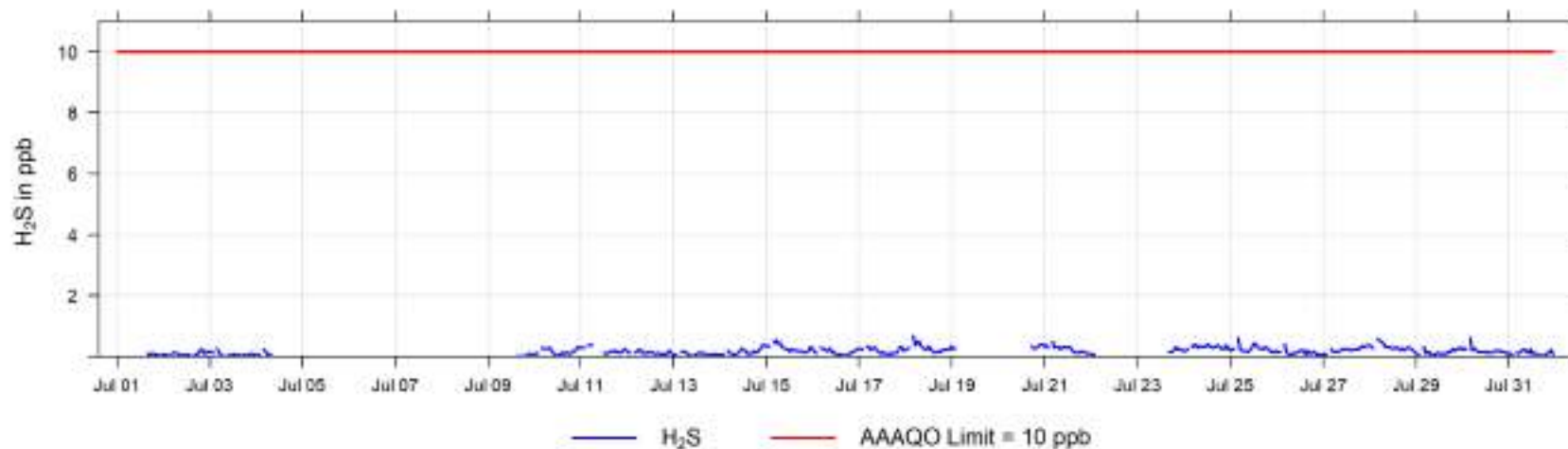
July 2024 Concentration Readings at Fox Creek Station



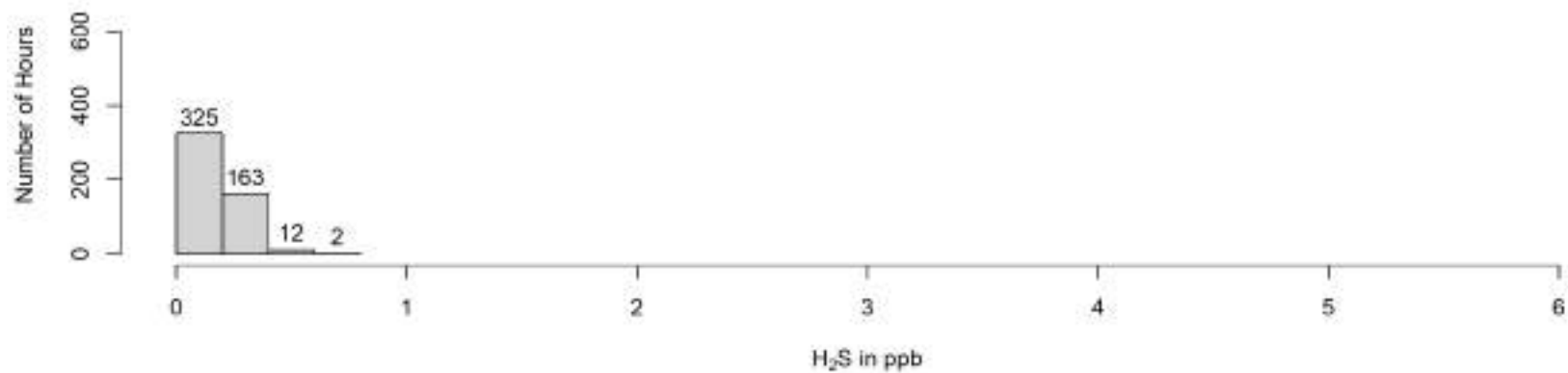
July 2024 Hourly Concentration Readings of SO<sub>2</sub> (in ppb) at Fox Creek



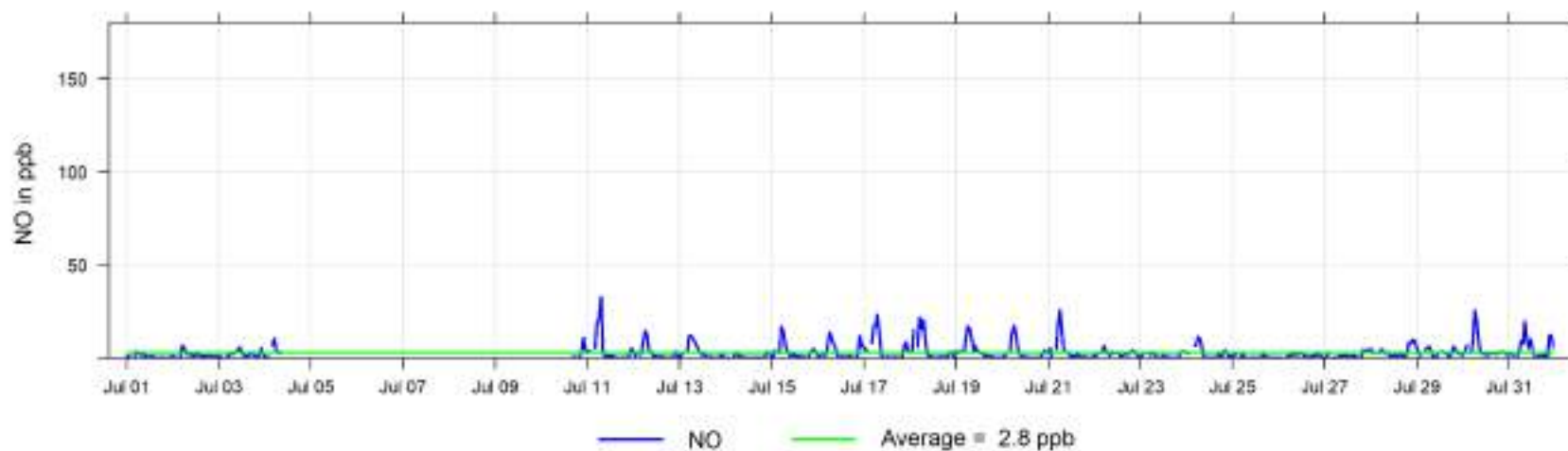
July 2024 Hourly Concentration Readings of H<sub>2</sub>S (in ppb) at Fox Creek



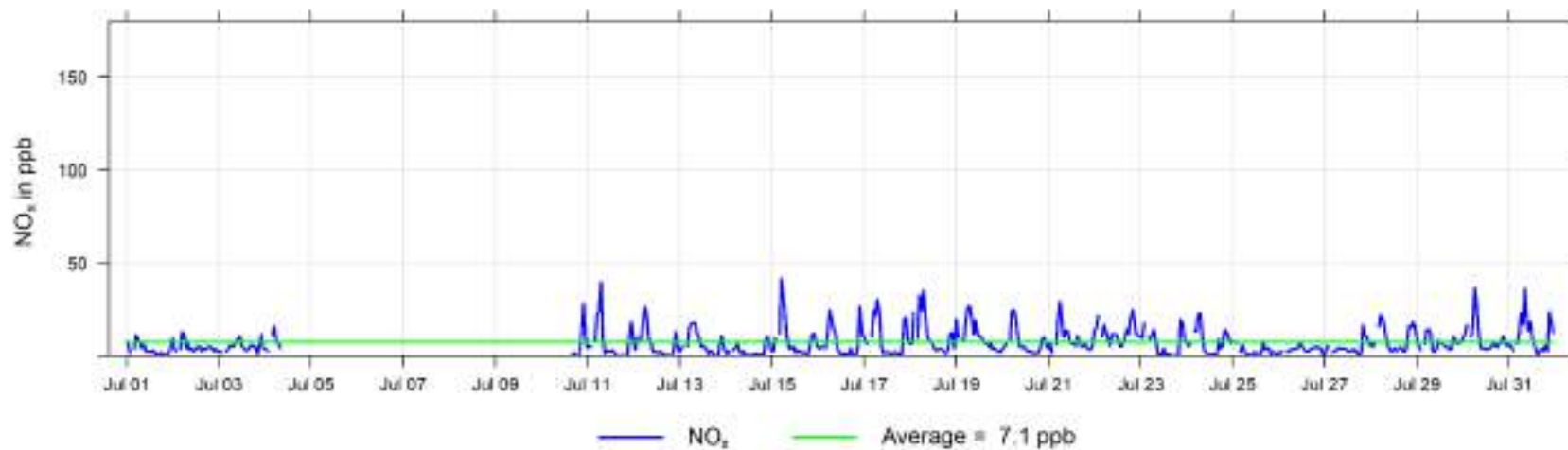
Note: average not shown for H<sub>2</sub>S due to monthly average <75%



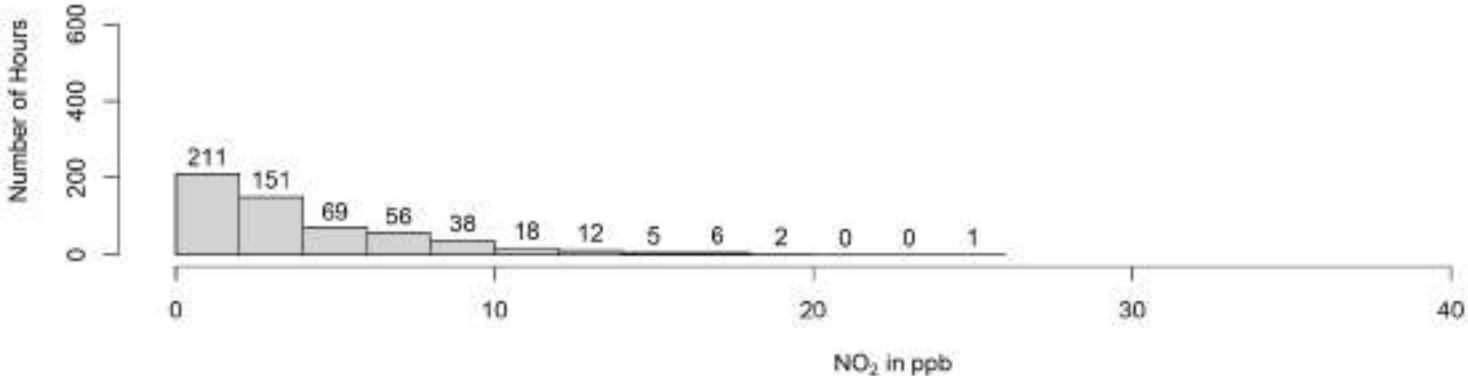
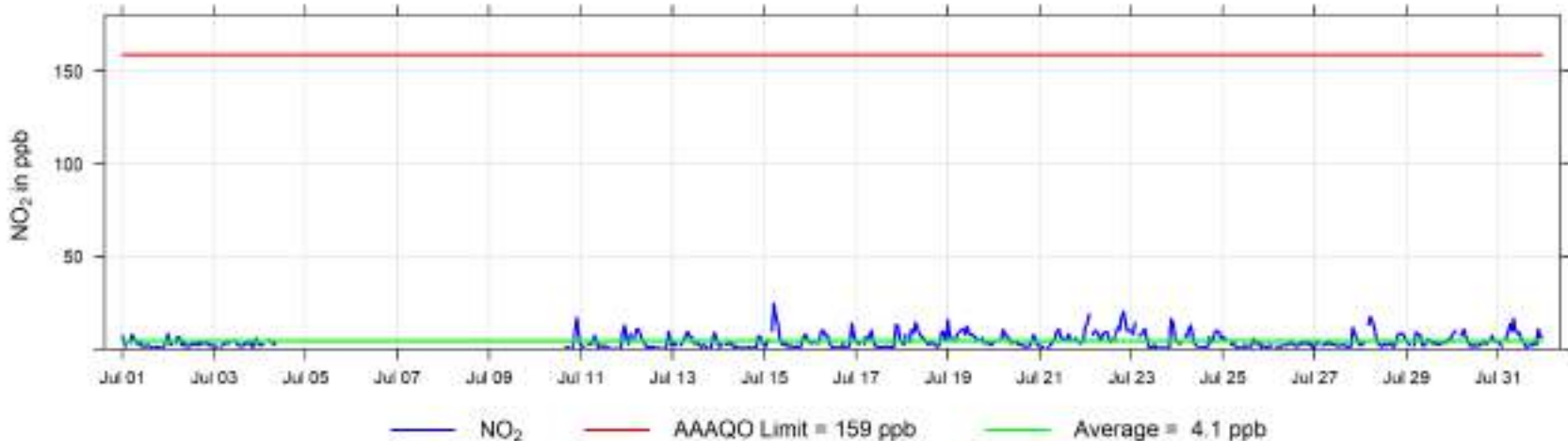
July 2024 Hourly Concentration Readings of NO (in ppb) at Fox Creek



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

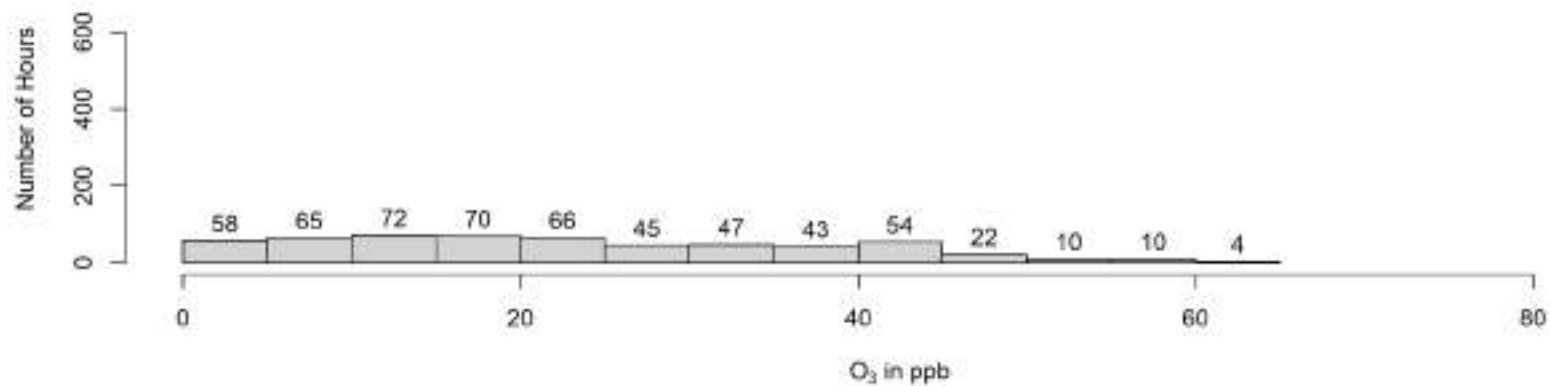
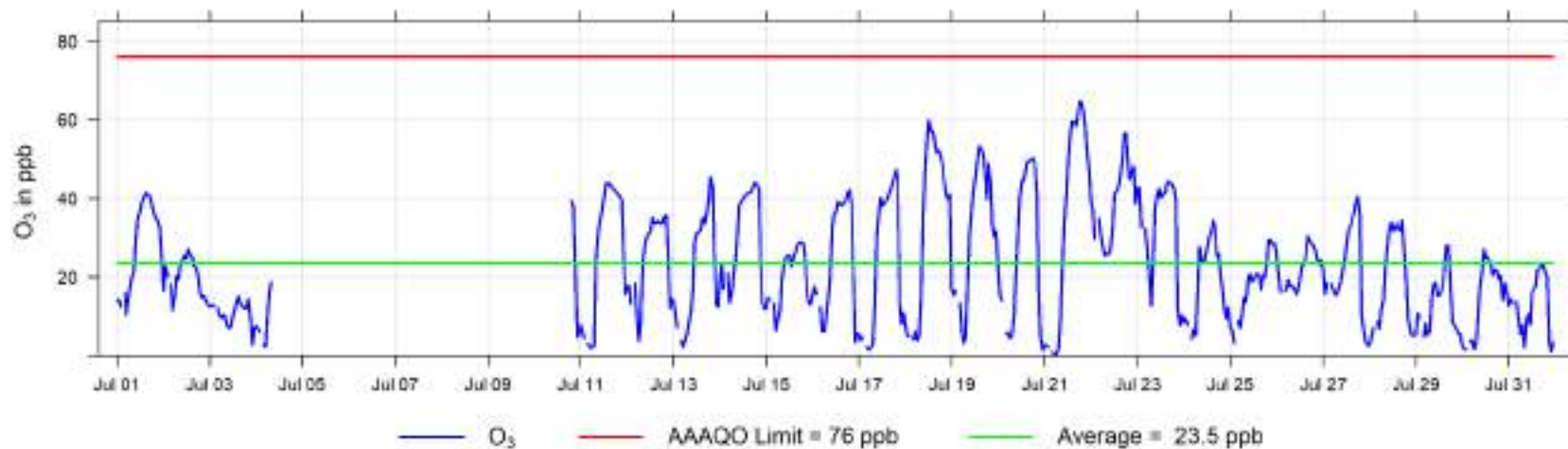


July 2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Fox Creek

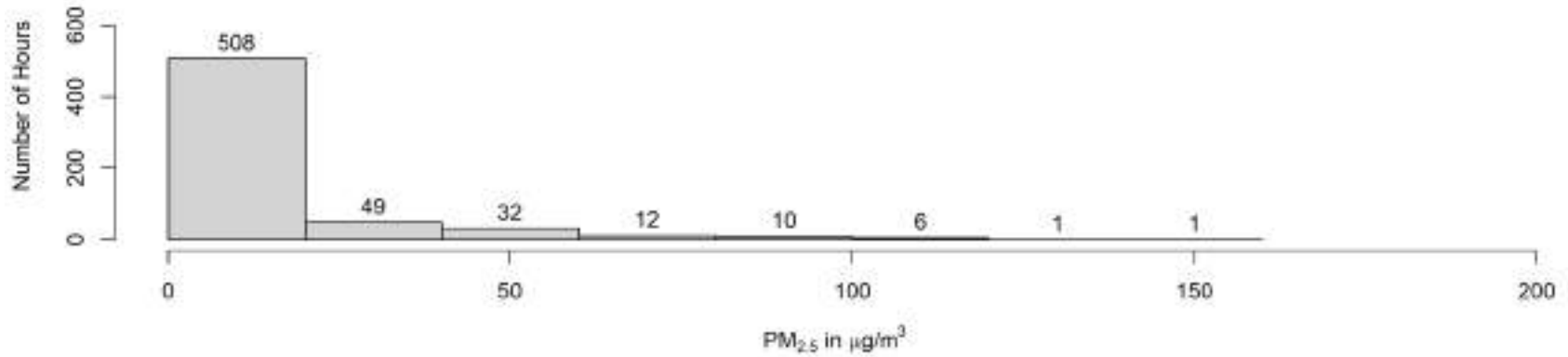
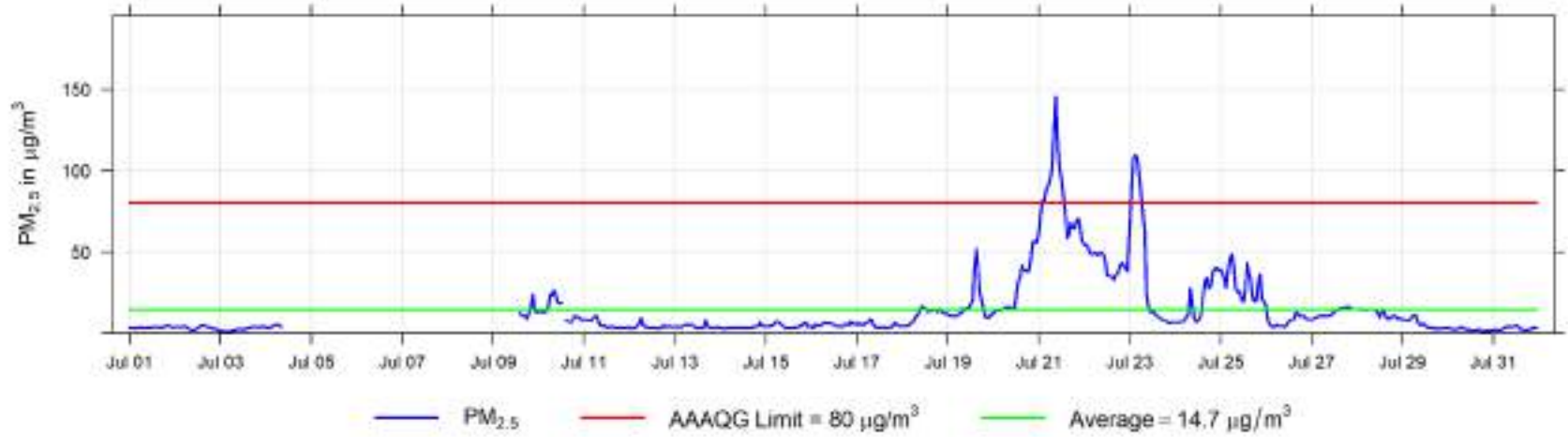




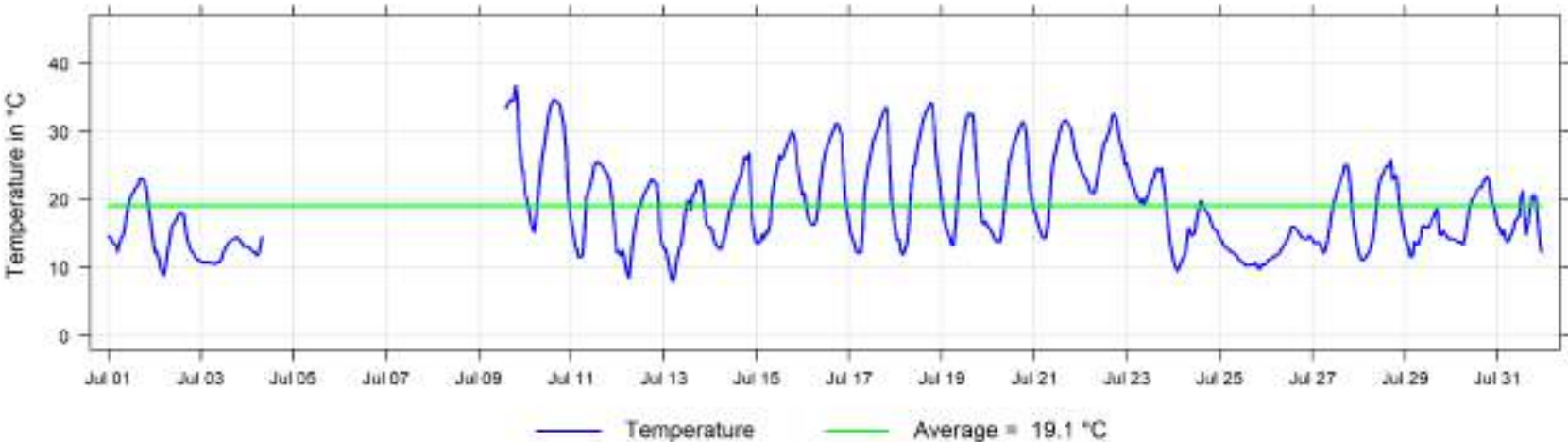
July 2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Fox Creek



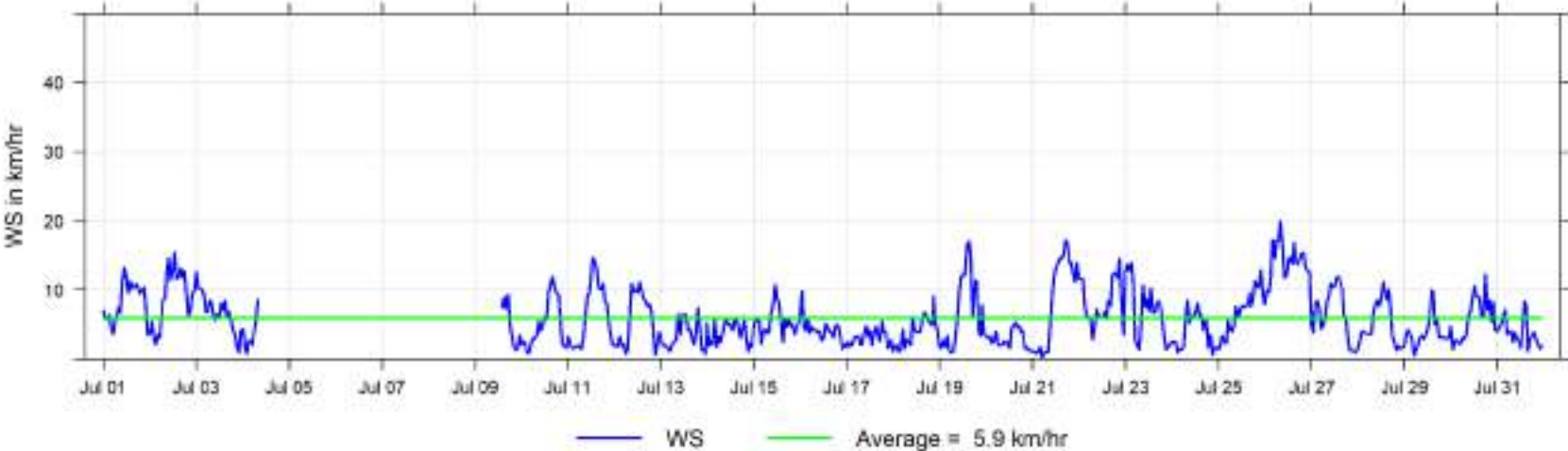
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Fox Creek



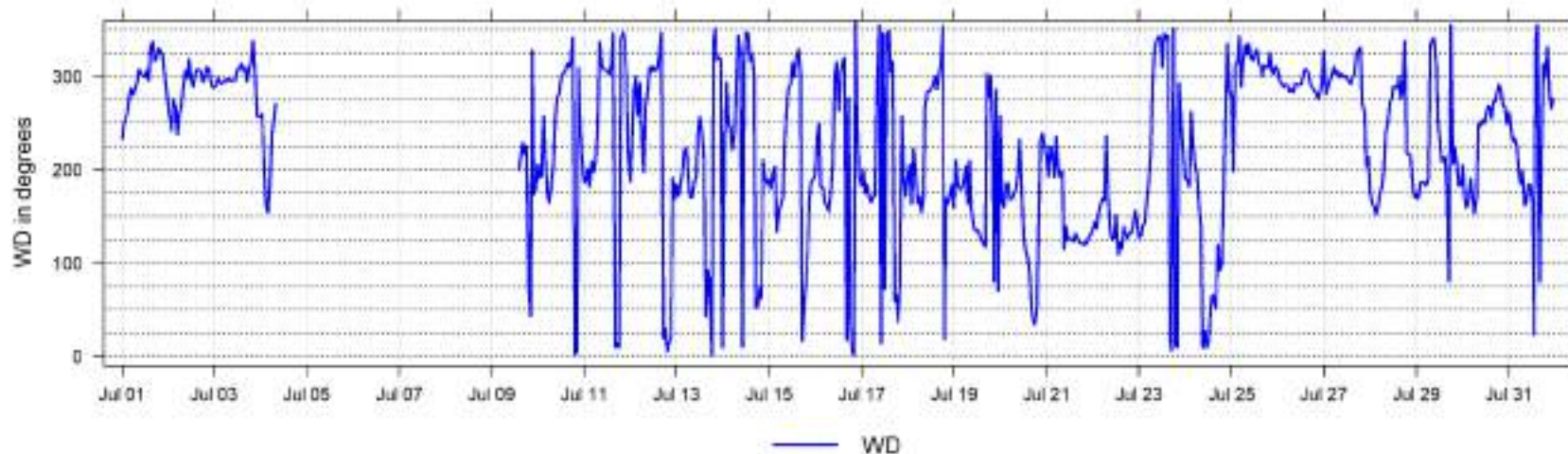
July 2024 Hourly Temperature Readings (in °C) at Fox Creek



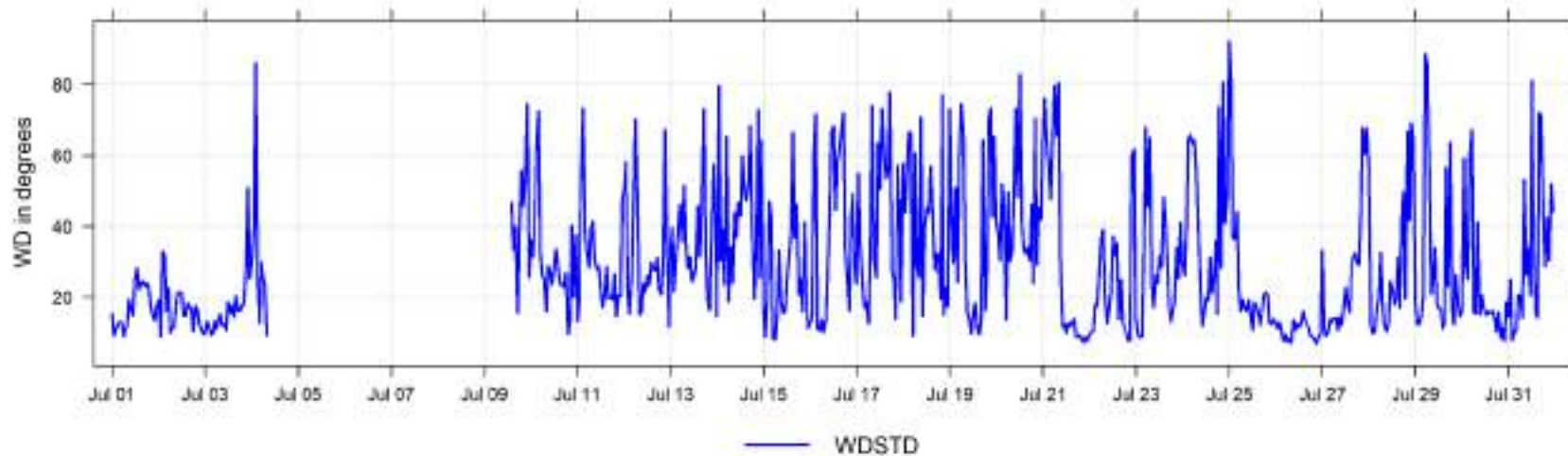
July 2024 Hourly Readings of Wind Speed (in km/hr) at Fox Creek

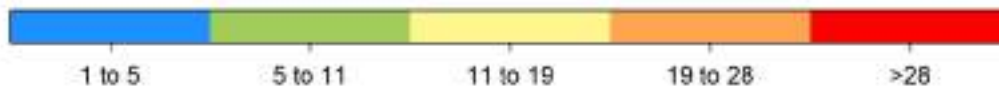
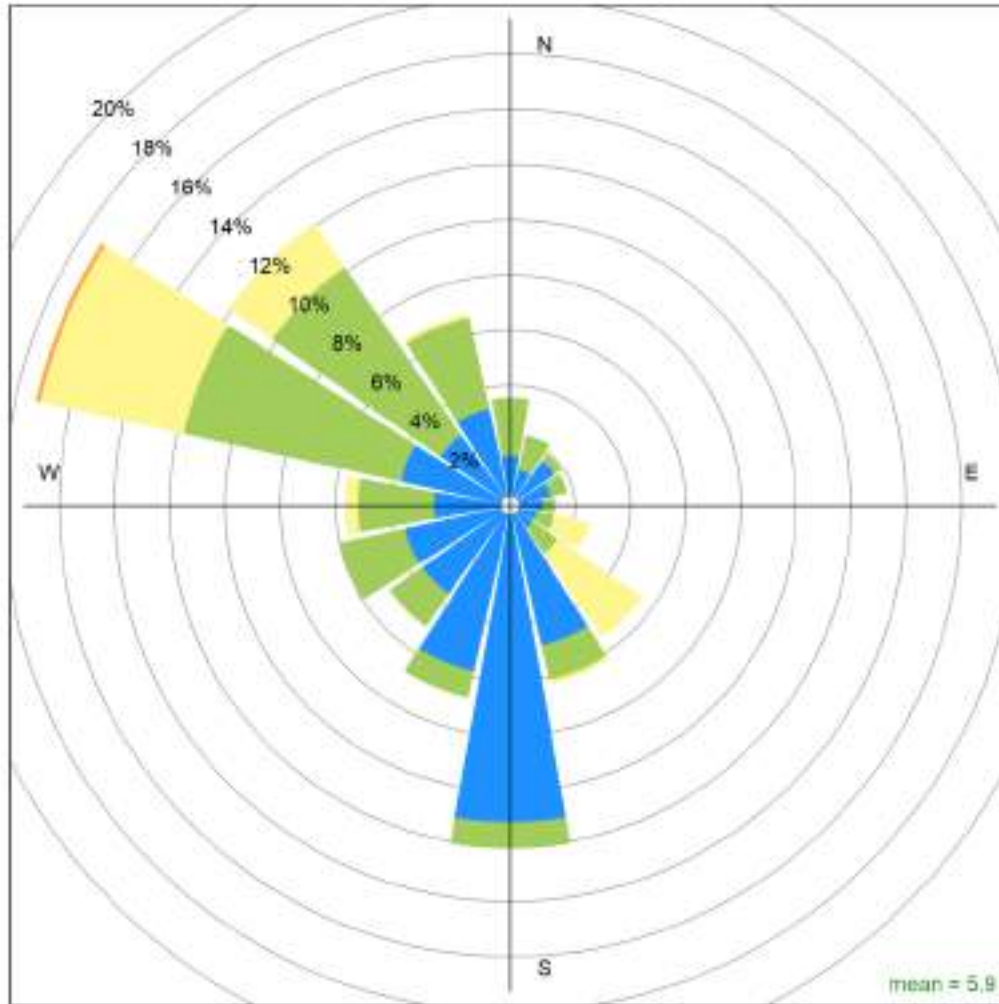


July 2024 Hourly Readings of Wind Direction (in degrees) at Fox Creek



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Fox Creek





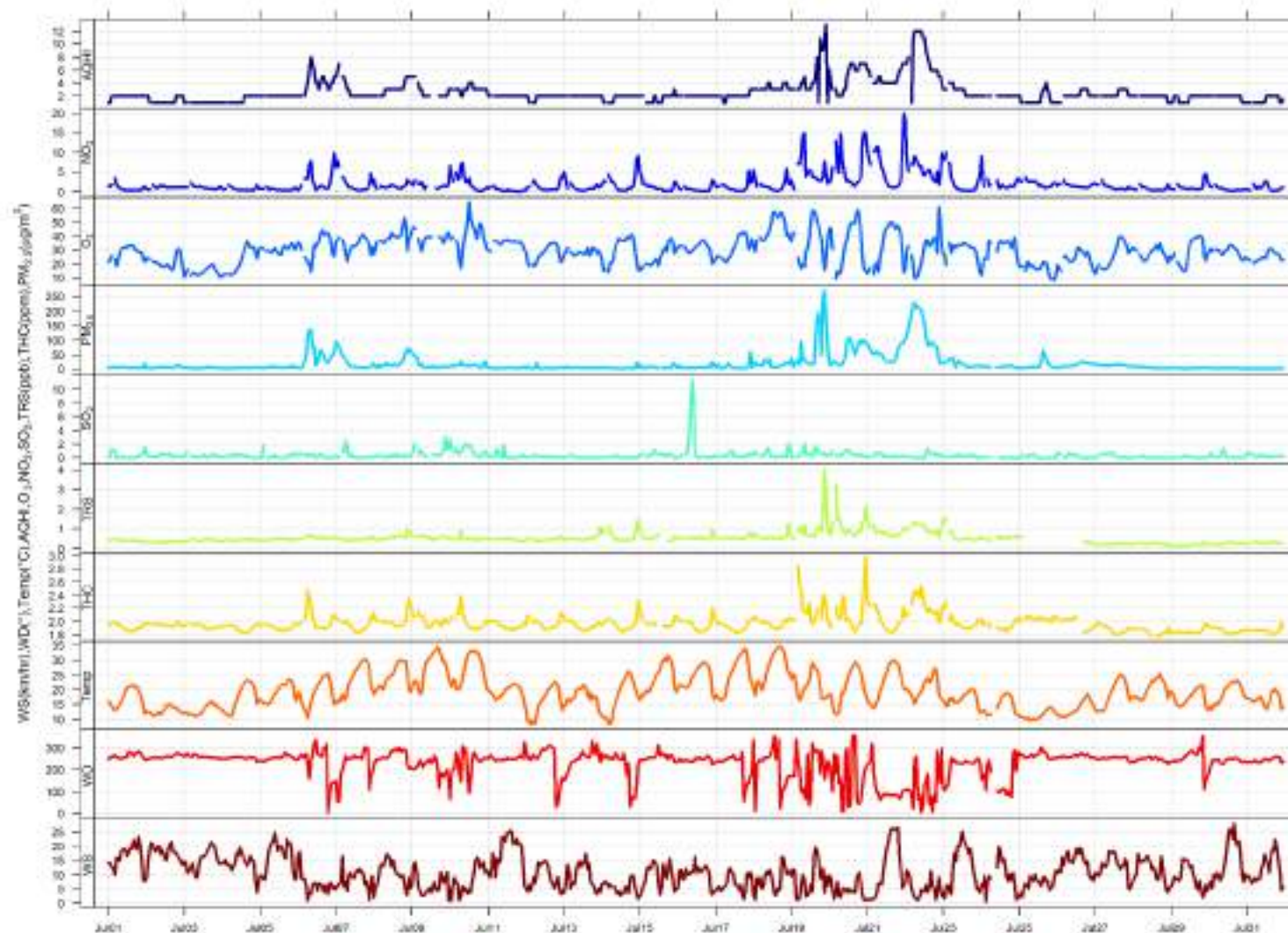
Fox Creek July 2024 Wind Rose, wind speed in km/hr

**Calms (<1km/hr) = 3.2 %**

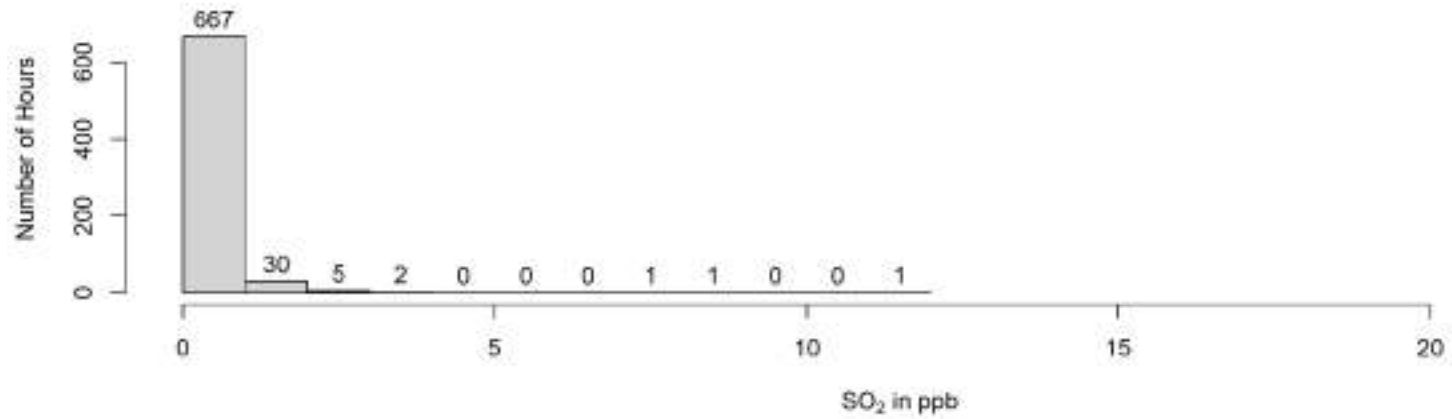
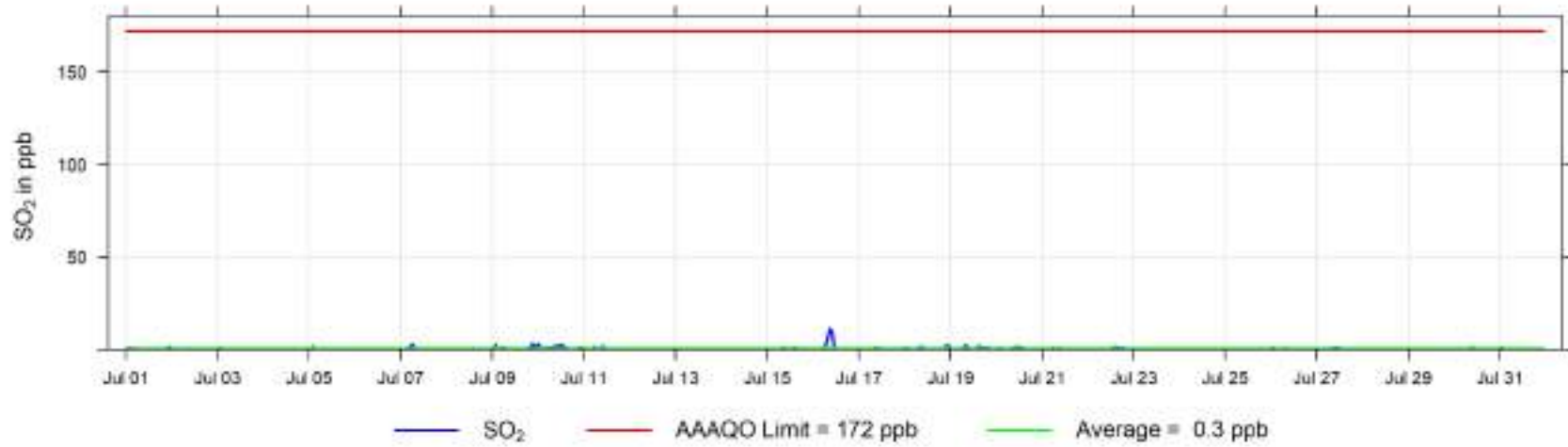
## 8 Happy Valley (Portable) Charts

The following pages include the charts and histograms for Happy Valley Portable Station

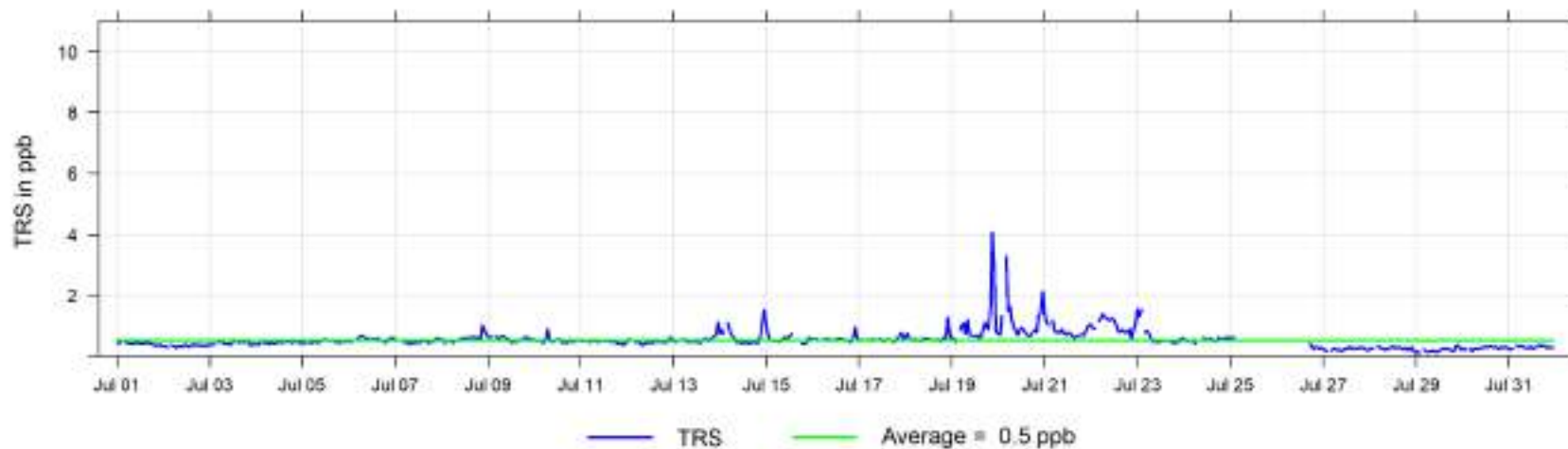
July 2024 Concentration Readings at Happy Valley Station



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

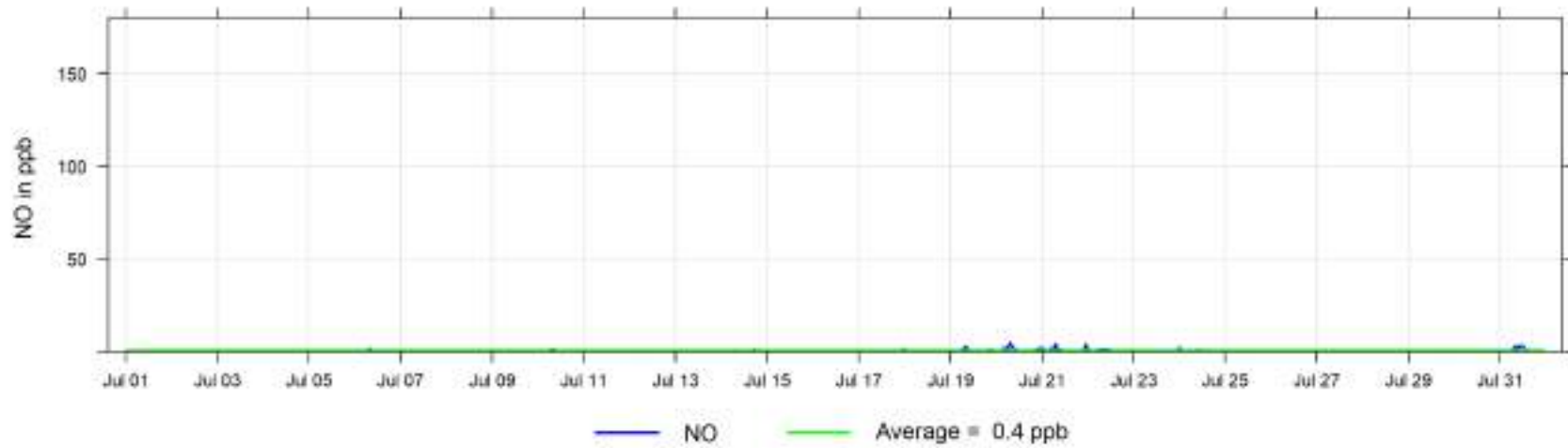


July 2024 Hourly Concentration Readings of TRS (in ppb) at Happy Valley

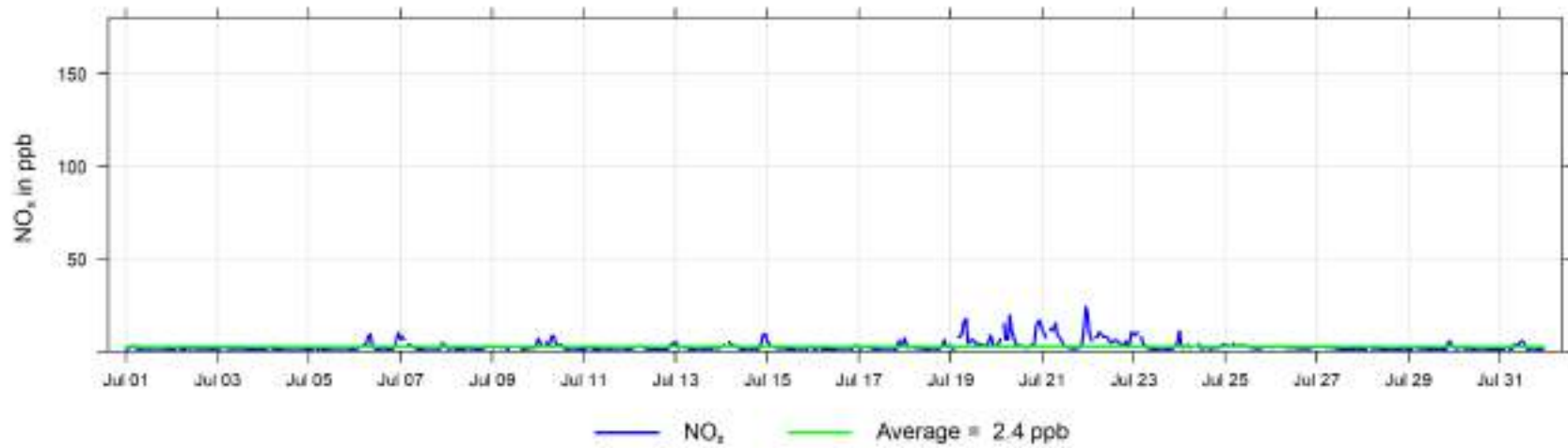




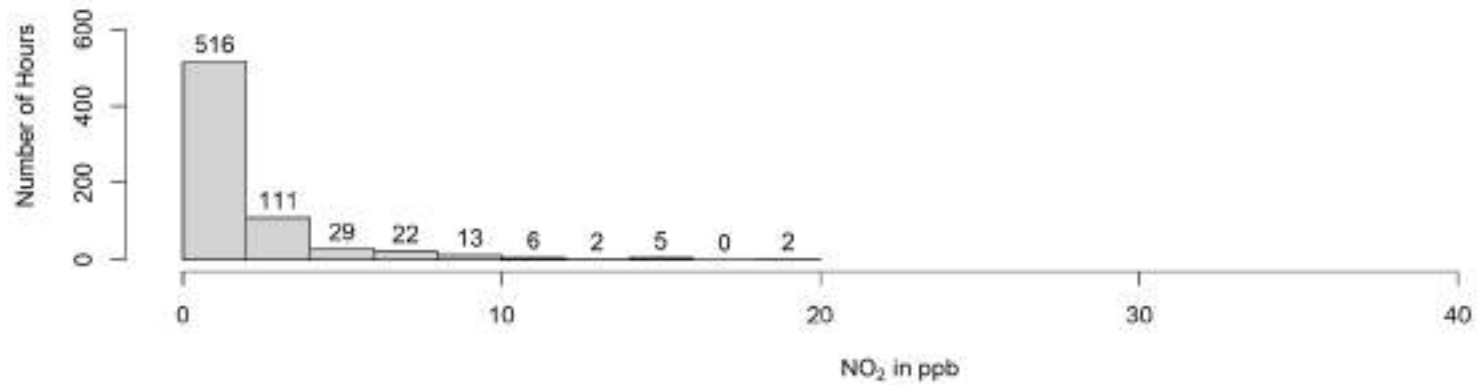
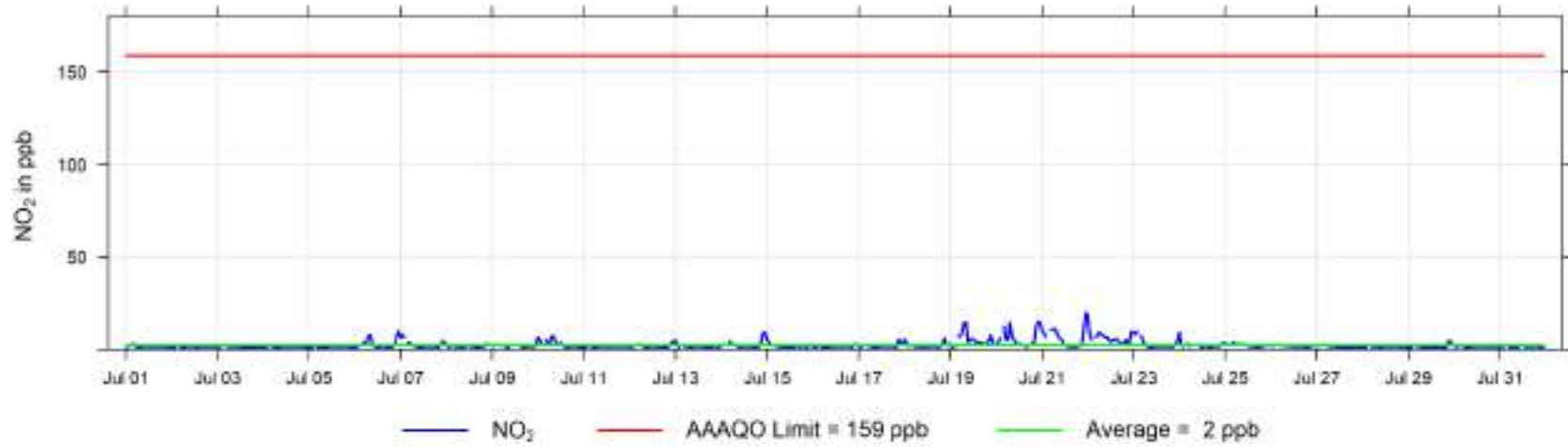
July 2024 Hourly Concentration Readings of NO (in ppb) at Happy Valley



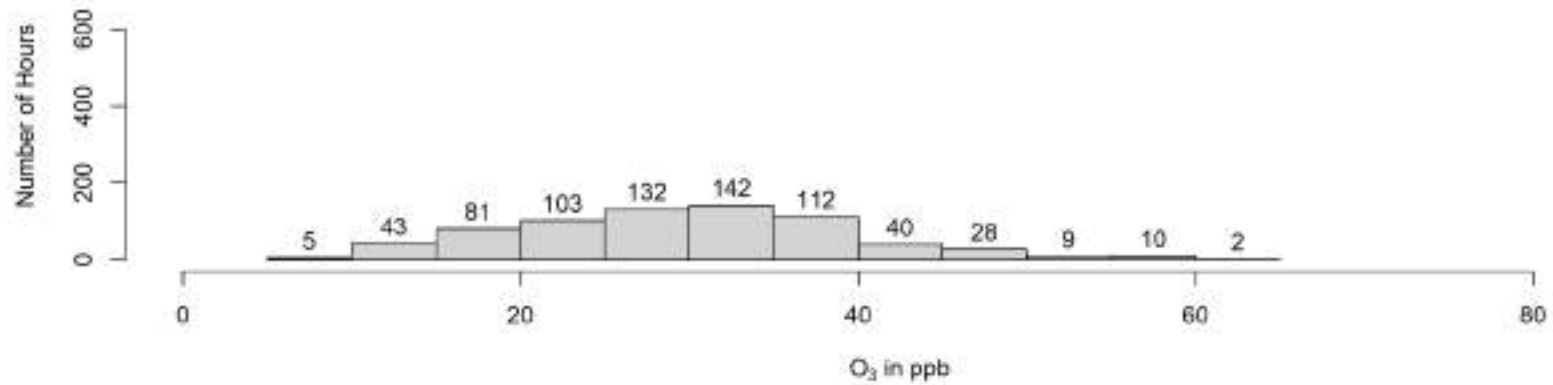
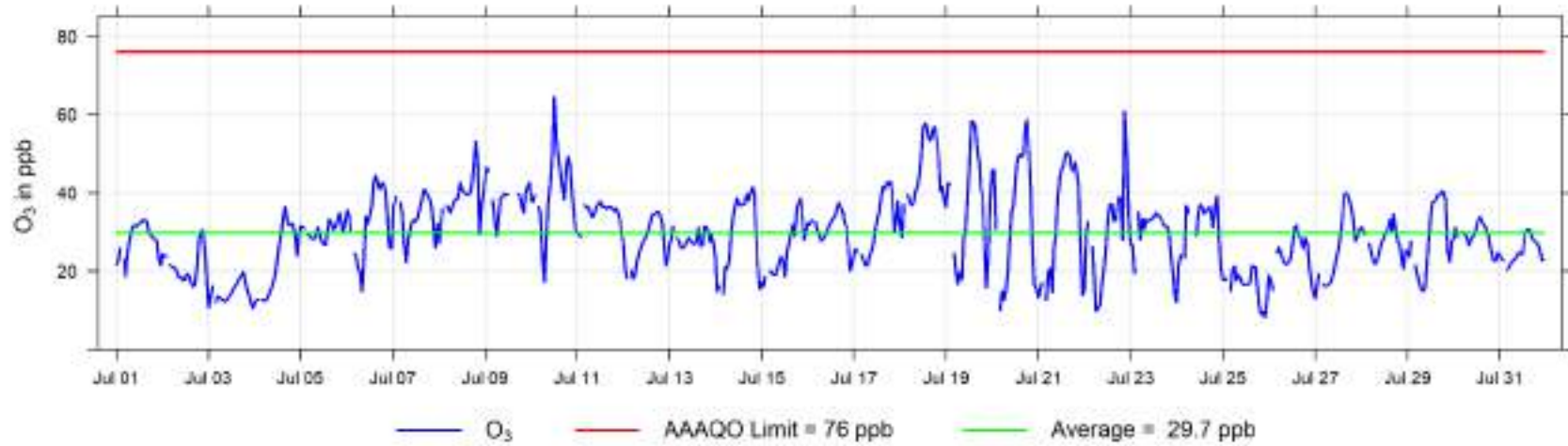
July 2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Happy Valley



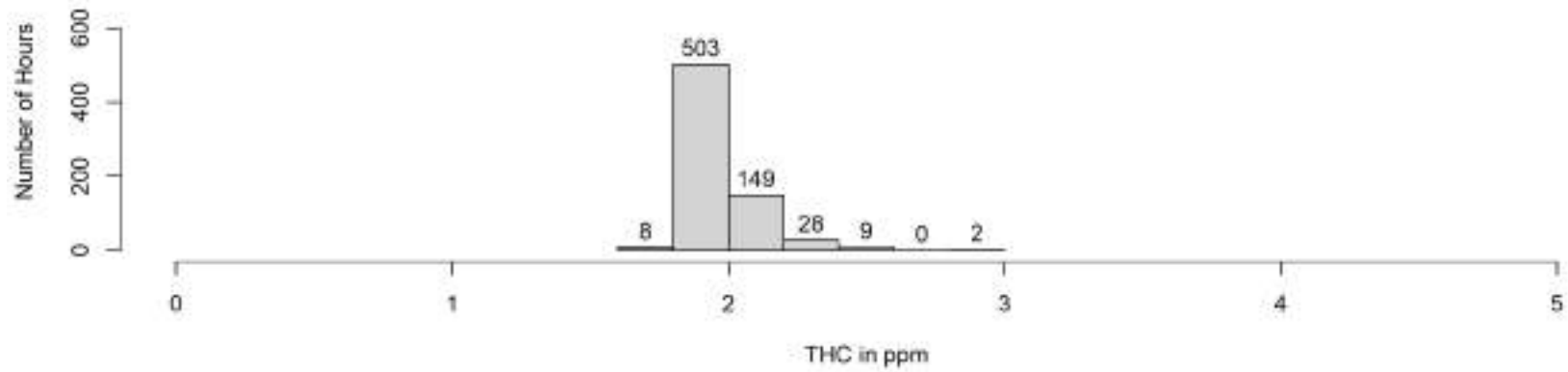
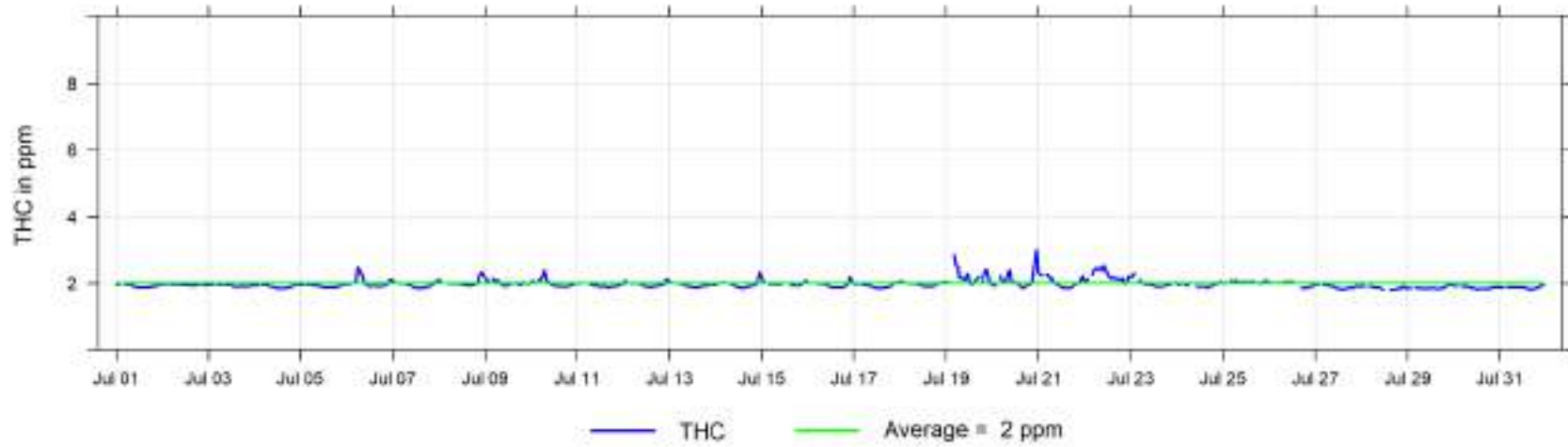
July 2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Happy Valley



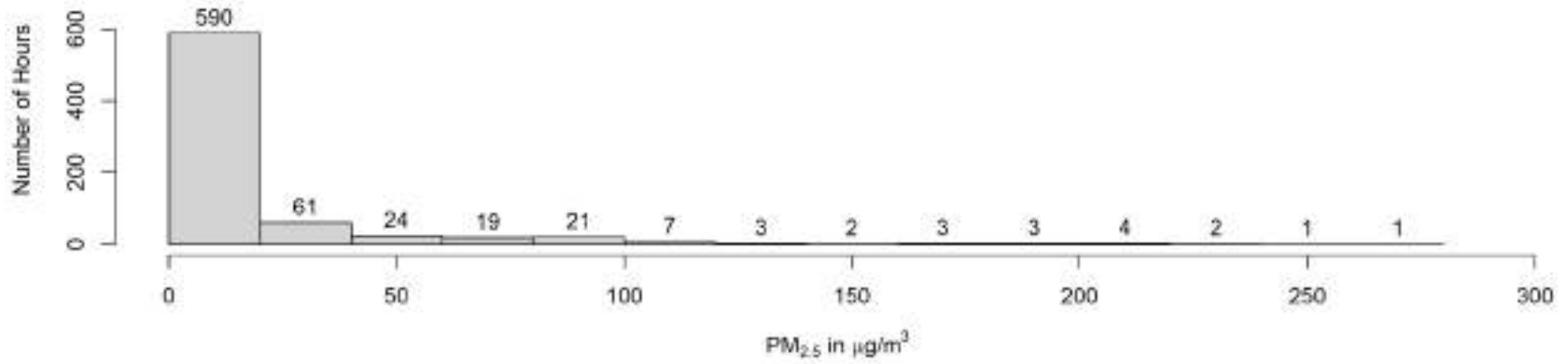
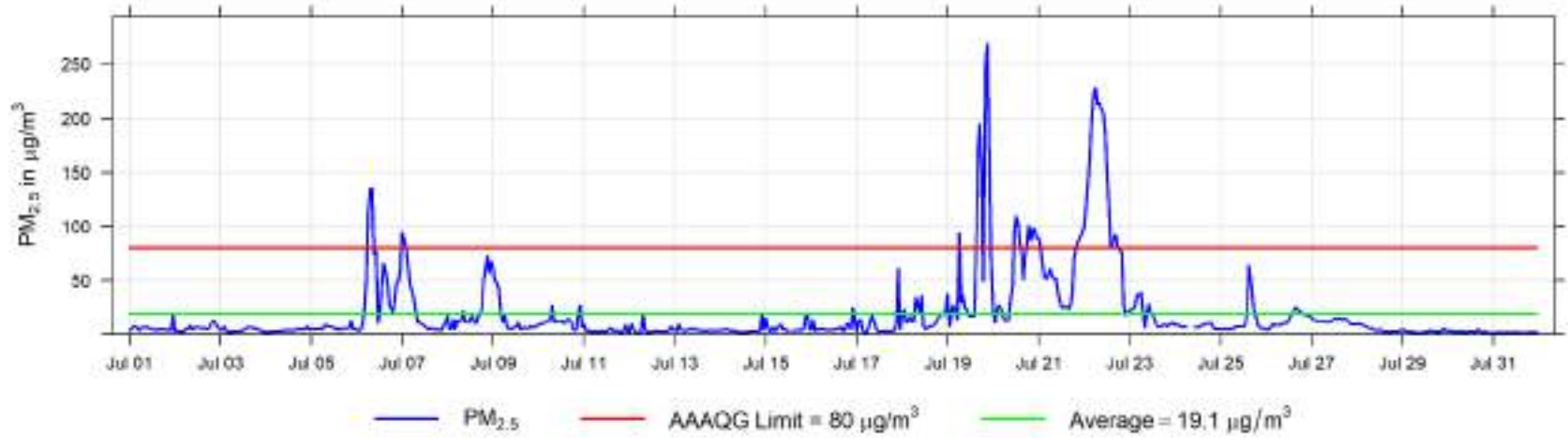
July 2024 Hourly Concentration Readings of O<sub>3</sub> (in ppb) at Happy Valley



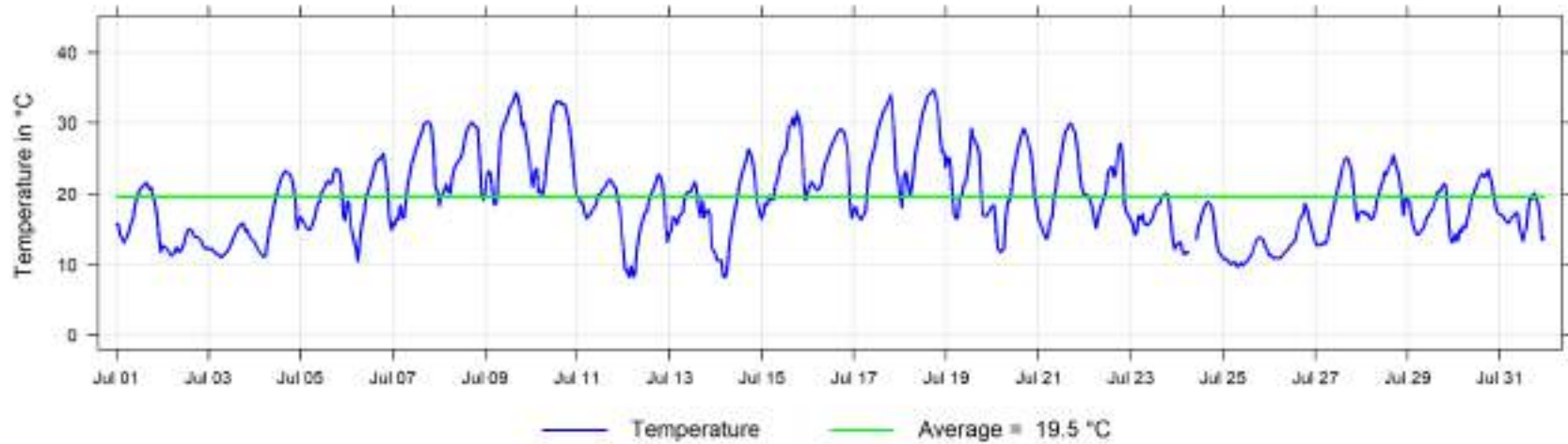
July 2024 Hourly Concentration Readings of THC (in ppm) at Happy Valley



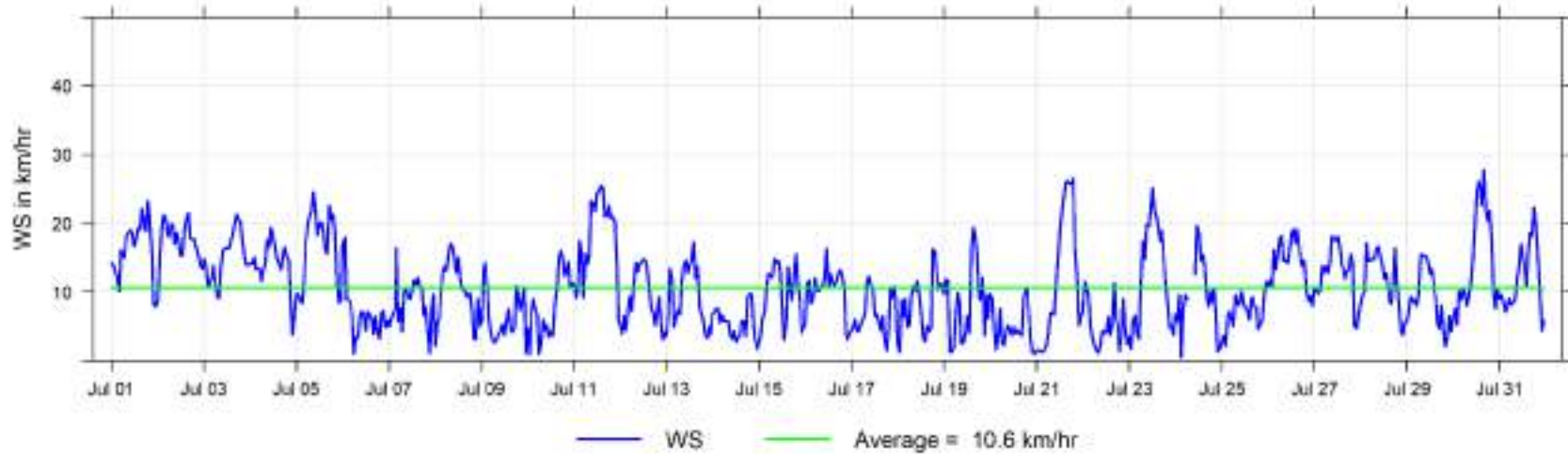
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Happy Valley



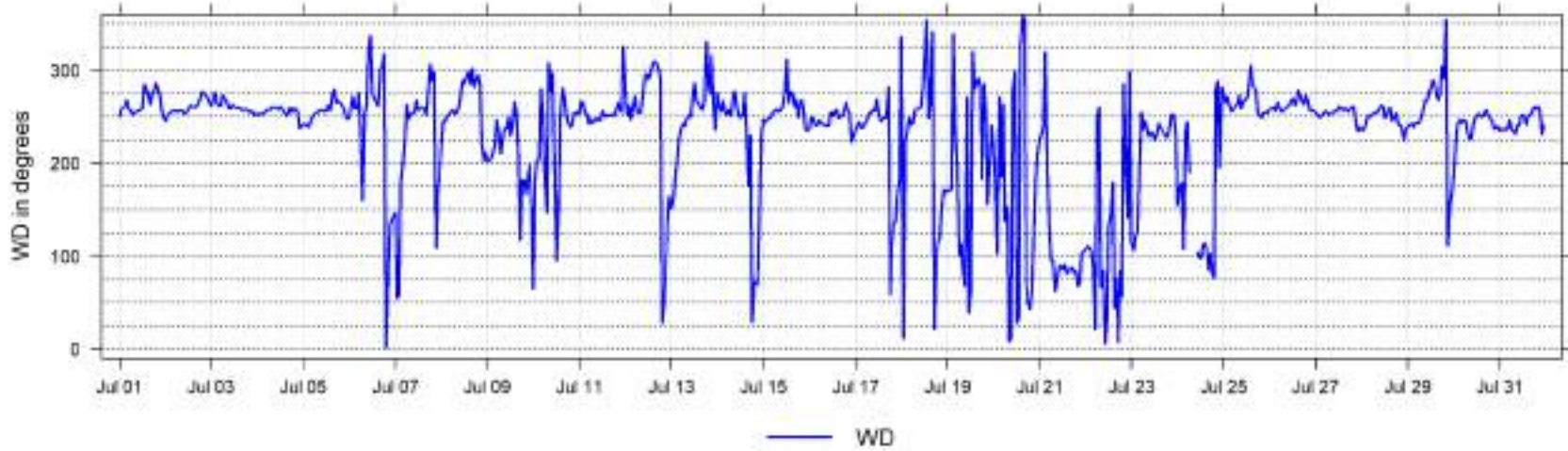
July 2024 Hourly Temperature Readings (in °C) at Happy Valley



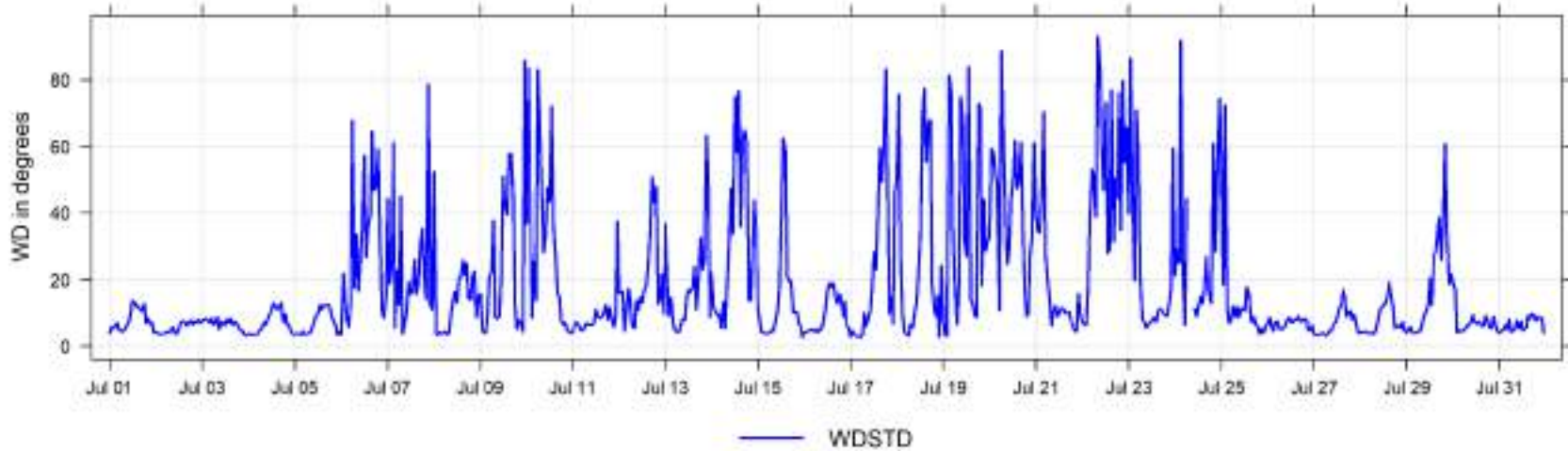
July 2024 Hourly Readings of Wind Speed (in km/hr) at Happy Valley

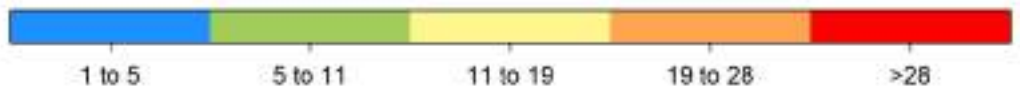
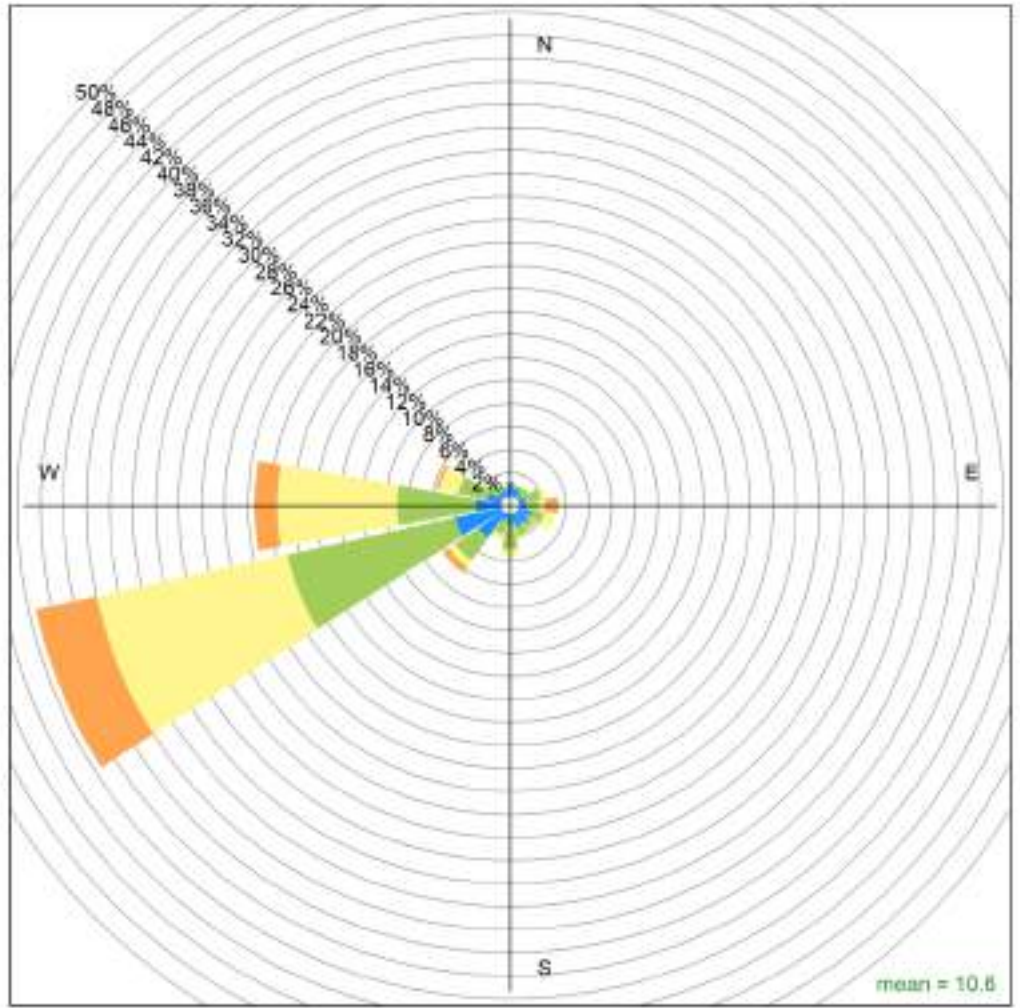


July 2024 Hourly Readings of Wind Direction (in degrees) at Happy Valley



July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Happy Valley



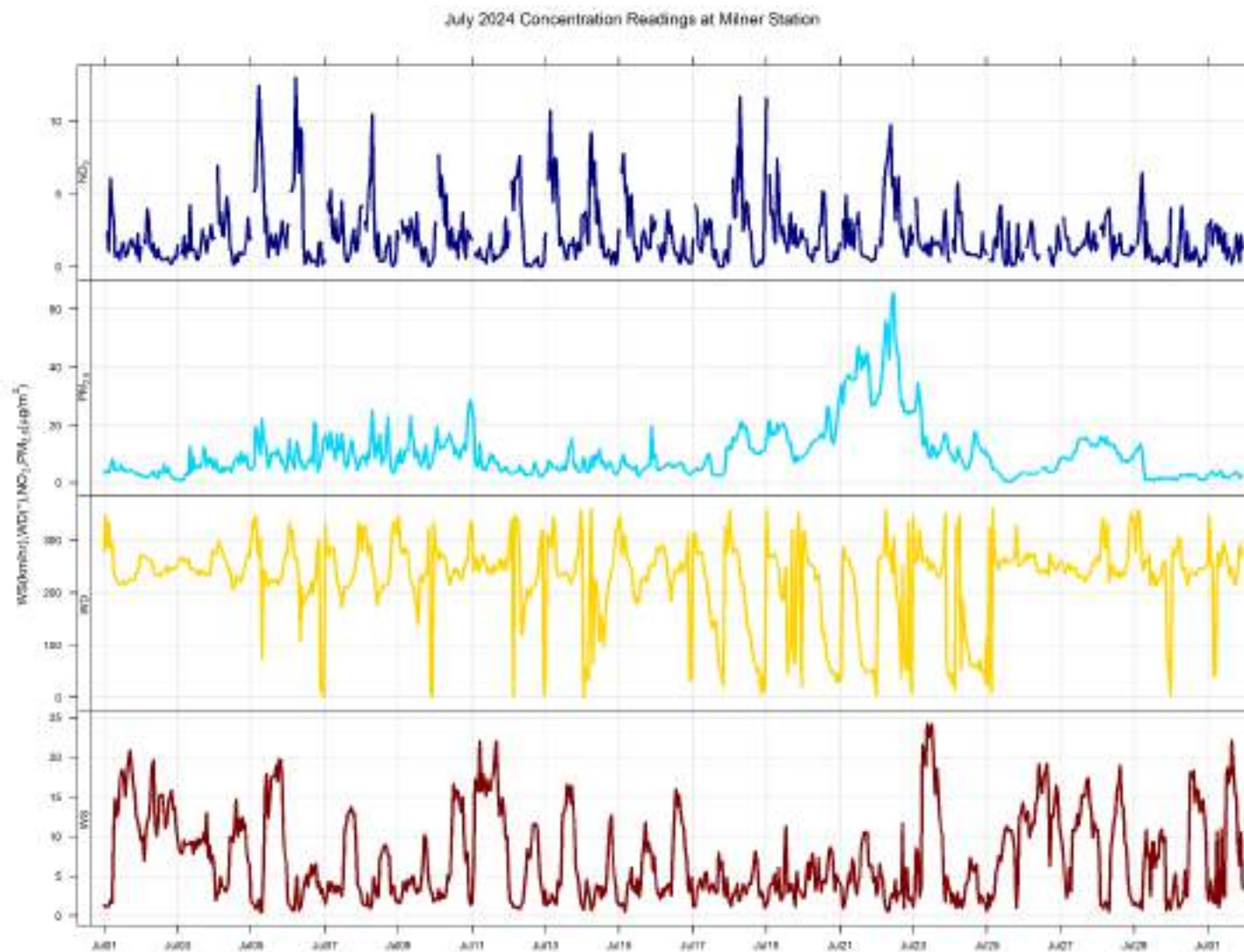


Happy Valley July 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 0.8 %**

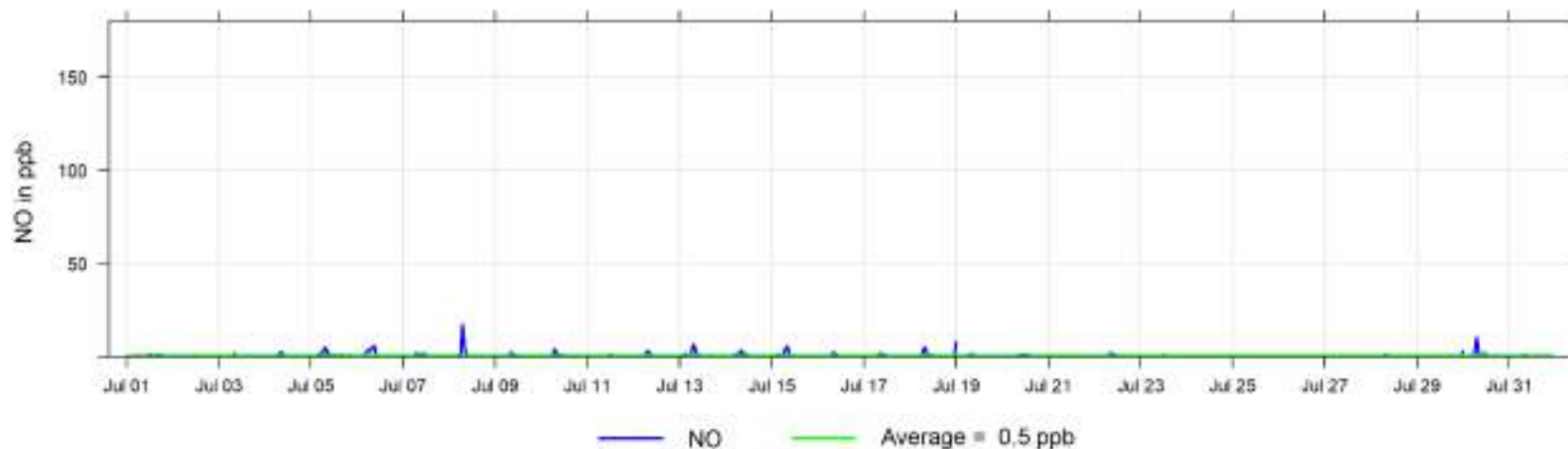


## 9 Milner Charts

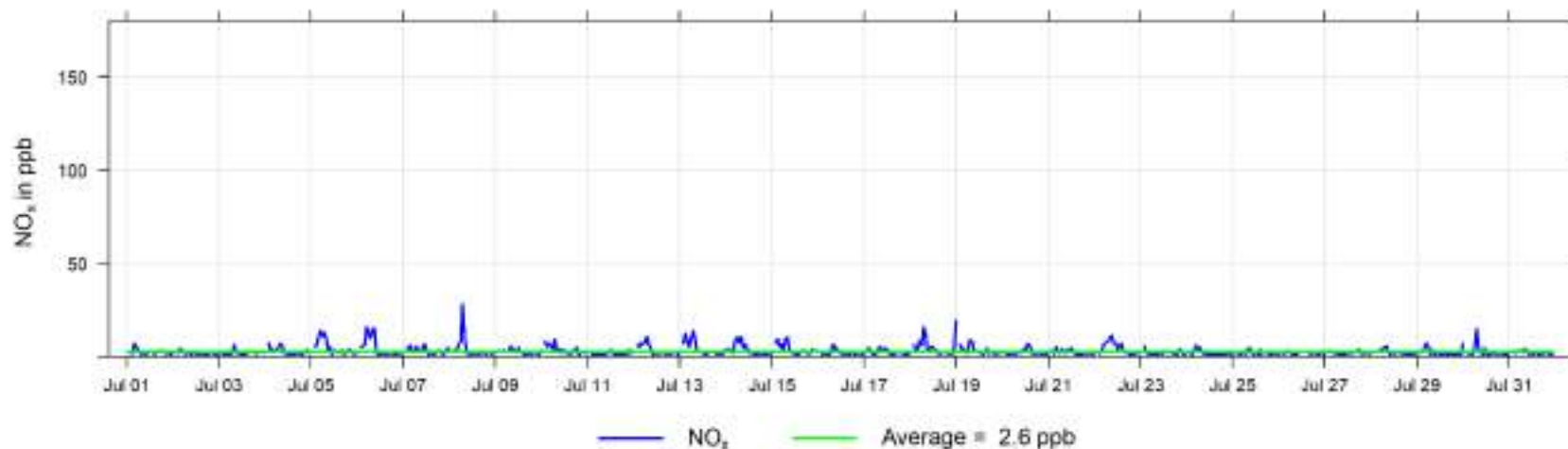
The following pages include the charts and histograms for Milner Station



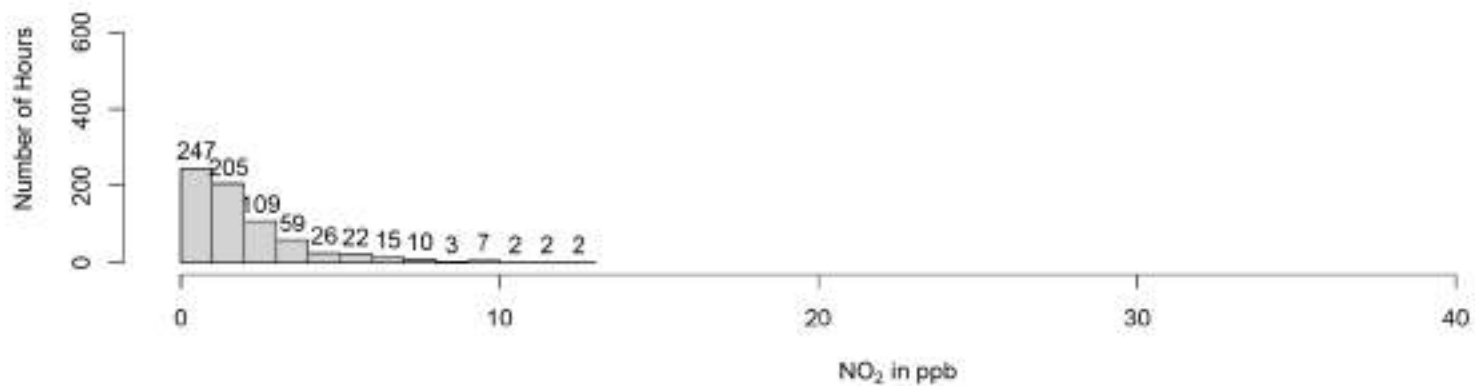
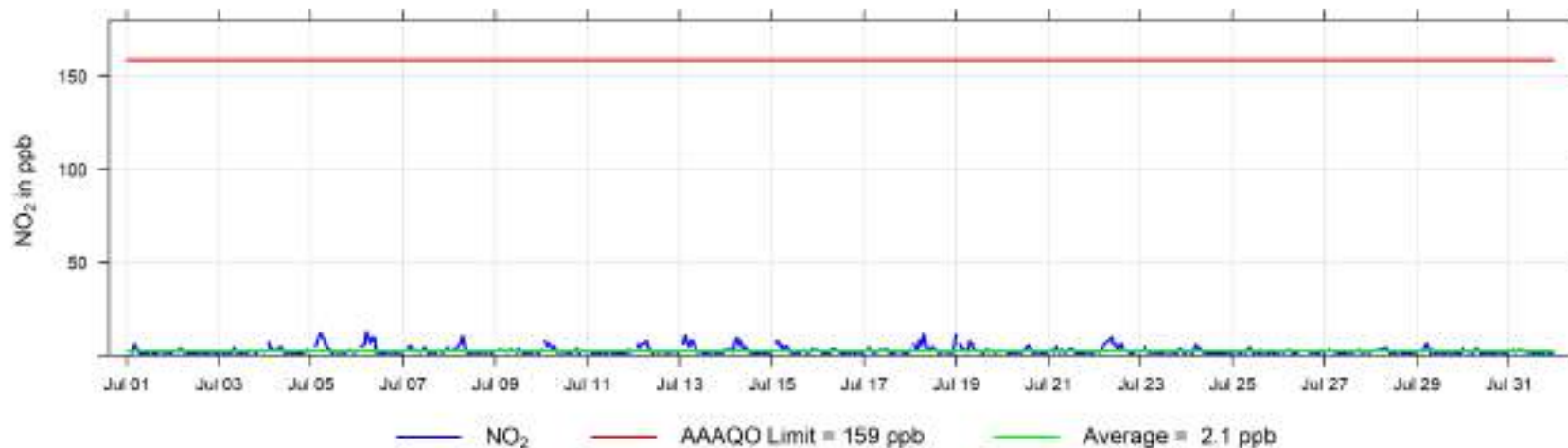
July 2024 Hourly Concentration Readings of NO (in ppb) at Milner



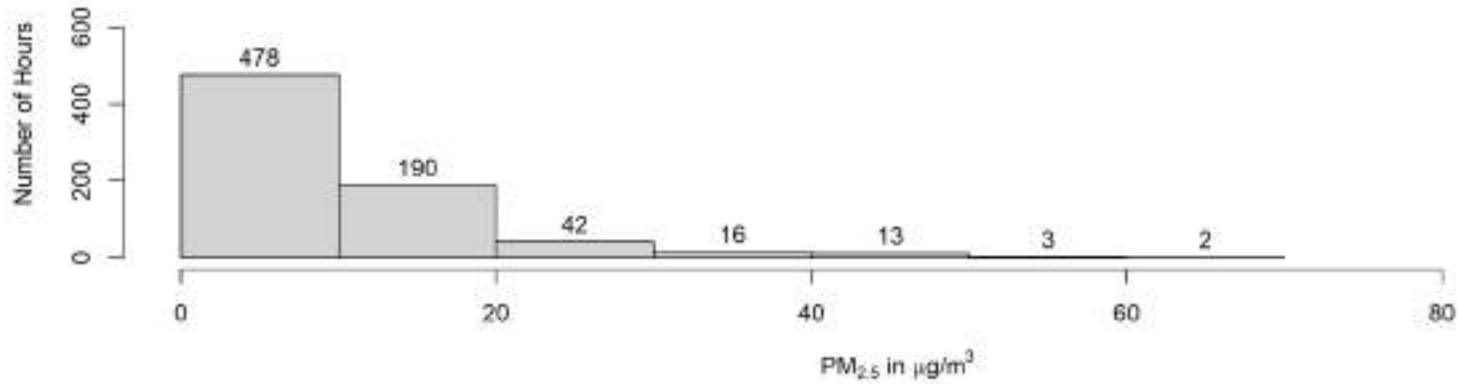
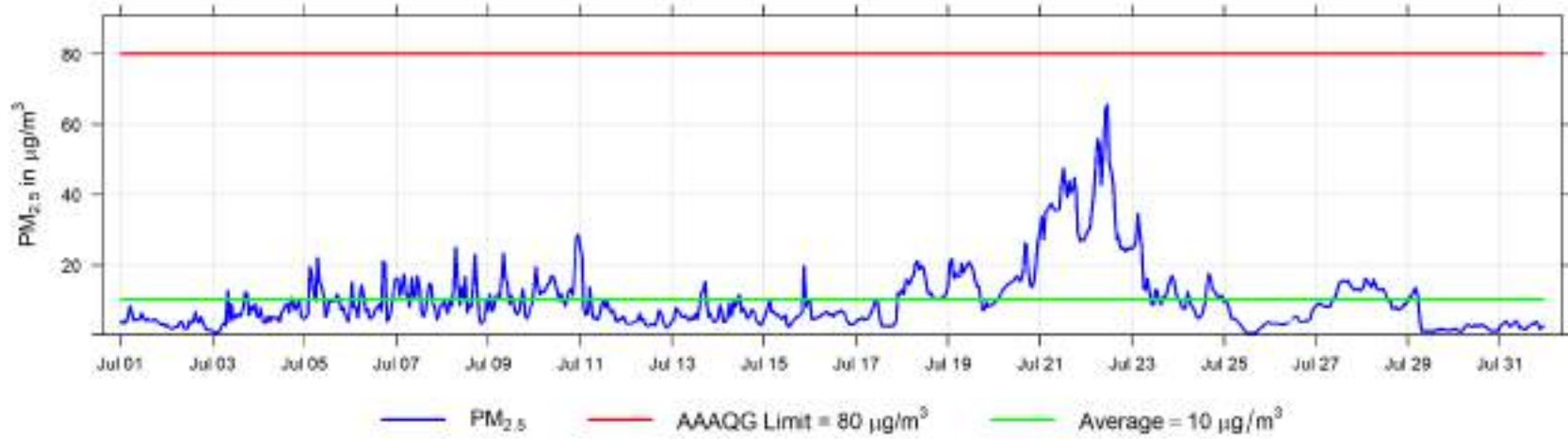
July 2024 Hourly Concentration Readings of NO<sub>x</sub> (in ppb) at Milner



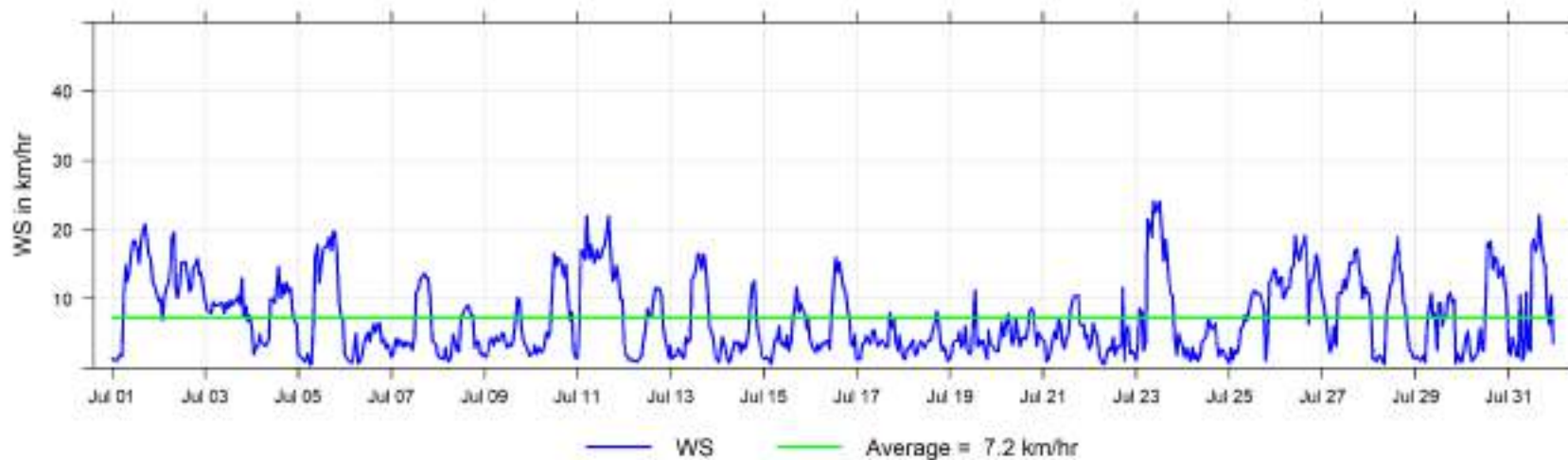
July 2024 Hourly Concentration Readings of NO<sub>2</sub> (in ppb) at Milner



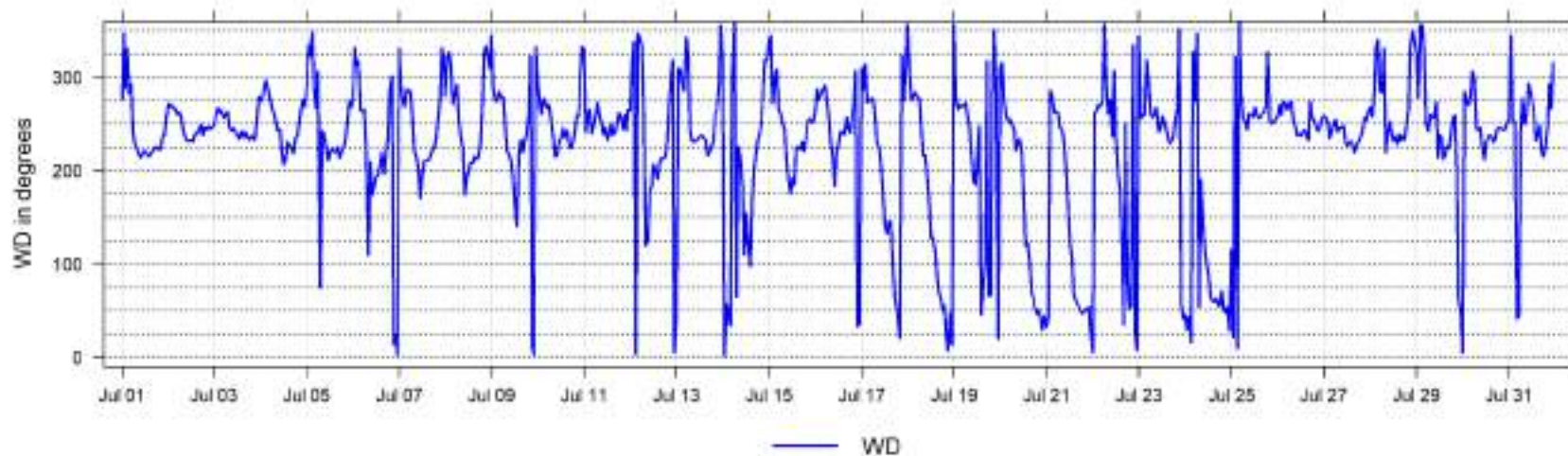
July 2024 Hourly Concentration Readings of PM<sub>2.5</sub> in  $\mu\text{g}/\text{m}^3$  at Milner



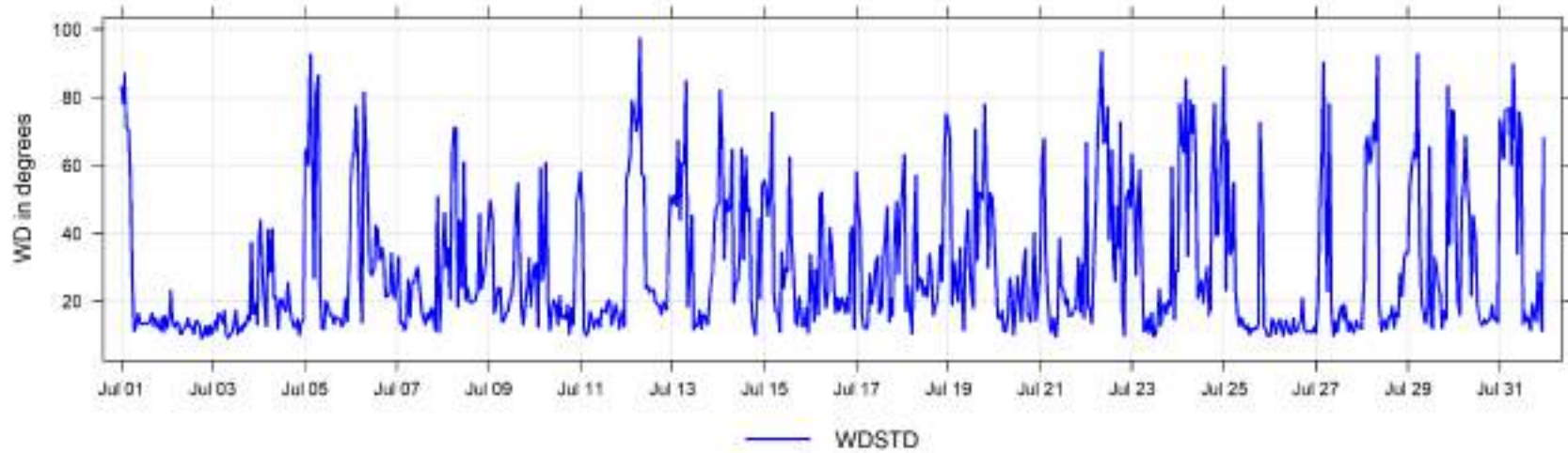
July 2024 Hourly Readings of Wind Speed (in km/hr) at Milner

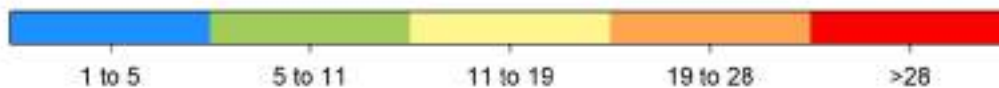
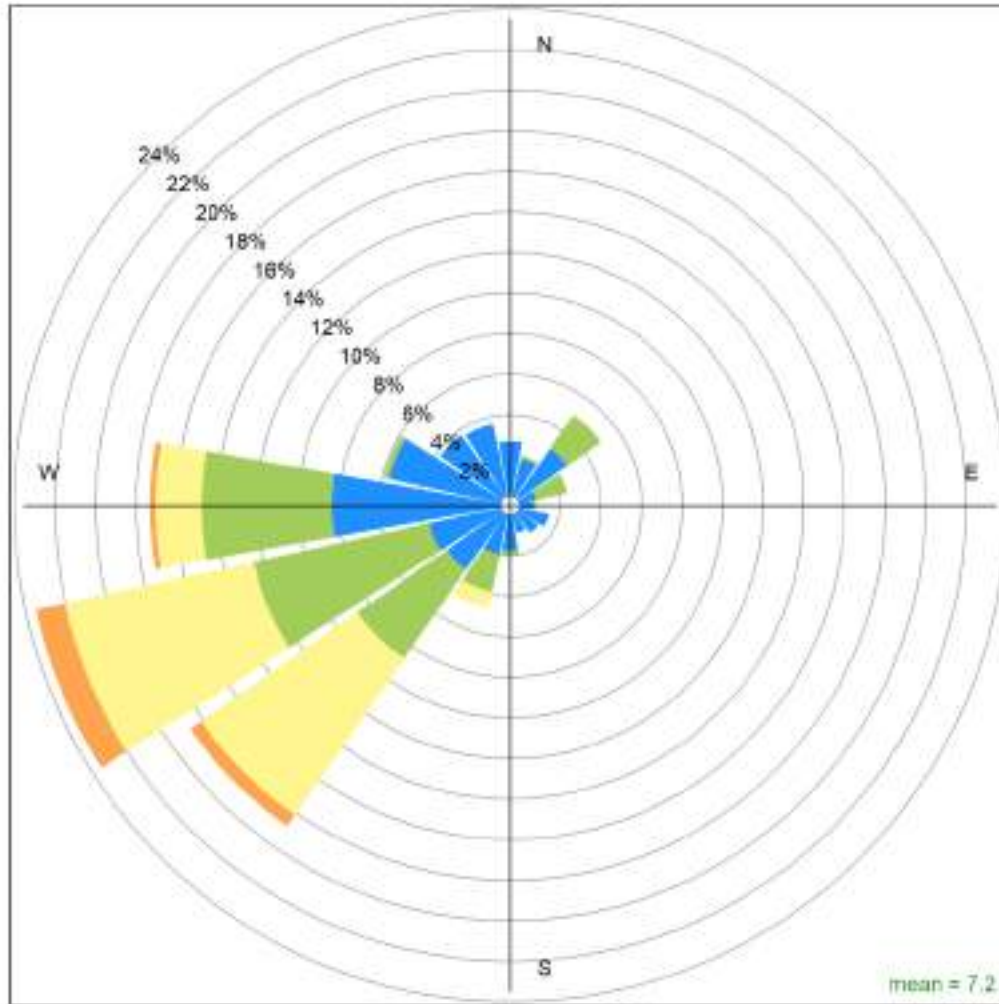


July 2024 Hourly Readings of Wind Direction (in degrees) at Milner



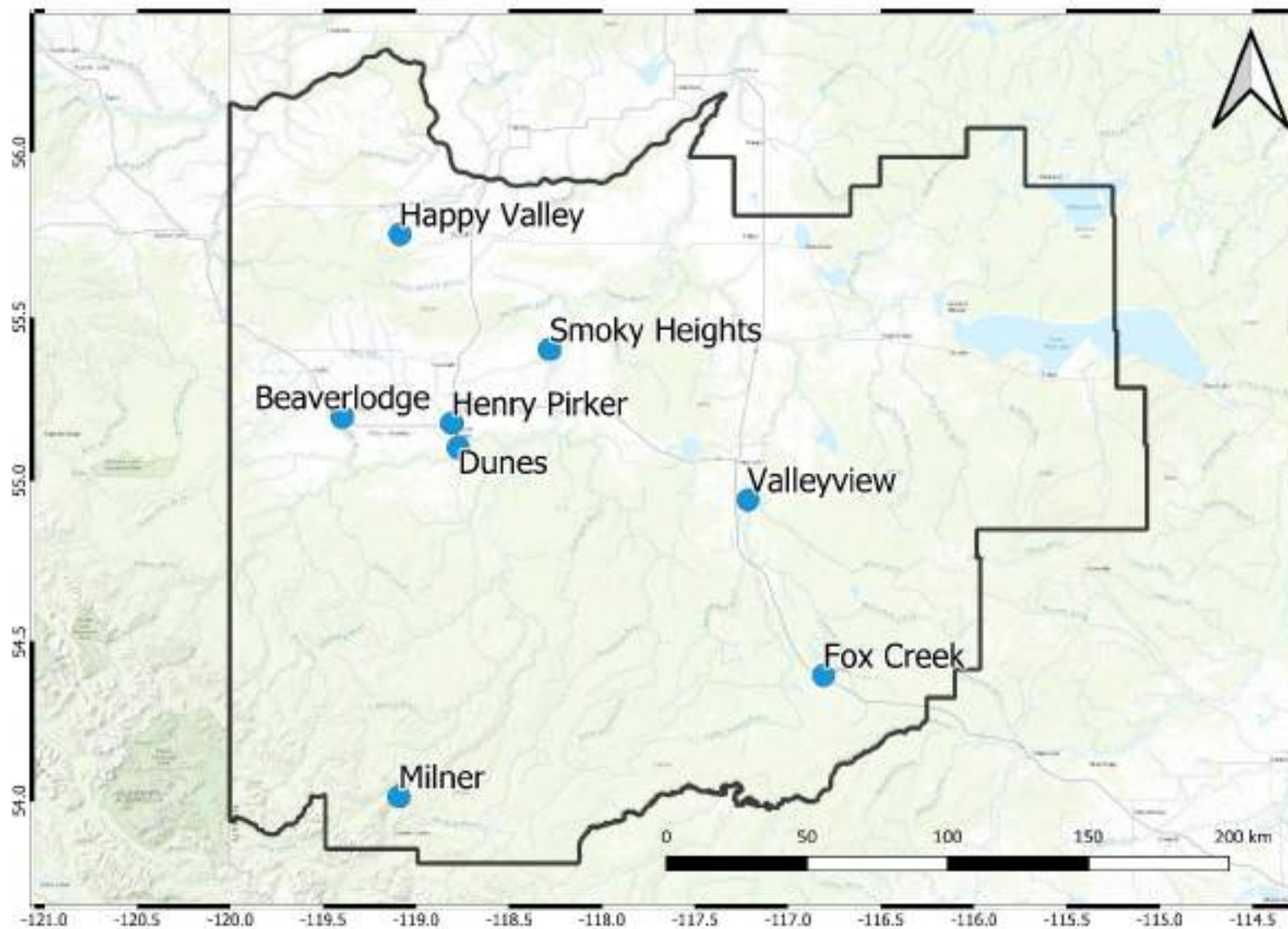
July 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Milner





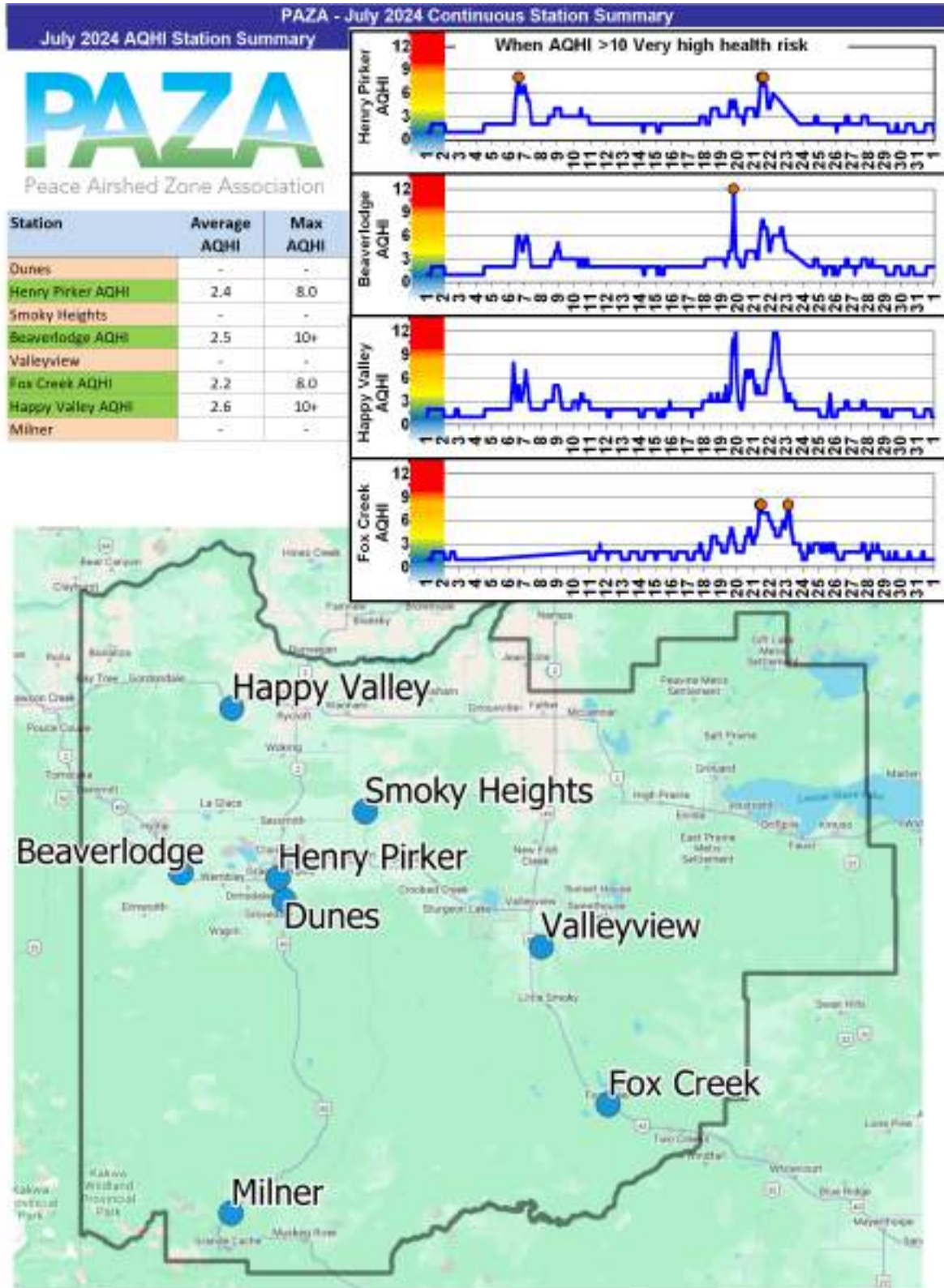
Milner July 2024 Wind Rose, wind speed in km/hr  
**Calms (<1km/hr) = 3.9 %**

## 10 Concentration Summaries and Roses for PAZA

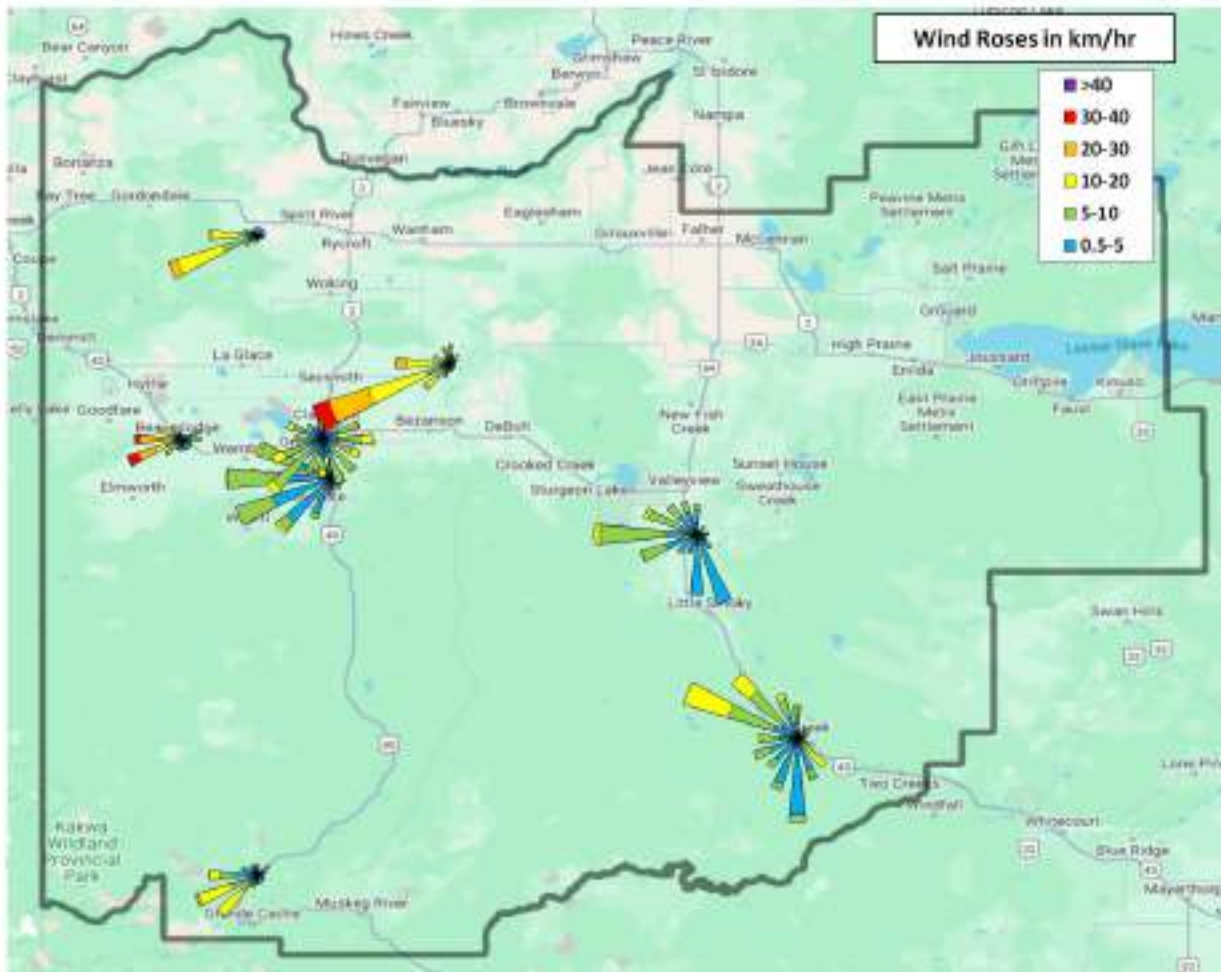




## 10.1 Air Quality Health Index (AQHI) Plots

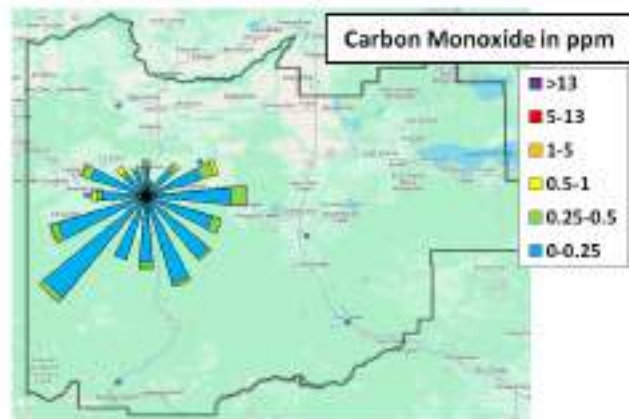


## 10.2 Wind Roses



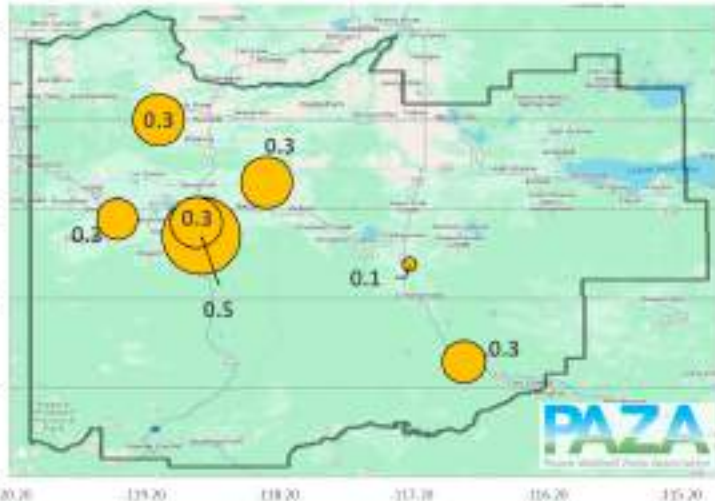
## 10.3 Carbon Monoxide (CO) Plots

July 2024 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.16	0.78

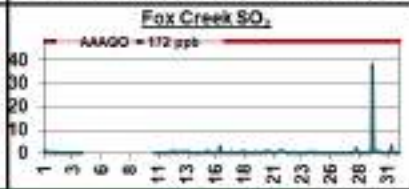
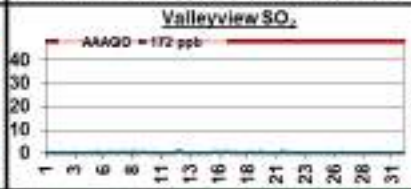
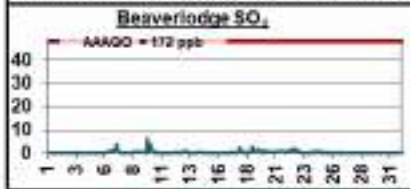
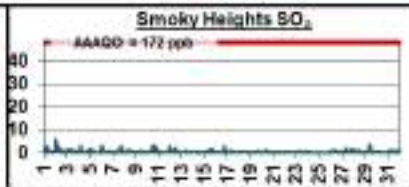
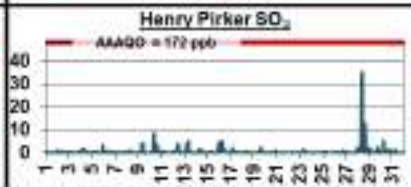
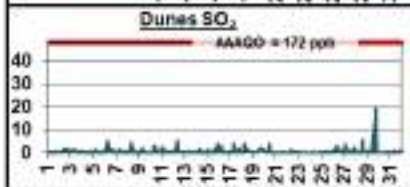
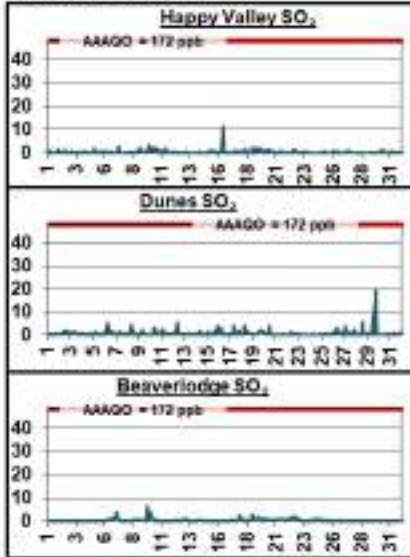


## 10.4 Sulphur Dioxide (SO<sub>2</sub>) Plots

July 2024 SO <sub>2</sub> Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes SO <sub>2</sub>	0.5	19.3
Henry Pirkler SO <sub>2</sub>	0.3	35.0
Smoky Heights SO <sub>2</sub>	0.3	5.8
Beaverlodge SO <sub>2</sub>	0.3	6.4
Valleyview SO <sub>2</sub>	0.1	1.0
Fox Creek SO <sub>2</sub>	0.3	38.4
Happy Valley SO <sub>2</sub>	0.3	11.3
Milner SO <sub>2</sub>	*	*



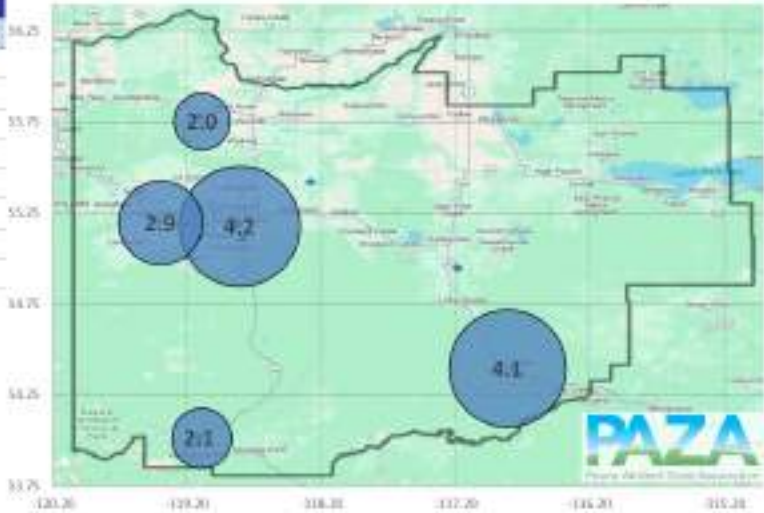
### Sulphur Dioxide in ppb



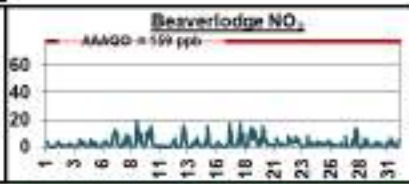
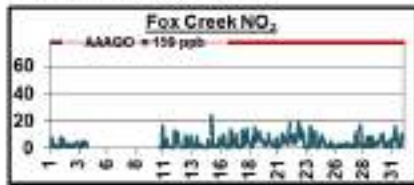
## 10.5 Nitrogen Dioxide (NO<sub>2</sub>) Plots

July 2024 NO<sub>2</sub> Station Summary

Station	Avg (ppb)	Max (ppb)
Dunes NO <sub>2</sub>	-	-
Henry Pirkler NO <sub>2</sub>	4.2	23.1
Smoky Heights NO <sub>2</sub>	-	-
Beaverlodge NO <sub>2</sub>	2.9	18.8
Valleyview NO <sub>2</sub>	-	-
Fox Creek NO <sub>2</sub>	4.1	24.3
Happy Valley NO <sub>2</sub>	2.0	19.8
Milner NO <sub>2</sub>	2.1	12.9

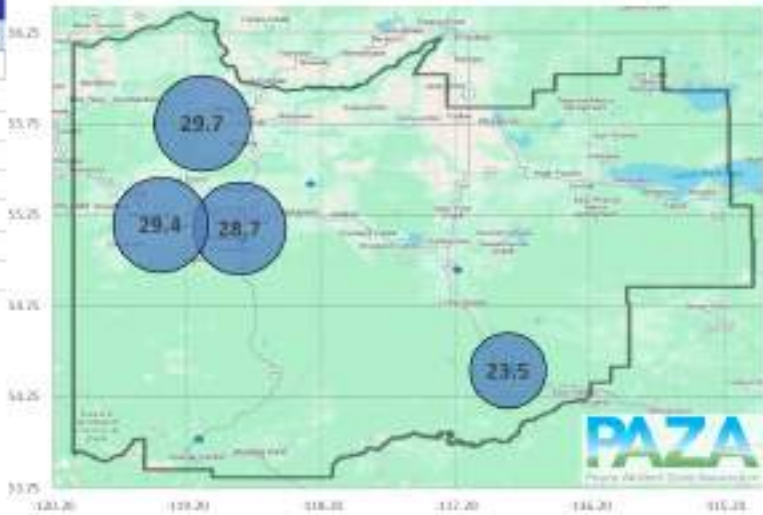


Nitrogen Dioxide in ppb

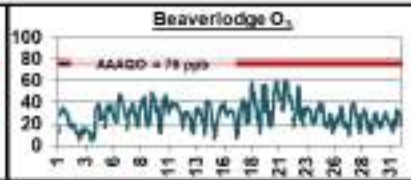
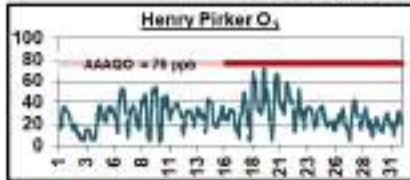
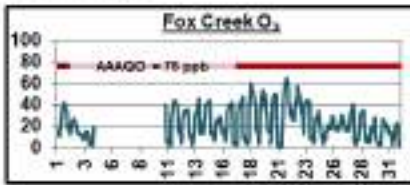


## 10.6 Ozone (O<sub>3</sub>) Plots

July 2024 O <sub>3</sub> Station Summary		
Station	Aug (ppb)	Max (ppb)
Dunes O <sub>3</sub>	-	-
Henry Pirkler O <sub>3</sub>	28.7	71.5
Smoky Heights O <sub>3</sub>	-	-
Beaverlodge O <sub>3</sub>	29.4	60.4
Valleyview O <sub>3</sub>	-	-
Fox Creek O <sub>3</sub>	23.5	64.8
Happy Valley O <sub>3</sub>	29.7	64.6
Milner O <sub>3</sub>	-	-

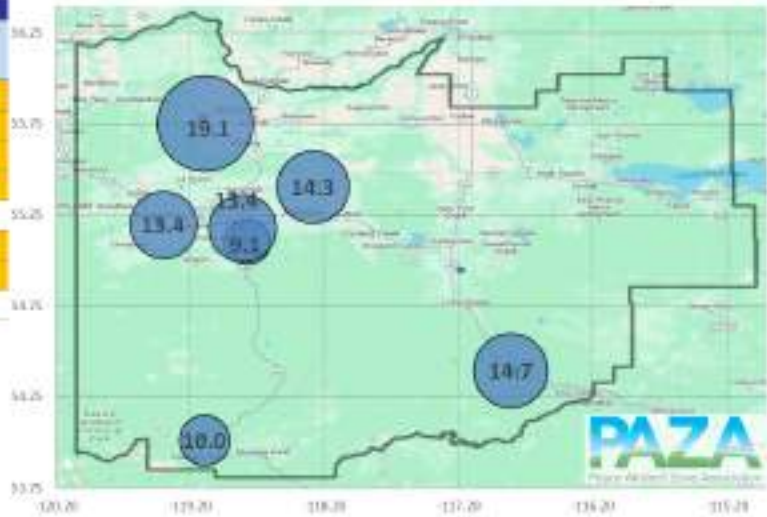


Ozone in ppb

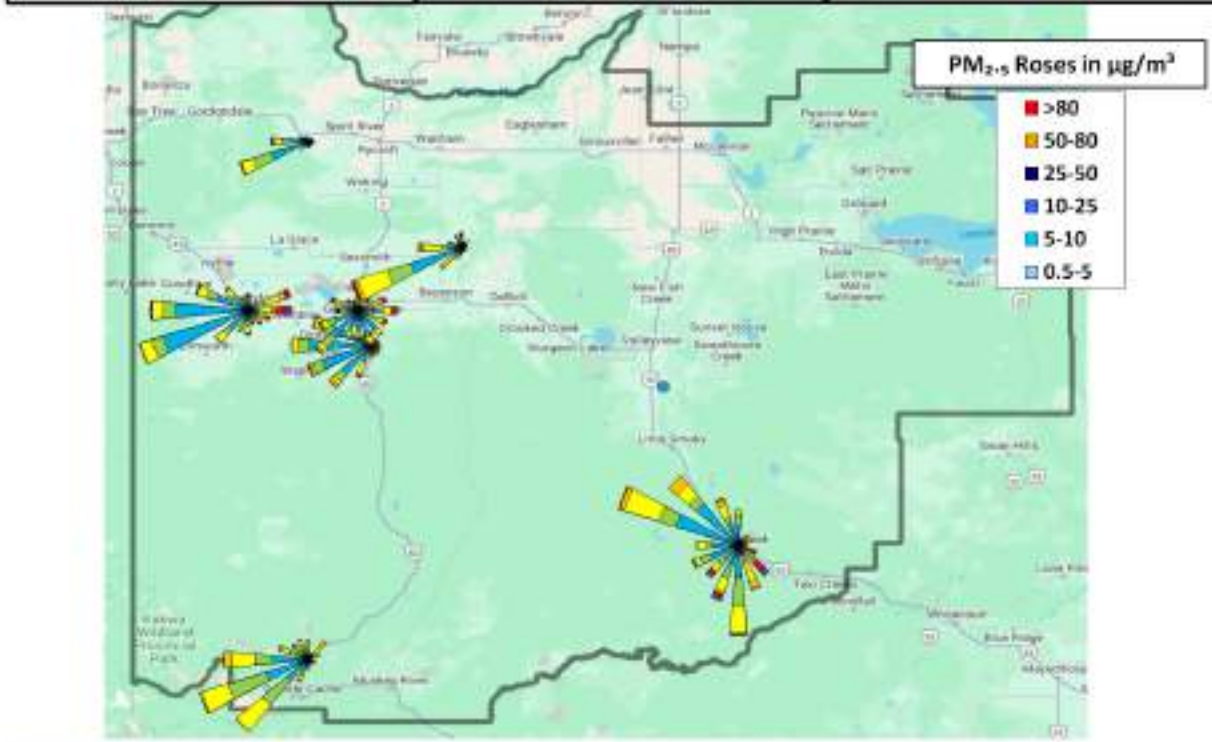
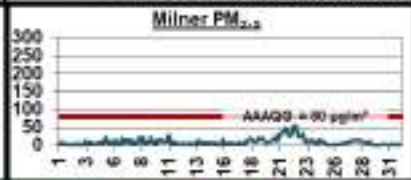
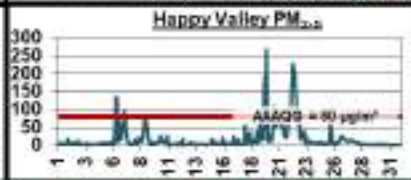
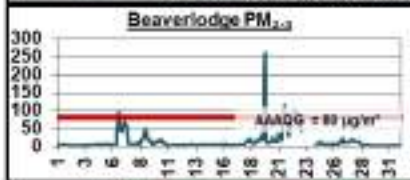
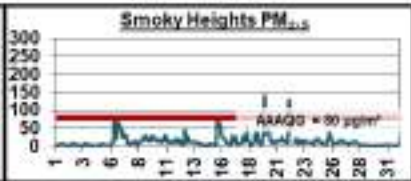
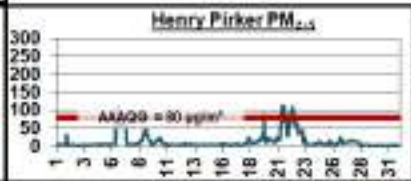
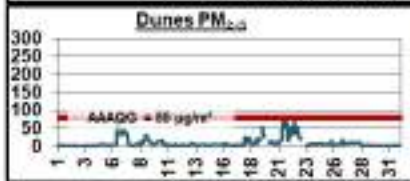
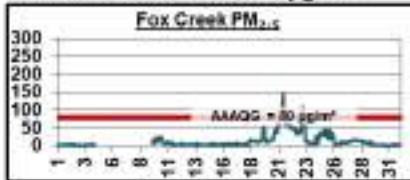


## 10.7 Fine Particulate Matter (PM<sub>2.5</sub>) Plots

July 2024 PM <sub>2.5</sub> Station Summary		
Station	Avg µg/m <sup>3</sup>	Max µg/m <sup>3</sup>
Dunes PM <sub>2.5</sub>	9.1	81.8
Henry Pirkler PM <sub>2.5</sub>	13.4	114.3
Smoky Heights PM <sub>2.5</sub>	14.3	140.6
Beaverlodge PM <sub>2.5</sub>	13.4	260.8
Valleyview PM <sub>2.5</sub>	-	-
Fox Creek PM <sub>2.5</sub>	14.7	145.1
Happy Valley PM <sub>2.5</sub>	19.1	268.5
Milner PM <sub>2.5</sub>	10.0	65.5

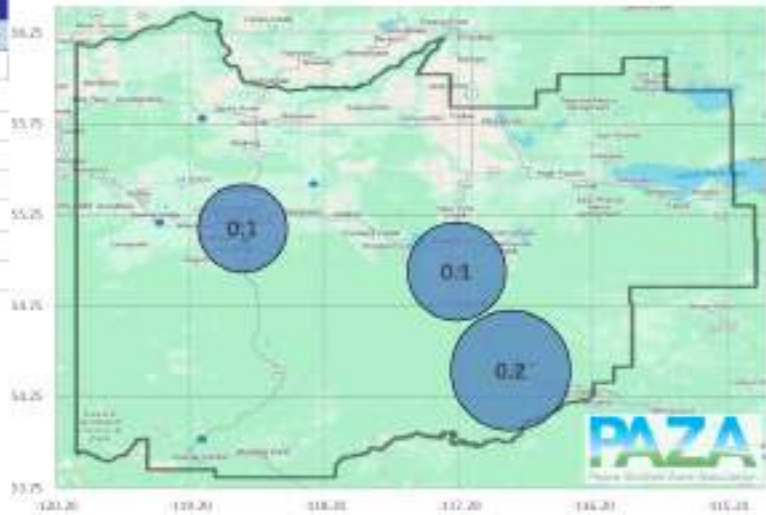


Fine Particulate Matter in µg/m<sup>3</sup>

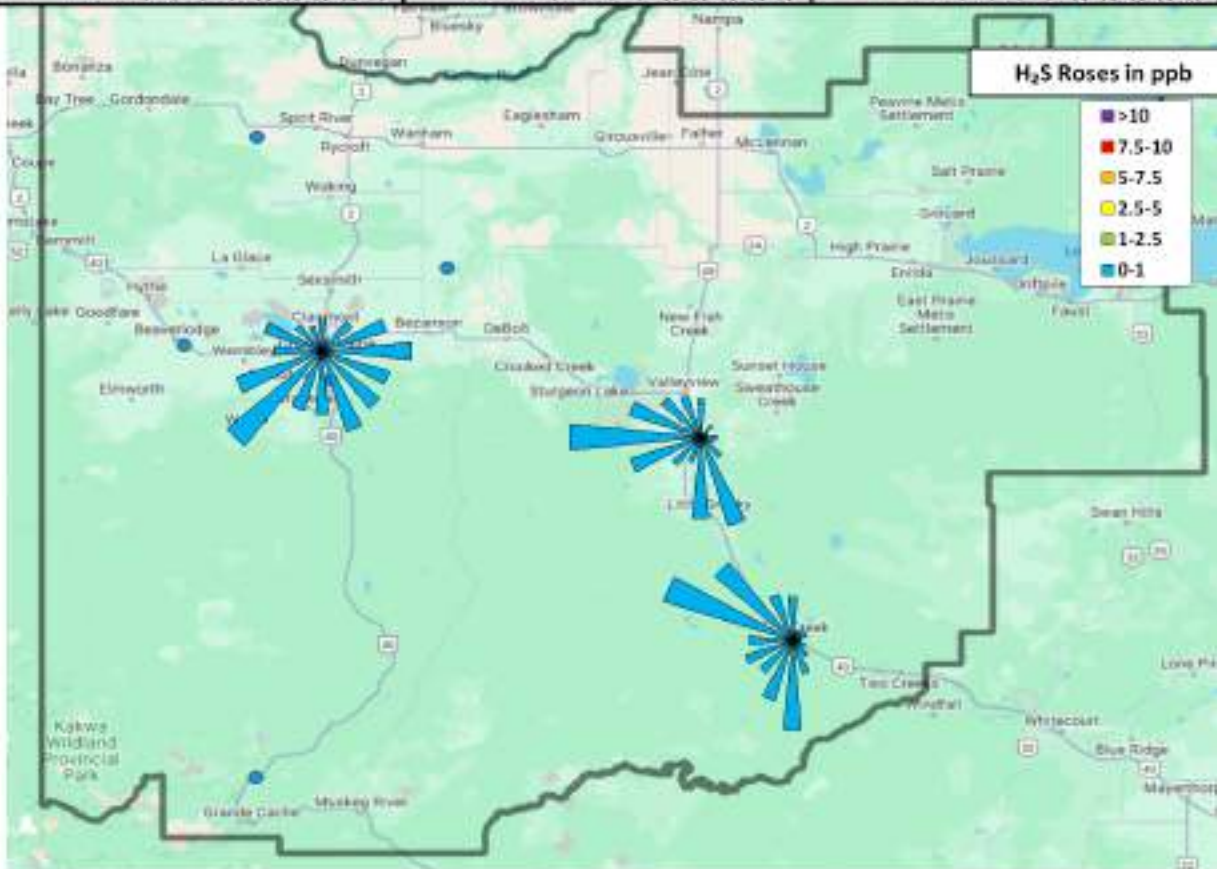
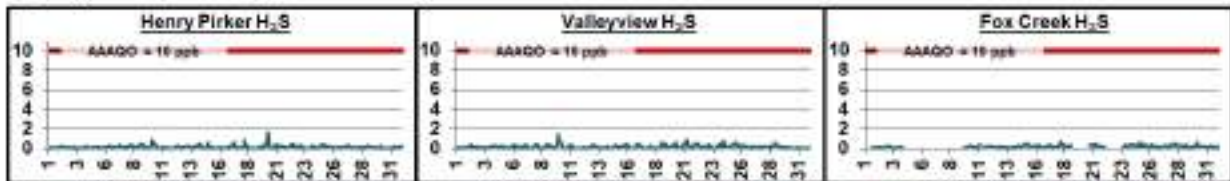


## 10.8 Hydrogen Sulphide (H<sub>2</sub>S) Plots

July 2024 H <sub>2</sub> S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H <sub>2</sub> S	-	-
Henry Pirkler H <sub>2</sub> S	0.1	1.6
Smoky Heights H <sub>2</sub> S	-	-
Beaverlodge H <sub>2</sub> S	-	-
Valleyview H <sub>2</sub> S	0.1	1.4
Fox Creek H <sub>2</sub> S	0.2	0.7
Happy Valley H <sub>2</sub> S	-	-
Milner H <sub>2</sub> S	-	-

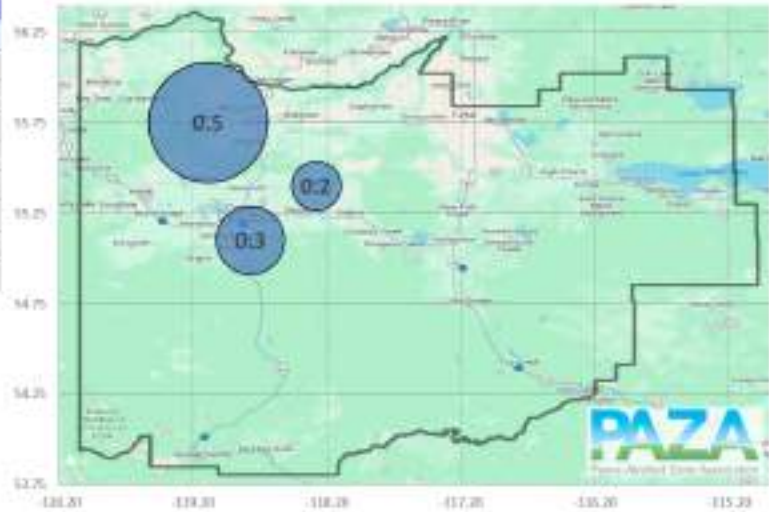


Hydrogen Sulphide in ppb

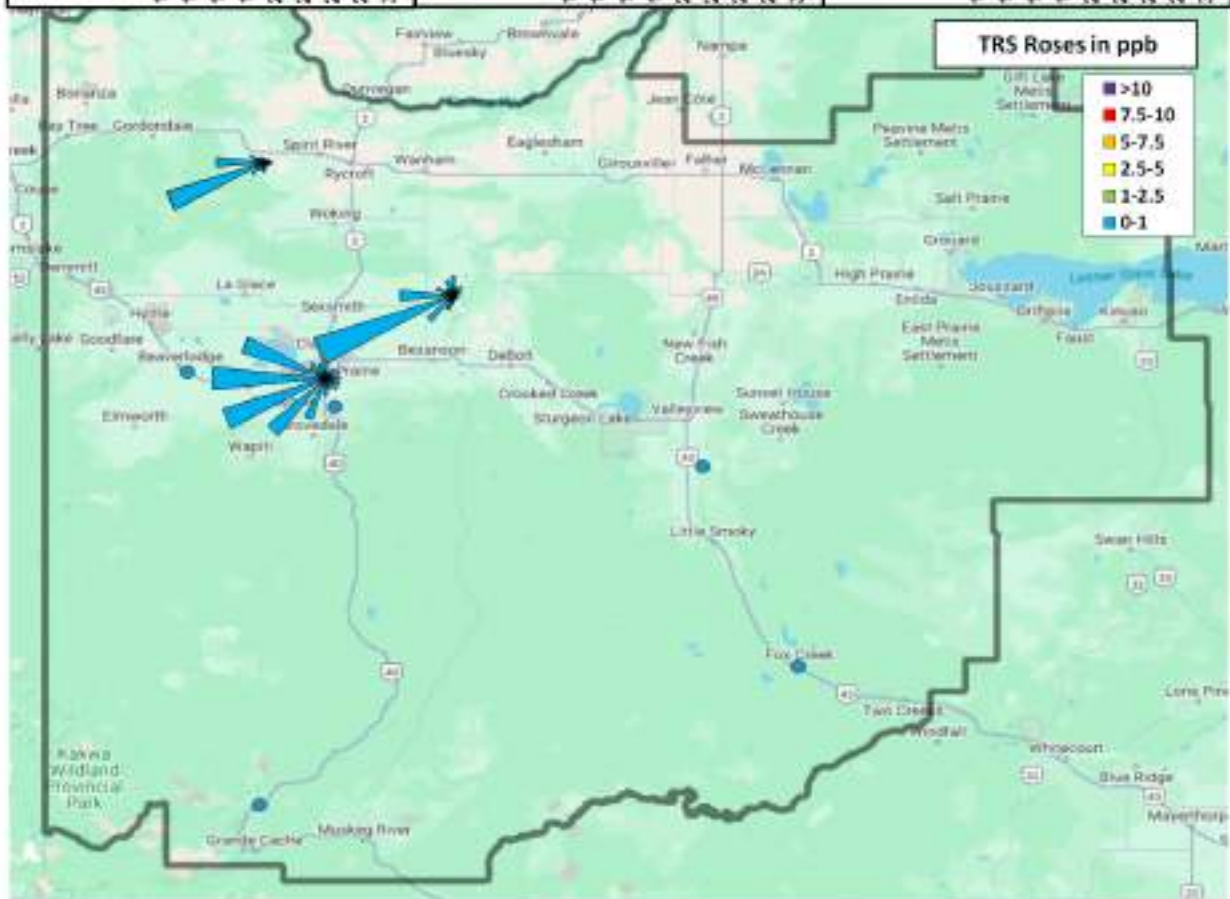
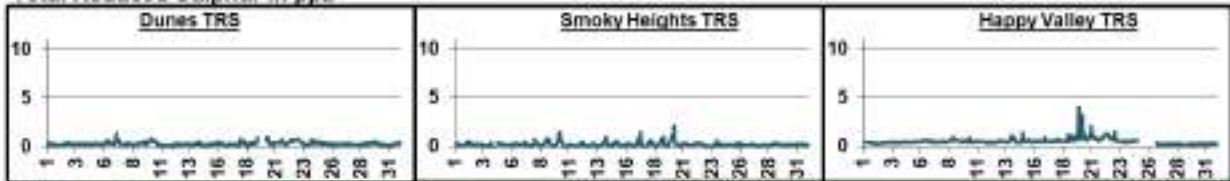


## 10.9 Total Reduced Sulphur (TRS) Plots

July 2024 TRS Station Summary		
Station	Aug (ppb)	Max (ppb)
Dunes TRS	0.3	1.4
Henry Pirkler TRS	-	-
Smoky Heights TRS	0.2	2.1
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Fox Creek TRS	-	-
Happy Valley TRS	0.5	4.1
Milner TRS	-	-



Total Reduced Sulphur in ppb

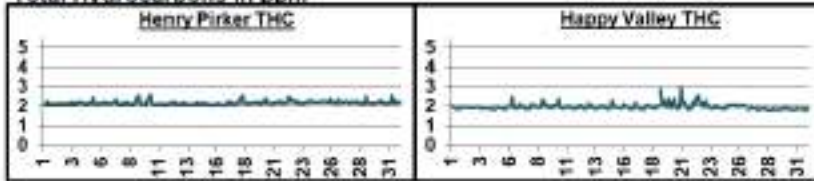




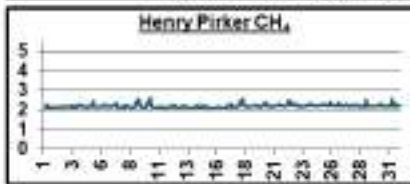
## 10.10 Total Hydrocarbon (THC) Plots

July 2024 THC Station Summary						
Station	Total Hydrocarbons		Methane		Non-Methane HCs	
	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)
Dunes THC	-	-	-	-	-	-
Henry Pirkler THC	2.2	2.6	2.2	2.6	0.00	0.03
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Fox Creek THC	-	-	-	-	-	-
Happy Valley THC	2.0	3.0	-	-	-	-

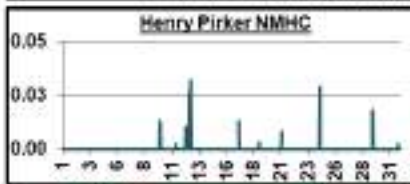
### Total Hydrocarbons in ppm



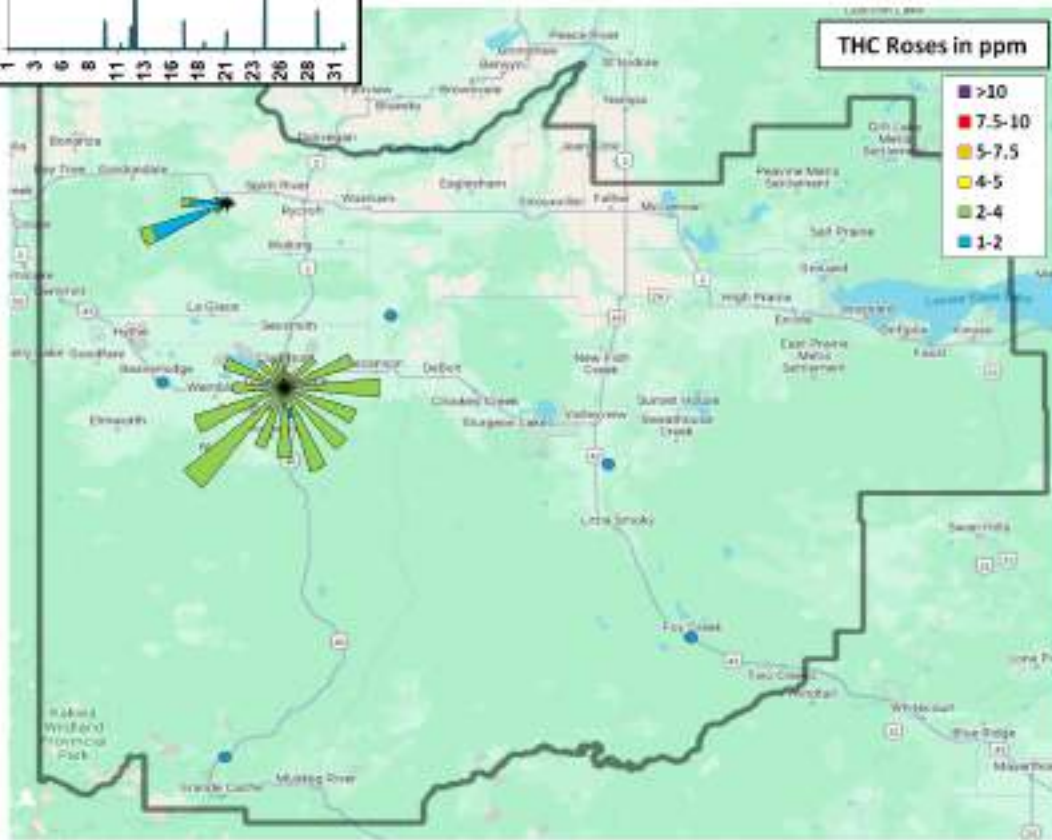
Total Hydrocarbons (THC)



Methane (CH<sub>4</sub>)



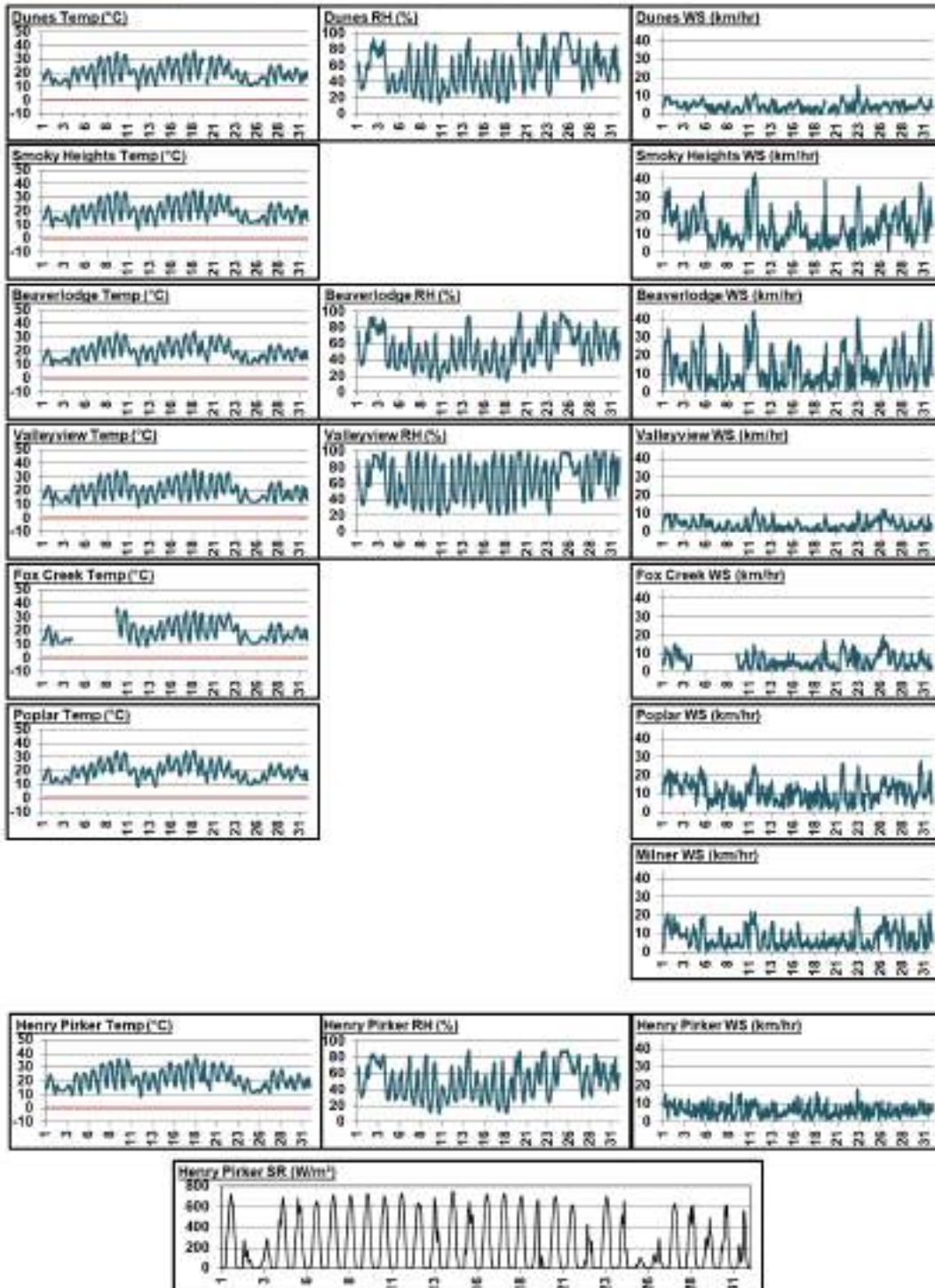
Non-Methane Hydrocarbons (NMHC)



## 10.11 Meteorology Summary

July 2024 Meteorological Summary						
Station	Temp (°C)	RH (%)	SR (W/m <sup>2</sup> )	WS (km/hr)	WD (deg)	WD
Dunes	19.9	53.4	-	4.2	259	W
Henry Parker	23.0	50.7	208.1	6.1	178	S
Smoky Heights	19.5	-	-	13.1	255	WSW
Beaverlodge	19.7	52.8	-	12.5	260	W
Valleyview	19.7	65.2	-	3.8	270	W
Fox Creek	19.1	-	-	5.9	283	WSW
Happy Valley	19.4	-	-	10.6	253	WSW
Milner	-	-	-	7.2	243	WSW

Temp (°C) Outside Temperature  
 RH (%) Relative Humidity  
 SR (W/m<sup>2</sup>) Solar Radiation  
 WS (km/hr) Wind Speed  
 WD (deg) Wind Direction  
 WD Wind Direction



## 11 Passive Monitoring Data

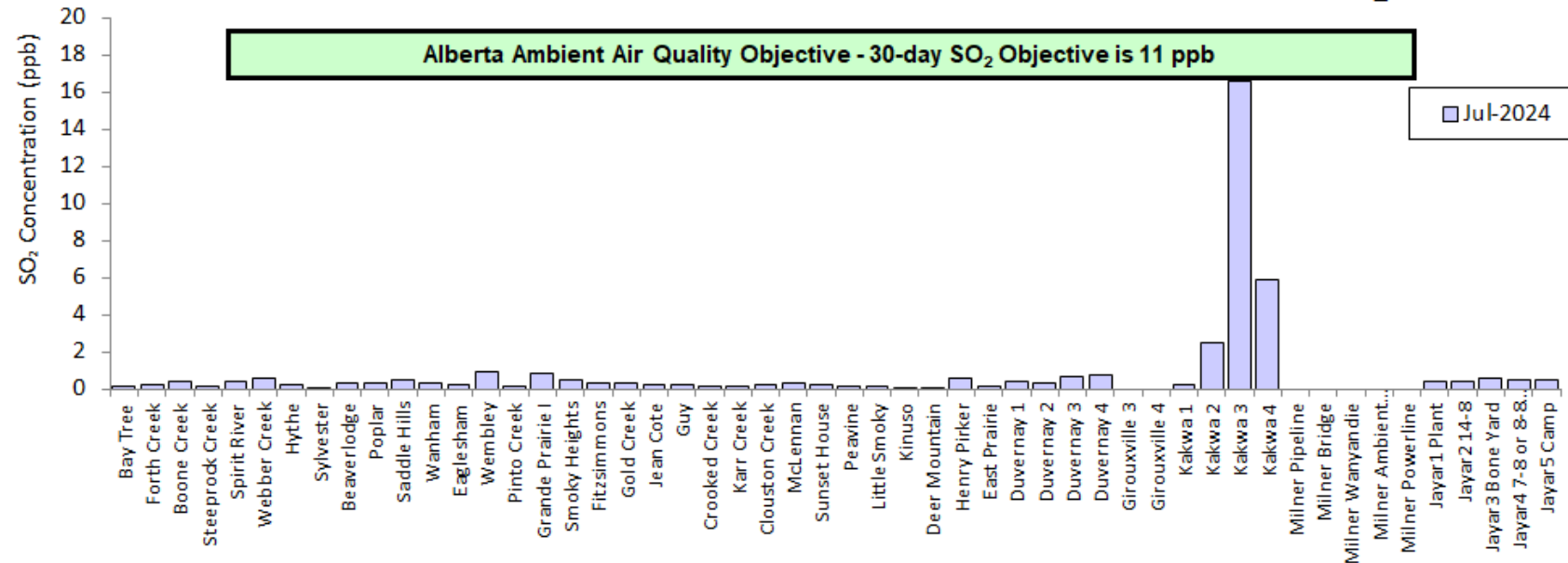
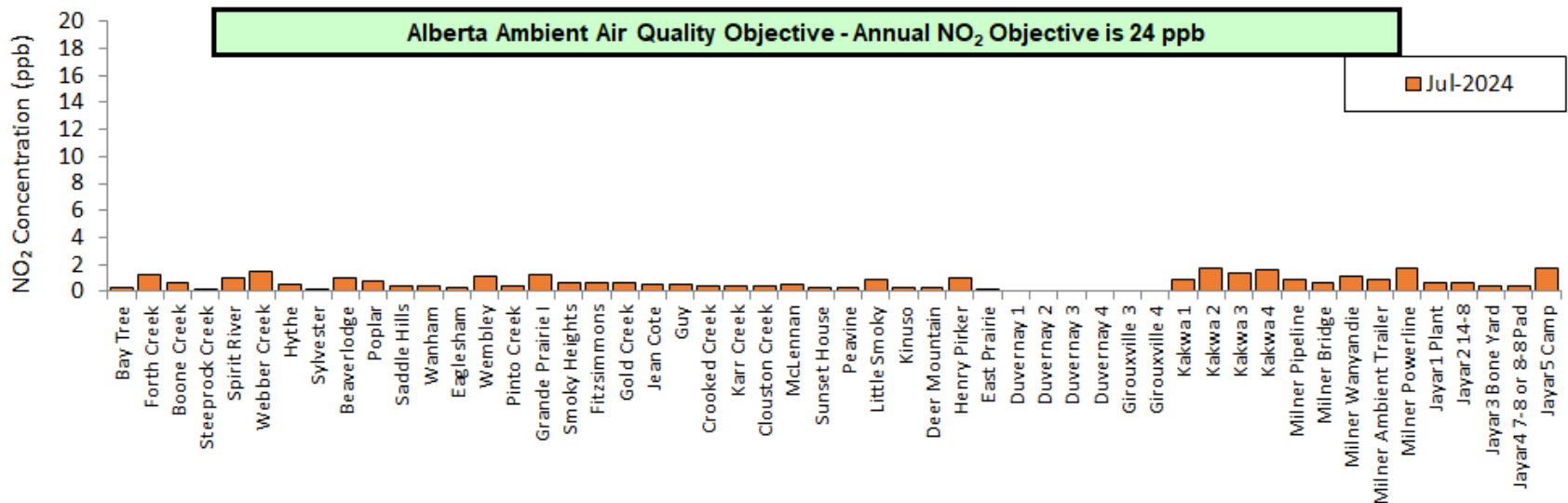
### Peace Airshed Zone Association - PAZA Passive Stations for July 2024

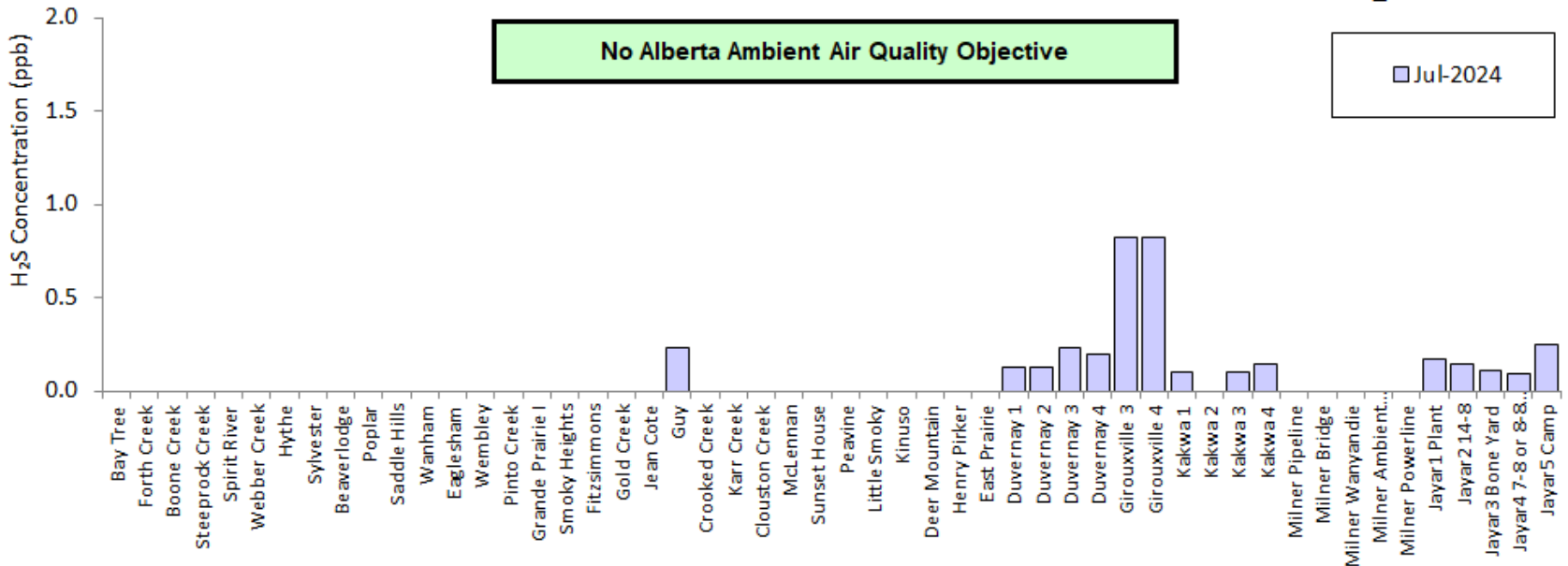
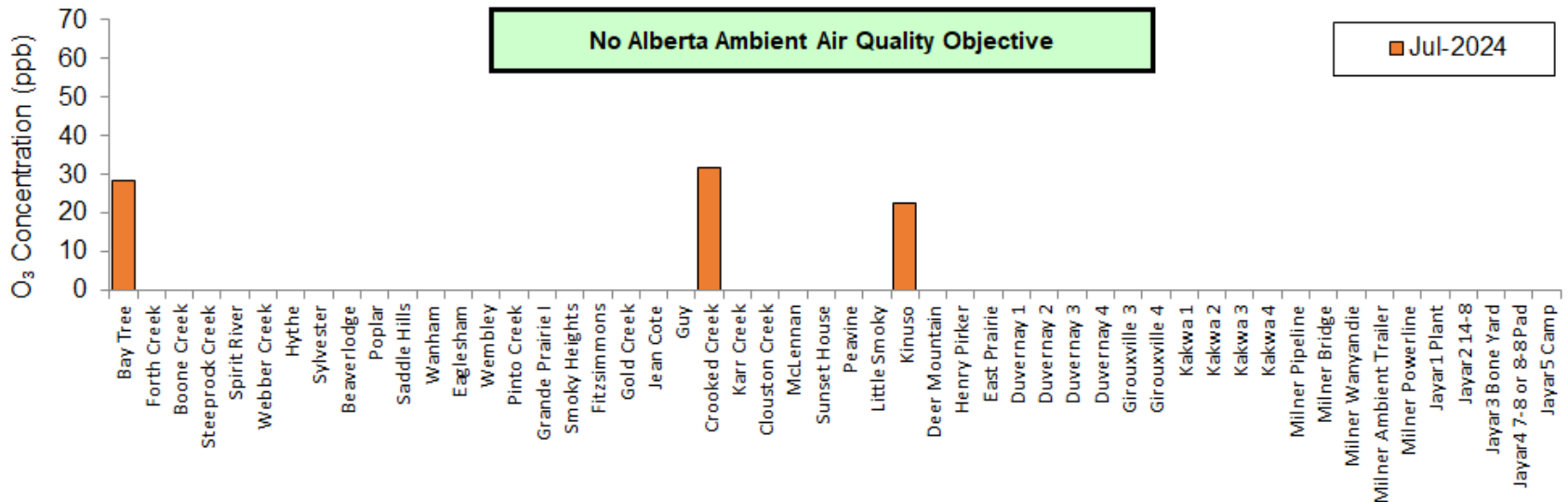
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
<b>Duplicates</b>						
3a	Forth Creek	0.2				04-13-082-07 W6M
3b	Forth Creek	0.2				
7a	Steeprock Creek			0.1		09-35-072-13 W6M
7b	Steeprock Creek			0.1		
9a	Spirit River			1.1		08-12-079-07 W6M
9b	Spirit River			1.0		
12a	Hythe	0.2				14-36-072-11 W6M
12b	Hythe	0.2				
29a	Smoky Heights	0.5				04-06-075-02 W6M
29b	Smoky Heights	0.5				
42a	Sunset House			0.3		05-32-070-19 W5M
42b	Sunset House			0.3		
47a	Kinuso		23.2	0.3		12-10-073-10 W5M
47b	Kinuso		22.3	0.2		
50a	East Prairie	0.1				11-13-079-08 W6M
50b	East Prairie	0.2				
D3a	Duvernay 3				0.22	04-33-062-20 W5M
D3b	Duvernay 3				0.25	
K4a	Kakwa 4			1.6		06-18-063-04 W6M
K4b	Kakwa 4			1.6		
K3a	Kakwa 3	16.3				12-18-063-04 W6M
K3b	Kakwa 3	16.9				
K1a	Kakwa 1				<0.02	01-13-063-05 W6M
K1b	Kakwa 1				0.10	
M9Ba	Milner Ambient Trailer			0.9		09-15-058-08 W6M
M9Bb	Milner Ambient Trailer			0.8		
M7a	Milner Wanyandie	<0.1				11-13-058-08 W6M
M7b	Milner Wanyandie	<0.1				
J4a	Jayar4 7-8 or 8-8 Pad			0.4		10-08-062-03 W6M
J4b	Jayar4 7-8 or 8-8 Pad			0.4		
J5a	Jayar5 Camp	0.5				11-08-062-03 W6M
J5b	Jayar5 Camp	0.4				
J3a	Jayar3 Bone Yard				0.14	14-08-062-03 W6M
J3b	Jayar3 Bone Yard				0.08	

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.2	28.6	0.3	-	13-16-078-13 WSM
3	Forth Creek	0.2	-	1.3	-	04-13-082-07 WSM
5	Boone Creek	0.4	-	0.7	-	01-23-076-11 WSM
7	Steeprock Creek	0.2	-	0.1	-	09-35-072-13 WSM
9	Spirit River	0.4	-	1.0	-	08-12-079-07 WSM
11	Webber Creek	0.6	-	1.4	-	09-36-074-09 WSM
12	Hythe	0.2	-	0.6	-	14-36-072-11 WSM
14	Sylvester	0.1	-	0.2	-	08-06-069-12 WSM
16	Beaverlodge	0.3	-	1.1	-	15-36-071-10 WSM
17	Poplar	0.3	-	0.8	-	13-05-073-08 WSM
18	Saddle Hills	0.5	-	0.5	-	04-25-074-07 WSM
19	Wanham	0.3	-	0.4	-	16-22-077-03 WSM
21	Eaglesham	0.2	-	0.3	-	16-21-079-25 WSM
24	Wembley	0.9	-	1.2	-	12-31-070-08 WSM
25	Pinto Creek	0.1	-	0.4	-	04-24-069-11 WSM
27	Grande Prairie I	0.8	-	1.2	-	08-15-071-06 WSM
29	Smoky Heights	0.5	-	0.6	-	04-06-075-02 WSM
30	Fitzsimmons	0.3	-	0.6	-	15-36-072-03 WSM
32	Gold Creek	0.3	-	0.7	-	06-33-067-05 WSM
35	Jean Cote	0.2	-	0.5	-	12-35-079-21 WSM
36	Guy	0.2	-	0.5	0.2	03-04-076-22 WSM
37	Crooked Creek	0.2	31.8	0.4	-	16-01-071-26 WSM
38	Karr Creek	0.1	-	0.4	-	10-16-065-02 WSM
39	Clouston Creek	0.2	-	0.4	-	12-01-073-22 WSM
40	McLennan	0.3	-	0.5	-	03-29-077-19 WSM
42	Sunset House	0.2	-	0.3	-	05-32-070-19 WSM
44	Peavine	0.2	-	0.3	-	03-05-079-15 WSM
46	Little Smoky	0.1	-	0.9	-	12-01-065-21 WSM
47	Kruso	0.1	22.8	0.3	-	12-10-073-10 WSM
48	Deer Mountain	0.1	-	0.3	-	15-22-068-09 WSM
49	Henry Pirker	0.6	-	1.0	-	17-26-071-06 WSM
50	East Prairie	0.1	-	0.2	-	11-13-079-08 WSM
D1	Duvernay 1	0.4	-	-	0.13	04-33-062-20 WSM
D2	Duvernay 2	0.3	-	-	0.12	04-33-062-20 WSM
D3	Duvernay 3	0.7	-	-	0.23	04-33-062-20 WSM
D4	Duvernay 4	0.8	-	-	0.19	04-33-062-20 WSM
G3	Grouville 3	-	-	-	0.83	14-02-077-23 WSM
G4	Grouville 4	-	-	-	0.82	04-08-077-22 WSM
K1	Kakwa 1	0.2	-	0.9	0.10	01-13-063-05 WSM
K2	Kakwa 2	2.5	-	1.7	<0.02	08-13-063-05 WSM
K3	Kakwa 3	16.6	-	1.3	0.10	12-18-063-04 WSM
K4	Kakwa 4	5.9	-	1.5	0.14	06-18-063-04 WSM
M1	Milner Pipeline	<0.1	-	0.9	-	12-14-058-08 WSM
M2	Milner Bridge	<0.1	-	0.6	-	08-06-057-08 WSM
M3	Milner Waryandie	<0.1	-	1.1	-	11-13-058-08 WSM
M4	Milner Ambient Trailer	<0.1	-	0.9	-	09-15-058-08 WSM
M5	Milner Powerline	<0.1	-	1.7	-	06-14-058-08 WSM
J1	Jayar1 Plant	0.4	-	0.6	0.17	06-08-062-03 WSM
J2	Jayar2 14-8	0.4	-	0.6	0.14	07-08-062-03 WSM
J3	Jayar3 Bone Yard	0.6	-	0.4	0.11	14-08-062-03 WSM
J4	Jayar4 7-8 or 8-8 Pad	0.5	-	0.4	0.09	10-08-062-03 WSM
J5	Jayar5 Camp	0.5	-	1.7	0.25	11-08-062-03 WSM

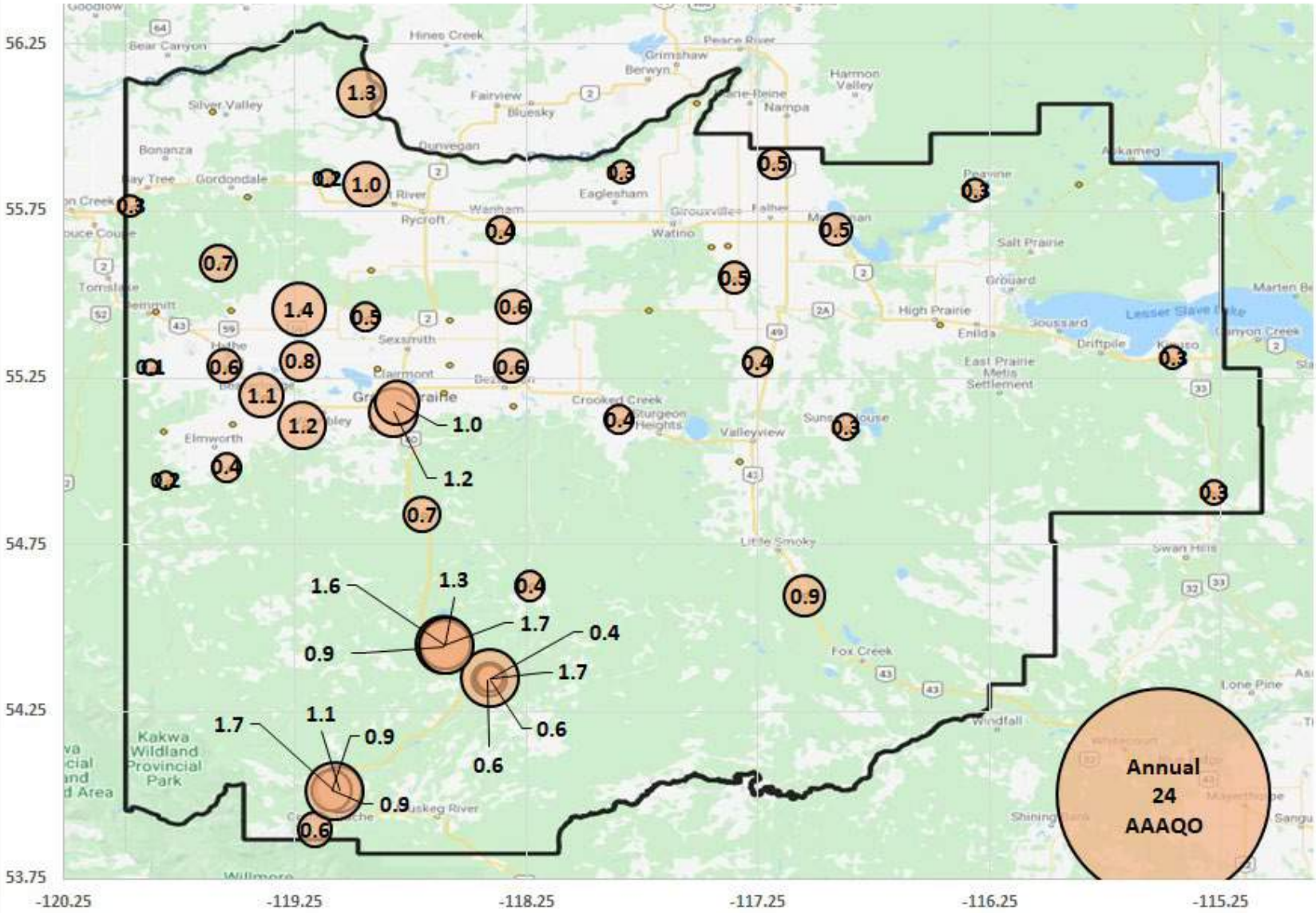
### Passive Summary for July 2024

Stats	Sulphur Dioxide SO <sub>2</sub> ppb	Ozone O <sub>3</sub> ppb	Nitrogen Dioxide NO <sub>2</sub> ppb	Hydrogen Sulphide H <sub>2</sub> S ppb
<b>Passive Summary for May 2024 (PAZA)</b>				
Mean	0.9	27.7	0.7	0.3
Standard Deviation	2.6	4.6	0.4	0.3
Minimum	0.1	22.8	0.1	0.1
	Deer Mountain (#48)	Kinuso (#47)	Steepprock Creek (#7)	Jayar4 7-8 or 8-8 Pad
Maximum	16.6	31.8	1.7	0.9
	Kakwa 3 (#K3)	Crooked Creek (#37)	Kakwa 2 (#K2)	Gordondale (#4)
<b>Continuous and Passive Monitoring Comparison</b>				
PAZA Beaverlodge Station	0.3	29.4	2.9	-
Beaverlodge Passive (#16)	0.3	-	1.1	-
PAZA Henry Pirker Station	0.3	28.7	4.2	0.1
Henry Pirker passive (#49)	0.6	-	1.0	-
Milner Station	-	-	2.1	-
Milner passive	<0.1	-	0.9	-





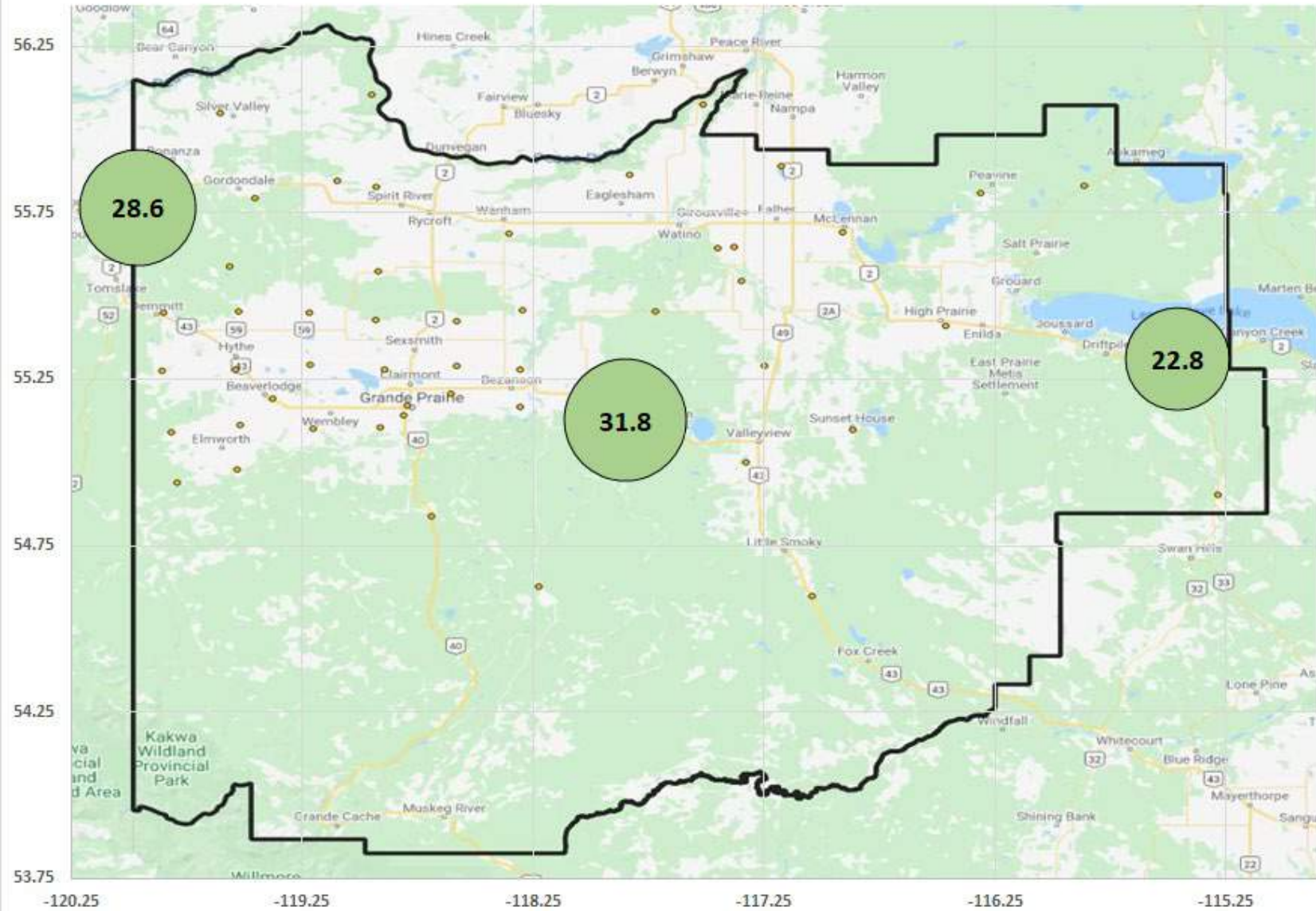
### NO<sub>2</sub> Monthly Average (units in ppb)







### O<sub>3</sub> Monthly Average (units in ppb)

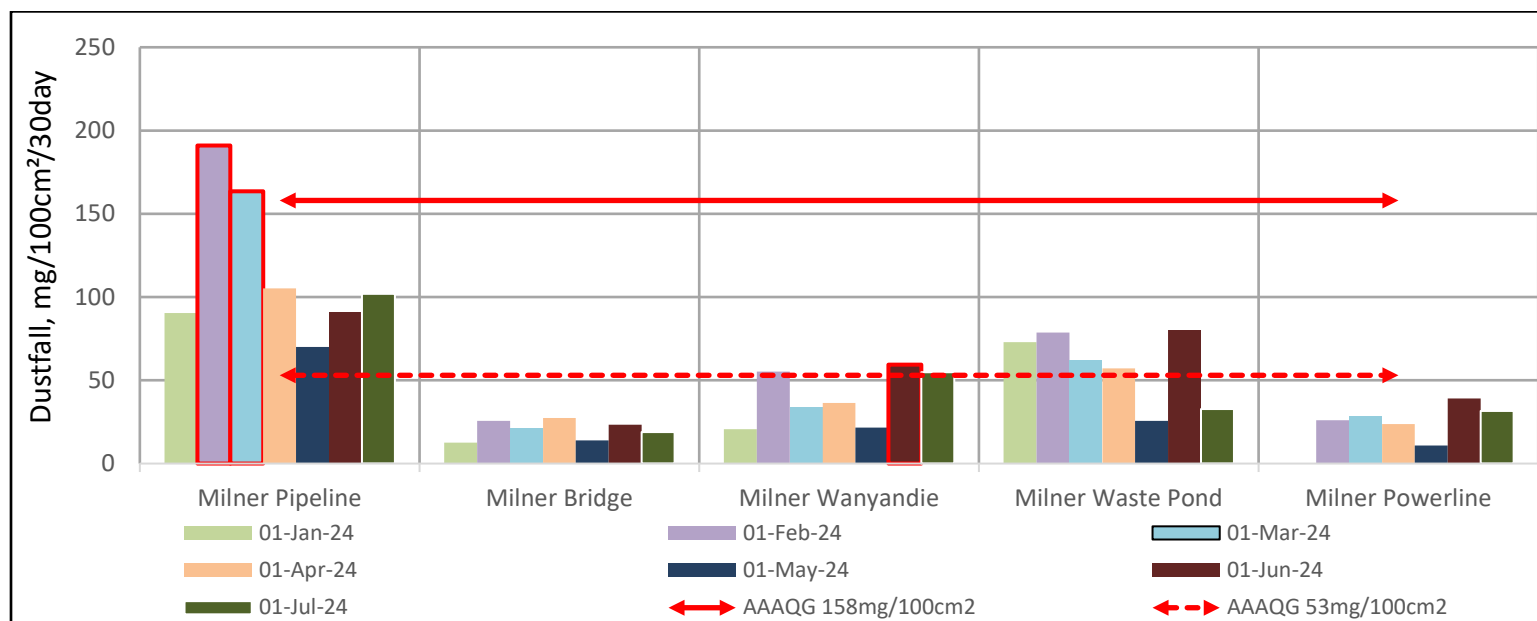




## 12 Dustfall Monitoring Data

Milner Dustfall Samples July 2024

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm <sup>2</sup> /30day	Fixed Dustfall (30 day) mg/100cm <sup>2</sup> /30day	Exposure days	Field Notes
July	2024	Milner Pipeline	102.0	45.4	33	
July	2024	Milner Bridge	18.9	8.2	33	
July	2024	Milner Wanyandie	54.8	15.1	33	>53mg/100cm <sup>2</sup> ; ref#432262
July	2024	Milner Waste Pond	32.8	18.9	33	
July	2024	Milner Powerline	31.5	11.3	33	
July	2024	Milner Powerline Dup	42.2	12.6	33	RPD, 29% / 11%



## End of Report



# Peace Airshed Zone Association

## Ambient Air Monitoring Report

July 2024