Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

July 2023

August 31, 2023

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

Subject: **Peace Airshed Zone Association (PAZA)**
July 2023 Ambient Air Quality Monitoring Report

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of July 2023.

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

Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager
Box 21135
Grande Prairie, Alberta T8V 6W7
Email: Mandeep@paza.ca
Phone: 403-608-9697

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, Donnelly (station was decommissioned July 03, 2023), Poplar-Portable and Milner.
Detailed Summaries are included in the report.

Calibration and Data Submission:

Monthly report, hourly data and calibration reports for July 2023 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
	Ante Creek	02-26-068-25-W5	00266694-00-00
	Gordondale	02-26-068-25-W5	00287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	00010137-02-02
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	00252529-00-00
Canadian Natural Resources Limited	Bonanza	11-25-081-11-W6	00000029-01-00
	Progress/Gordondale	01-01-077-10-W6	00010036-02-00
	Gold Creek	13-26-067-05-W6	00010446-02-00
	Teepee Creek	SE-2-074-04-W6	00001635-02-00
	Sturgeon/Valleyview	02-02-069-22-W5	00001633-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	00152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	00001464-02-03
Exshaw Oil Corporation	Spirit River	03-10-077-07-W6	00344521-00-00
Grande Prairie Generation Inc.	Northern Prairie Power Project	04-19-073-08-W6	00238762-00-00
Inception Exploration Ltd.	Gold Creek	03-26-069-05-W6	00335317-00-02
KANATA Energy Group Ltd.	Valhalla	13-21-076-09-W6	00017620-02-02
Long Run Exploration	Eaglesham	01-25-076-01-W6	00241532-00-00
	Kakut	14-12-075-03-W6	00248469-00-00
	Donnelly	06-01-077-21-W5	00000087-02-00
	Puskwaskau	03-26-074-01-W6	00017524-01-00
Longview Oil Corp.	Sunset House	06-22-070-20-W5	00138884-01-00
Milner Power Limited Partnership	H.R. Milner thermal electric power plant	SE-15-058-08-W6	00009814-03-03
NorthRiver Midstream Inc.	Fourth Creek	16-11-082-09-W6	00000263-01-00
	Gordondale	11-26-079-09-W6	00011495-01-01
	Pouce Coupe/Bonanza	03-23-080-13-W6	00070203-01-01
Pembina Pipeline Corporation	Kakwa River	05-18-063-04 W6	
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:

- 380 $PM_{2.5}$ 1hr readings above AAAQG and 55 $PM_{2.5}$ 24hr readings above AAAQO

1-hr readings above the $PM_{2.5}$ AAAQG (80 µg/m³) was recorded as:

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416559	Beaverlodge	July 10, 2023	10:00	11:00	119.0		
416559	Beaverlodge	July 10, 2023	11:00	12:00	147.6		
416559	Beaverlodge	July 10, 2023	12:00	13:00	172.7		
416559	Beaverlodge	July 10, 2023	13:00	14:00	193.7		
416559	Beaverlodge	July 10, 2023	14:00	15:00	169.1		
416559	Beaverlodge	July 10, 2023	15:00	16:00	135.1		
416559	Beaverlodge	July 10, 2023	16:00	17:00	144.1		
416559	Beaverlodge	July 10, 2023	17:00	18:00	144.1		
416559	Beaverlodge	July 10, 2023	18:00	19:00	110.9		
416559	Beaverlodge	July 12, 2023	04:00	05:00	82.7	2.3	348
416559	Beaverlodge	July 12, 2023	05:00	06:00	98.9	4.4	338
416559	Beaverlodge	July 12, 2023	06:00	07:00	95.3	2.8	340
416559	Beaverlodge	July 12, 2023	07:00	08:00	86.9	4.0	263
416559	Beaverlodge	July 12, 2023	08:00	09:00	92.4	4.6	235
416559	Beaverlodge	July 12, 2023	09:00	10:00	91.4	2.7	245
416559	Beaverlodge	July 12, 2023	10:00	11:00	80.5	7.4	293
416559	Beaverlodge	July 12, 2023	17:00	18:00	89.0	13.9	234
416559	Beaverlodge	July 12, 2023	18:00	19:00	144.5	6.9	360
416559	Beaverlodge	July 12, 2023	19:00	20:00	163.5	7.3	31
416559	Beaverlodge	July 12, 2023	20:00	21:00	150.2	4.2	353
416559	Beaverlodge	July 12, 2023	21:00	22:00	146.7	4.1	55
416559	Beaverlodge	July 12, 2023	22:00	23:00	147.3	4.7	302
416559	Beaverlodge	July 13, 2023	23:00	00:00	135.4	9.6	304
416559	Beaverlodge	July 13, 2023	00:00	01:00	130.9	3.4	334
416559	Beaverlodge	July 13, 2023	01:00	02:00	135.1	4.9	324
416559	Beaverlodge	July 13, 2023	02:00	03:00	142.3	1.3	312
416559	Beaverlodge	July 13, 2023	03:00	04:00	163.2	6.4	327
416559	Beaverlodge	July 13, 2023	04:00	05:00	151.2	12.5	322
416559	Beaverlodge	July 13, 2023	05:00	06:00	113.7	15.8	321
416559	Beaverlodge	July 15, 2023	13:00	14:00	100.8	8.3	176
416559	Beaverlodge	July 15, 2023	14:00	15:00	91.6	6.5	199
416559	Beaverlodge	July 15, 2023	15:00	16:00	104.4	7.7	230
416559	Beaverlodge	July 15, 2023	16:00	17:00	214.6	10.2	238
416559	Beaverlodge	July 15, 2023	17:00	18:00	240.4	7.7	258
416559	Beaverlodge	July 15, 2023	18:00	19:00	192.3	6.1	264
416559	Beaverlodge	July 15, 2023	19:00	20:00	168.8	3.7	285
416559	Beaverlodge	July 15, 2023	20:00	21:00	166.7	0.1	300
416559	Beaverlodge	July 15, 2023	21:00	22:00	161.4	1.0	2
416559	Beaverlodge	July 15, 2023	22:00	23:00	159.6	1.1	335
416559	Beaverlodge	July 16, 2023	23:00	00:00	161.2	6.0	44
416559	Beaverlodge	July 16, 2023	00:00	01:00	163.1	5.1	52
416559	Beaverlodge	July 16, 2023	01:00	02:00	154.2	2.2	174
416559	Beaverlodge	July 16, 2023	02:00	03:00	139.6	2.3	236
416559	Beaverlodge	July 16, 2023	03:00	04:00	137.3	5.4	50
416559	Beaverlodge	July 16, 2023	04:00	05:00	123.1	2.4	93
416559	Beaverlodge	July 16, 2023	05:00	06:00	107.6	0.5	101
416559	Beaverlodge	July 16, 2023	06:00	07:00	113.2	3.9	50
416559	Beaverlodge	July 16, 2023	07:00	08:00	109.0	3.0	202

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416559	Beaverlodge	July 16, 2023	08:00	09:00	104.0	3.5	230
416559	Beaverlodge	July 16, 2023	09:00	10:00	101.8	1.9	313
416559	Beaverlodge	July 16, 2023	10:00	11:00	104.2	3.1	251
416559	Beaverlodge	July 16, 2023	11:00	12:00	105.0	3.3	172
416559	Beaverlodge	July 16, 2023	12:00	13:00	112.2	2.7	117
416559	Beaverlodge	July 16, 2023	13:00	14:00	114.0	3.0	127
416559	Beaverlodge	July 16, 2023	14:00	15:00	103.5	0.9	80
416559	Beaverlodge	July 16, 2023	15:00	16:00	103.4	4.1	69
416559	Beaverlodge	July 16, 2023	16:00	17:00	119.6	12.9	100
416559	Beaverlodge	July 16, 2023	17:00	18:00	102.2	14.4	129
416559	Beaverlodge	July 16, 2023	18:00	19:00	87.4	4.8	183
416952	Beaverlodge	July 20, 2023	10:00	11:00	117.4	4.7	174
416952	Beaverlodge	July 20, 2023	11:00	12:00	196.5	7.9	180
416952	Beaverlodge	July 20, 2023	12:00	13:00	219.5	5.2	106
416952	Beaverlodge	July 20, 2023	13:00	14:00	245.3	5.1	142
416952	Beaverlodge	July 20, 2023	14:00	15:00	304.4	6.6	85
416952	Beaverlodge	July 20, 2023	15:00	16:00	285.1	8.5	115
416952	Beaverlodge	July 20, 2023	16:00	17:00	255.3	11.5	101
416952	Beaverlodge	July 20, 2023	17:00	18:00	230.8	10.4	96
416952	Beaverlodge	July 20, 2023	18:00	19:00	234.3	9.3	94
416952	Beaverlodge	July 20, 2023	19:00	20:00	244.7	7.5	83
416952	Beaverlodge	July 20, 2023	20:00	21:00	287.5	6.7	79
416952	Beaverlodge	July 20, 2023	21:00	22:00	303.8	7.5	71
416952	Beaverlodge	July 20, 2023	22:00	23:00	299.5	8.3	66
416952	Beaverlodge	July 21, 2023	23:00	00:00	287.3	8.7	66
416952	Beaverlodge	July 21, 2023	00:00	01:00	256.9	8.3	69
416952	Beaverlodge	July 21, 2023	01:00	02:00	222.6	8.6	71
416952	Beaverlodge	July 21, 2023	02:00	03:00	202.4	8.5	73
416952	Beaverlodge	July 21, 2023	03:00	04:00	185.6	7.0	82
416952	Beaverlodge	July 21, 2023	04:00	05:00	169.3	5.1	61
416952	Beaverlodge	July 21, 2023	05:00	06:00	150.6	3.6	328
416952	Beaverlodge	July 21, 2023	06:00	07:00	146.0	15.0	325
416952	Beaverlodge	July 21, 2023	07:00	08:00	136.9	10.5	17
416952	Beaverlodge	July 21, 2023	08:00	09:00	127.1	7.4	24
416952	Beaverlodge	July 21, 2023	09:00	10:00	159.1	3.3	20
416952	Beaverlodge	July 21, 2023	10:00	11:00	221.8	5.7	45
416952	Beaverlodge	July 21, 2023	11:00	12:00	200.8	9.4	102
416952	Beaverlodge	July 21, 2023	12:00	13:00	196.7	12.4	105
416952	Beaverlodge	July 21, 2023	14:00	15:00	149.9	15.4	93
416952	Beaverlodge	July 21, 2023	15:00	16:00	179.2	18.5	87
416952	Beaverlodge	July 21, 2023	16:00	17:00	148.1	18.9	79
416952	Beaverlodge	July 21, 2023	17:00	18:00	124.5	18.2	77
416952	Beaverlodge	July 21, 2023	18:00	19:00	107.3	13.6	52
416952	Beaverlodge	July 22, 2023	13:00	14:00	110.5	3.0	97
416952	Beaverlodge	July 22, 2023	14:00	15:00	82.9	3.1	103
416952	Beaverlodge	July 22, 2023	16:00	17:00	125.8	6.8	163
416952	Beaverlodge	July 22, 2023	17:00	18:00	224.9	4.8	168
416952	Beaverlodge	July 22, 2023	18:00	19:00	221.0	6.1	266
416952	Beaverlodge	July 22, 2023	19:00	20:00	212.3	6.5	265
417317	Beaverlodge	July 24, 2023	13:00	14:00	104.0	9.0	352
417317	Beaverlodge	July 24, 2023	14:00	15:00	98.0	8.9	355
417317	Beaverlodge	July 24, 2023	15:00	16:00	92.0	7.1	343
417317	Beaverlodge	July 24, 2023	16:00	17:00	88.1	7.6	319
417317	Beaverlodge	July 24, 2023	17:00	18:00	82.1	6.9	319

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
417317	Beaverlodge	July 27, 2023	20:00	21:00	87.3	6.7	76
417317	Beaverlodge	July 29, 2023	03:00	04:00	114.0	3.5	140
417317	Beaverlodge	July 29, 2023	04:00	05:00	106.5	2.0	115
417317	Beaverlodge	July 29, 2023	05:00	06:00	88.2	1.8	164
416558	Dunes	July 10, 2023	13:00	14:00	112.4	3.2	358
416558	Dunes	July 10, 2023	14:00	15:00	139.3	3.1	310
416558	Dunes	July 10, 2023	15:00	16:00	169.9	3.7	297
416558	Dunes	July 10, 2023	16:00	17:00	226.3	3.2	256
416558	Dunes	July 10, 2023	17:00	18:00	210.4	5.0	199
416558	Dunes	July 12, 2023	06:00	07:00	81.7	3.3	293
416558	Dunes	July 12, 2023	07:00	08:00	86.3	3.6	283
416558	Dunes	July 12, 2023	08:00	09:00	92.5	3.9	294
416558	Dunes	July 12, 2023	09:00	10:00	95.7	3.6	285
416558	Dunes	July 12, 2023	10:00	11:00	92.2	3.5	267
416558	Dunes	July 12, 2023	11:00	12:00	88.8	3.8	270
416558	Dunes	July 12, 2023	12:00	13:00	84.7	3.1	255
416558	Dunes	July 12, 2023	19:00	20:00	150.5	2.3	316
416558	Dunes	July 12, 2023	20:00	21:00	176.7	0.1	113
416558	Dunes	July 12, 2023	21:00	22:00	186.4	1.6	240
416558	Dunes	July 12, 2023	22:00	23:00	168.6	1.2	256
416558	Dunes	July 13, 2023	23:00	00:00	147.6	0.9	299
416558	Dunes	July 13, 2023	00:00	01:00	137.9	0.4	301
416558	Dunes	July 13, 2023	01:00	02:00	129.4	0.8	260
416558	Dunes	July 13, 2023	02:00	03:00	126.1	1.2	290
416558	Dunes	July 13, 2023	03:00	04:00	131.8	1.9	299
416558	Dunes	July 13, 2023	04:00	05:00	128.3	2.3	311
416558	Dunes	July 13, 2023	05:00	06:00	128.1	1.4	289
416558	Dunes	July 13, 2023	06:00	07:00	123.0	3.1	291
416558	Dunes	July 13, 2023	07:00	08:00	92.8	1.7	259
416558	Dunes	July 15, 2023	16:00	17:00	95.8	4.7	238
416558	Dunes	July 15, 2023	17:00	18:00	118.9	2.0	217
416558	Dunes	July 15, 2023	18:00	19:00	108.2	1.8	211
416558	Dunes	July 15, 2023	19:00	20:00	140.0	3.2	194
416558	Dunes	July 15, 2023	20:00	21:00	167.2	3.9	192
416558	Dunes	July 15, 2023	21:00	22:00	159.9	2.9	188
416558	Dunes	July 15, 2023	22:00	23:00	177.4	1.9	217
416558	Dunes	July 16, 2023	23:00	00:00	142.6	0.5	145
416558	Dunes	July 16, 2023	00:00	01:00	142.4	2.0	186
416558	Dunes	July 16, 2023	01:00	02:00	136.6	1.3	209
416558	Dunes	July 16, 2023	02:00	03:00	133.5	0.4	258
416558	Dunes	July 16, 2023	03:00	04:00	136.8	0.9	203
416558	Dunes	July 16, 2023	04:00	05:00	138.0	1.7	206
416558	Dunes	July 16, 2023	05:00	06:00	131.8	3.2	200
416558	Dunes	July 16, 2023	06:00	07:00	131.7	1.5	201
416558	Dunes	July 16, 2023	07:00	08:00	134.3	1.4	191
416558	Dunes	July 16, 2023	08:00	09:00	134.9	1.9	190
416558	Dunes	July 16, 2023	09:00	10:00	114.0	1.5	253
416558	Dunes	July 16, 2023	10:00	11:00	112.9	3.1	196
416558	Dunes	July 16, 2023	11:00	12:00	123.6	2.2	185
416558	Dunes	July 16, 2023	12:00	13:00	103.0	2.4	146
416558	Dunes	July 16, 2023	13:00	14:00	104.4	1.6	175
416558	Dunes	July 16, 2023	14:00	15:00	103.4	2.4	74
416558	Dunes	July 16, 2023	15:00	16:00	100.3	2.8	53
416558	Dunes	July 16, 2023	16:00	17:00	97.3	2.2	126

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416558	Dunes	July 16, 2023	17:00	18:00	93.6	3.0	147
416558	Dunes	July 16, 2023	18:00	19:00	86.4	4.0	154
415788	Henry Pirker	July 2, 2023	22:00	23:00	183.9	10.6	247
416557	Henry Pirker	July 10, 2023	13:00	14:00	101.0	4.8	307
416557	Henry Pirker	July 10, 2023	14:00	15:00	164.0	6.7	293
416557	Henry Pirker	July 10, 2023	15:00	16:00	247.7	7.6	298
416557	Henry Pirker	July 10, 2023	16:00	17:00	219.8	6.3	222
416557	Henry Pirker	July 10, 2023	17:00	18:00	214.6	6.4	214
416557	Henry Pirker	July 10, 2023	18:00	19:00	147.5	11.5	181
416557	Henry Pirker	July 11, 2023	15:00	16:00	81.3	7.2	239
416557	Henry Pirker	July 11, 2023	16:00	17:00	101.6	5.3	285
416557	Henry Pirker	July 11, 2023	17:00	18:00	92.3	4.3	290
416557	Henry Pirker	July 11, 2023	18:00	19:00	93.5	1.4	253
416557	Henry Pirker	July 11, 2023	19:00	20:00	100.3	2.2	188
416557	Henry Pirker	July 11, 2023	20:00	21:00	97.5	3.8	138
416557	Henry Pirker	July 11, 2023	21:00	22:00	88.7	3.6	132
416557	Henry Pirker	July 11, 2023	22:00	23:00	89.2	3.7	152
416557	Henry Pirker	July 12, 2023	23:00	00:00	90.7	4.4	149
416557	Henry Pirker	July 12, 2023	02:00	03:00	85.0	6.5	261
416557	Henry Pirker	July 12, 2023	03:00	04:00	95.6	6.3	250
416557	Henry Pirker	July 12, 2023	04:00	05:00	110.0	2.9	283
416557	Henry Pirker	July 12, 2023	05:00	06:00	104.4	2.0	289
416557	Henry Pirker	July 12, 2023	06:00	07:00	95.0	4.0	264
416557	Henry Pirker	July 12, 2023	07:00	08:00	137.0	6.2	253
416557	Henry Pirker	July 12, 2023	08:00	09:00	125.3	6.3	275
416557	Henry Pirker	July 12, 2023	09:00	10:00	94.8	9.7	277
416557	Henry Pirker	July 12, 2023	10:00	11:00	88.8	9.7	279
416557	Henry Pirker	July 12, 2023	11:00	12:00	93.1	8.7	274
416557	Henry Pirker	July 12, 2023	12:00	13:00	105.3	8.1	276
416557	Henry Pirker	July 12, 2023	13:00	14:00	97.8	7.9	287
416557	Henry Pirker	July 12, 2023	14:00	15:00	87.4	9.1	282
416557	Henry Pirker	July 12, 2023	15:00	16:00	84.0	9.3	264
416557	Henry Pirker	July 12, 2023	16:00	17:00	94.9	8.3	238
416557	Henry Pirker	July 12, 2023	17:00	18:00	108.9	9.2	223
416557	Henry Pirker	July 12, 2023	18:00	19:00	149.6	8.0	262
416557	Henry Pirker	July 12, 2023	19:00	20:00	245.2	4.8	304
416557	Henry Pirker	July 12, 2023	20:00	21:00	231.1	2.7	295
416557	Henry Pirker	July 12, 2023	21:00	22:00	220.9	1.8	263
416557	Henry Pirker	July 12, 2023	22:00	23:00	220.4	2.9	286
416557	Henry Pirker	July 13, 2023	23:00	00:00	205.5	2.5	309
416557	Henry Pirker	July 13, 2023	00:00	01:00	197.0	2.7	284
416557	Henry Pirker	July 13, 2023	01:00	02:00	193.0	1.9	246
416557	Henry Pirker	July 13, 2023	02:00	03:00	179.0	3.5	248
416557	Henry Pirker	July 13, 2023	03:00	04:00	175.7	3.5	287
416557	Henry Pirker	July 13, 2023	04:00	05:00	178.2	1.6	317
416557	Henry Pirker	July 13, 2023	05:00	06:00	184.3	4.4	294
416557	Henry Pirker	July 13, 2023	06:00	07:00	171.6	2.4	268
416557	Henry Pirker	July 13, 2023	07:00	08:00	106.3	5.9	291
416557	Henry Pirker	July 13, 2023	09:00	10:00	85.9	9.1	236
416557	Henry Pirker	July 15, 2023	23:00	00:00	83.1	0.1	124
416557	Henry Pirker	July 15, 2023	00:00	01:00	86.1	0.8	298
416557	Henry Pirker	July 15, 2023	16:00	17:00	129.5	8.0	222
416557	Henry Pirker	July 15, 2023	17:00	18:00	129.4	5.6	214
416557	Henry Pirker	July 15, 2023	18:00	19:00	163.6	3.7	222

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416557	Henry Pirker	July 15, 2023	19:00	20:00	225.8	4.4	215
416557	Henry Pirker	July 15, 2023	20:00	21:00	221.3	4.3	187
416557	Henry Pirker	July 15, 2023	21:00	22:00	219.0	3.5	171
416557	Henry Pirker	July 15, 2023	22:00	23:00	210.4	2.4	203
416557	Henry Pirker	July 16, 2023	23:00	00:00	211.1	2.5	153
416557	Henry Pirker	July 16, 2023	00:00	01:00	196.0	2.4	140
416557	Henry Pirker	July 16, 2023	01:00	02:00	182.9	1.2	151
416557	Henry Pirker	July 16, 2023	02:00	03:00	199.9	1.5	202
416557	Henry Pirker	July 16, 2023	03:00	04:00	224.7	1.2	295
416557	Henry Pirker	July 16, 2023	04:00	05:00	204.7	3.0	169
416557	Henry Pirker	July 16, 2023	05:00	06:00	175.0	2.9	225
416557	Henry Pirker	July 16, 2023	06:00	07:00	164.6	2.4	237
416557	Henry Pirker	July 16, 2023	07:00	08:00	155.4	1.6	192
416557	Henry Pirker	July 16, 2023	08:00	09:00	149.5	4.1	231
416557	Henry Pirker	July 16, 2023	09:00	10:00	142.0	2.9	269
416557	Henry Pirker	July 16, 2023	10:00	11:00	144.8	2.8	283
416557	Henry Pirker	July 16, 2023	11:00	12:00	145.1	1.8	177
416557	Henry Pirker	July 16, 2023	12:00	13:00	155.4	2.7	176
416557	Henry Pirker	July 16, 2023	13:00	14:00	159.7	2.6	156
416557	Henry Pirker	July 16, 2023	14:00	15:00	158.3	1.6	91
416557	Henry Pirker	July 16, 2023	15:00	16:00	153.3	4.5	77
416557	Henry Pirker	July 16, 2023	16:00	17:00	151.2	3.6	100
416557	Henry Pirker	July 16, 2023	17:00	18:00	141.3	5.3	119
416557	Henry Pirker	July 16, 2023	18:00	19:00	114.5	4.7	135
416557	Henry Pirker	July 16, 2023	19:00	20:00	125.0	5.4	317
416557	Henry Pirker	July 16, 2023	20:00	21:00	116.0	10.6	329
416950	Henry Pirker	July 20, 2023	21:00	22:00	82.6	5.1	68
416950	Henry Pirker	July 20, 2023	22:00	23:00	81.2	6.1	79
416950	Henry Pirker	July 21, 2023	23:00	00:00	81.2	6.1	81
416950	Henry Pirker	July 21, 2023	00:00	01:00	80.4	5.3	78
416950	Henry Pirker	July 21, 2023	01:00	02:00	80.1	3.3	75
416950	Henry Pirker	July 21, 2023	02:00	03:00	80.4	1.8	38
416556	Milner	July 12, 2023	16:00	17:00	93.8	3.9	238
416556	Milner	July 12, 2023	17:00	18:00	106.8	0.3	263
416556	Milner	July 12, 2023	18:00	19:00	98.0	0.3	329
416556	Milner	July 12, 2023	19:00	20:00	111.0	0.2	340
416556	Milner	July 12, 2023	20:00	21:00	109.1	0.2	336
416556	Milner	July 12, 2023	21:00	22:00	95.1	0.1	310
416556	Milner	July 12, 2023	22:00	23:00	102.2	1.5	270
416556	Milner	July 13, 2023	23:00	00:00	102.7	3.2	268
416556	Milner	July 13, 2023	00:00	01:00	102.5	3.0	276
416556	Milner	July 13, 2023	01:00	02:00	102.0	3.7	269
416556	Milner	July 13, 2023	02:00	03:00	103.1	3.4	280
416556	Milner	July 13, 2023	03:00	04:00	100.5	2.5	269
416556	Milner	July 13, 2023	04:00	05:00	95.8	2.6	267
416556	Milner	July 13, 2023	05:00	06:00	89.2	3.9	273
416556	Milner	July 13, 2023	06:00	07:00	85.6	5.2	258
416556	Milner	July 13, 2023	07:00	08:00	84.1	4.7	246
416556	Milner	July 13, 2023	08:00	09:00	84.0	3.8	233
416556	Milner	July 13, 2023	09:00	10:00	80.9	7.3	242
416556	Milner	July 13, 2023	10:00	11:00	87.0	3.1	213
416556	Milner	July 13, 2023	11:00	12:00	87.8	3.0	210
416556	Milner	July 13, 2023	12:00	13:00	82.0	0.9	144
416556	Milner	July 15, 2023	15:00	16:00	103.9	5.4	285

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416556	Milner	July 15, 2023	16:00	17:00	123.2	3.1	356
416556	Milner	July 15, 2023	17:00	18:00	126.1	0.6	3
416556	Milner	July 15, 2023	18:00	19:00	114.1	0.2	84
416556	Milner	July 15, 2023	19:00	20:00	110.5	0.1	351
416556	Milner	July 15, 2023	20:00	21:00	108.6	0.4	333
416556	Milner	July 15, 2023	21:00	22:00	108.3	1.2	5
416556	Milner	July 15, 2023	22:00	23:00	94.0	3.0	271
416556	Milner	July 16, 2023	23:00	00:00	80.0	0.8	282
416949	Milner	July 20, 2023	05:00	06:00	84.0	2.1	263
416555	Poplar	July 10, 2023	10:00	11:00	100.4	8.2	322
416555	Poplar	July 10, 2023	11:00	12:00	172.5	7.9	310
416555	Poplar	July 10, 2023	12:00	13:00	202.1	8.1	308
416555	Poplar	July 10, 2023	13:00	14:00	173.7	8.2	296
416555	Poplar	July 10, 2023	14:00	15:00	166.9	8.5	260
416555	Poplar	July 10, 2023	15:00	16:00	155.0	12.7	288
416555	Poplar	July 10, 2023	16:00	17:00	147.5	9.5	284
416555	Poplar	July 10, 2023	17:00	18:00	136.7	8.5	271
416555	Poplar	July 10, 2023	18:00	19:00	134.5	8.2	235
416555	Poplar	July 10, 2023	19:00	20:00	120.0	12.3	229
416555	Poplar	July 12, 2023	17:00	18:00	132.5	15.6	335
416555	Poplar	July 12, 2023	18:00	19:00	163.5	10.6	347
416555	Poplar	July 12, 2023	19:00	20:00	131.2	3.2	290
416555	Poplar	July 12, 2023	20:00	21:00	126.8	4.9	271
416555	Poplar	July 12, 2023	21:00	22:00	126.4	4.8	307
416555	Poplar	July 12, 2023	22:00	23:00	131.1	7.0	310
416555	Poplar	July 13, 2023	23:00	00:00	128.5	8.0	307
416555	Poplar	July 13, 2023	00:00	01:00	127.7	10.3	307
416555	Poplar	July 13, 2023	01:00	02:00	124.8	10.2	305
416555	Poplar	July 13, 2023	02:00	03:00	128.7	10.6	300
416555	Poplar	July 13, 2023	03:00	04:00	135.9	10.5	294
416555	Poplar	July 13, 2023	04:00	05:00	140.9	12.5	294
416555	Poplar	July 13, 2023	05:00	06:00	113.4	14.3	312
416555	Poplar	July 15, 2023	17:00	18:00	165.3	9.6	256
416555	Poplar	July 15, 2023	18:00	19:00	185.4	5.5	247
416555	Poplar	July 15, 2023	19:00	20:00	169.2	6.3	277
416555	Poplar	July 15, 2023	20:00	21:00	166.5	6.0	298
416555	Poplar	July 15, 2023	21:00	22:00	159.5	4.0	310
416555	Poplar	July 15, 2023	22:00	23:00	152.1	5.2	289
416555	Poplar	July 16, 2023	23:00	00:00	144.1	1.1	277
416555	Poplar	July 16, 2023	00:00	01:00	145.6	2.4	30
416555	Poplar	July 16, 2023	01:00	02:00	129.0	3.6	312
416555	Poplar	July 16, 2023	02:00	03:00	124.5	4.5	309
416555	Poplar	July 16, 2023	03:00	04:00	132.4	5.6	330
416555	Poplar	July 16, 2023	04:00	05:00	125.6	4.0	333
416555	Poplar	July 16, 2023	05:00	06:00	130.8	5.8	333
416555	Poplar	July 16, 2023	06:00	07:00	115.4	1.1	266
416555	Poplar	July 16, 2023	07:00	08:00	130.8	1.7	81
416555	Poplar	July 16, 2023	08:00	09:00	120.0	1.9	255
416555	Poplar	July 16, 2023	09:00	10:00	108.6	4.2	267
416555	Poplar	July 16, 2023	10:00	11:00	110.4	3.8	317
416555	Poplar	July 16, 2023	11:00	12:00	113.5	0.8	277
416555	Poplar	July 16, 2023	12:00	13:00	120.4	1.4	242
416555	Poplar	July 16, 2023	13:00	14:00	128.9	1.5	277
416555	Poplar	July 16, 2023	14:00	15:00	131.2	1.8	160

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416555	Poplar	July 16, 2023	15:00	16:00	129.5	3.9	89
416555	Poplar	July 16, 2023	16:00	17:00	129.6	7.9	145
416555	Poplar	July 16, 2023	17:00	18:00	110.0	11.7	133
416555	Poplar	July 16, 2023	18:00	19:00	128.7	6.9	130
416555	Poplar	July 16, 2023	19:00	20:00	91.8	16.9	307
416953	Poplar	July 20, 2023	19:00	20:00	89.1	6.8	107
416953	Poplar	July 20, 2023	21:00	22:00	80.9	12.8	91
416953	Poplar	July 21, 2023	06:00	07:00	93.2	7.4	300
416953	Poplar	July 21, 2023	07:00	08:00	98.8	5.3	337
416554	Smoky Heights	July 10, 2023	10:00	11:00	204.8	13.7	276
416554	Smoky Heights	July 10, 2023	11:00	12:00	186.0	14.5	267
416554	Smoky Heights	July 10, 2023	12:00	13:00	140.0	13.9	259
416554	Smoky Heights	July 10, 2023	13:00	14:00	94.0	9.9	264
416554	Smoky Heights	July 10, 2023	14:00	15:00	98.2	5.3	303
416554	Smoky Heights	July 10, 2023	15:00	16:00	108.4	4.6	294
416554	Smoky Heights	July 10, 2023	16:00	17:00	99.0	3.3	12
416554	Smoky Heights	July 10, 2023	17:00	18:00	100.5	0.2	49
416554	Smoky Heights	July 10, 2023	18:00	19:00	97.7	1.9	36
416554	Smoky Heights	July 12, 2023	20:00	21:00	119.6	8.4	309
416554	Smoky Heights	July 12, 2023	21:00	22:00	86.1	5.0	327
416554	Smoky Heights	July 12, 2023	22:00	23:00	119.3	4.3	339
416554	Smoky Heights	July 13, 2023	23:00	00:00	114.3	6.9	294
416554	Smoky Heights	July 13, 2023	00:00	01:00	115.3	6.7	288
416554	Smoky Heights	July 13, 2023	01:00	02:00	107.2	5.4	317
416554	Smoky Heights	July 13, 2023	02:00	03:00	116.6	3.9	79
416554	Smoky Heights	July 13, 2023	03:00	04:00	112.3	3.8	10
416554	Smoky Heights	July 13, 2023	04:00	05:00	115.4	4.4	324
416554	Smoky Heights	July 13, 2023	05:00	06:00	100.8	2.7	203
416554	Smoky Heights	July 13, 2023	06:00	07:00	87.1	3.5	243
416554	Smoky Heights	July 13, 2023	14:00	15:00	100.1	6.1	344
416554	Smoky Heights	July 13, 2023	15:00	16:00	131.6	6.7	323
416554	Smoky Heights	July 13, 2023	16:00	17:00	144.1	5.3	316
416554	Smoky Heights	July 13, 2023	17:00	18:00	148.9	4.3	314
416554	Smoky Heights	July 13, 2023	18:00	19:00	146.2	4.7	290
416554	Smoky Heights	July 13, 2023	19:00	20:00	142.5	5.7	296
416554	Smoky Heights	July 13, 2023	20:00	21:00	140.1	3.0	214
416554	Smoky Heights	July 13, 2023	21:00	22:00	121.3	8.0	252
416554	Smoky Heights	July 15, 2023	14:00	15:00	80.5	6.1	256
416554	Smoky Heights	July 15, 2023	16:00	17:00	91.7	4.8	279
416554	Smoky Heights	July 15, 2023	19:00	20:00	122.6	7.1	243
416554	Smoky Heights	July 15, 2023	20:00	21:00	119.8	2.9	226
416554	Smoky Heights	July 15, 2023	21:00	22:00	115.8	7.2	229
416554	Smoky Heights	July 15, 2023	22:00	23:00	128.0	1.6	39
416554	Smoky Heights	July 16, 2023	23:00	00:00	107.6	6.4	106
416554	Smoky Heights	July 16, 2023	00:00	01:00	119.9	4.7	180
416554	Smoky Heights	July 16, 2023	01:00	02:00	116.8	5.6	241
416554	Smoky Heights	July 16, 2023	02:00	03:00	113.1	1.9	204
416554	Smoky Heights	July 16, 2023	03:00	04:00	112.8	3.2	216
416554	Smoky Heights	July 16, 2023	04:00	05:00	110.3	4.6	235
416554	Smoky Heights	July 16, 2023	05:00	06:00	107.5	1.8	168
416554	Smoky Heights	July 16, 2023	06:00	07:00	101.0	2.8	213
416554	Smoky Heights	July 16, 2023	07:00	08:00	90.5	6.5	199
416554	Smoky Heights	July 16, 2023	08:00	09:00	97.1	5.9	169
416554	Smoky Heights	July 16, 2023	09:00	10:00	97.8	5.6	174

Reference Number	Site	Date	From MST	To MST	Average (µg/m³)	WS km/hr	WD degrees
416554	Smoky Heights	July 16, 2023	10:00	11:00	118.0	3.9	213
416554	Smoky Heights	July 16, 2023	11:00	12:00	119.6	2.0	138
416554	Smoky Heights	July 16, 2023	12:00	13:00	111.7	8.7	120
416554	Smoky Heights	July 16, 2023	13:00	14:00	108.4	7.6	115
416554	Smoky Heights	July 16, 2023	14:00	15:00	104.4	9.2	99
416554	Smoky Heights	July 16, 2023	15:00	16:00	99.4	7.9	84
416554	Smoky Heights	July 16, 2023	16:00	17:00	121.3	6.8	96
416554	Smoky Heights	July 16, 2023	17:00	18:00	83.4	4.5	57

24-hr readings above the daily $PM_{2.5}$ AAAQO (29 µg/m³) as:

Reference Number	Site	Date	Day average (µg/m³)	WS km/hr	WD degrees
416559	Beaverlodge	July 10, 2023	72.5	7.1	27
416559	Beaverlodge	July 12, 2023	92.9	6.5	284
416559	Beaverlodge	July 13, 2023	61.5	8.2	325
416559	Beaverlodge	July 15, 2023	92.4	3.9	224
416559	Beaverlodge	July 16, 2023	98.3	5.8	10
416952	Beaverlodge	July 20, 2023	167.5	5.6	97
416952	Beaverlodge	July 21, 2023	138.0	10.9	58
416952	Beaverlodge	July 22, 2023	72.7	6.5	219
417317	Beaverlodge	July 24, 2023	40.5	6.4	344
417317	Beaverlodge	July 27, 2023	46.4	11.5	47
416558	Dunes	July 10, 2023	67.4	3.2	231
416558	Dunes	July 11, 2023	47.6	1.9	212
416558	Dunes	July 12, 2023	93.9	3.1	256
416558	Dunes	July 14, 2023	32.5	2.1	242
416558	Dunes	July 15, 2023	72.8	1.9	230
416558	Dunes	July 16, 2023	105.8	2.4	192
416951	Dunes	July 20, 2023	50.2	1.6	98
416951	Dunes	July 21, 2023	45.1	3.3	39
418201	Henry Pirker	July 6, 2023	33.0	3.6	357
416557	Henry Pirker	July 10, 2023	73.5	5.1	229
416557	Henry Pirker	July 11, 2023	67.8	3.4	191
416557	Henry Pirker	July 12, 2023	126.2	6.2	267
416557	Henry Pirker	July 13, 2023	97.7	5.0	265
416557	Henry Pirker	July 14, 2023	50.1	4.9	245
416557	Henry Pirker	July 15, 2023	99.5	3.5	230
416557	Henry Pirker	July 16, 2023	145.7	3.8	259
416950	Henry Pirker	July 17, 2023	34.3	8.1	249
416950	Henry Pirker	July 20, 2023	67.8	3.6	83
416950	Henry Pirker	July 21, 2023	56.7	6.1	47
416556	Milner	July 12, 2023	64.1	3.5	248
416556	Milner	July 13, 2023	67.0	3.6	253
416556	Milner	July 15, 2023	74.3	2.0	262
416556	Milner	July 16, 2023	46.0	3.6	264
416949	Milner	July 19, 2023	37.6	2.7	228
416949	Milner	July 20, 2023	32.0	1.5	211
416555	Poplar	June 10, 2023	77.6	8.9	281
416555	Poplar	June 11, 2023	42.5	4.5	231

Reference Number	Site	Date	Day average (µg/m³)	WS km/hr	WD degrees
416555	Poplar	June 12, 2023	82.3	9.5	296
416555	Poplar	June 13, 2023	70.3	9.9	306
416555	Poplar	June 14, 2023	33.8	8.5	290
416555	Poplar	June 15, 2023	82.7	6.1	287
416555	Poplar	June 16, 2023	106.2	6.0	316
416953	Poplar	June 20, 2023	60.0	6.5	107
416953	Poplar	June 21, 2023	59.2	10.4	69
418198	Smoky Heights	July 9, 2023	31.0	9.9	225
416554	Smoky Heights	July 10, 2023	63.6	7.5	245
416554	Smoky Heights	July 11, 2023	39.4	4.8	249
416554	Smoky Heights	July 12, 2023	66.4	5.1	294
416554	Smoky Heights	July 13, 2023	96.4	5.2	300
416554	Smoky Heights	July 14, 2023	43.2	4.2	202
416554	Smoky Heights	July 15, 2023	67.6	5.1	206
416554	Smoky Heights	July 16, 2023	93.5	6.5	191
416948	Smoky Heights	July 19, 2023	31.2	8.2	266
416948	Smoky Heights	July 20, 2023	63.1	4.1	59
416948	Smoky Heights	July 21, 2023	50.7	7.4	24

Operational times less than 90 percent:

Poplar CH_4/NMHC are not in operation.
Smoky Heights TRS was <90% (86.8%) due to analyzer issues (418199)
Valleyview H_2S was <75% (74.6%) due to analyzer issues (418202)
Milner $NO/NO_2/NO_X$ was <75% (67.7%) due to data removed (418627)
All other instruments were in operation >90% during the month.

Air Incidents

Wildfires resulted in elevated particulate and ozone throughout 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
- The following notes were recorded:
  - At Girouxville site 3 it was noted that sample was eaten by bird and duplicate noted sample eaten
  - The lab report also noted that Girouxville site 3 (both samples) were damaged but also noted Girouxville site 4 was also damaged

- There were 20 duplicates sampled in the month of July.
- Eight SO_2 duplicates located at Forth Creek, Pinto Creek, Fitzsimmons, Guy, Duvernay 2, Kakwa 2, Milner Pipeline, Jayar5 Camp
    - RPD ranging from 0% to 48% (no fails, Milner Pipeline was <0.1ppb)
- One O_3 duplicate located at Crooked Creek
    - RPD 1% (no fails)
- Seven NO_2 duplicates at Bay Tree, Wembley, Little Smoky, East Prairie, Kakwa 4, Milner Wanyandie, Jayar2 14-8
    - RPD ranging from 0% to 22% (no fails)
- Four H_2S duplicates, Girouxville 3, Duvernay 2, Kakwa 3, Jayar1 Plant
    - RPD 6% to 12% (no fails, Girouxville samples were damaged)

Dustfall Monitoring

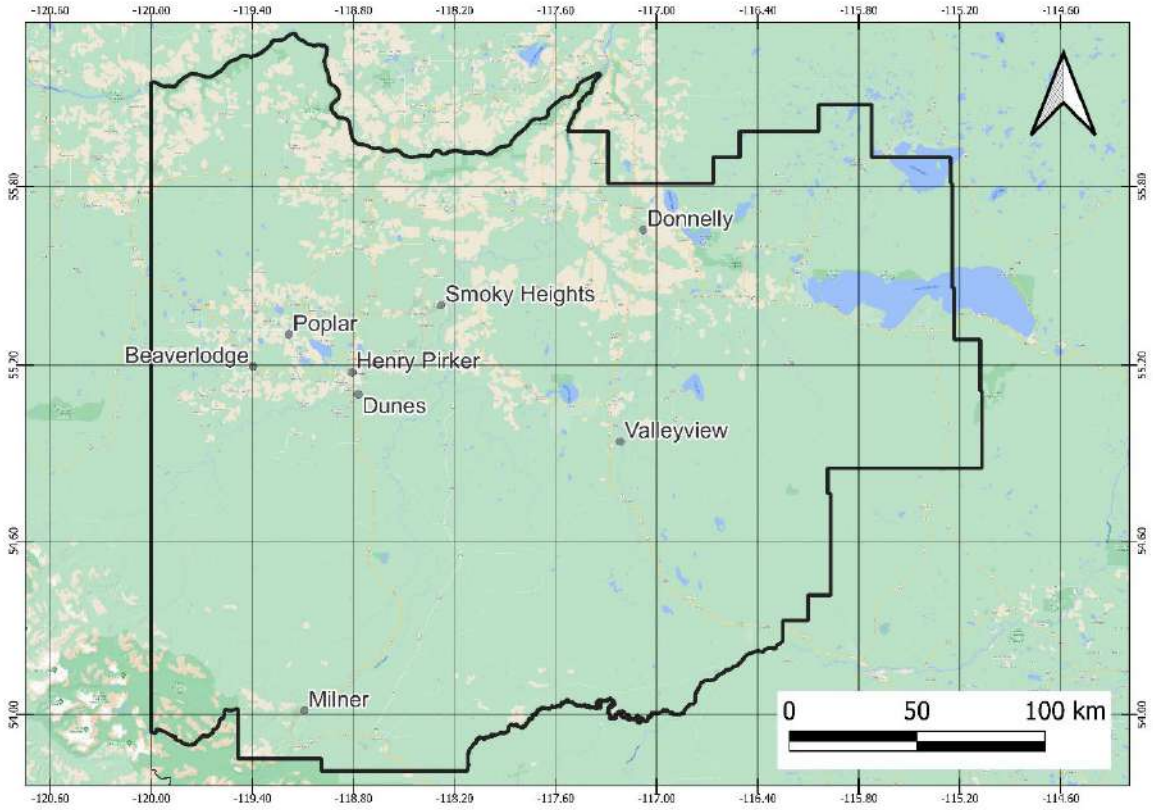
- Five Stations collected Total Dustfall and Fixed Dustfall
- There was one duplicate sampled collected for each in the month of July.
    - RPD ranged from 7% to 27%
- Total dustfall ranged from 32.1 to 98.8 mg/100cm²/30day.
- There were no readings above the AAAQG during the month.

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

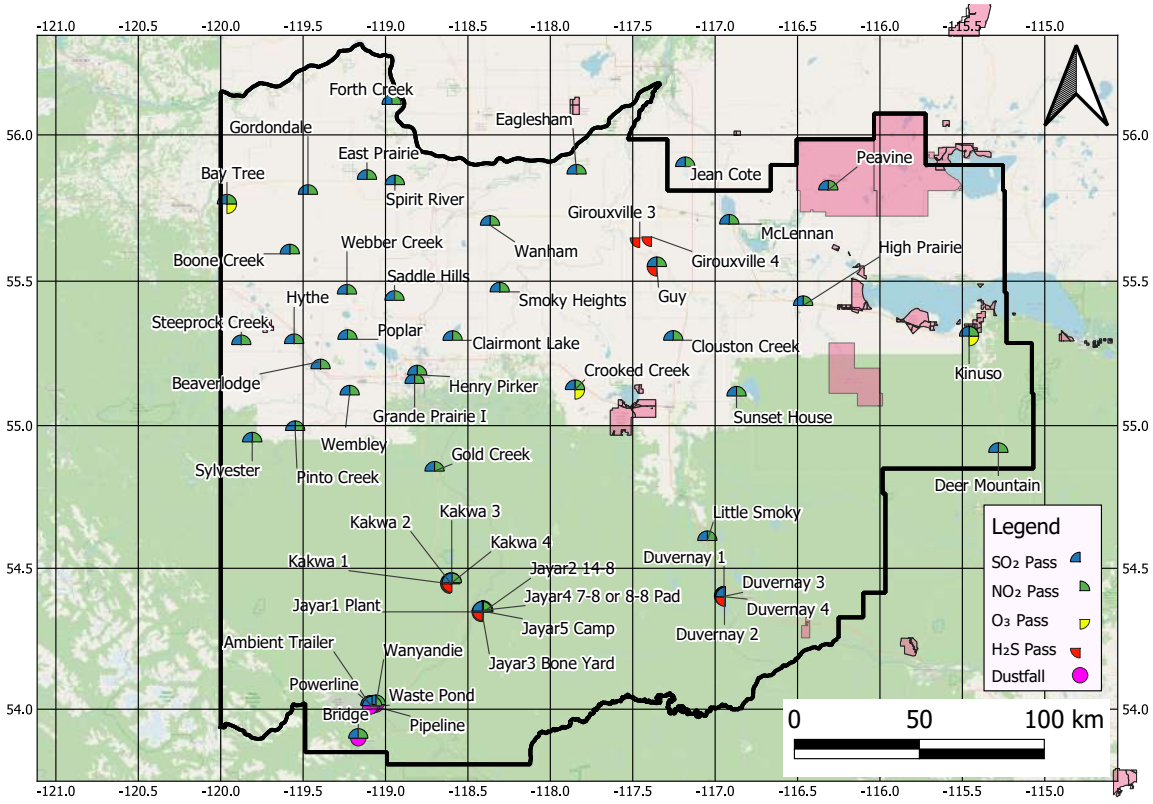
Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager

TABLE OF CONTENTS

PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 July Monthly Station Summaries

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

1.1 Beaverlodge Air Monitoring Station

PAZA - July 2023 Beaverlodge Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	0.4	0.0	94.8%	99.6%	18.6	-	Jul-05 07:00	1.5	-	Jul-05	-	-	-	-	Jul 05, 2023
NO_2 (ppb)	2.8	0.2	94.8%	99.6%	14.4	159	Jul-05 07:00	4.8	-	Jul-05	0	-	-	-	Jul 05, 2023
NO_x (ppb)	3.2	0.3	94.8%	99.6%	33.0	-	Jul-05 07:00	6.2	-	Jul-05	-	-	-	-	Jul 05, 2023
O_3 (ppb)	29.1	3.8	94.9%	99.3%	75.1	76	Jul-20 16:00	42.5	-	Jul-21	0	-	-	-	Jul 05, 2023
$PM_{2.5}$ (µg/m³)	40.8	0.4	94.1%	94.2%	304.4	80	Jul-20 15:00	167.5	29	Jul-20	106	-	10	-	Jul 04, 2023
SO_2 (ppb)	0.4	0.0	94.9%	99.6%	4.2	172	Jul-20 03:00	1.1	48	Jul-20	0	-	0	0	Jul 04, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	17.0	7.7	99.3%	99.6%	30.7
RH (%)	66.9	22.5	99.3%	99.6%	99.9
WS (km/hr)	8.8	0.1	92.6%	92.9%	36.4
WD (deg)	273	0.8	92.6%	92.9%	359.7

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 273 W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42i	July 30 power failure (3hrs)
O_3	Thermo	49iQ	July 30 power failure (3hrs); June 13&16 zero removed due to instability
$PM_{2.5}$	Sharp	5030	July 30 power failure (3hrs); Data flatlined (38hrs); maintenance (2hr); 106hrs above AAAQG + 10 days above AAAQO due to wildfires
SO_2	Thermo	43i-TLE	July 30 power failure (3hrs)
Met Equip	MetOne	50.5	July 30 power failure (3hrs)

1.2 Dunes Air Monitoring Station

PAZA - July 2023 Dunes Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
$PM_{2.5}$ (µg/m³)	25.8	0.0	97.0%	97.3%	226.3	80	Jul-10 17:00	105.8	29	Jul-16	52	-	8	-	Jul-10-2023
SO_2 (ppb)	0.5	0.0	95.4%	100.0%	12.6	172	Jul-13 05:00	1.8	48	Jul-13	0	-	0	0	Jul-10-2023
TRS (ppb)	0.4	0.0	91.0%	95.7%	2.2	-	Jul-28 06:00	0.6	-	Jul-28	-	-	-	-	Jul-09-2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	17.3	5.9	100.0%	100.0%	31.2
RH (%)	69.1	25.0	100.0%	100.0%	99.9
WS (km/hr)	3.2	0.1	100.0%	100.0%	10.0
WD (deg)	251	1.6	100.0%	100.0%	358.9

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 251 WSW

Update Summary:

Parameter	Make	Model	Equipment summary
$PM_{2.5}$	Thermo	TEOM AB	Data flatlined (19hrs); maintenenace (1hr); 52hrs above AAAQG + 8 days above AAAQO due to wildfires
SO_2	TECO	43i	No Operational issues noted
TRS	TECO	43C	Span failed July 9, data removed from last span to calibration on July 9th (32hrs removed)
Met Equip	Gil/RMYoung	MetPak/RMY86004	No Operational issues noted

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - July 2023 Henry Pirker Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	8-hour / 24-hour Max	8-hour / 24-hour Objective	8-hour / 24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	2.0	0.0	88.9%	93.7%	29.2	-	Jul-02 23:00	4.1	-	Jul-02	-	-	-	-	Jul 07, 2023
NO_2 (ppb)	5.7	0.8	88.9%	93.7%	21.4	159	Jul-12 22:00	10.4	-	Jul-13	0	-	-	-	Jul 07, 2023
NO_x (ppb)	7.8	1.1	88.9%	93.7%	40.5	-	Jul-05 07:00	13.4	-	Jul-13	-	-	-	-	Jul 07, 2023
O_3 (ppb)	27.3	1.1	95.3%	99.9%	65.7	76	Jul-22 17:00	42.8	-	Jul-22	0	-	-	-	Jul 07, 2023
$PM_{2.5}$ (µg/m³)	35.6	1.1	99.7%	100.0%	247.7	80	Jul-10 16:00	145.7	29	Jul-16	84	-	11	-	Jul 13, 2023
SO_2 (ppb)	0.4	0.0	94.2%	99.2%	5.2	172	Jul-14 12:00	1.0	48	Jul-15	0	-	0	0	Jul 07, 2023
H_2S (ppb)	0.2	0.0	89.0%	93.7%	2.6	10	Jul-02 23:00	0.4	3	Jul-24	0	-	0	-	Jul 13, 2023
CH_4 (ppm)	2.1	2.0	94.1%	98.8%	2.6	-	Jul-09 04:00	2.2	-	Jul-08	-	-	-	-	Jul 12, 2023
THC (ppm)	2.1	2.0	94.1%	98.8%	2.6	-	Jul-09 04:00	2.2	-	Jul-08	-	-	-	-	Jul 12, 2023
NMHC (ppm)	0.0	0.0	94.1%	98.8%	0.2	-	Jul-06 06:00	0.0	-	Jul-06	-	-	-	-	Jul 12, 2023
CO (ppm)	0.3	0.1	95.3%	100.0%	1.6	13	Jul-10 16:00	0.8	5	Jul-16	0	0	-	-	Jul 12, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	18.5	7.6	100.0%	100.0%	34.1
RH (%)	62.8	24.9	100.0%	100.0%	90.4
SR (W/m²)	176.3	0.0	100.0%	100.0%	730.7
WS (km/hr)	6.3	0.1	100.0%	100.0%	24.1
WD (deg)	255	2.5	100.0%	100.0%	353.0

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 255 WSW

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_X$	Thermo	42iQ	July 10 failed daily spans due to internal temp issues (47 hrs removed)
O_3	TECO	49i	July 10 zero removed, span was within limits
$PM_{2.5}$	API	T640	No Operational issues noted; 84 hrs above AAAQG + 11 days above AAAQO due to wildfires
SO_2	TEI	43i-TLE	Swap (s/n: 1170050145) with (s/n:1507864682), removal cal fail, data removed to valid span (6hrs removed)
H_2S	TEI	450i	July 10 failed daily spans due to internal temp issues (47 hrs removed)
$THC/CH_4/NMHC$	TEI	55i	July 9-10 excessive drifting due to internal temperature (9hrs removed)
CO	TEI	48i-TLE	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

1.4 Smoky Heights Air Monitoring Station

PAZA - July 2023 Smoky Heights Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
$PM_{2.5}$ (µg/m³)	27.6	1.2	98.5%	98.8%	204.8	80	Jul-10 11:00	96.4	29	Jul-13	53	-	11	-	Jul 11, 2023
SO_2 (ppb)	0.3	0.0	94.0%	98.7%	5.9	172	Jul-23 08:00	0.7	48	Jul-19	0	-	0	0	Jul 11, 2023
TRS (ppb)	-	0.0	82.4%	86.8%	1.3	-	Jul-09 05:00	0.4	-	Jul-09	-	-	-	-	Jul 11, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	17.3	5.9	98.8%	98.8%	31.6
WS (km/hr)	8.9	0.2	98.8%	98.8%	35.4
WD (deg)	254	0.8	98.8%	98.8%	359.5

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 254 WNW

Update Summary:

Parameter	Make	Model	Equipment summary
$PM_{2.5}$	Sharp	5030	Power failure (9hrs); 53hrs above AAAQG + 11 days above AAAQO due to wildfires
SO_2	TECO	43i	Power failure (9hrs); 1hr maintenance due to TRS
TRS	TEI	43i APSAA	Power failure (9hrs); 14hrs maint.; 75hrs removed due to failed spans and removal calibrations, <90%
Met Equip	MetOne	50.5	Power failure (9hrs)

1.5 Valleyview Air Monitoring Station

PAZA - July 2023 Valleyview Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
SO_2 (ppb)	0.1	0.0	91.1%	95.7%	0.6	172	Jul-09 10:00	0.2	48	Jul-10	0	-	0	0	Jul 12, 2023
H_2S (ppb)	-	0.0	70.5%	74.6%	9.9	10	Jul-08 22:00	0.8	3	Jul-08	0	-	0	-	Jul 18, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	17.4	6.1	100.0%	100.0%	31.8
RH (%)	76.7	29.9	100.0%	100.0%	100.2
WS (km/hr)	2.9	0.0	100.0%	100.0%	11.4
WD (deg)	259	1.8	100.0%	100.0%	359.4

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: 259 NW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	TEI	43i-APSCB	July 9 SO_2 span failed, resulting in data removed (32hrs); removal calibration to replace pump
H_2S	TEI	450i-APHAA / 43C	July 11, 12, 18 calibrations due to equipment issues, analyzer swapped on 18th, <90% uptime
Met Equip	RMYoung	RMY86004	No Operational issues noted

1.6 Donnelly Air Monitoring Station – Decommissioned for move

PAZA - July 2023 Donnelly Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
SO_2 (ppb)	-	0.0	7.5%	8.6%	0.3	172	Jul-02 01:00	0.1	48	Jul-02	0	-	0	0	Jul 03, 2023
H_2S (ppb)	-	0.0	7.5%	8.6%	0.3	10	Jul-02 06:00	0.1	3	Jul-02	0	-	0	-	Jul 03, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-	9.2	8.1%	8.6%	18.2
WS (km/hr)	-	2.5	8.1%	8.6%	25.0
WD (deg)	-	1.0	8.1%	8.6%	356.7

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: - WSW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	Teco	43i	Station was decommissioned July 3, 2023
H2S	Thermo	45C	Station was decommissioned July 3, 2023
Met Equip	RMYoung	5103	Station was decommissioned July 3, 2023

1.7 Poplar Air Monitoring Station

PAZA - July 2023 Poplar Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	0.7	0.0	94.6%	99.6%	12.6	-	Jul-28 08:00	2.3	-	Jul-28	-	-	-	-	Jul 03, 2023
NO_2 (ppb)	3.8	0.2	94.6%	99.6%	16.0	159	Jul-12 22:00	6.3	-	Jul-06	0	-	-	-	Jul 03, 2023
NO_x (ppb)	4.6	0.3	94.6%	99.6%	22.8	-	Jul-28 08:00	7.9	-	Jul-20	-	-	-	-	Jul 03, 2023
O_3 (ppb)	28.1	0.3	94.9%	99.6%	65.3	76	Jul-20 16:00	43.2	-	Jul-10	0	-	-	-	Jul 03, 2023
$PM_{2.5}$ (µg/m³)	27.5	0.0	91.7%	91.9%	202.1	80	Jul-10 13:00	106.2	29	Jul-16	54	-	9	-	Jul 25, 2023
SO_2 (ppb)	1.3	0.0	94.8%	99.6%	29.1	172	Jul-25 22:00	3.7	48	Jul-15	0	-	0	0	Jul 03, 2023
TRS (ppb)	0.1	0.0	89.3%	94.2%	2.1	-	Jul-05 09:00	0.2	-	Jul-12	-	-	-	-	Jul 14, 2023
CH4 (ppm)	removed Dec 12, 2022														
THC (ppm)	2.1	1.8	94.9%	99.6%	3.5	-	Jul-08 01:00	2.3	-	Jul-08	-	-	-	-	Jul 05, 2023
NMHC (ppm)	removed Dec 12, 2022														

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	16.3	3.6	99.6%	99.6%	31.4
WS (km/hr)	10.0	0.2	99.6%	99.6%	36.1
WD (deg)	284	0.3	99.6%	99.6%	358.6

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: 284 WNW

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_X$	TEI	42i	Power failure (3hrs)
O_3	TEI	49I	Power failure (3hrs)
$PM_{2.5}$	Thermo	TEOM AB	Power (3hrs); Maint. (3hrs); negative drift (54hrs); 54hrs above AAAQG + 9 days above AAAQO
SO_2	TEI	43I	Power failure (3hrs)
TRS	TEI	43I	Power failure (3hrs); removal cal July 5, scrubber swap; removal cal July 14 due to failed span, cal failed (data removed to July 13 span, 34hrs removed)
THC	TEI	55i / 51Ii-LT	CH4, NMHC not in service; Power failure (3hrs)
Met Equip	MetOne	50.5	Power failure (3hrs)

1.8 Milner Air Monitoring Station

PAZA - July 2023 Milner Station Report

Parameter	July Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	-	0.0	63.6%	67.8%	6.6	-	Jul-20 07:00	0.6	-	Jul-20	-	-	-	-	Jul 14, 2023
NO_2 (ppb)	-	0.0	63.6%	67.8%	6.8	159	Jul-05 02:00	1.0	-	Jul-01	0	-	-	-	Jul 14, 2023
NO_x (ppb)	-	0.0	63.6%	67.8%	8.2	-	Jul-17 08:00	1.2	-	Jul-01	-	-	-	-	Jul 14, 2023
$PM_{2.5}$ (µg/m³)	20.4	0.0	91.1%	91.5%	126.1	80	Jul-15 18:00	74.3	29	Jul-15	31	-	6	-	Jul 14, 2023

	Average	Minimum	Valid	Operational	Maximum
WS (km/hr)	4.4	0.0	100.0%	100.0%	22.1
WD (deg)	246	0.4	100.0%	100.0%	358.4

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

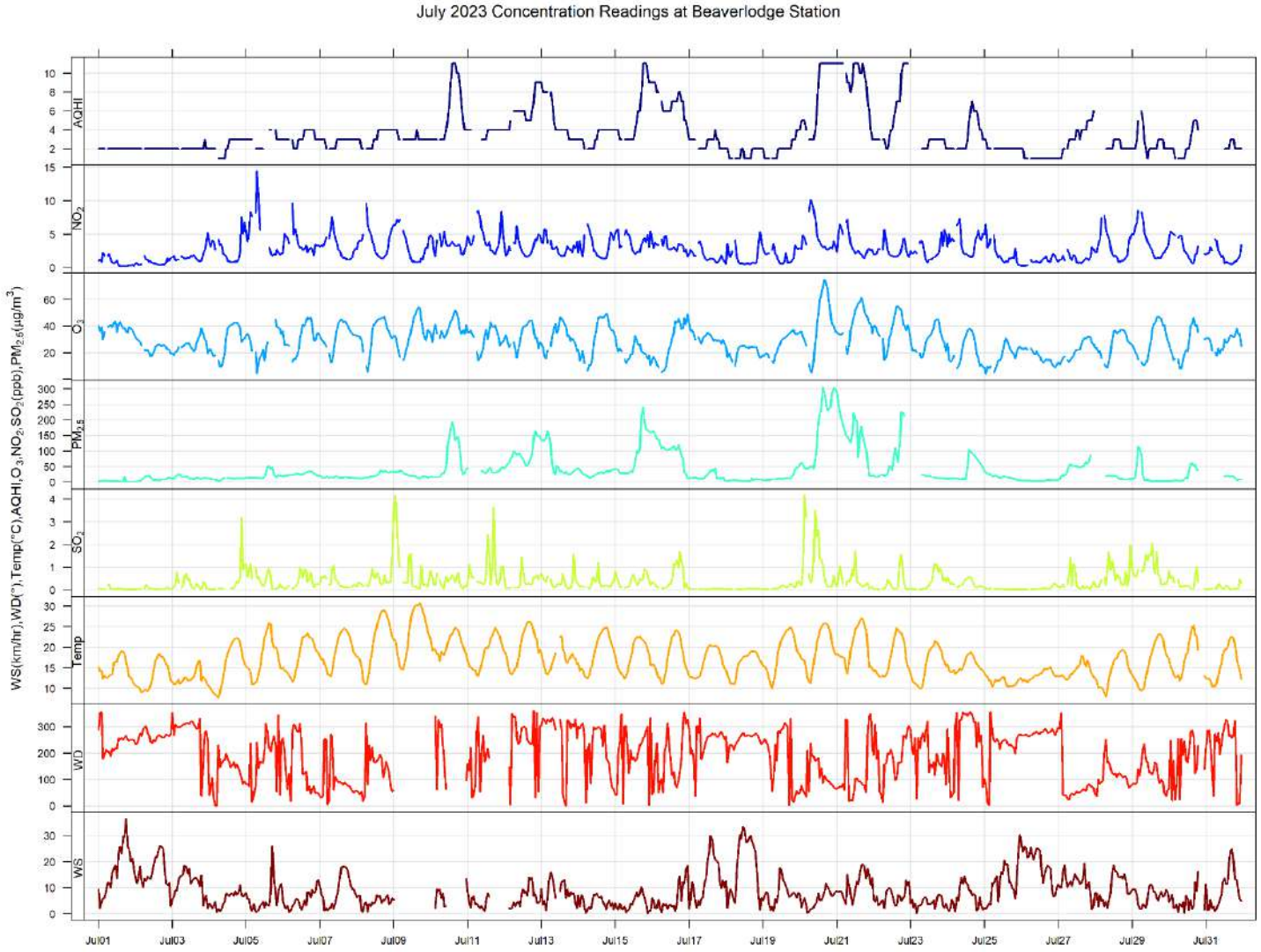
Average Wind Direction	246	WSW

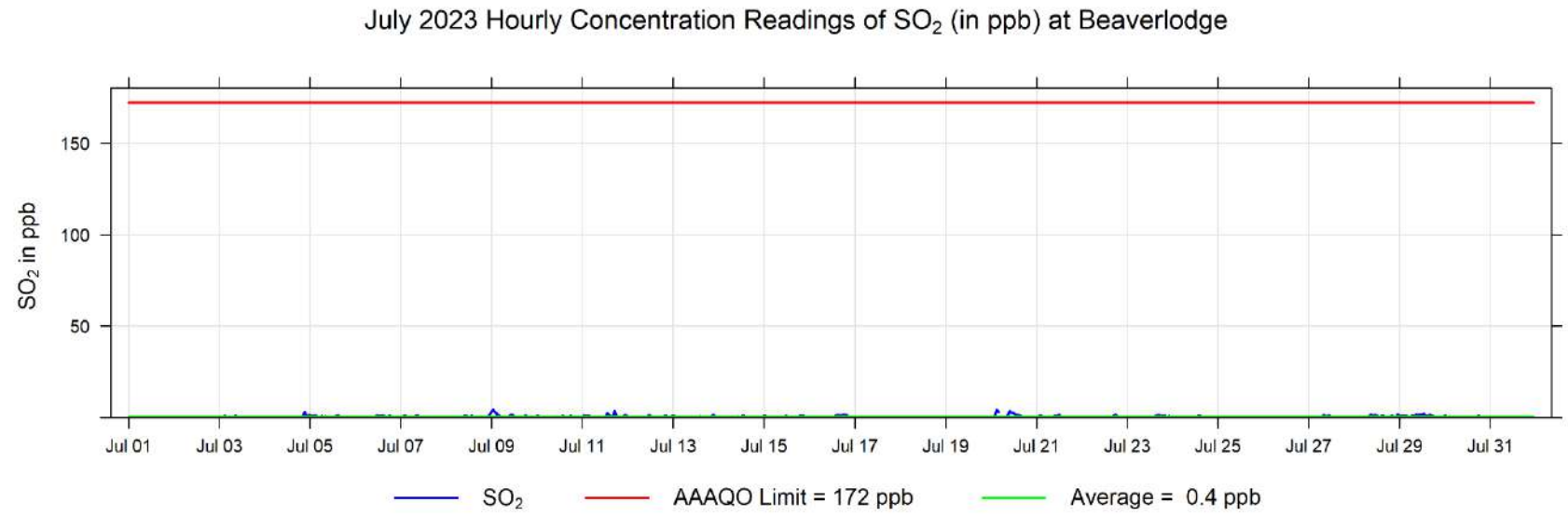
Update Summary:

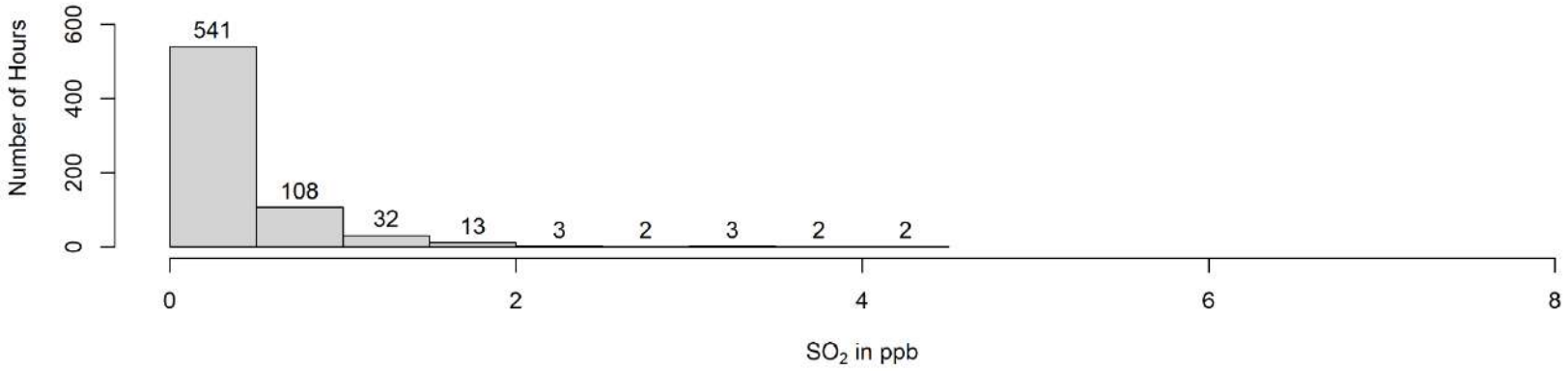
Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42i	Following calibration on July 14, double span each day, one set removed (17hrs); unstable data (5hrs); data was invalidated due to raised PM levels and filter contamination, <75% uptime (ref#418627)
$PM_{2.5}$	TEOM	AB	Excessive negative drift (63hrs); 31hrs above AAAQG + 6 days above AAAQO;
Met Equip	MetOne	50.5	No Operational issues noted

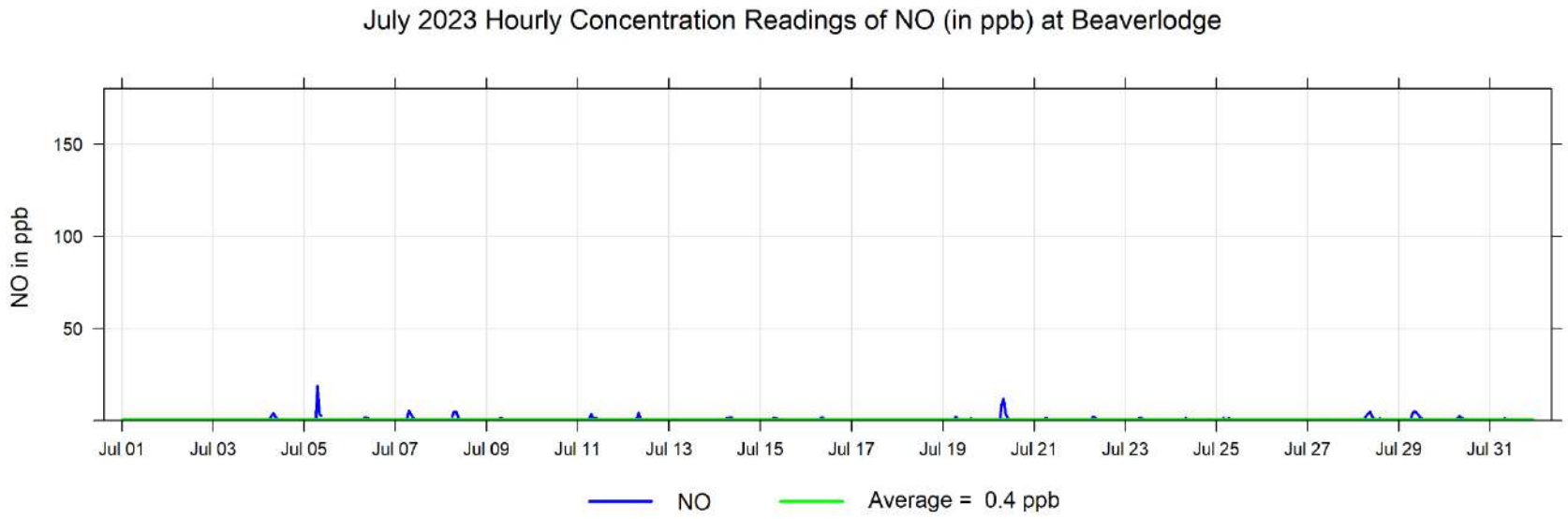
2 Beaverlodge Charts

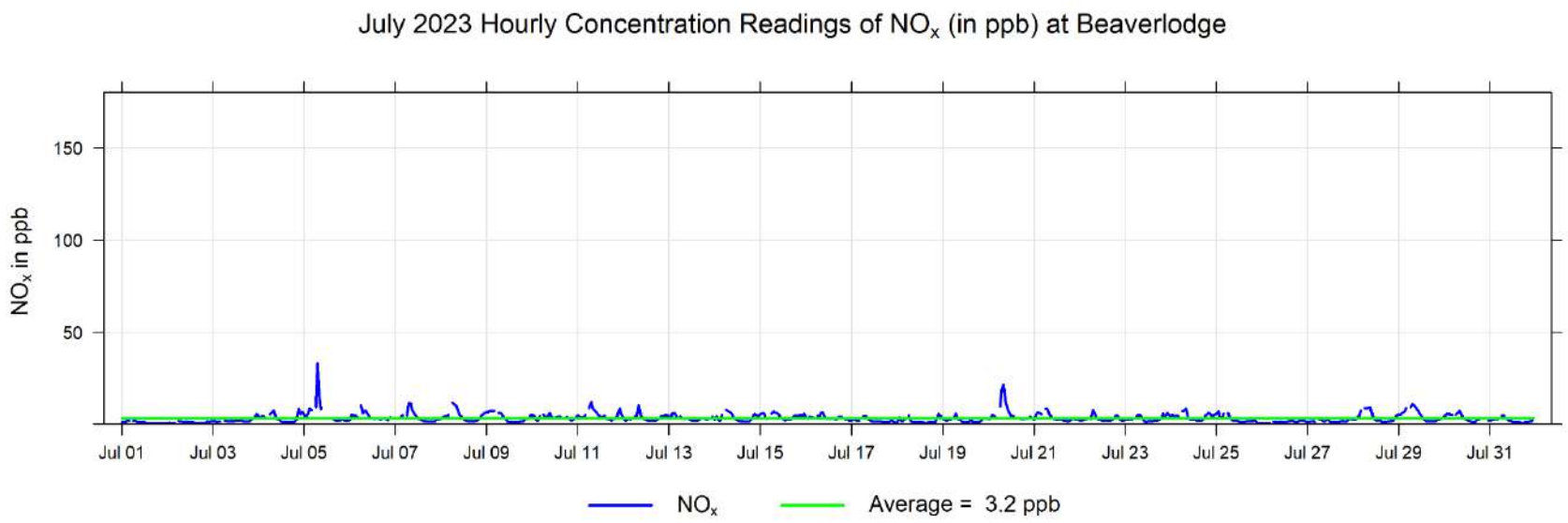
The following pages include the charts and histograms for Beaverlodge Station

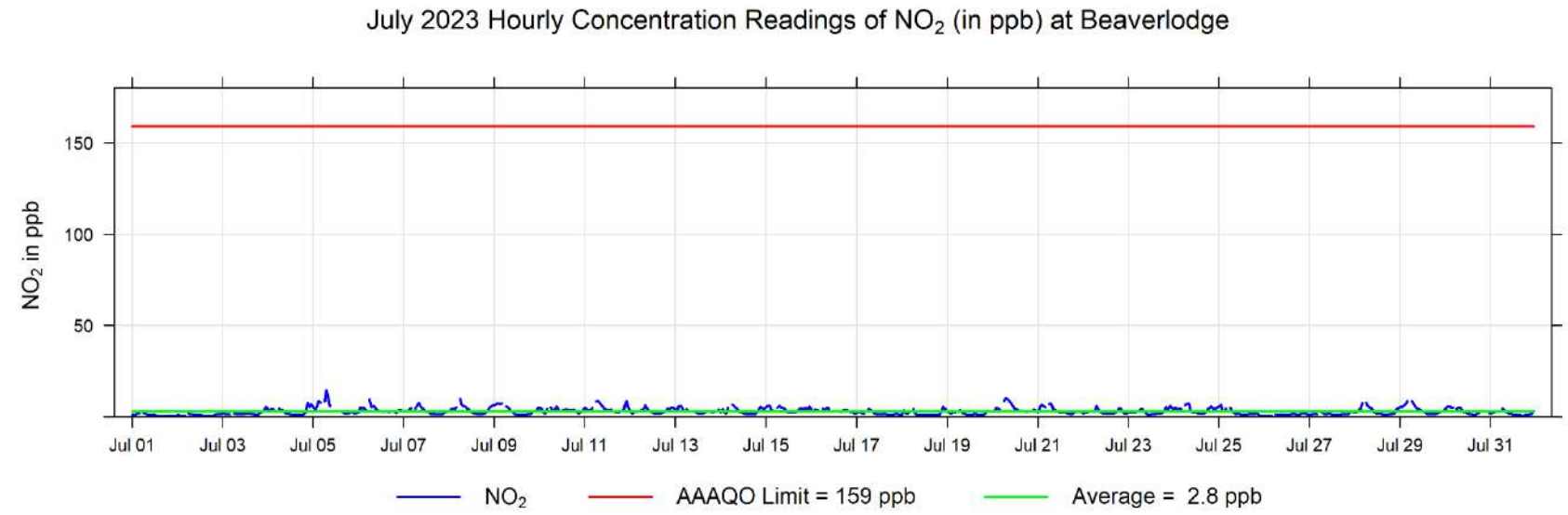


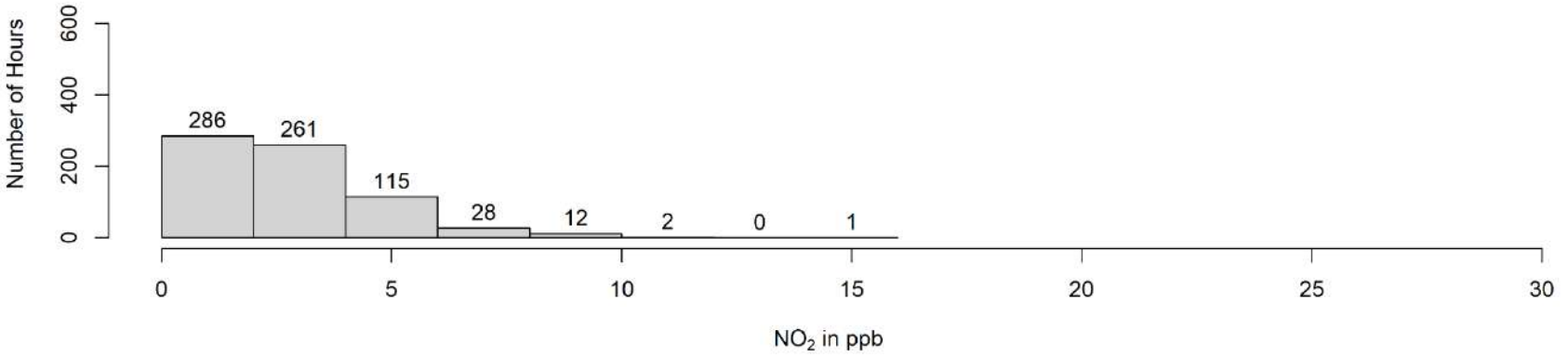

July 2023 Hourly Concentration Readings of SO_2 (in ppb) at Beaverlodge
SO_2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO_2
AAAQO Limit = 172 ppb
Average = 0.4 ppb

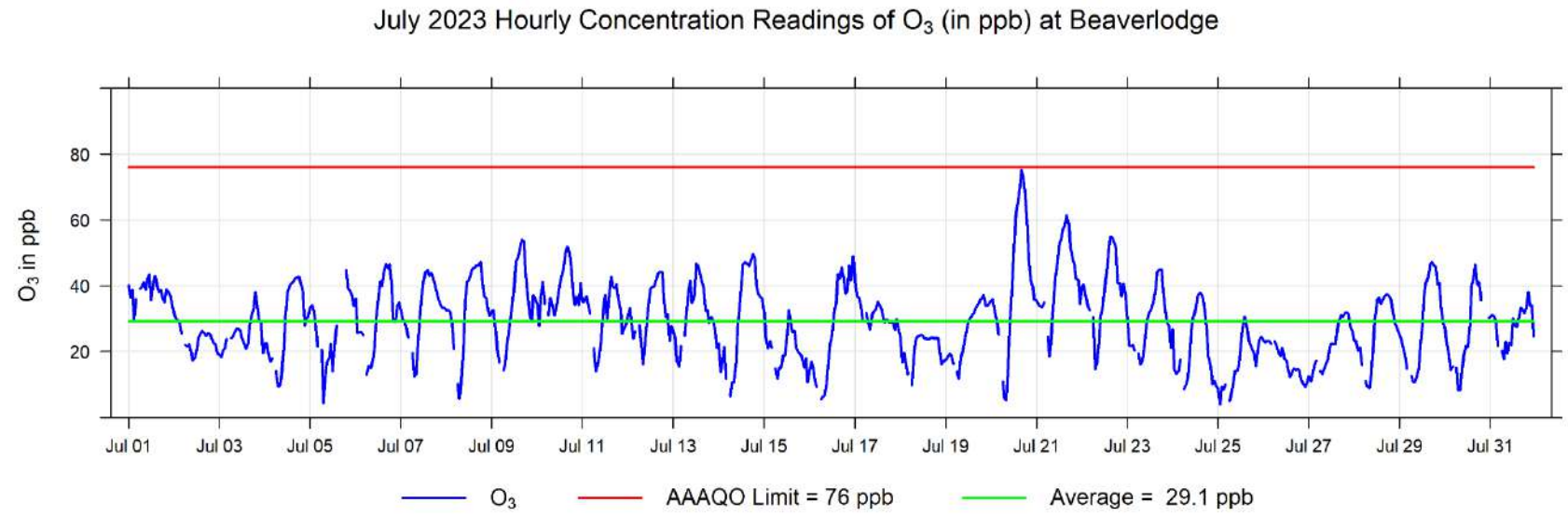

Number of Hours
0
200
400
600
541
108
32
13
3
2
3
2
2
0
2
4
6
8
SO_2 in ppb

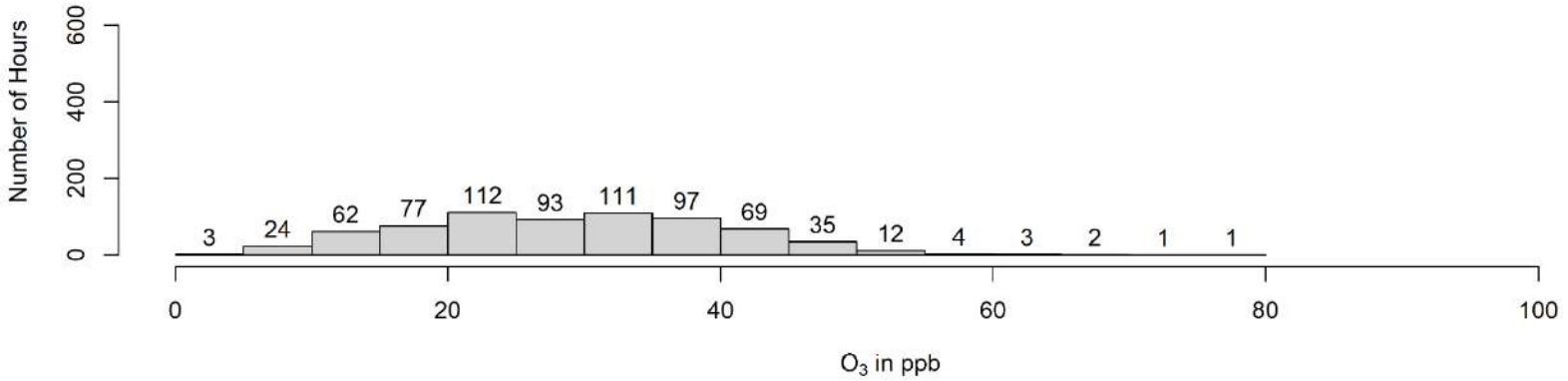

July 2023 Hourly Concentration Readings of NO (in ppb) at Beaverlodge
NO in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO
Average = 0.4 ppb

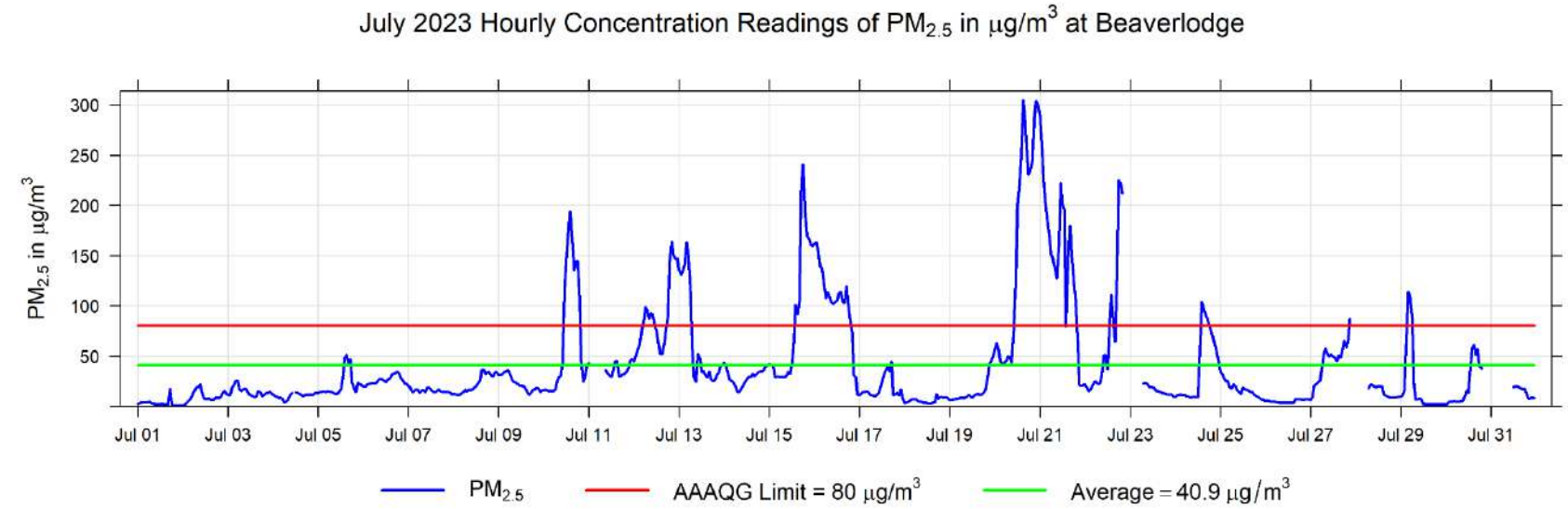

July 2023 Hourly Concentration Readings of NOx (in ppb) at Beaverlodge
NOx in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NOx
Average = 3.2 ppb

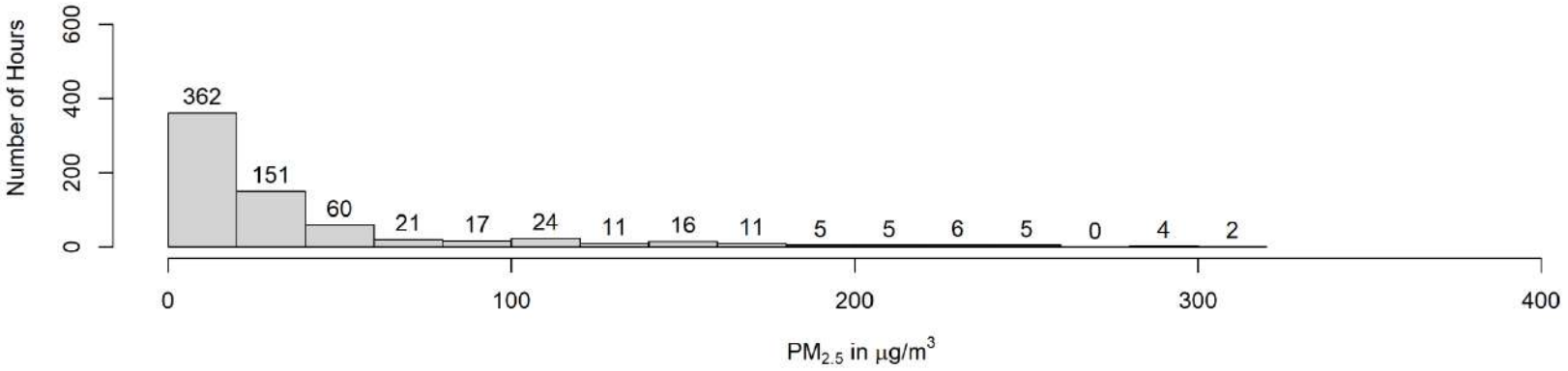

July 2023 Hourly Concentration Readings of NO2 (in ppb) at Beaverlodge
NO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO2
AAAQO Limit = 159 ppb
Average = 2.8 ppb


Number of Hours
0
200
400
600
286
261
115
28
12
2
0
1
0
5
10
15
20
25
30
NO2 in ppb

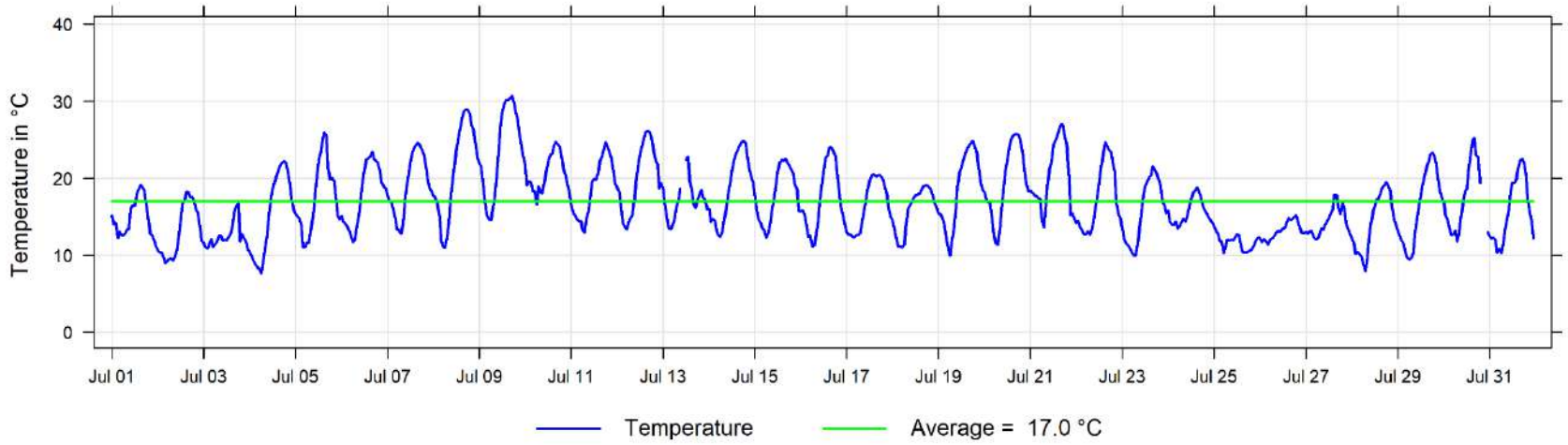

July 2023 Hourly Concentration Readings of O_3 (in ppb) at Beaverlodge
O_3 in ppb
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
O_3
AAAQO Limit = 76 ppb
Average = 29.1 ppb


Number of Hours
0
200
400
600
3
24
62
77
112
93
111
97
69
35
12
4
3
2
1
1
0
20
40
60
80
100
O_3 in ppb

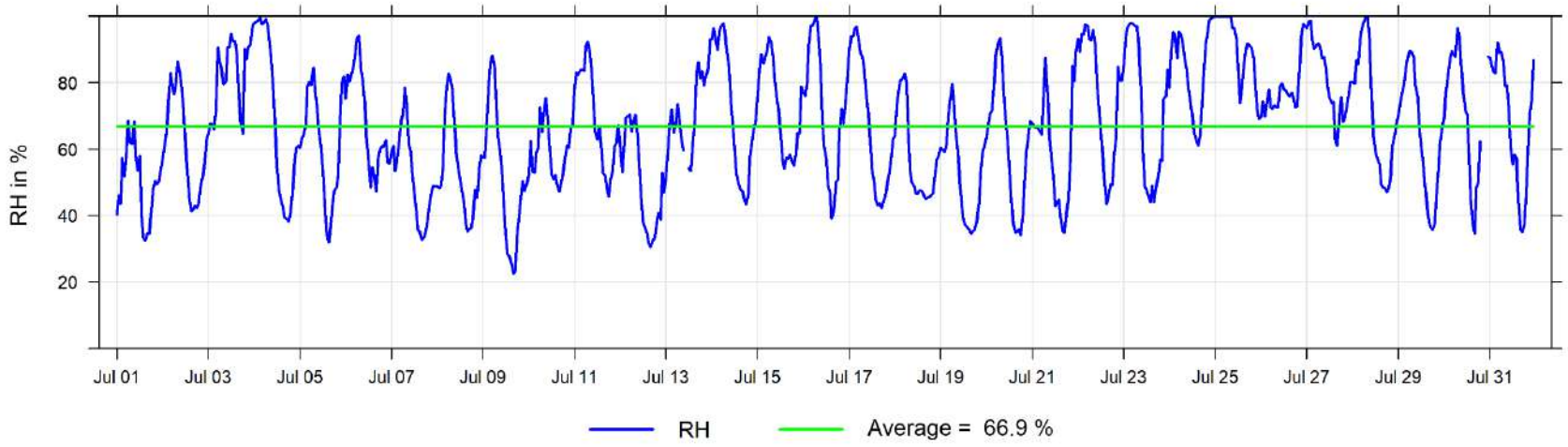

July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Beaverlodge
PM2.5 in µg/m3
300
250
200
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 40.9 µg/m3

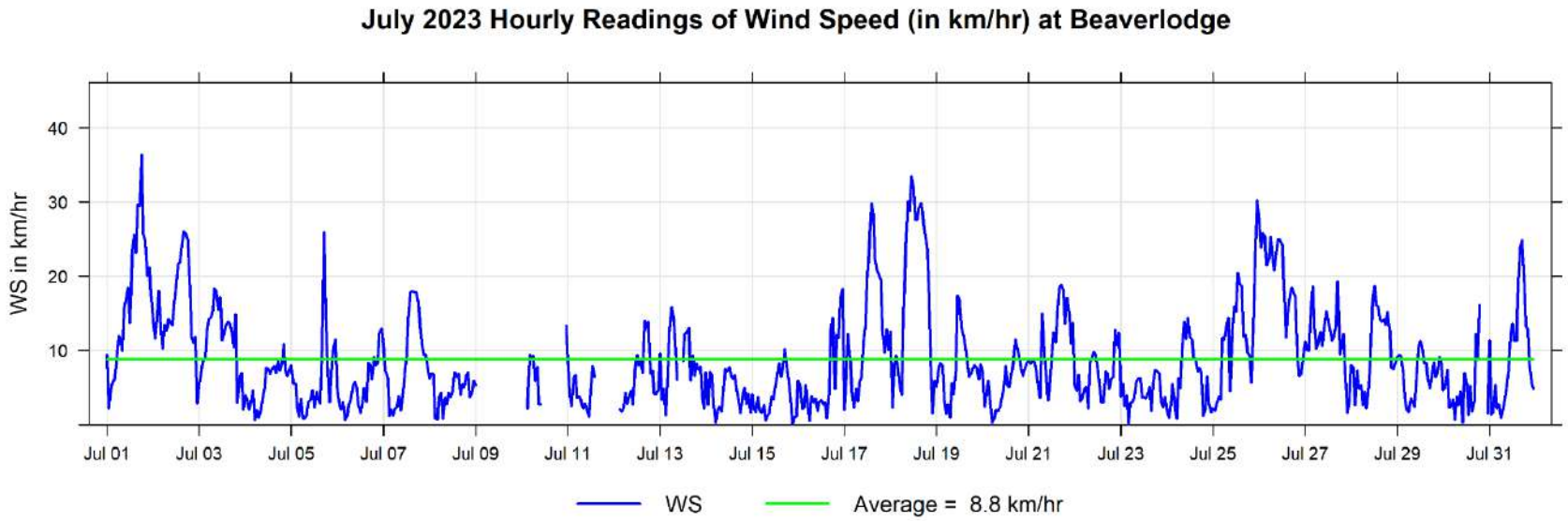

Number of Hours
0
200
400
600
362
151
60
21
17
24
11
16
11
5
5
6
5
0
4
2
0
100
200
300
400
PM2.5 in µg/m3

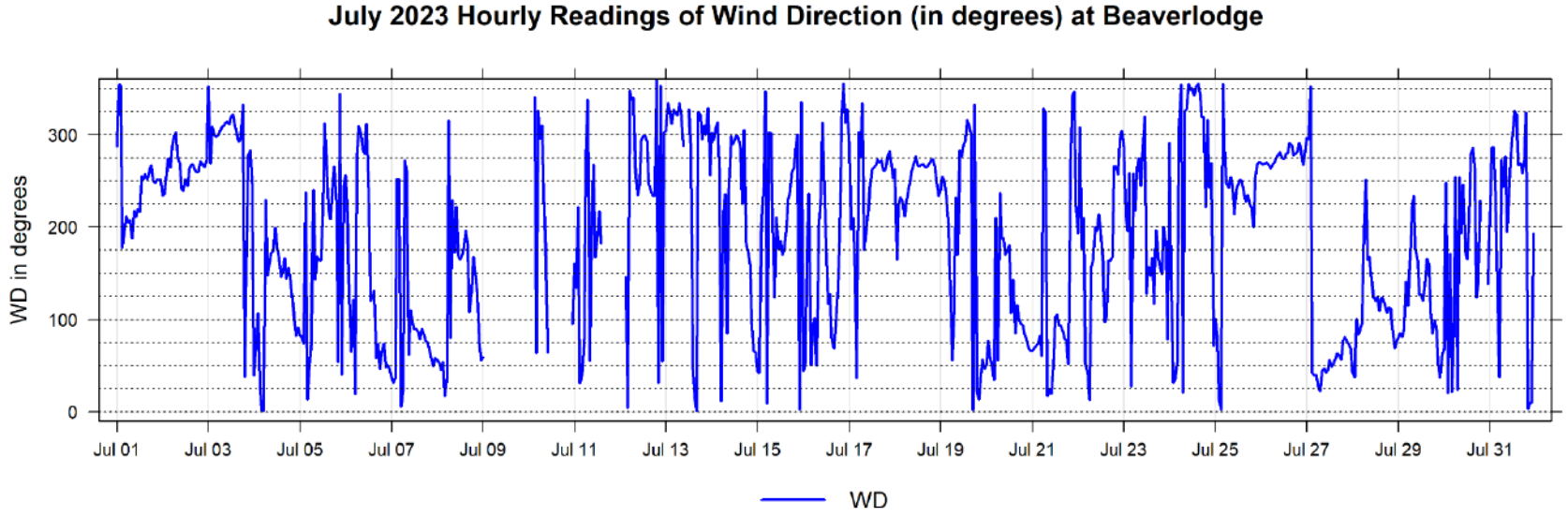
July 2023 Hourly Temperature Readings (in °C) at Beaverlodge

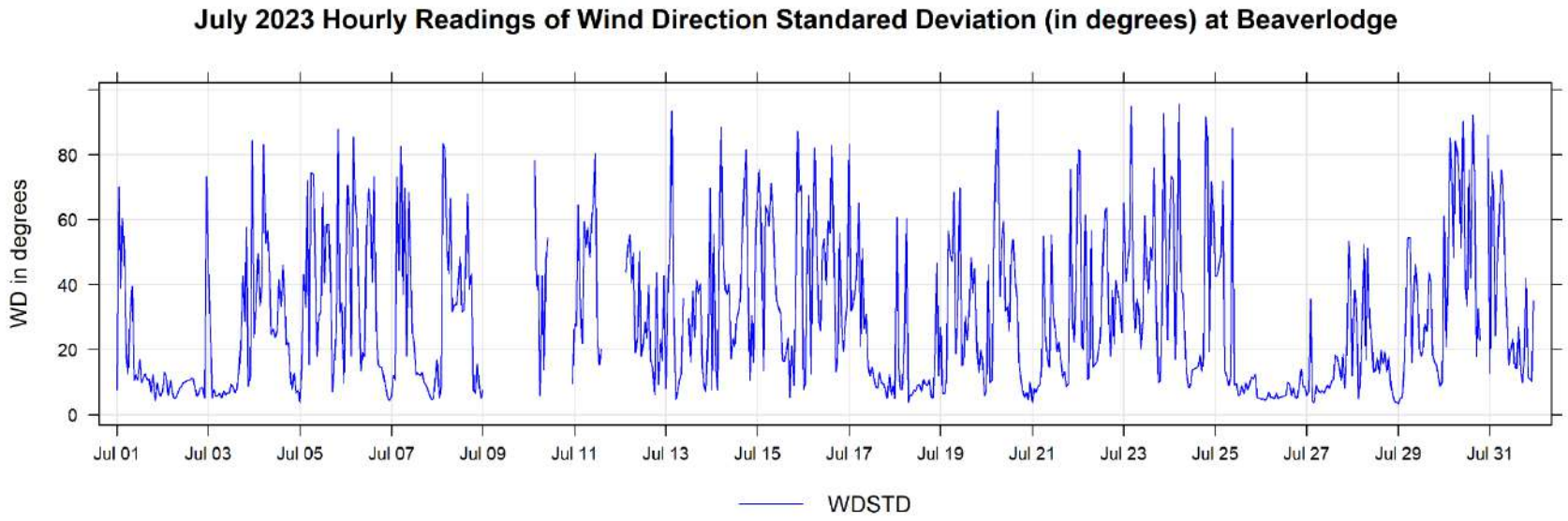


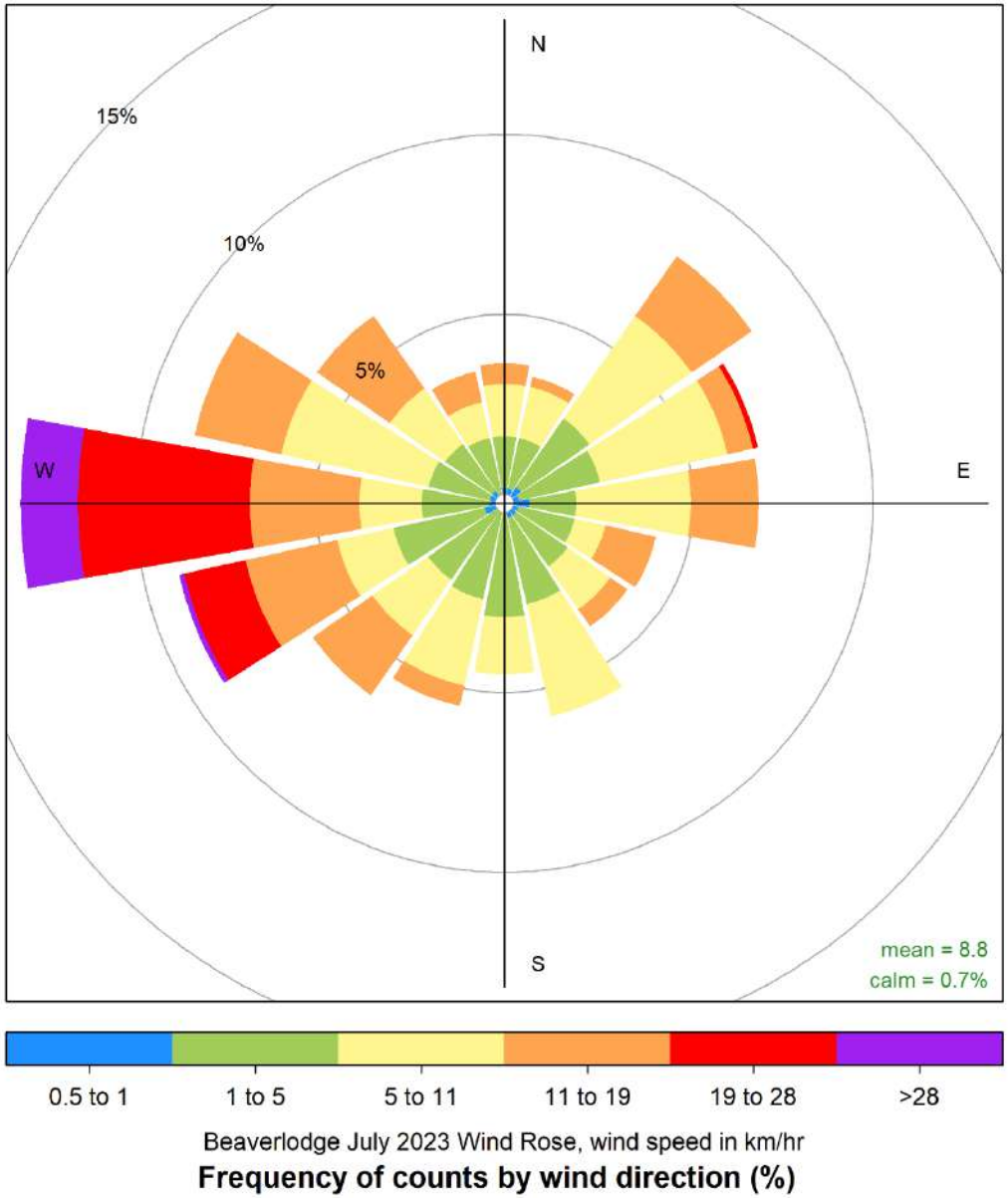
July 2023 Hourly Readings of Relative Humidity (in %) at Beaverlodge




July 2023 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge
WS in km/hr
40
30
20
10
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 8.8 km/hr


July 2023 Hourly Readings of Wind Direction (in degrees) at Beaverlodge
WD in degrees
300
200
100
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WD


July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Beaverlodge
WD in degrees
0
20
40
60
80
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WDSTD

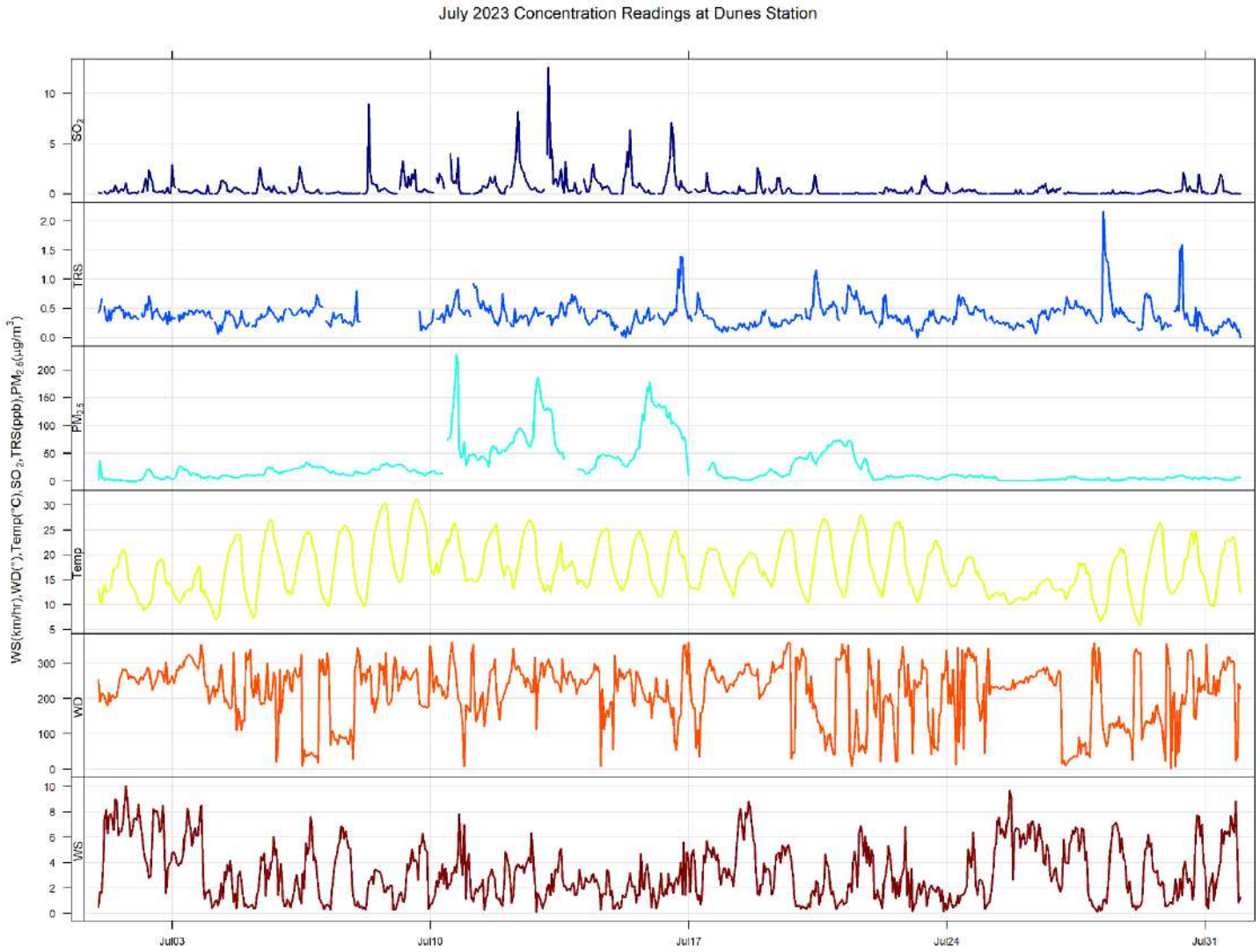


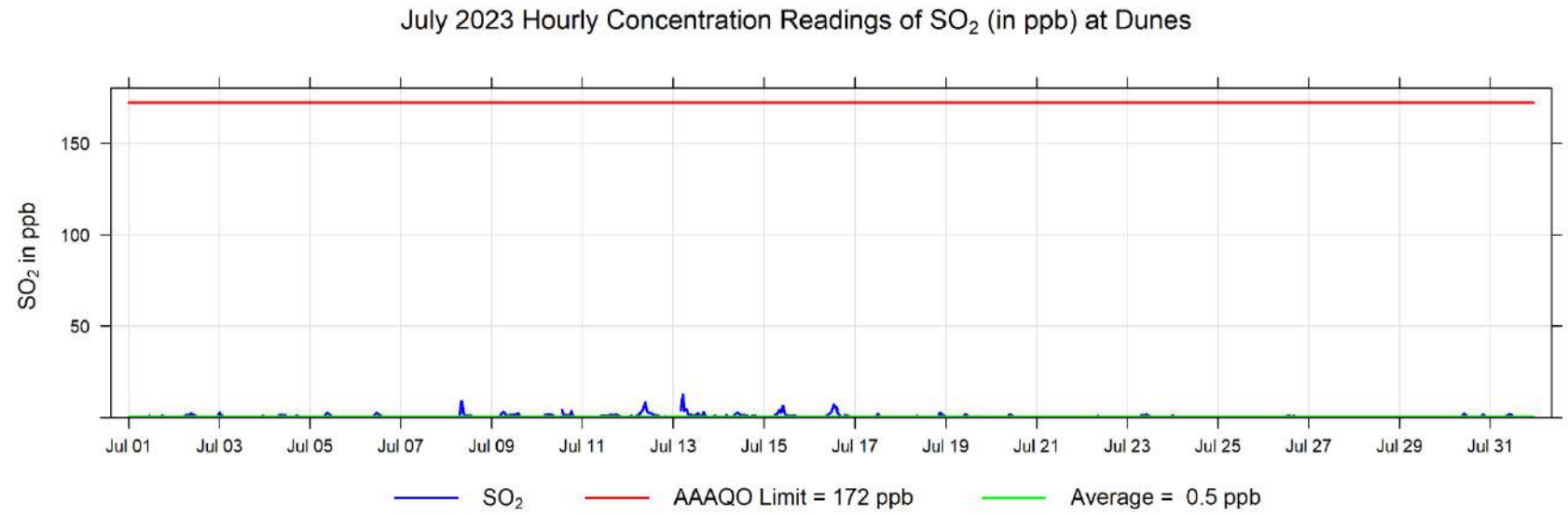
Beaverlodge July 2023 Wind Rose, wind speed in km/hr

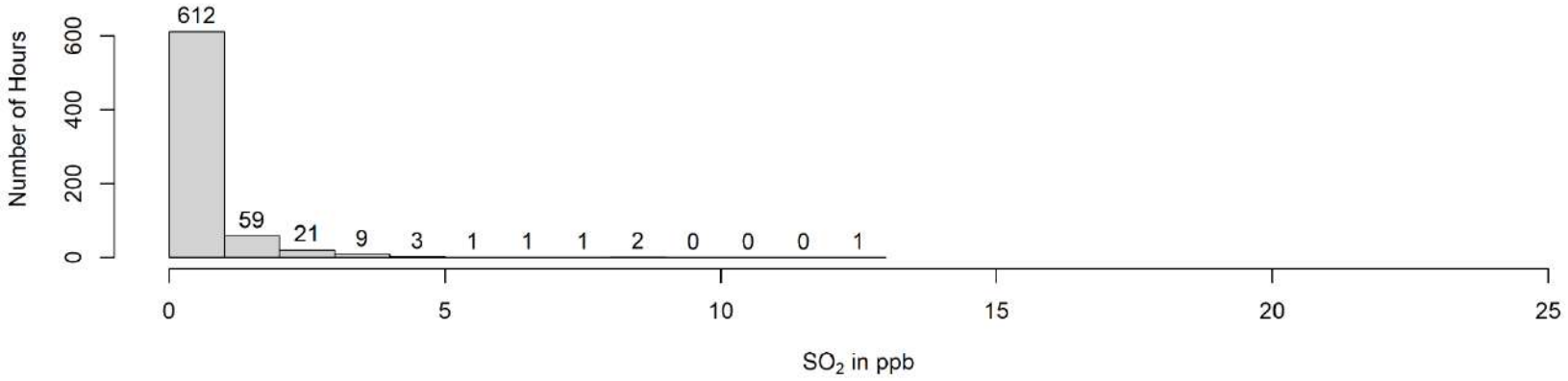
Frequency of counts by wind direction (%)

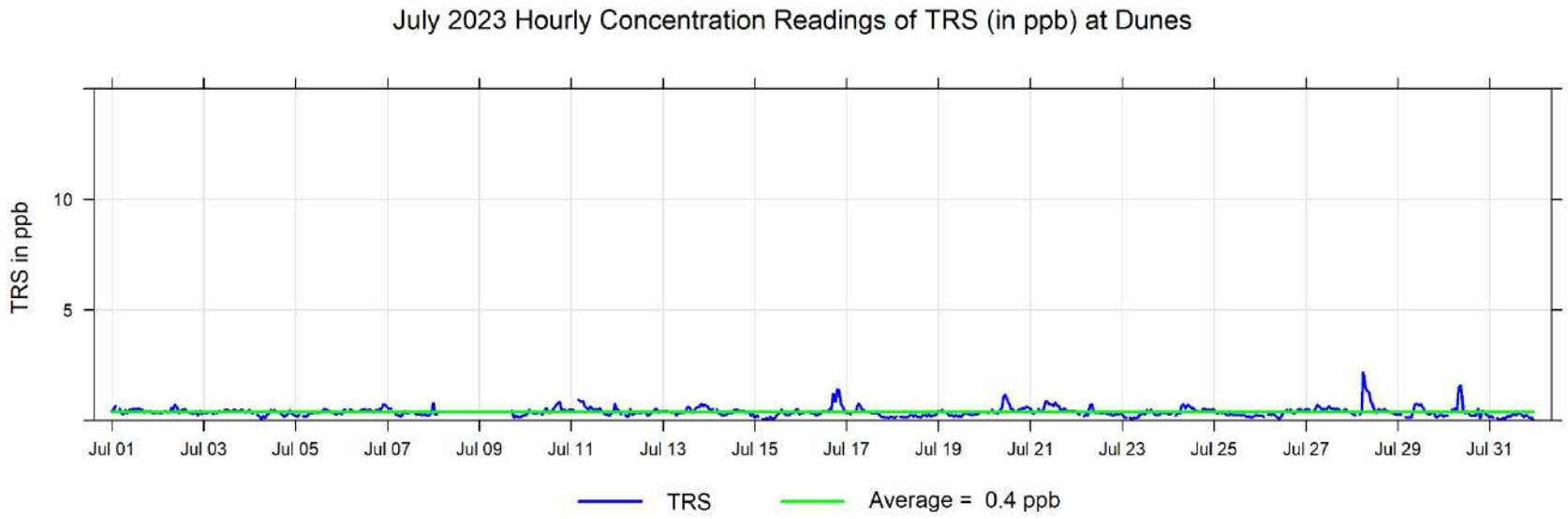
3 Dunes Charts

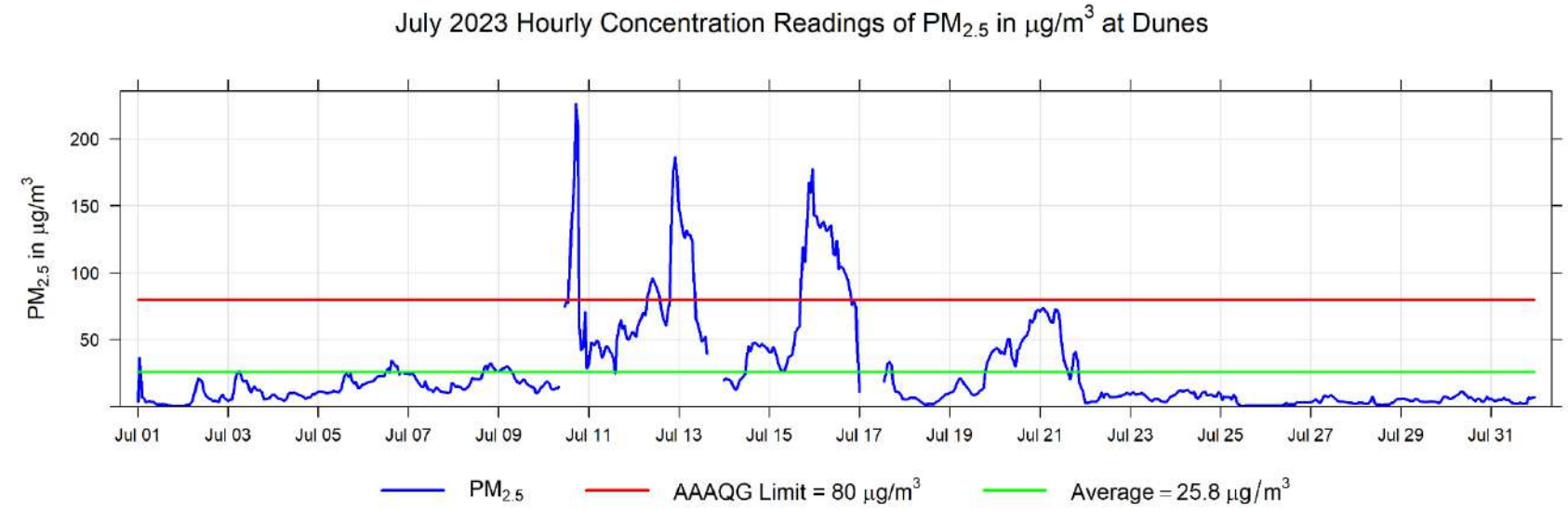
The following pages include the charts and histograms for Dunes Station

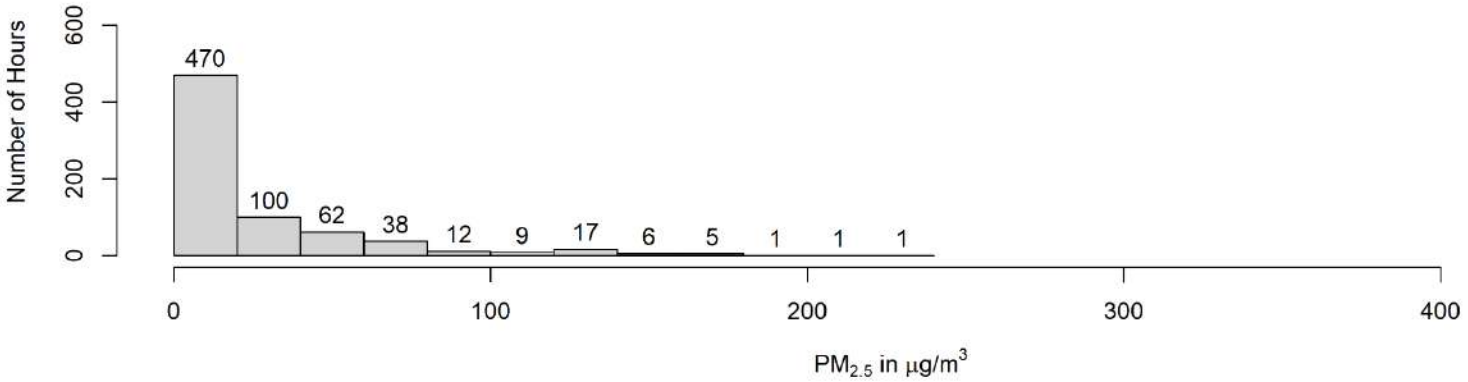


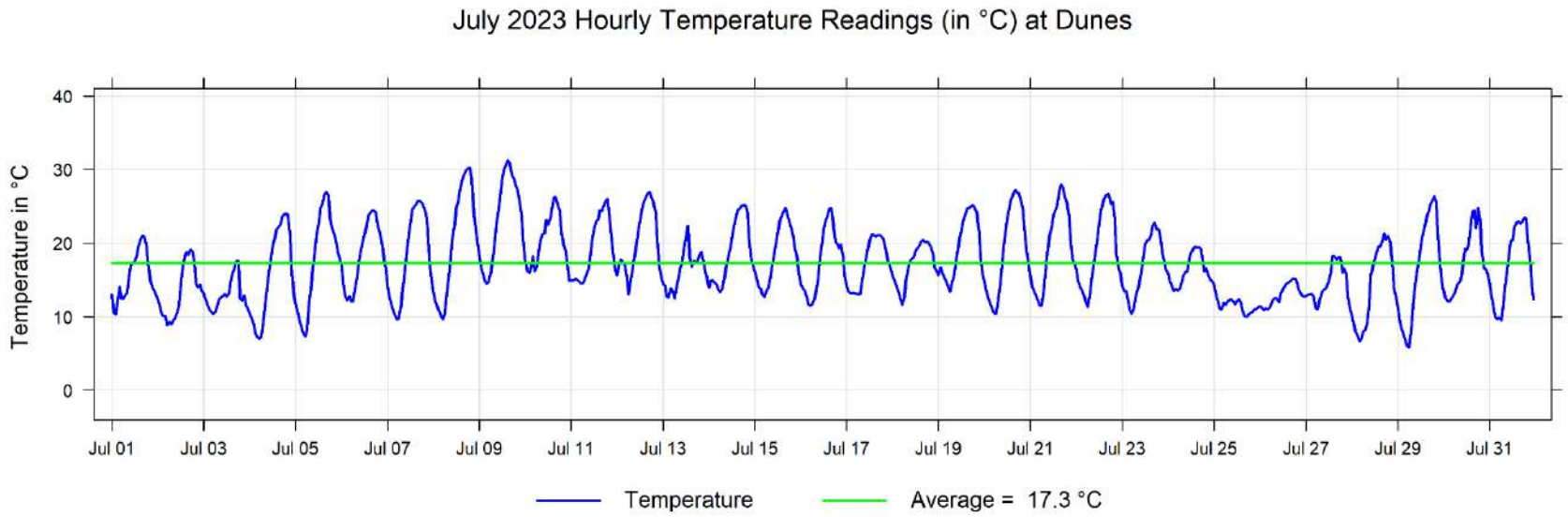

July 2023 Hourly Concentration Readings of SO_2 (in ppb) at Dunes
SO_2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO_2
AAAQO Limit = 172 ppb
Average = 0.5 ppb

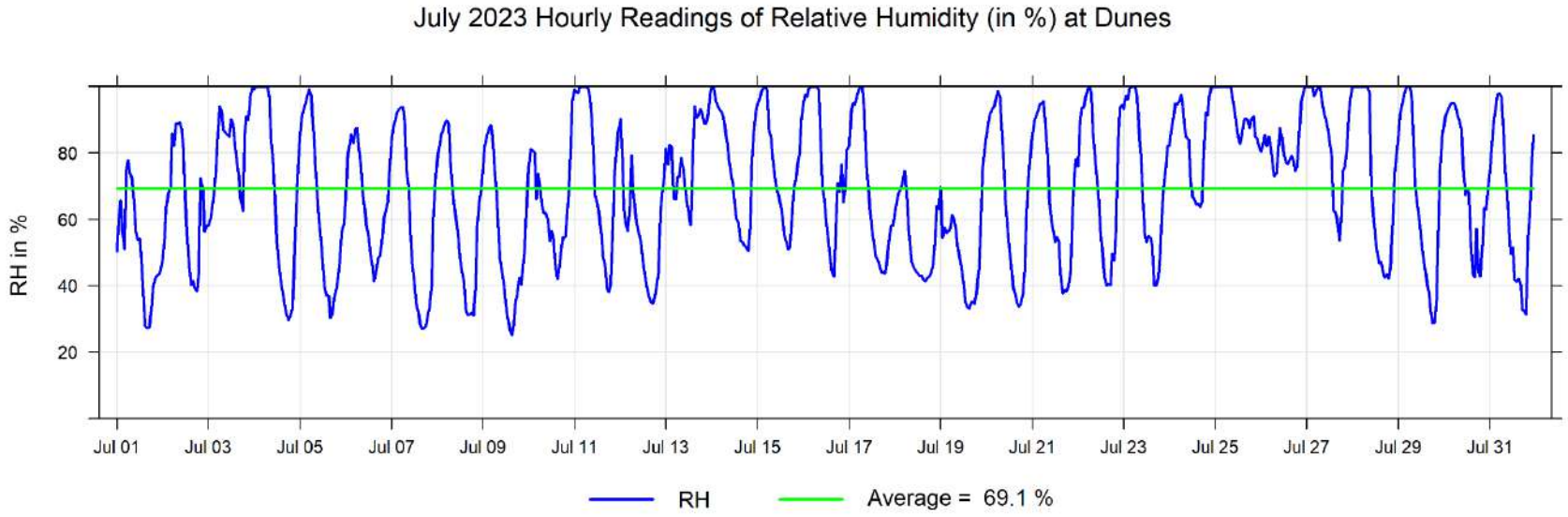

Number of Hours
0
200
400
600
612
59
21
9
3
1
1
1
2
0
0
0
1
0
5
10
15
20
25
SO_2 in ppb


July 2023 Hourly Concentration Readings of TRS (in ppb) at Dunes
TRS in ppb
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
TRS
Average = 0.4 ppb

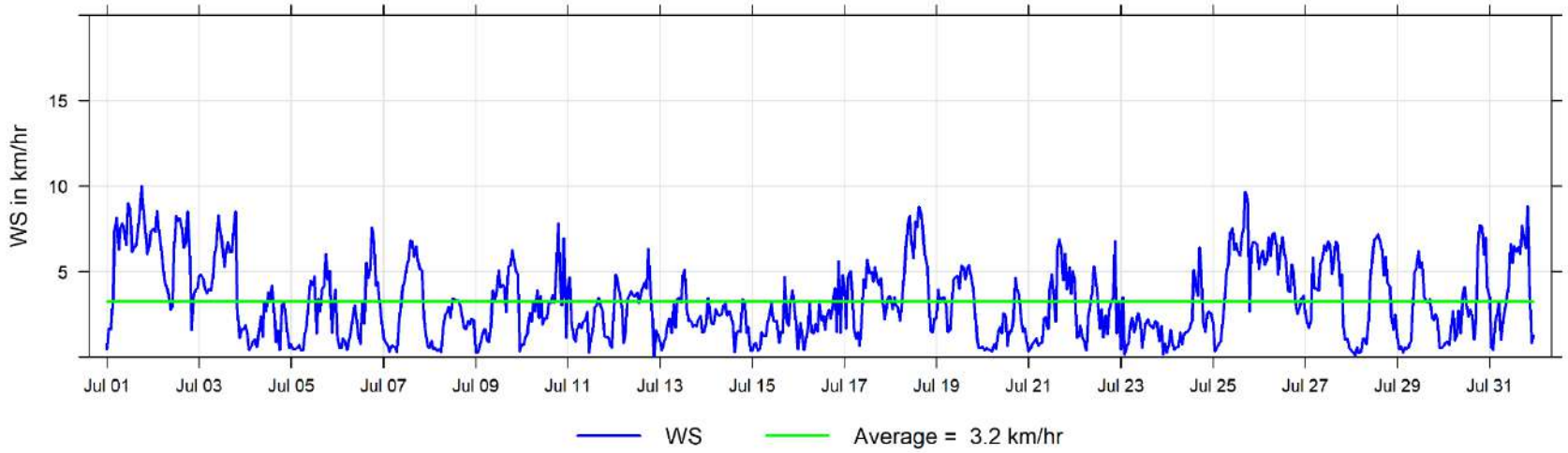

July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Dunes
PM2.5 in µg/m3
200
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 25.8 µg/m3


Number of Hours
0
200
400
600
470
100
62
38
12
9
17
6
5
1
1
1
0
100
200
300
400
PM2.5 in µg/m3

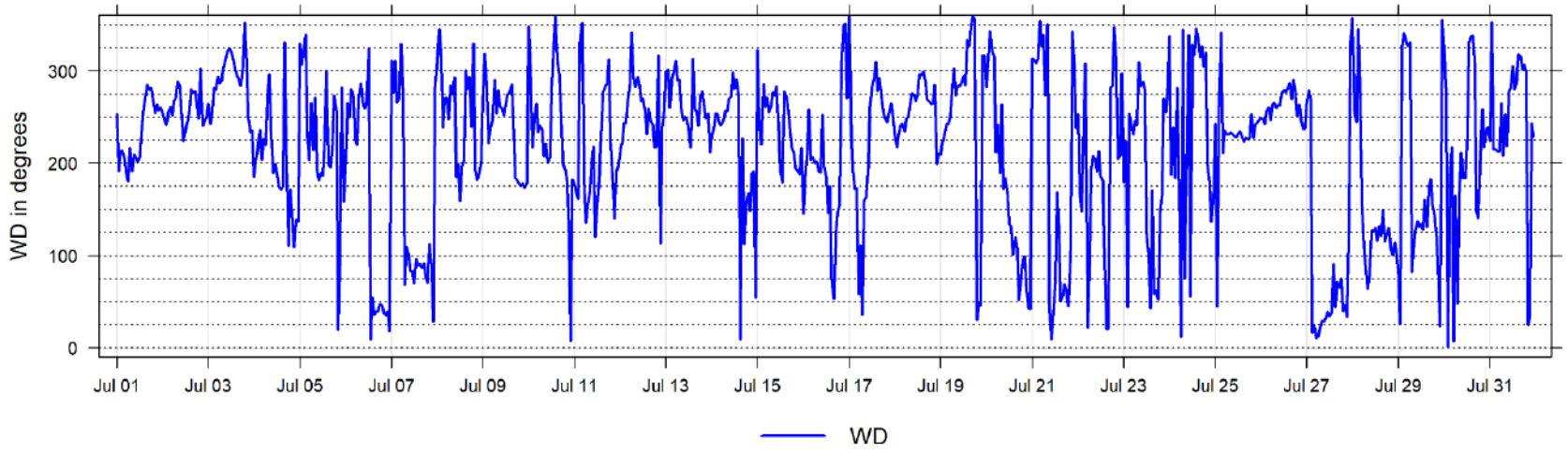

July 2023 Hourly Temperature Readings (in °C) at Dunes
Temperature in °C
40
30
20
10
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
Temperature
Average = 17.3 °C

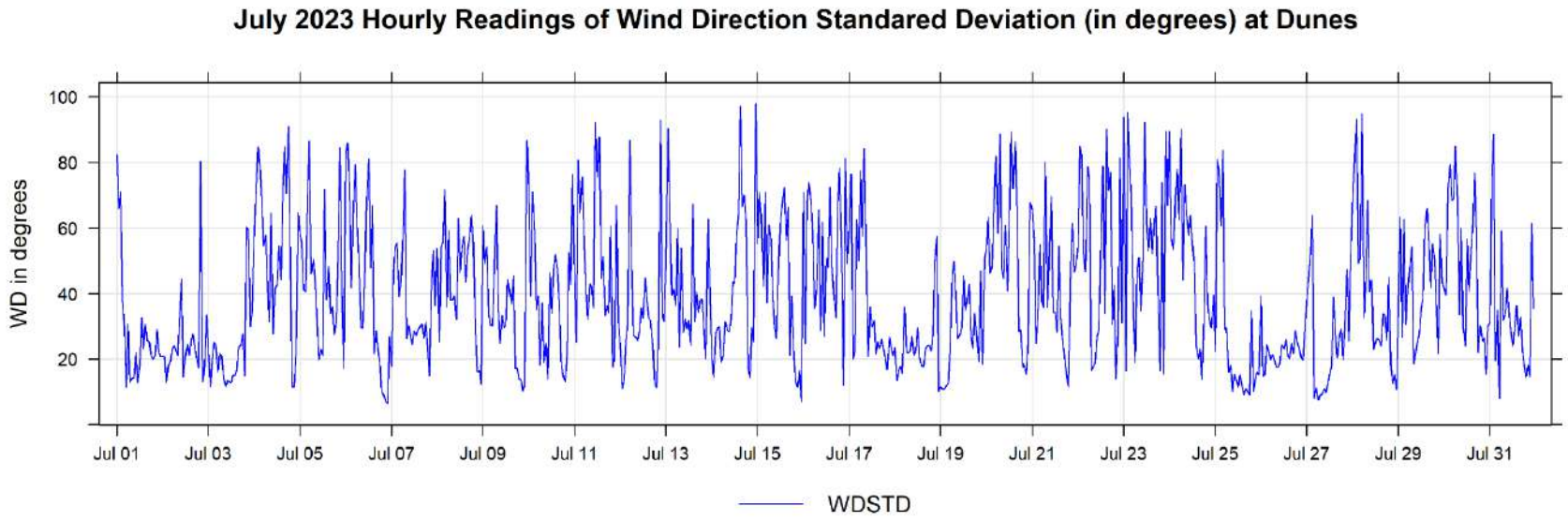

July 2023 Hourly Readings of Relative Humidity (in %) at Dunes
RH in %
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
RH
Average = 69.1 %

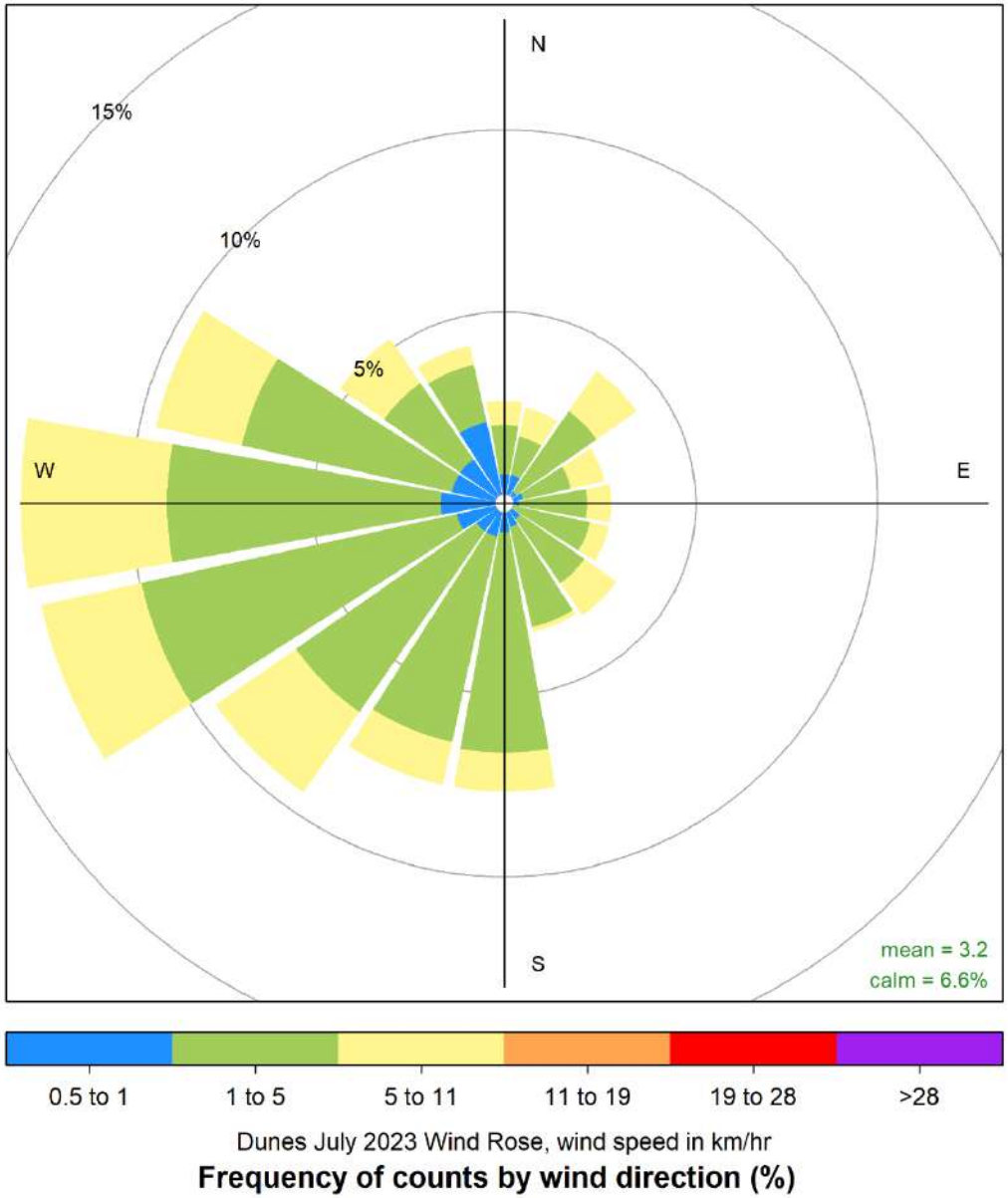
July 2023 Hourly Readings of Wind Speed (in km/hr) at Dunes



July 2023 Hourly Readings of Wind Direction (in degrees) at Dunes

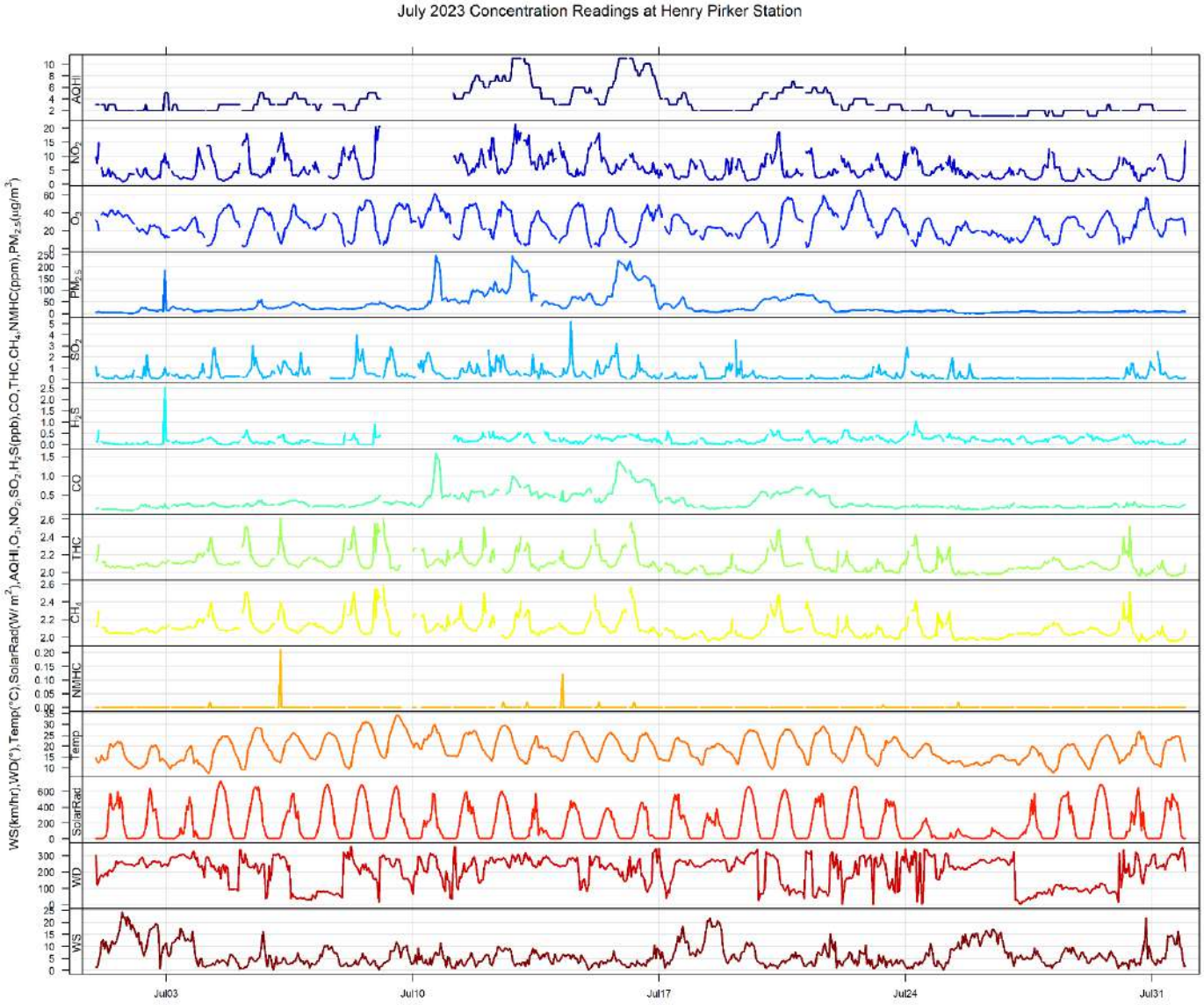


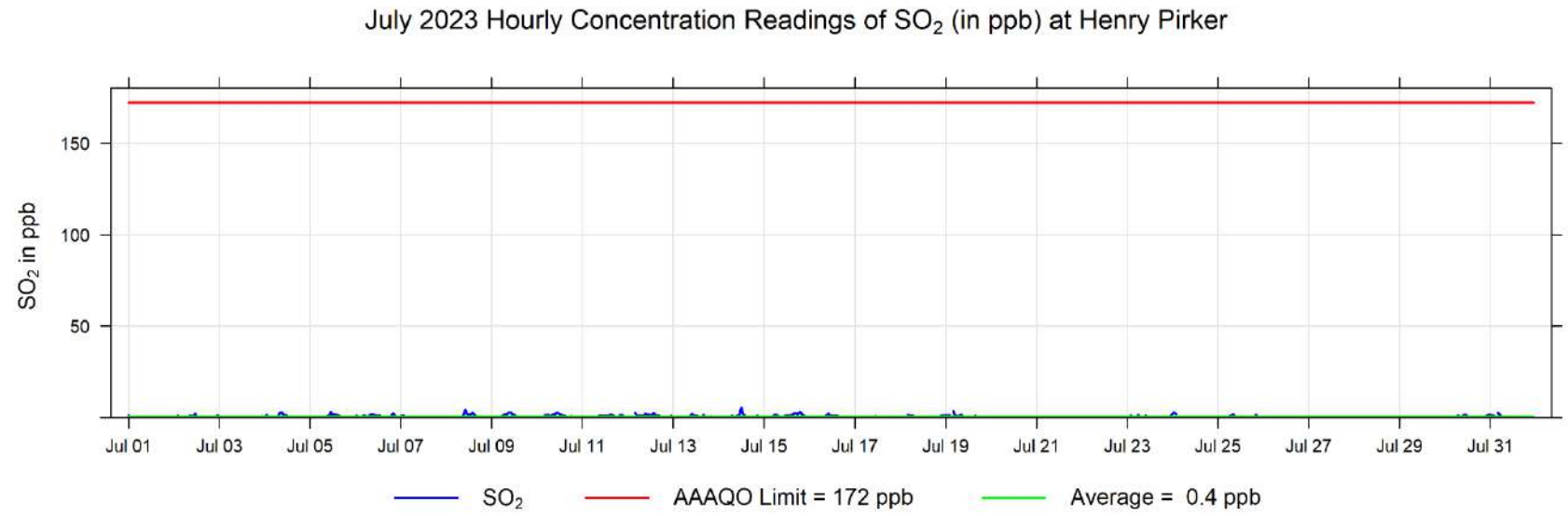

July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Dunes
WD in degrees
100
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WDSTD

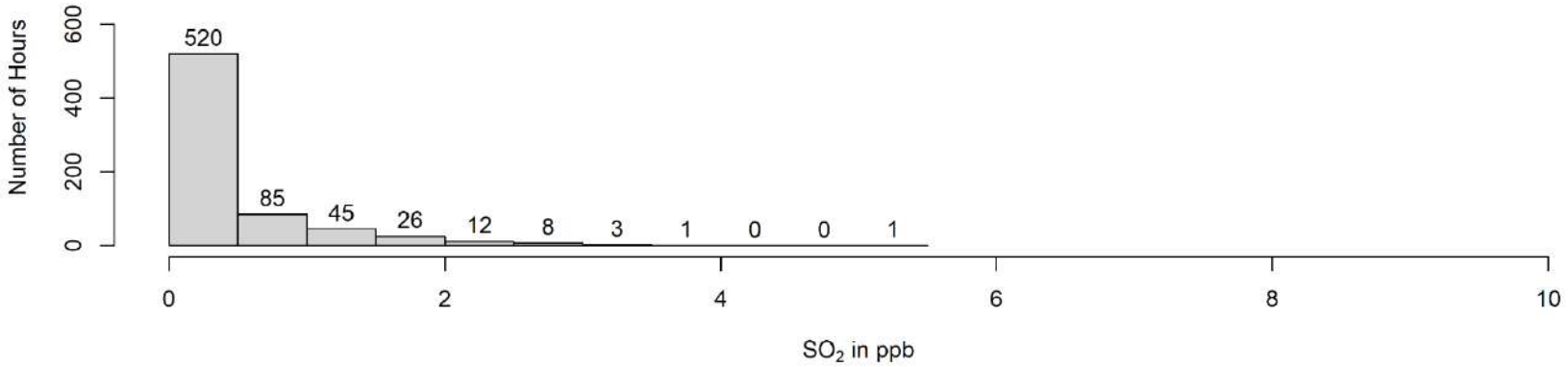

N
15%
10%
5%
W
E
S
mean = 3.2
calm = 6.6%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Dunes July 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

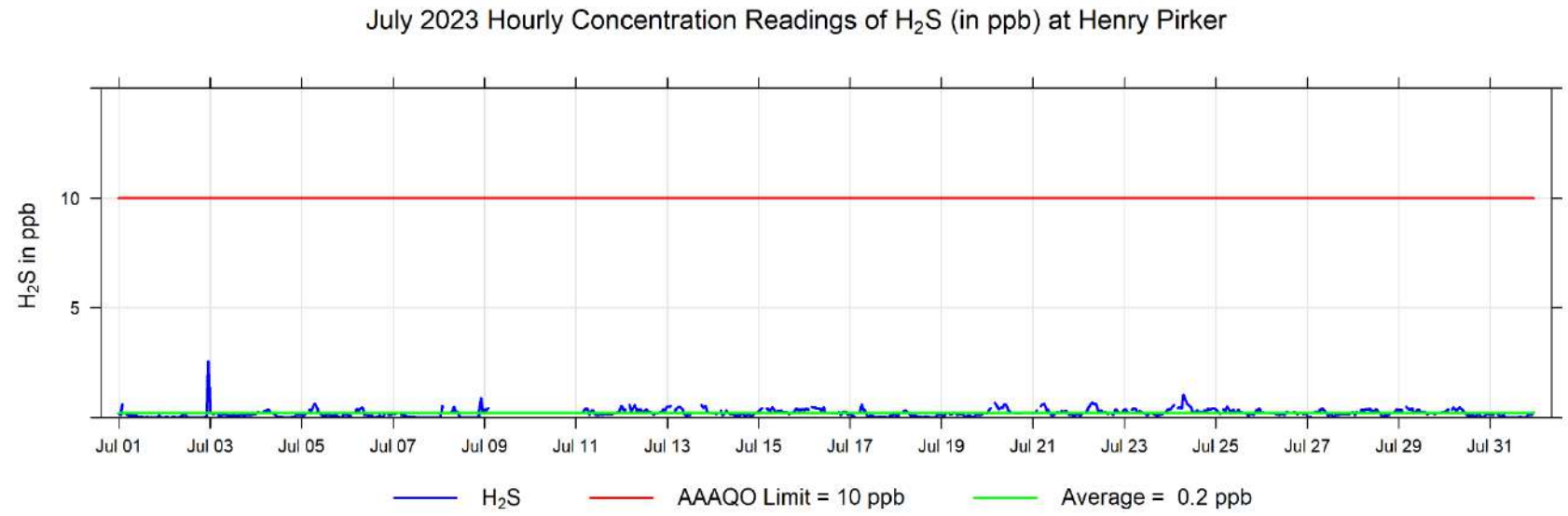
4 Grande Prairie - Henry Pirker Charts

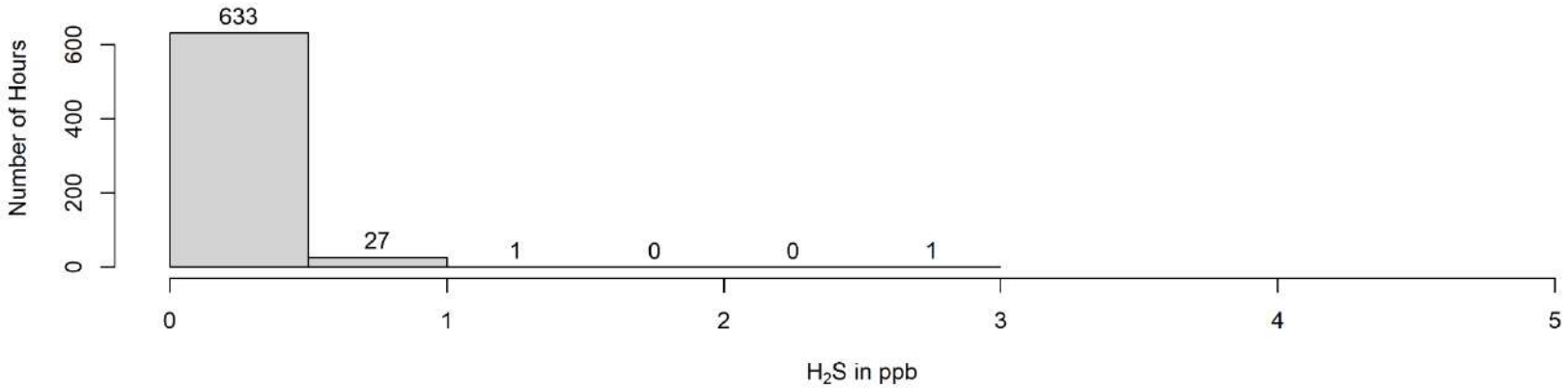
The following pages include the charts and histograms for Henry Pirker Station in Grande Prairie



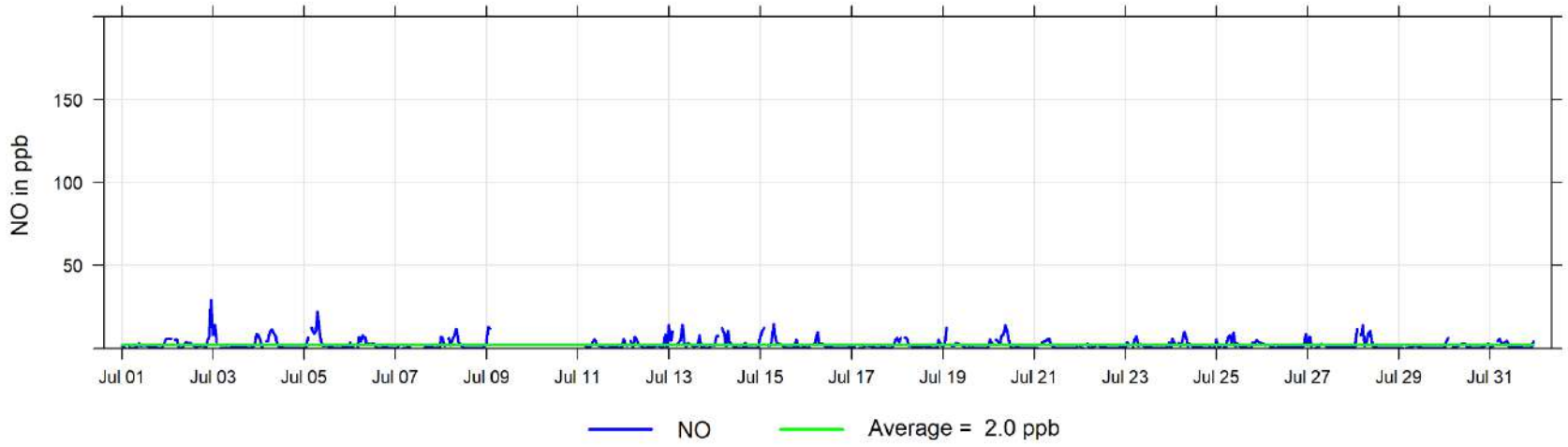

July 2023 Hourly Concentration Readings of SO_2 (in ppb) at Henry Pirker
SO_2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO_2
AAAQO Limit = 172 ppb
Average = 0.4 ppb


Number of Hours
0
200
400
600
520
85
45
26
12
8
3
1
0
0
1
0
2
4
6
8
10
SO_2 in ppb

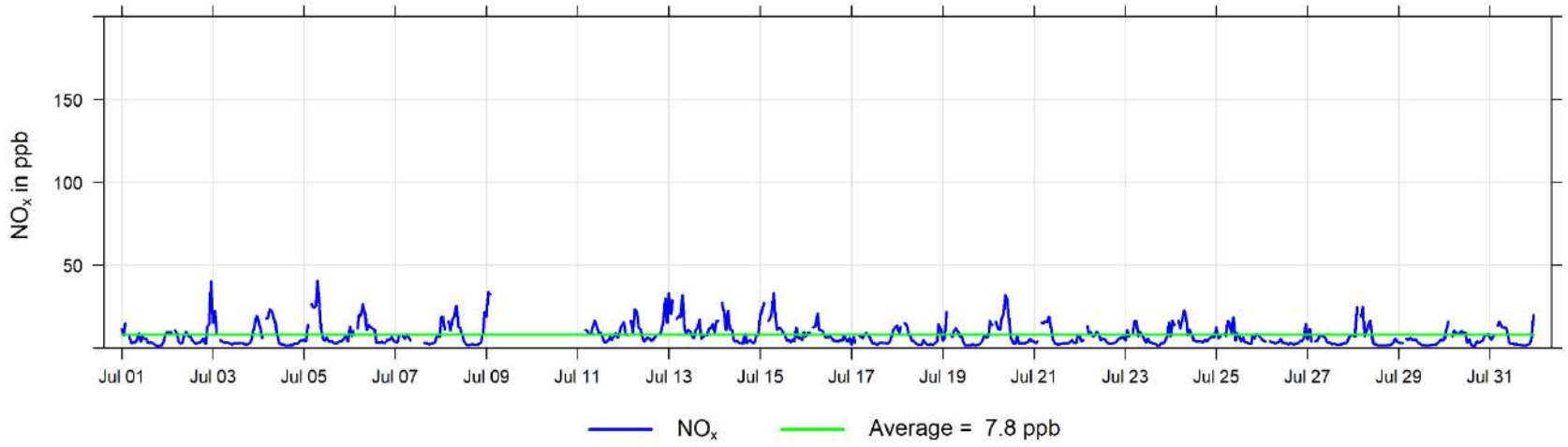

July 2023 Hourly Concentration Readings of H2S (in ppb) at Henry Pirker
H2S in ppb
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
H2S
AAAQO Limit = 10 ppb
Average = 0.2 ppb

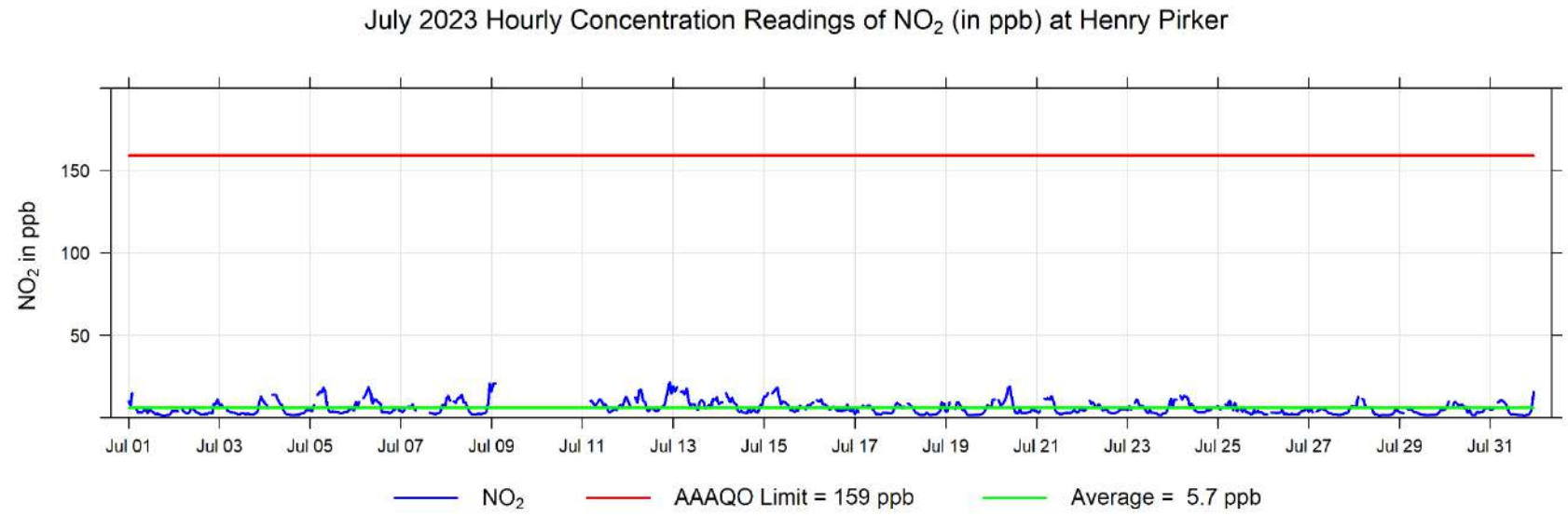

Number of Hours
0
200
400
600
633
27
1
0
0
1
0
1
2
3
4
5
H2S in ppb

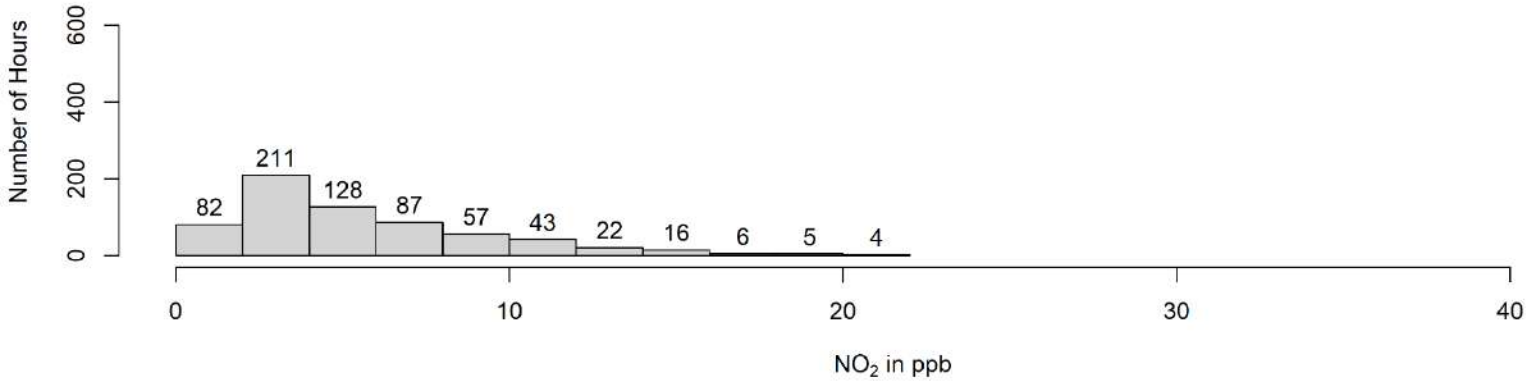
July 2023 Hourly Concentration Readings of NO (in ppb) at Henry Pirker

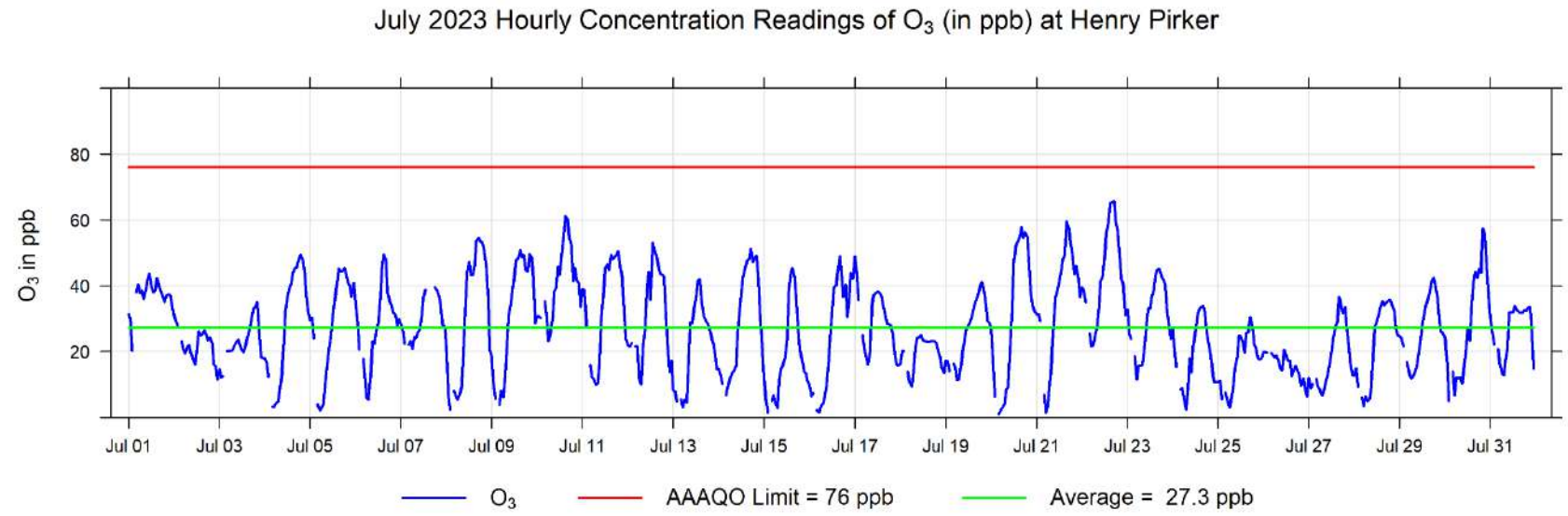


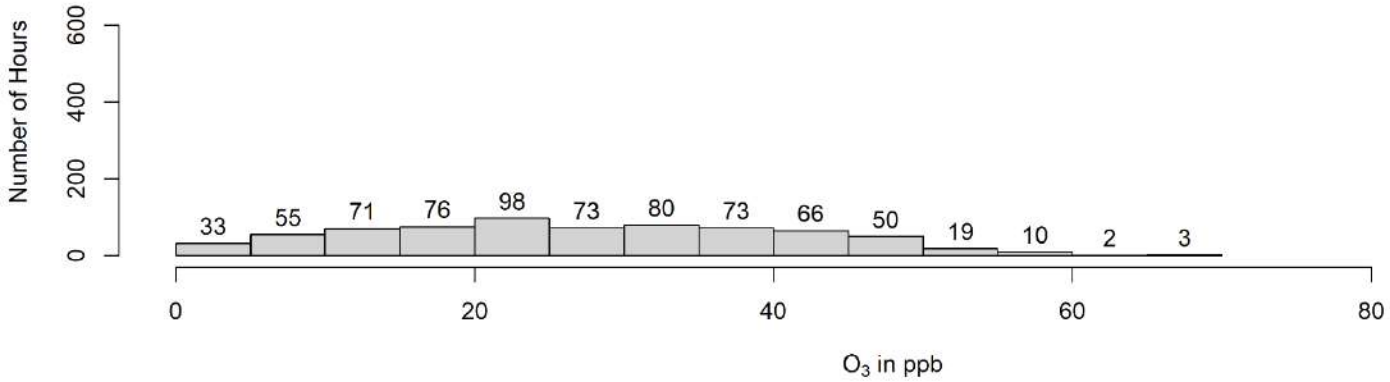
July 2023 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



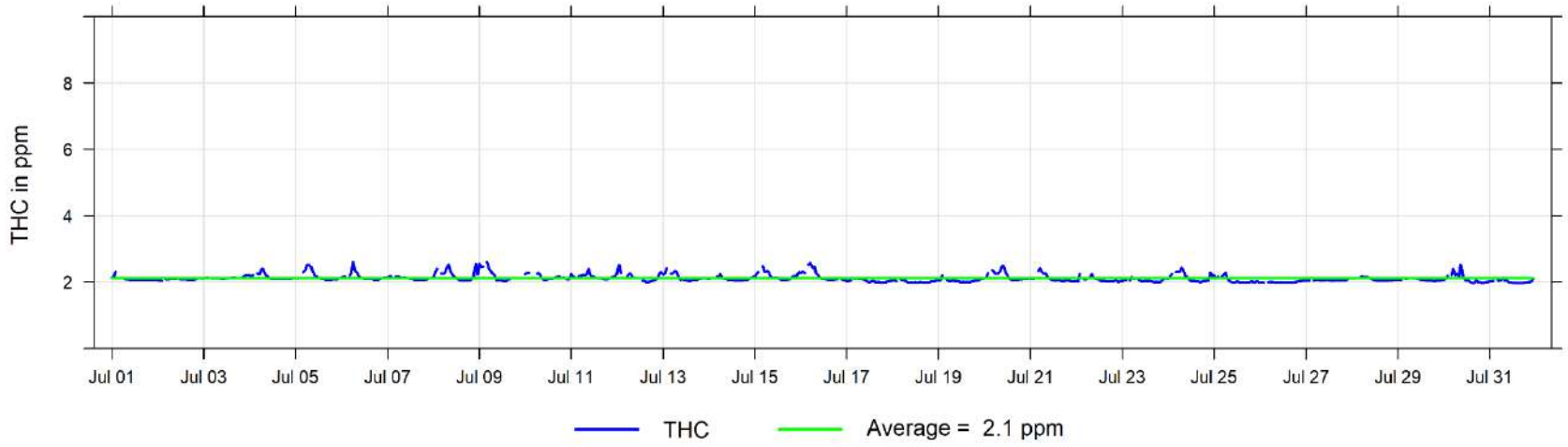

July 2023 Hourly Concentration Readings of NO2 (in ppb) at Henry Pirker
NO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO2
AAAQO Limit = 159 ppb
Average = 5.7 ppb


Number of Hours
0
200
400
600
82
211
128
87
57
43
22
16
6
5
4
0
10
20
30
40
NO2 in ppb

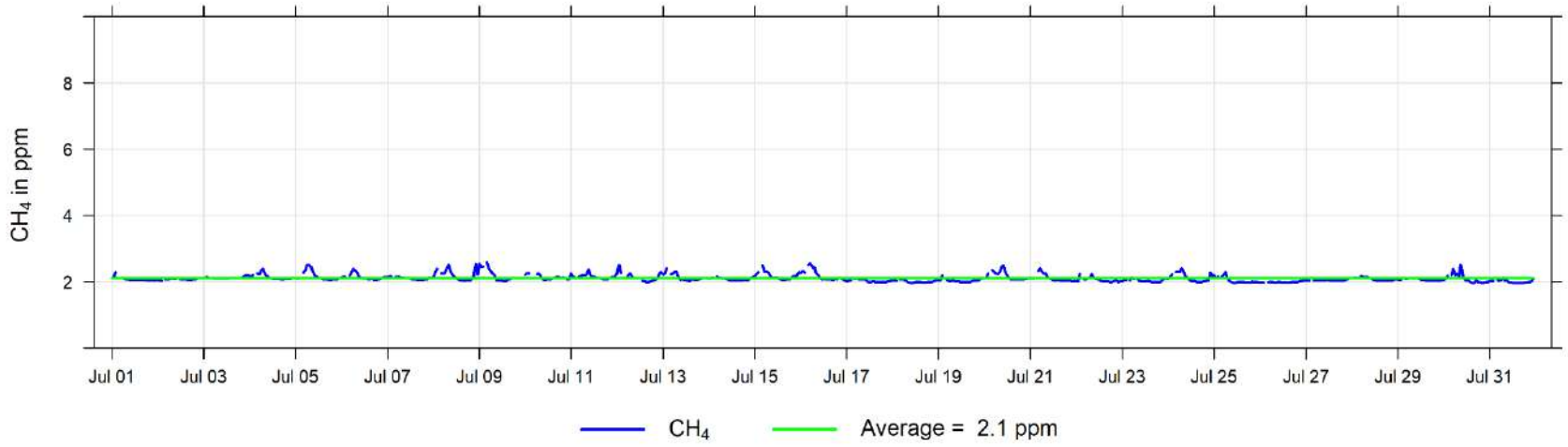

July 2023 Hourly Concentration Readings of O_3 (in ppb) at Henry Pirker
O_3 in ppb
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
O_3
AAAQO Limit = 76 ppb
Average = 27.3 ppb

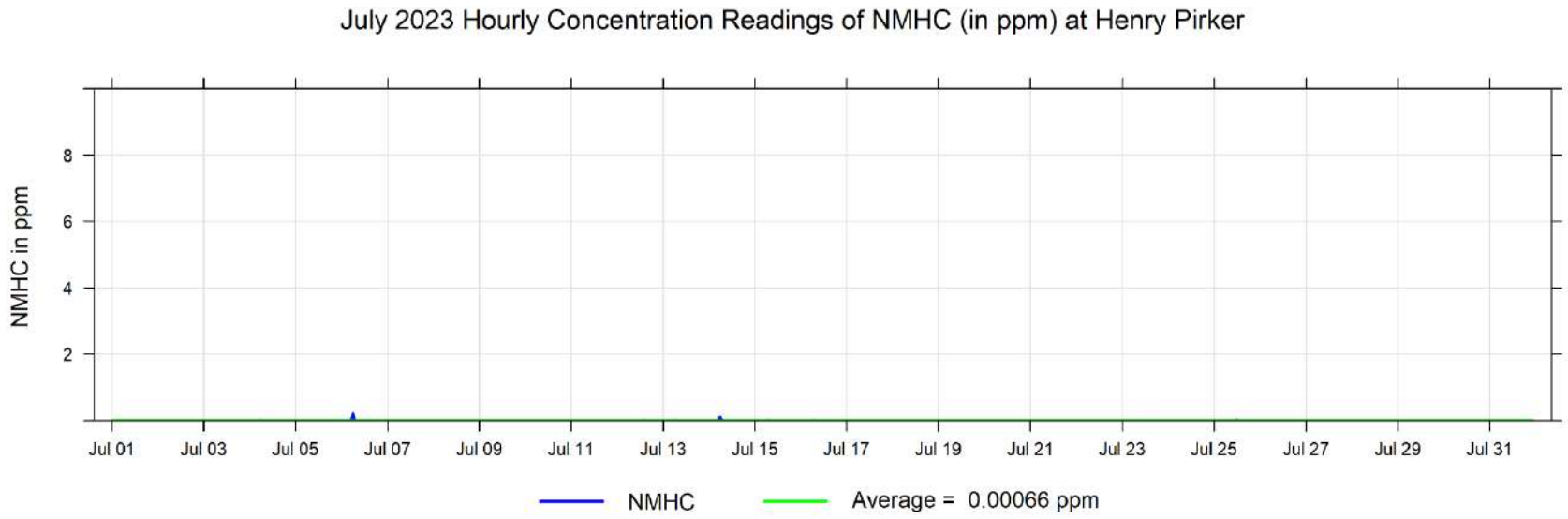

Number of Hours
0
200
400
600
33
55
71
76
98
73
80
73
66
50
19
10
2
3
0
20
40
60
80
O_3 in ppb

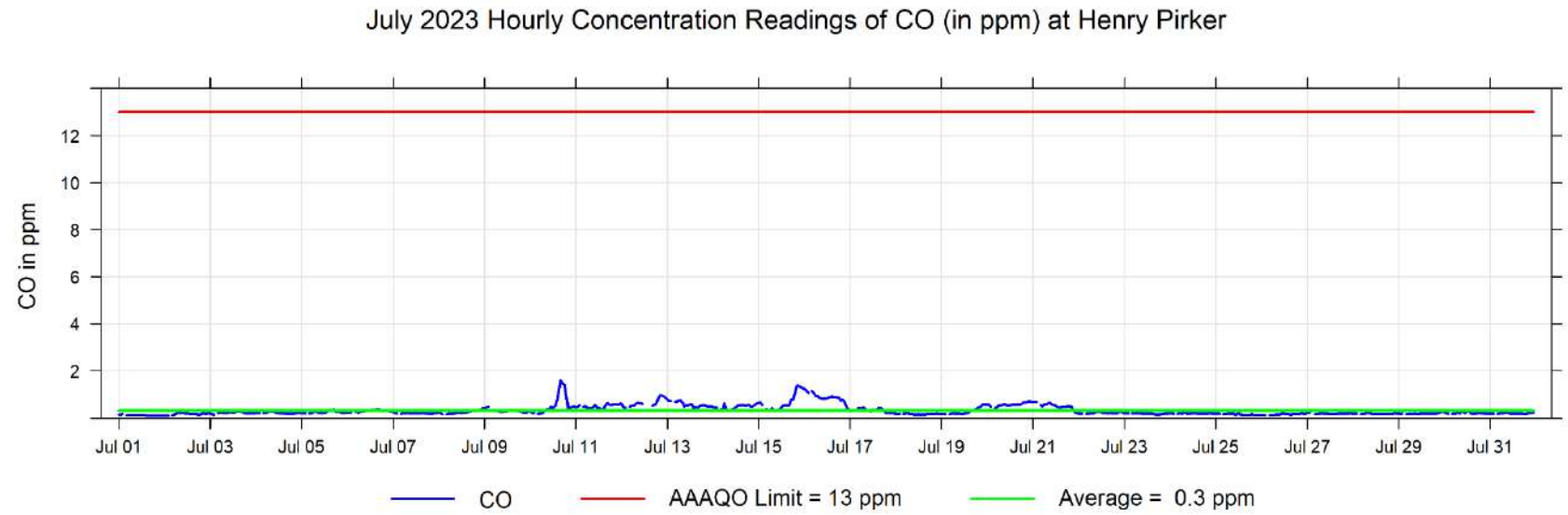
July 2023 Hourly Concentration Readings of THC (in ppm) at Henry Pirker

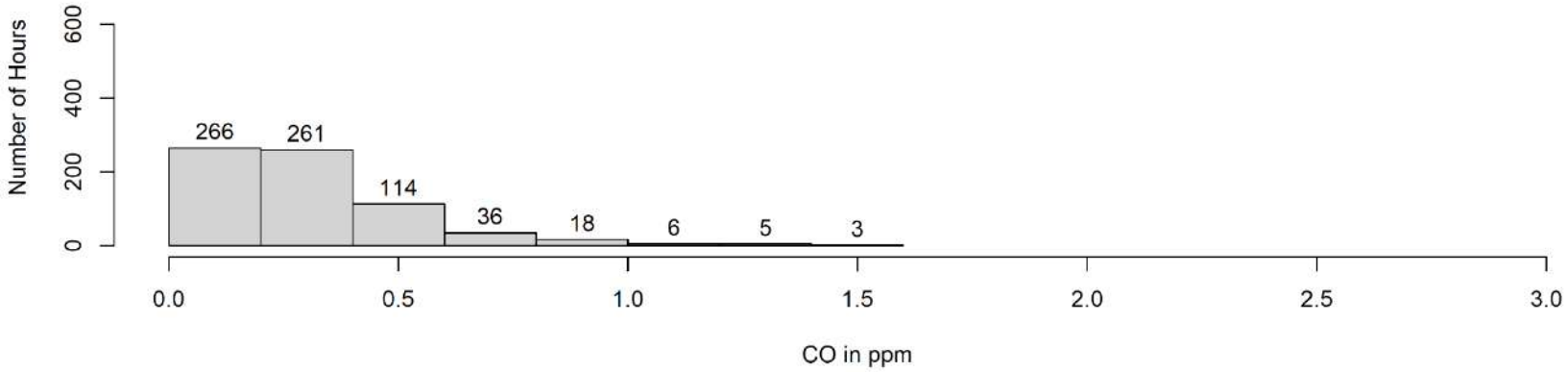


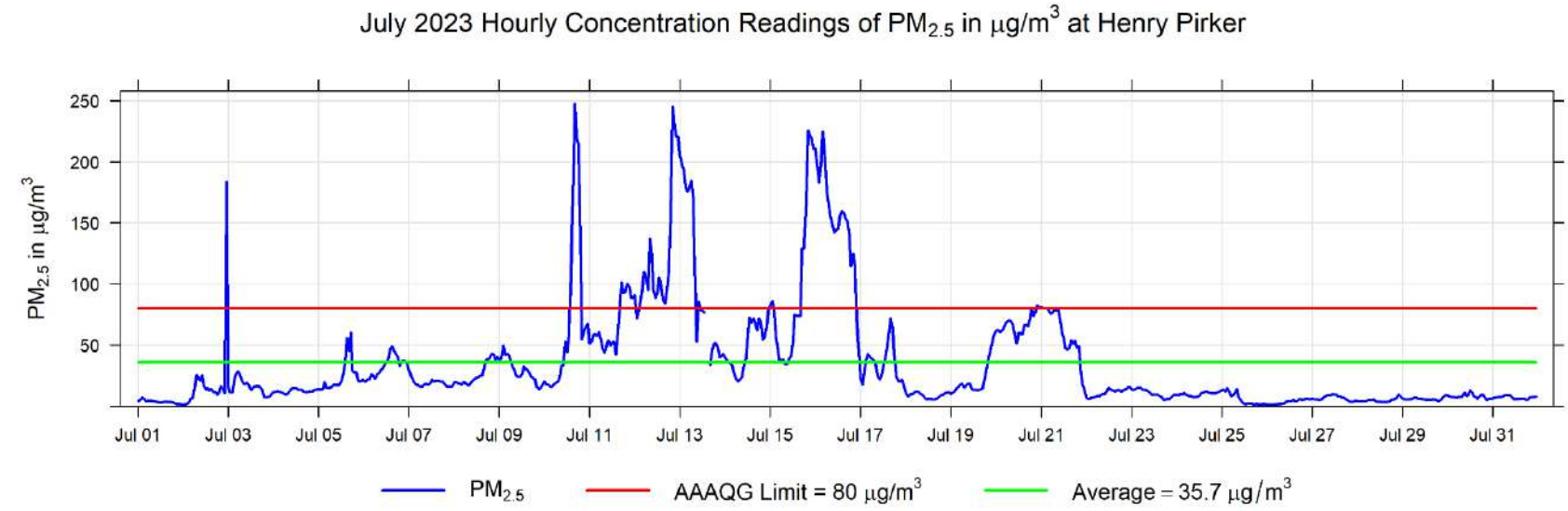
July 2023 Hourly Concentration Readings of CH_4 (in ppm) at Henry Pirker

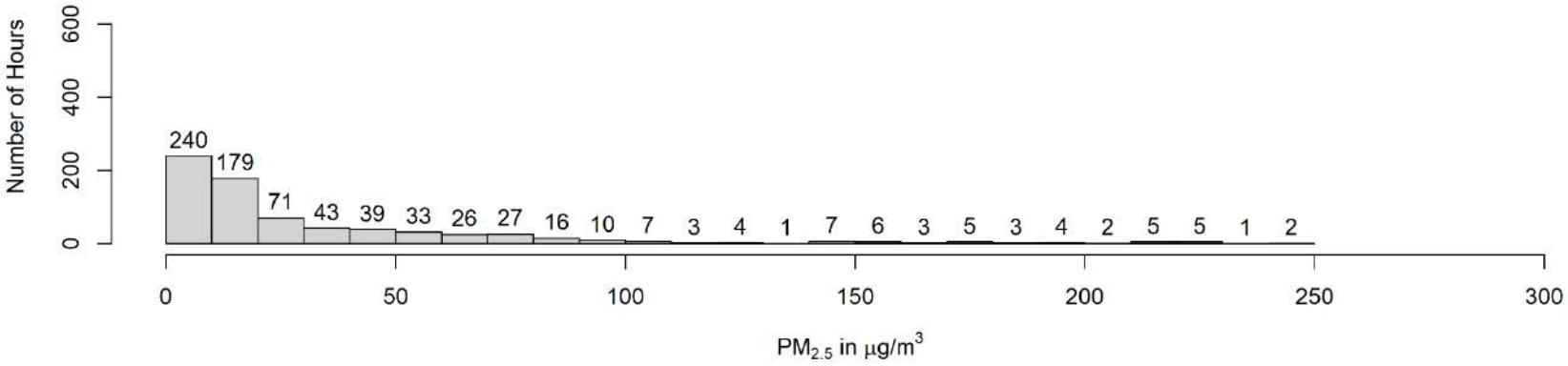


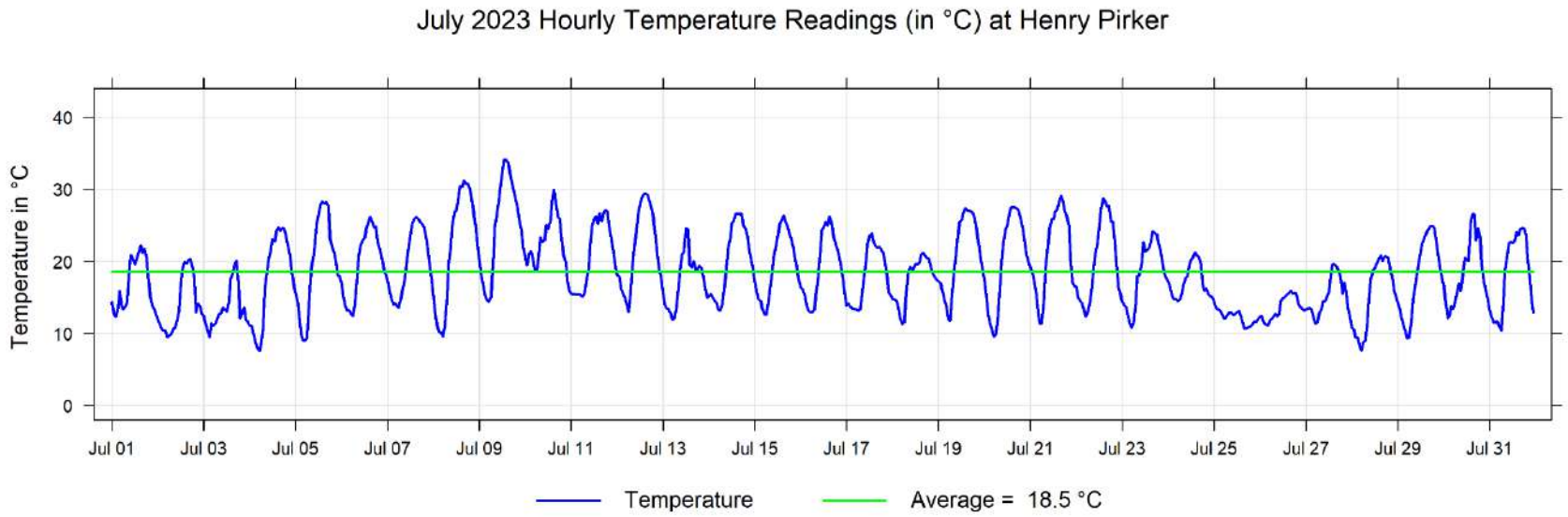

July 2023 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker
NMHC in ppm
8
6
4
2
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NMHC
Average = 0.00066 ppm

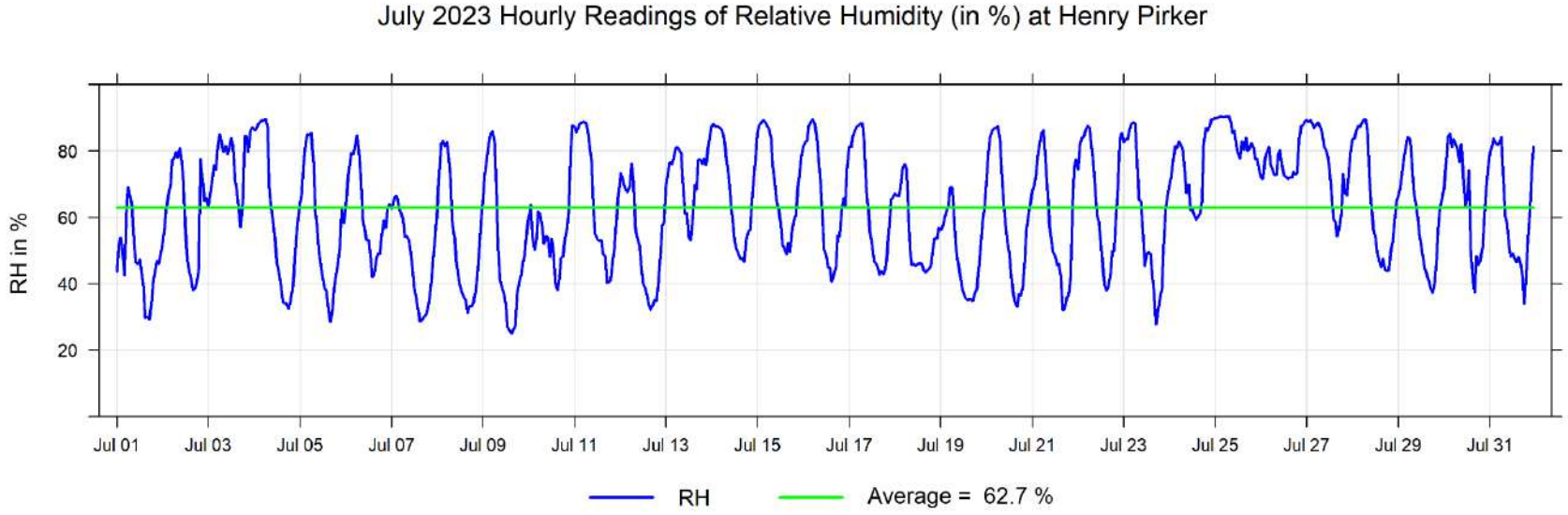

July 2023 Hourly Concentration Readings of CO (in ppm) at Henry Pirker
CO in ppm
12
10
8
6
4
2
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
CO
AAAQO Limit = 13 ppm
Average = 0.3 ppm

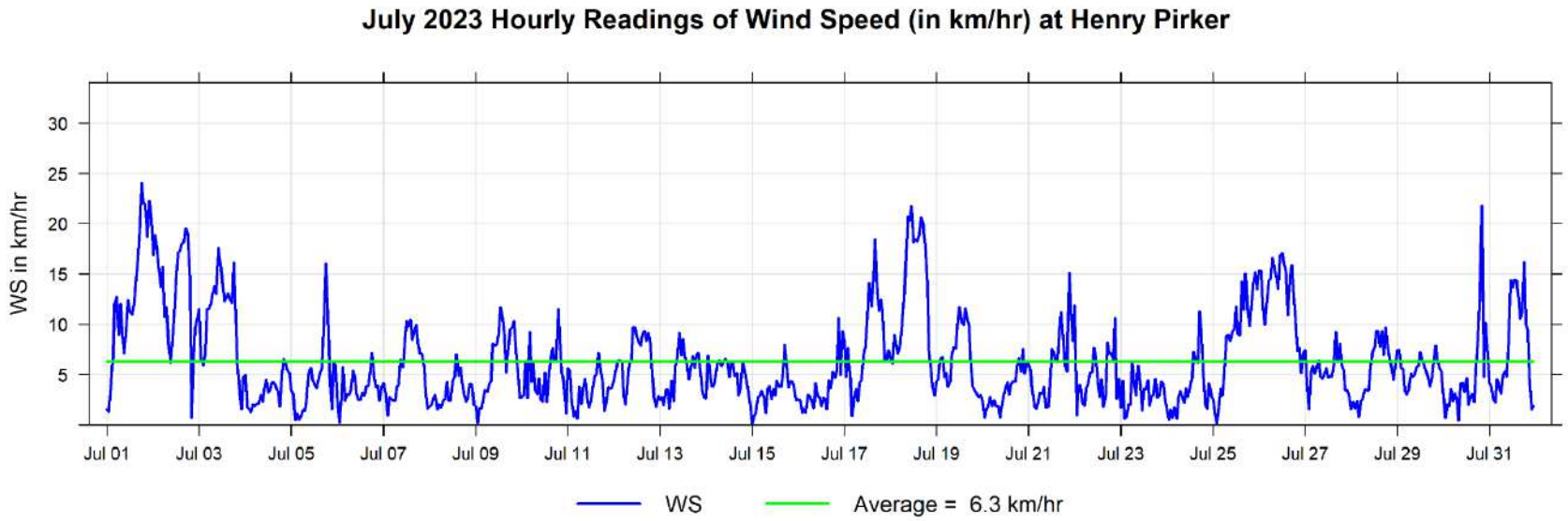

Number of Hours
0
200
400
600
266
261
114
36
18
6
5
3
0.0
0.5
1.0
1.5
2.0
2.5
3.0
CO in ppm

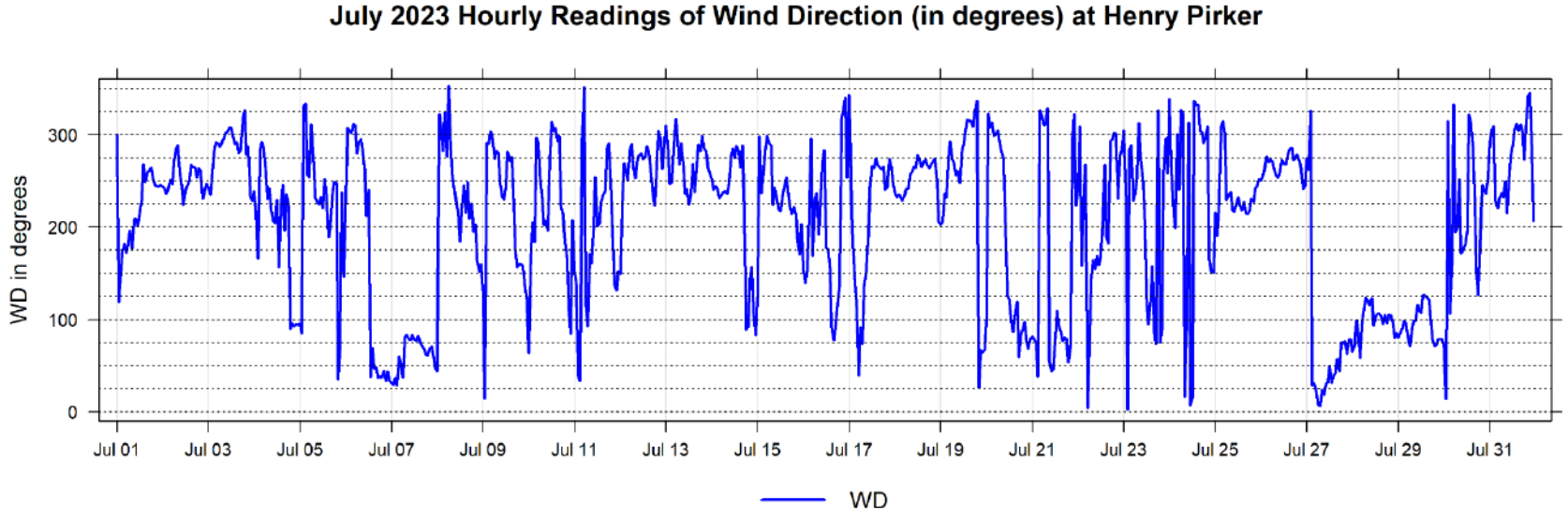

July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Henry Pirker
PM2.5 in µg/m3
250
200
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 35.7 µg/m3

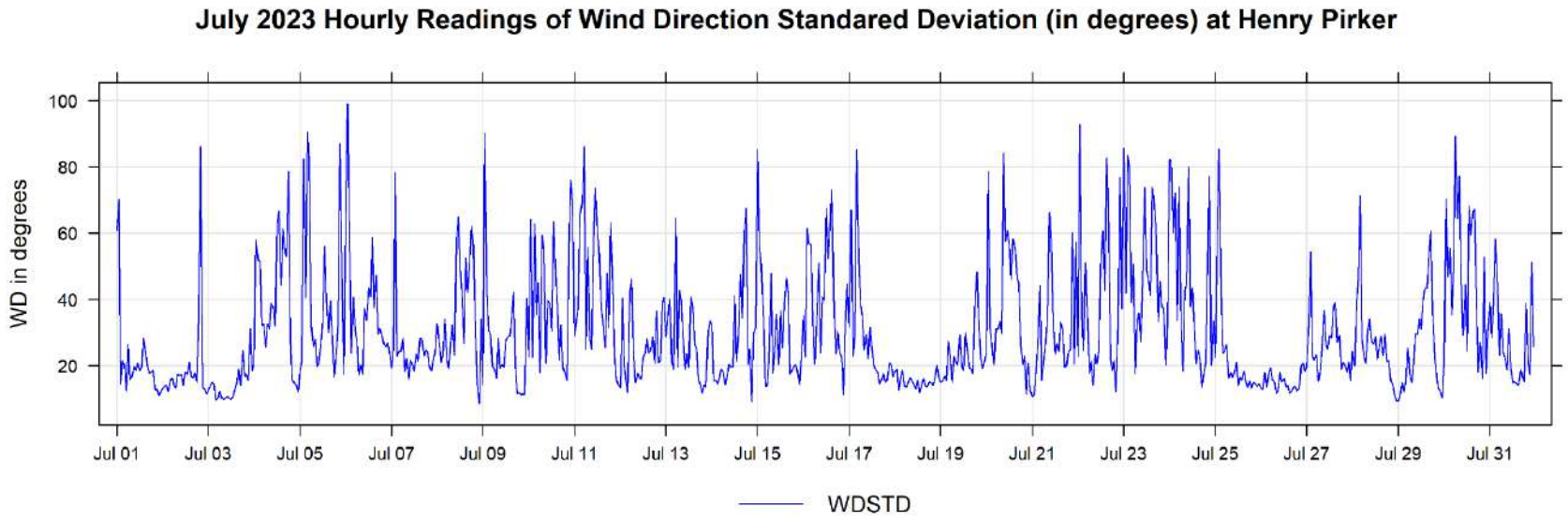

Number of Hours
0
200
400
600
240
179
71
43
39
33
26
27
16
10
7
3
4
1
7
6
3
5
3
4
2
5
5
1
2
0
50
100
150
200
250
300
PM2.5 in µg/m3

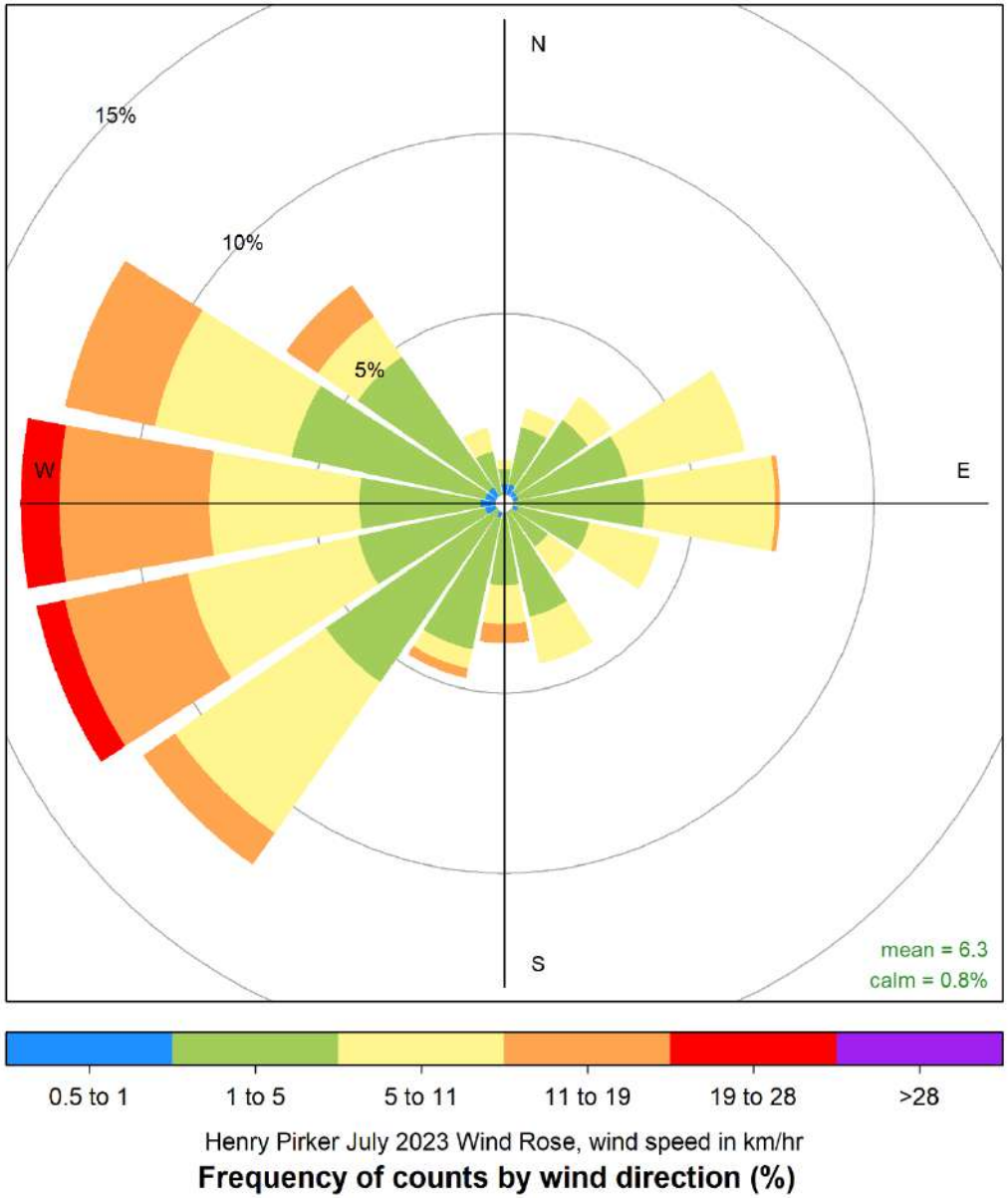

July 2023 Hourly Temperature Readings (in °C) at Henry Pirker
Temperature in °C
0
10
20
30
40
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
Temperature
Average = 18.5 °C


July 2023 Hourly Readings of Relative Humidity (in %) at Henry Pirker
RH in %
20
40
60
80
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
RH
Average = 62.7 %


July 2023 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker
WS in km/hr
30
25
20
15
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 6.3 km/hr


July 2023 Hourly Readings of Wind Direction (in degrees) at Henry Pirker
WD in degrees
300
200
100
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WD


July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Henry Pirker
WD in degrees
100
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WDSTD

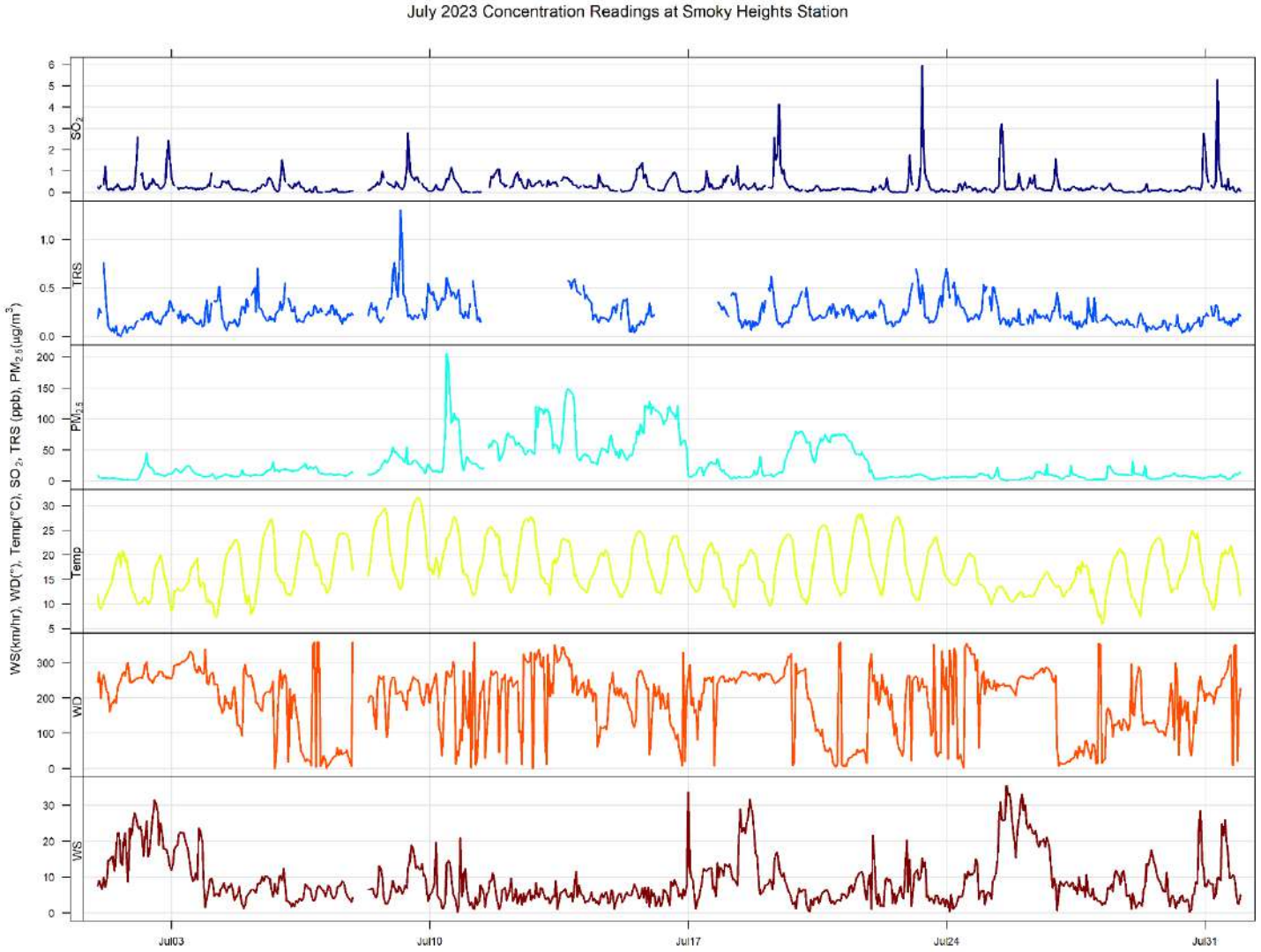


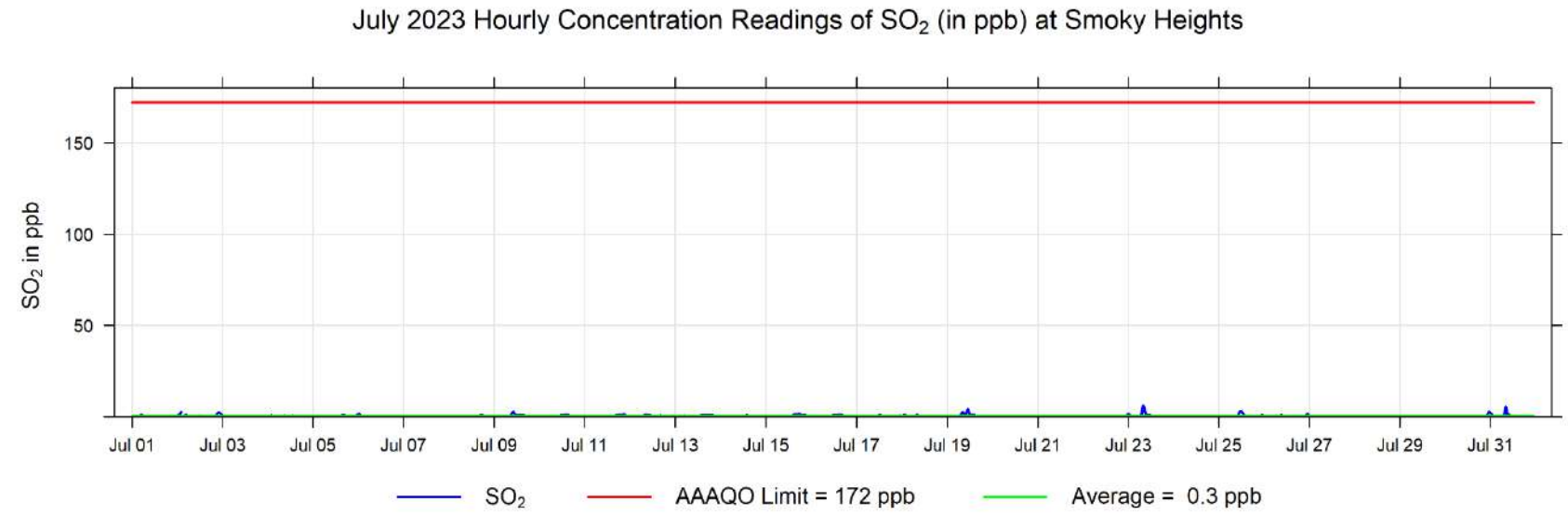
Henry Pirker July 2023 Wind Rose, wind speed in km/hr

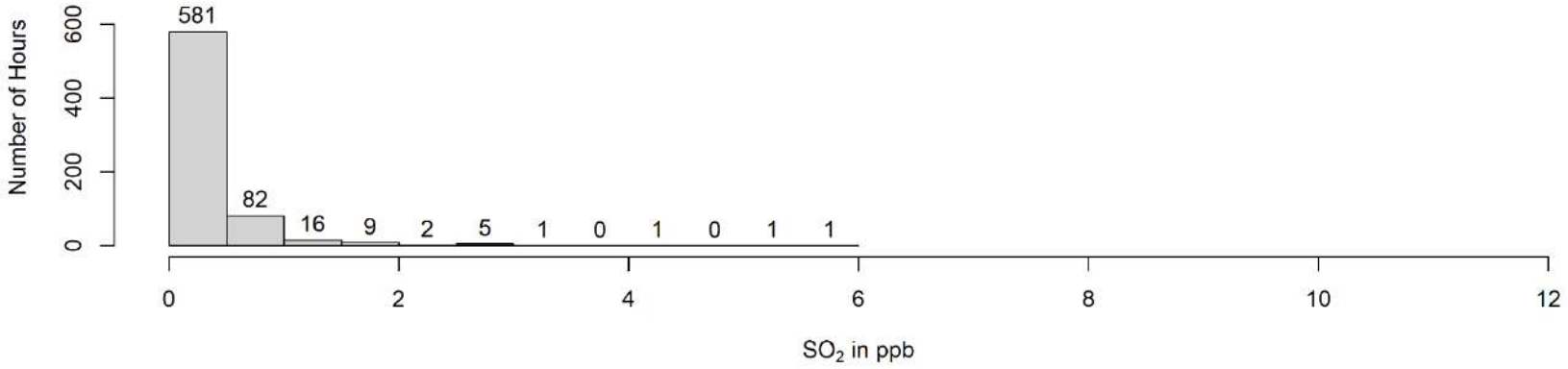
Frequency of counts by wind direction (%)

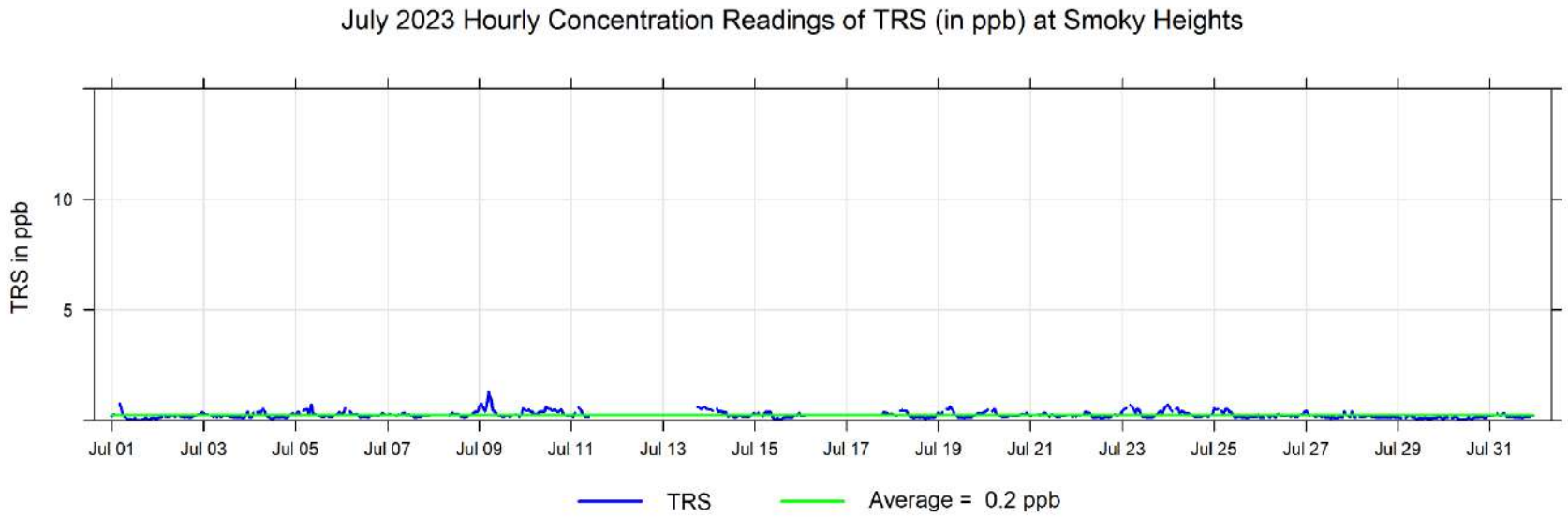
5 Smoky Heights Charts

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

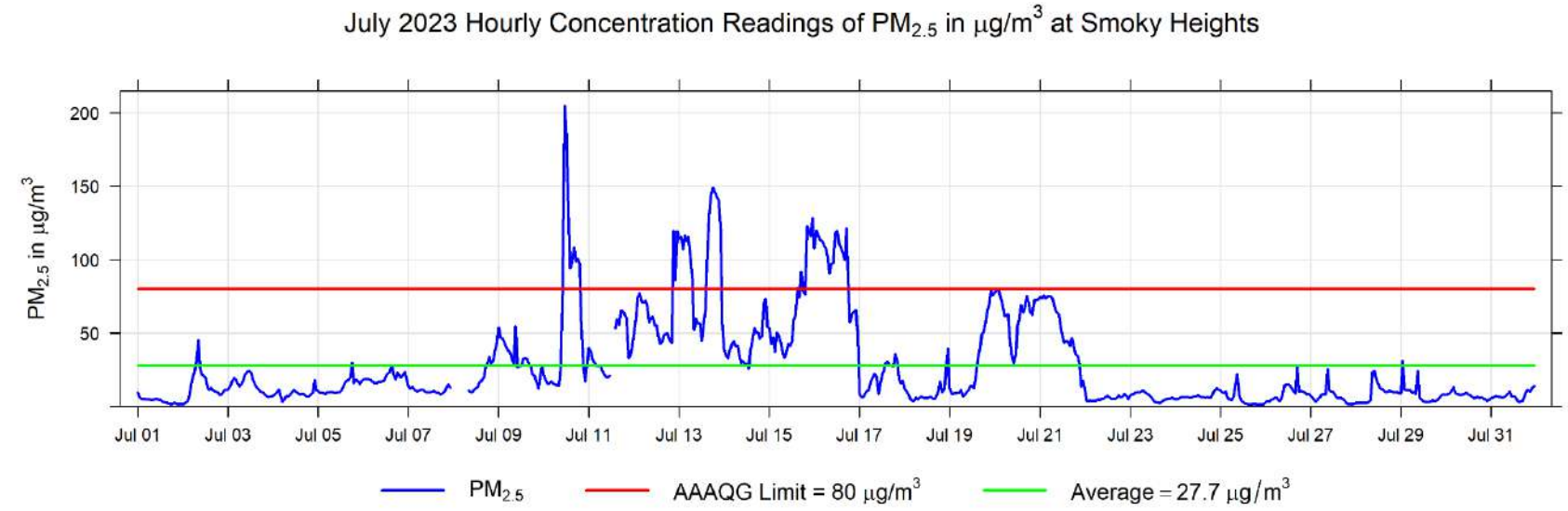


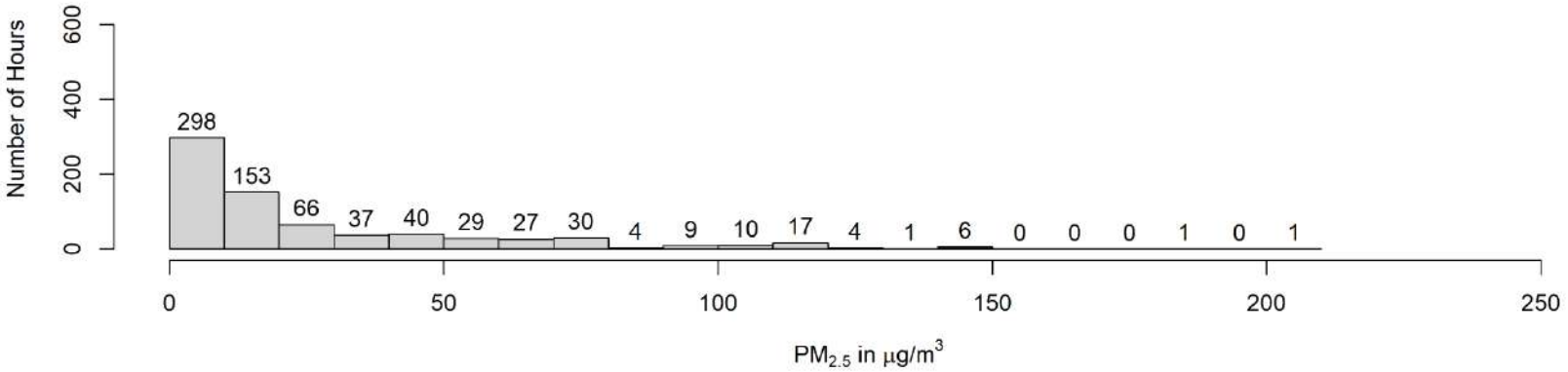

July 2023 Hourly Concentration Readings of SO2 (in ppb) at Smoky Heights
SO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO2
AAAQO Limit = 172 ppb
Average = 0.3 ppb

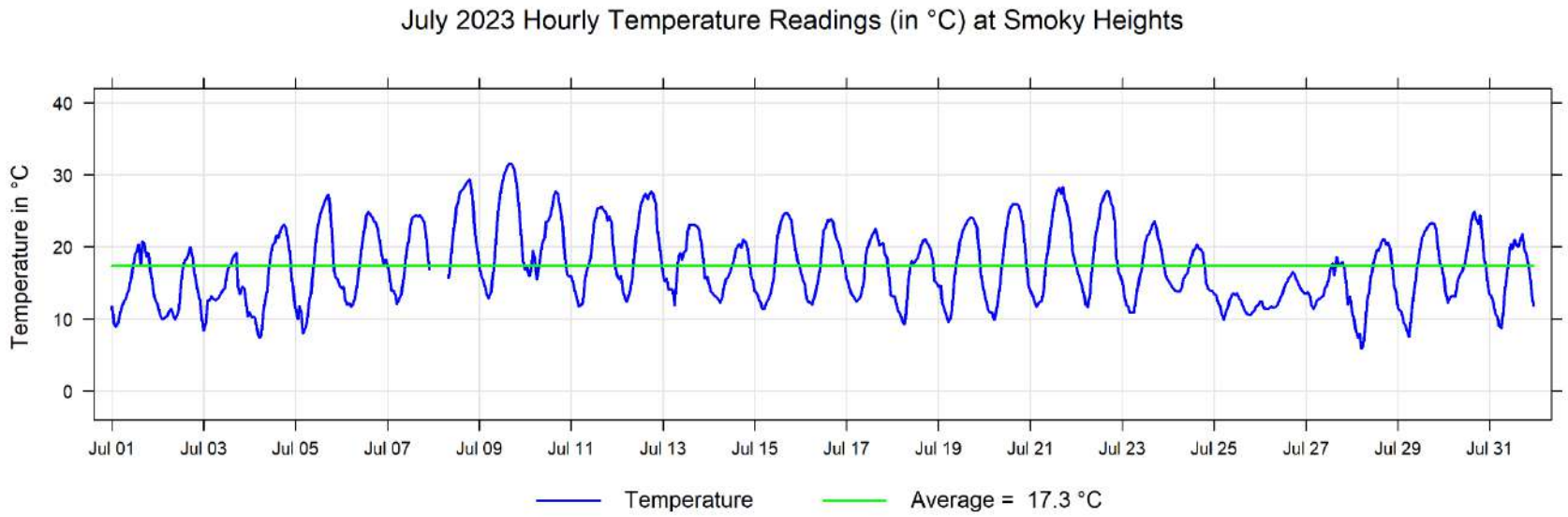

Number of Hours
0
200
400
600
581
82
16
9
2
5
1
0
1
0
1
1
0
2
4
6
8
10
12
SO2 in ppb

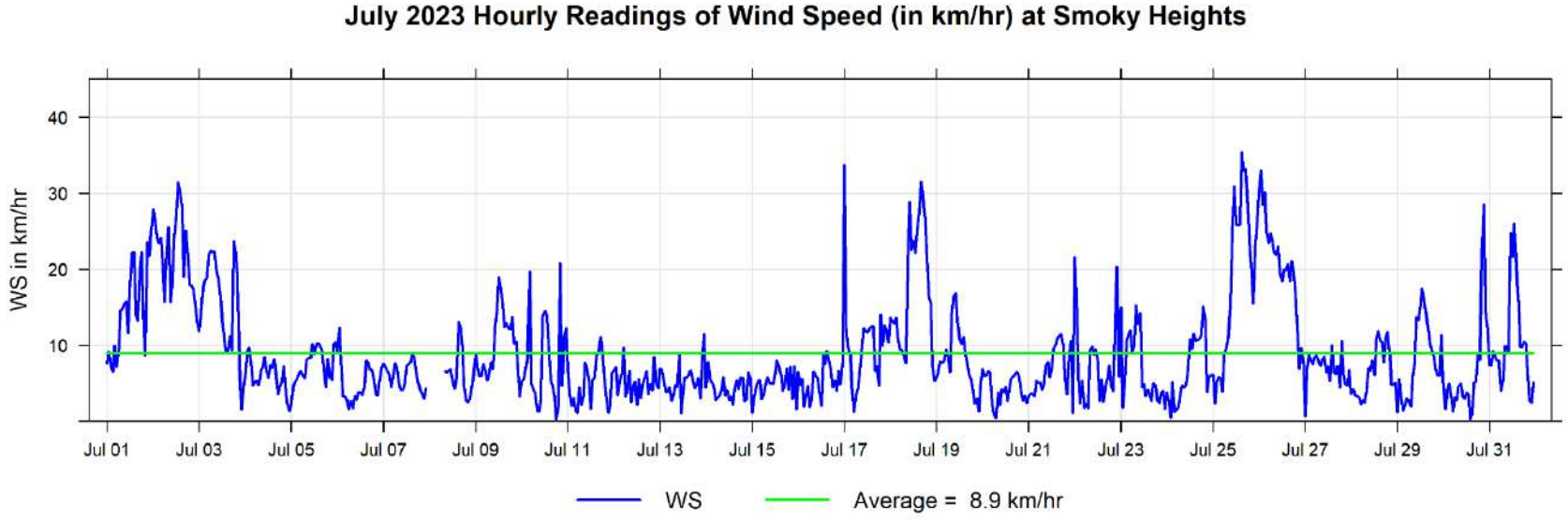


Note TRS <90% for month, average is valid as uptime >75%

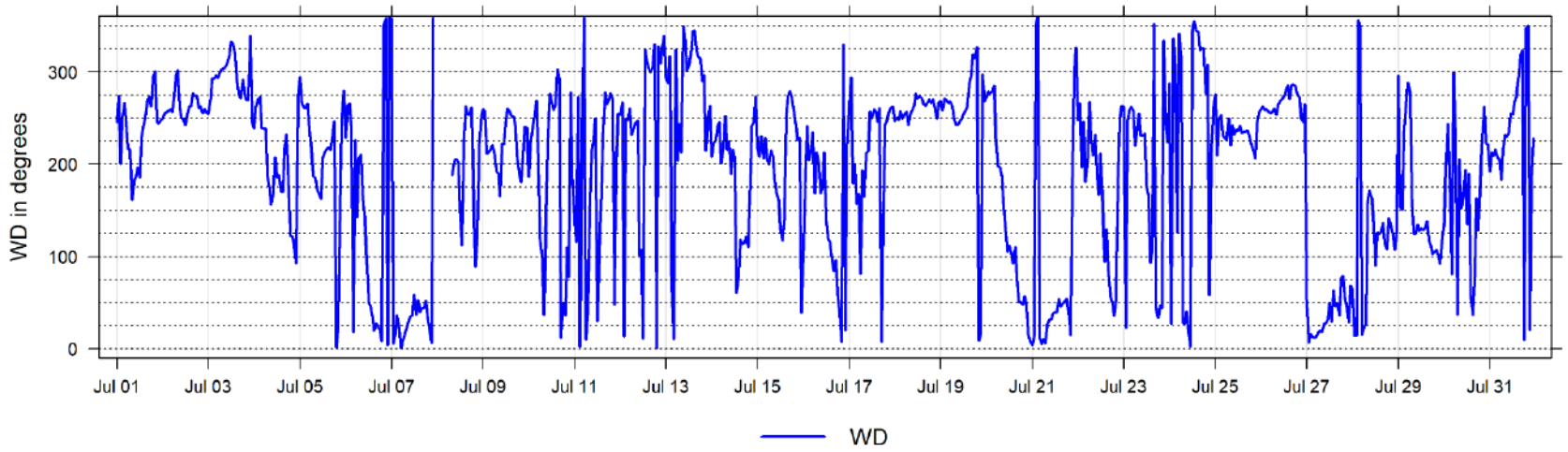

July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Smoky Heights
PM2.5 in µg/m3
200
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 27.7 µg/m3


Number of Hours
0
200
400
600
298
153
66
37
40
29
27
30
4
9
10
17
4
1
6
0
0
0
1
0
1
0
50
100
150
200
250
PM2.5 in µg/m3

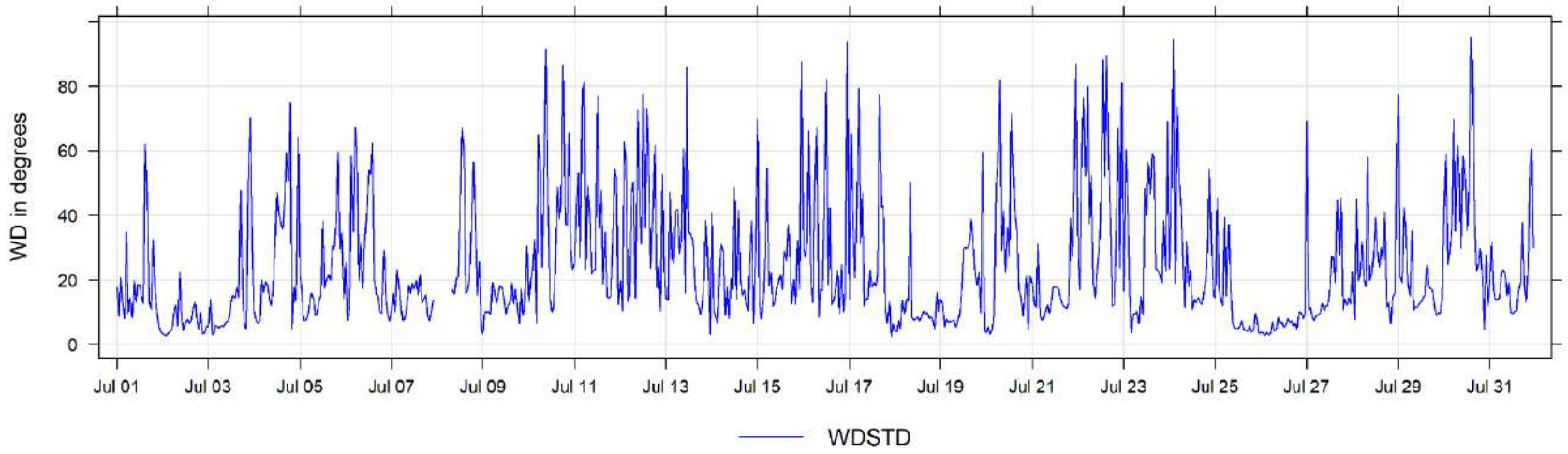

July 2023 Hourly Temperature Readings (in °C) at Smoky Heights
Temperature in °C
40
30
20
10
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
Temperature
Average = 17.3 °C

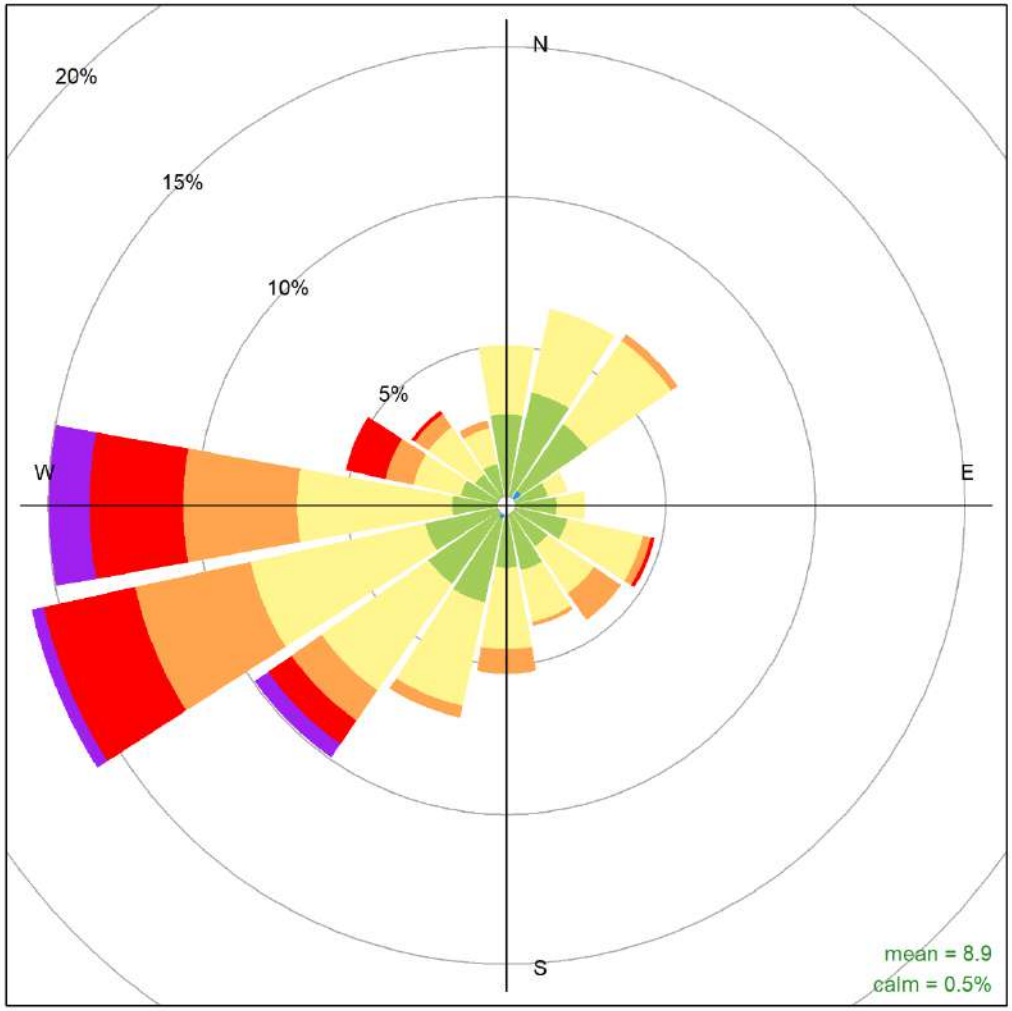

July 2023 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights
WS in km/hr
40
30
20
10
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 8.9 km/hr

July 2023 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Smoky Heights



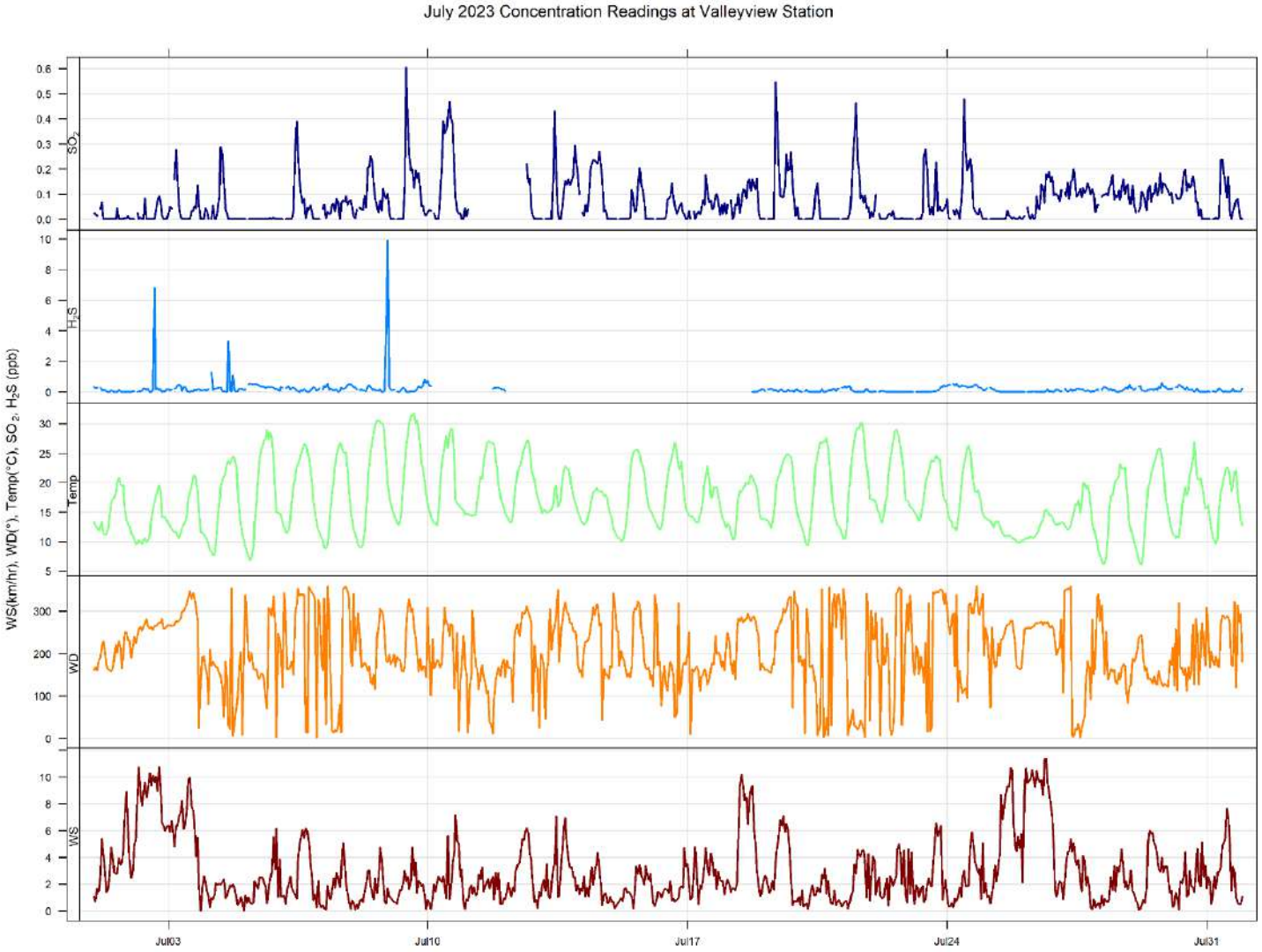


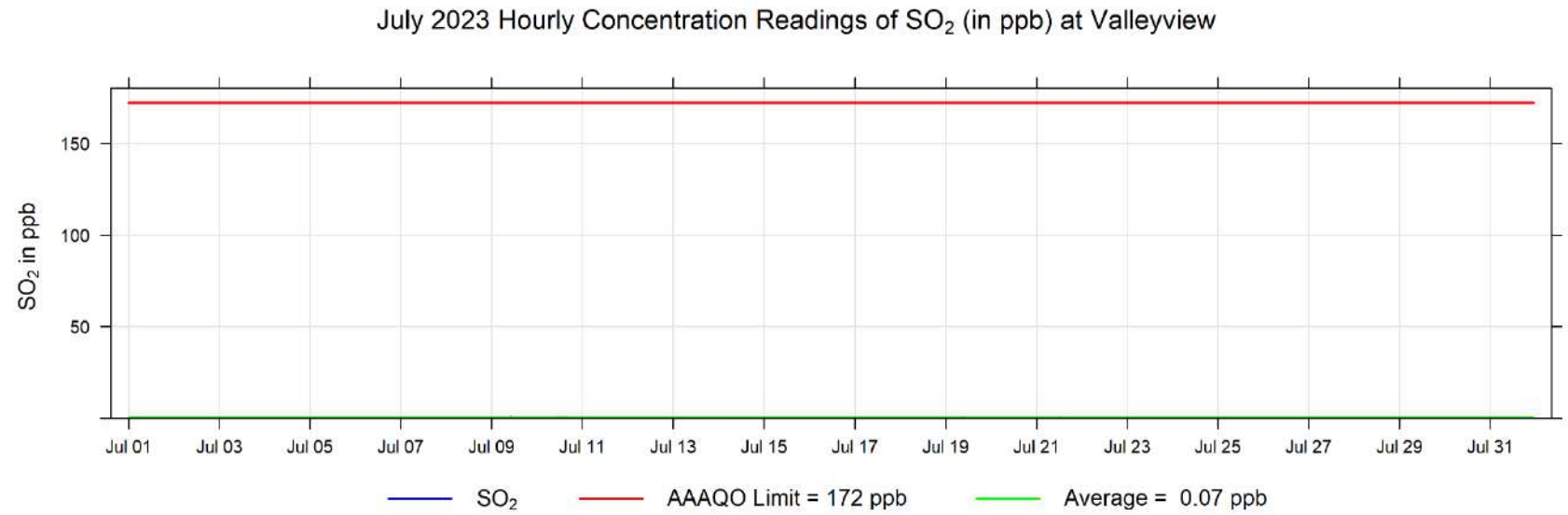
Smoky Heights July 2023 Wind Rose, wind speed in km/hr

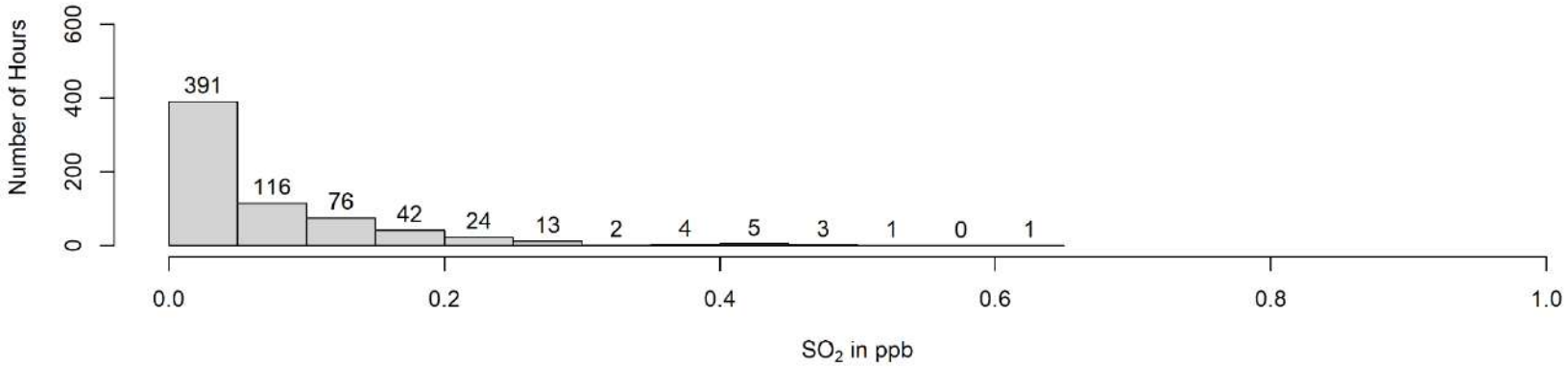
Frequency of counts by wind direction (%)

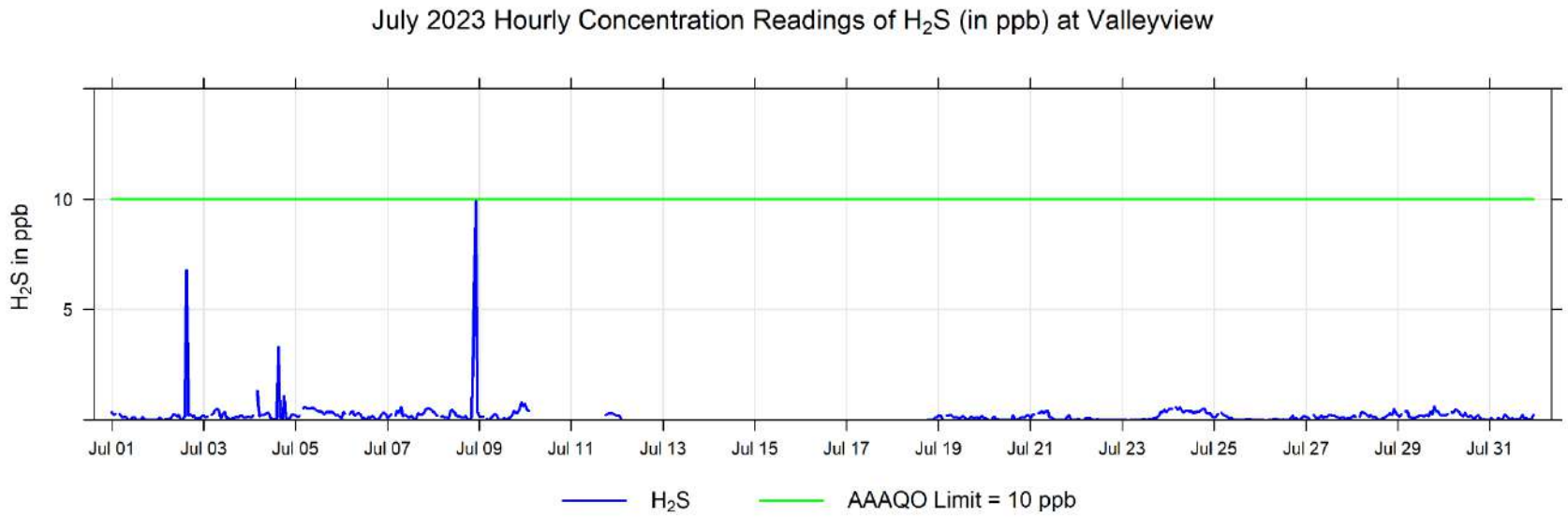
6 Valleyview Charts

The following pages include the charts and histograms for Valleyview Station

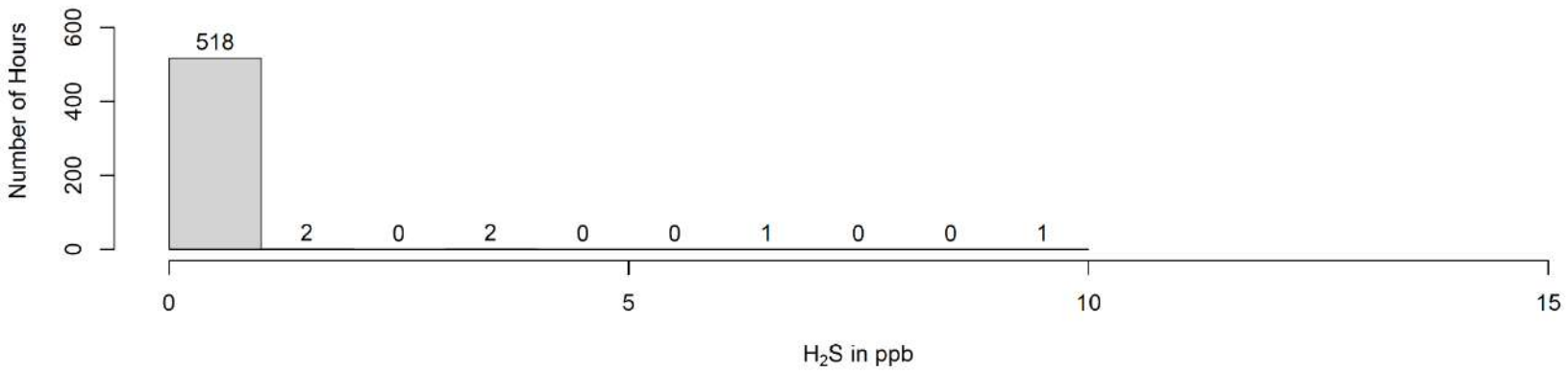


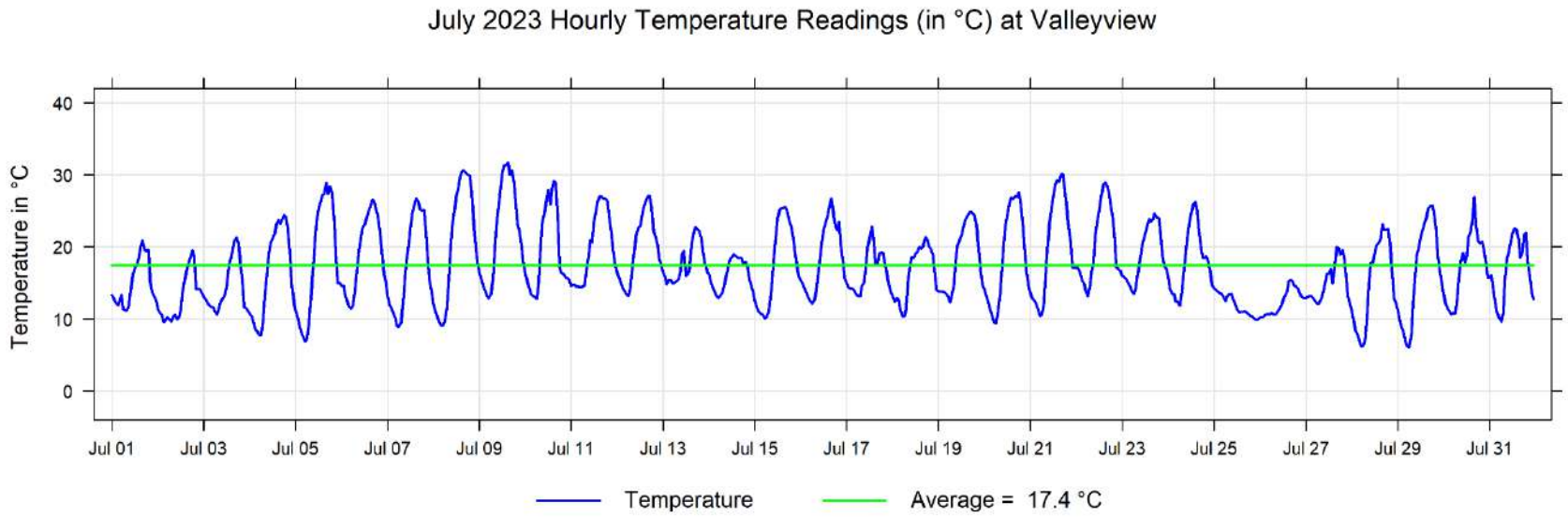

July 2023 Hourly Concentration Readings of SO2 (in ppb) at Valleyview
SO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO2
AAAQO Limit = 172 ppb
Average = 0.07 ppb

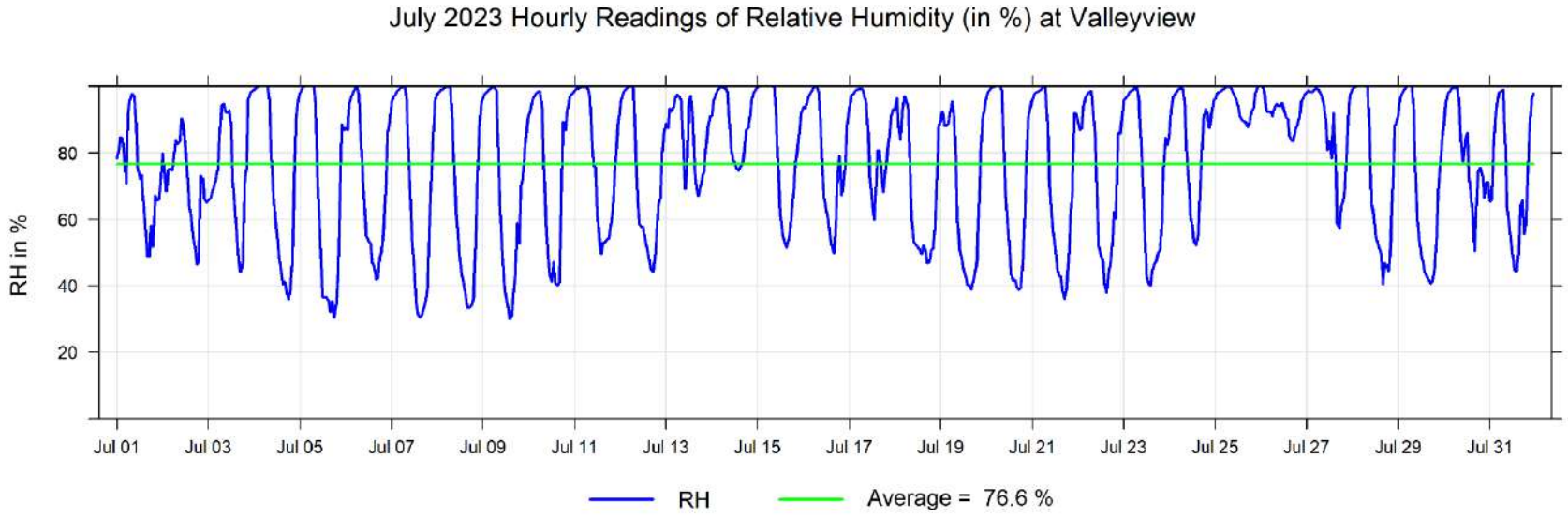

Number of Hours
0
200
400
600
391
116
76
42
24
13
2
4
5
3
1
0
1
0.0
0.2
0.4
0.6
0.8
1.0
SO2 in ppb

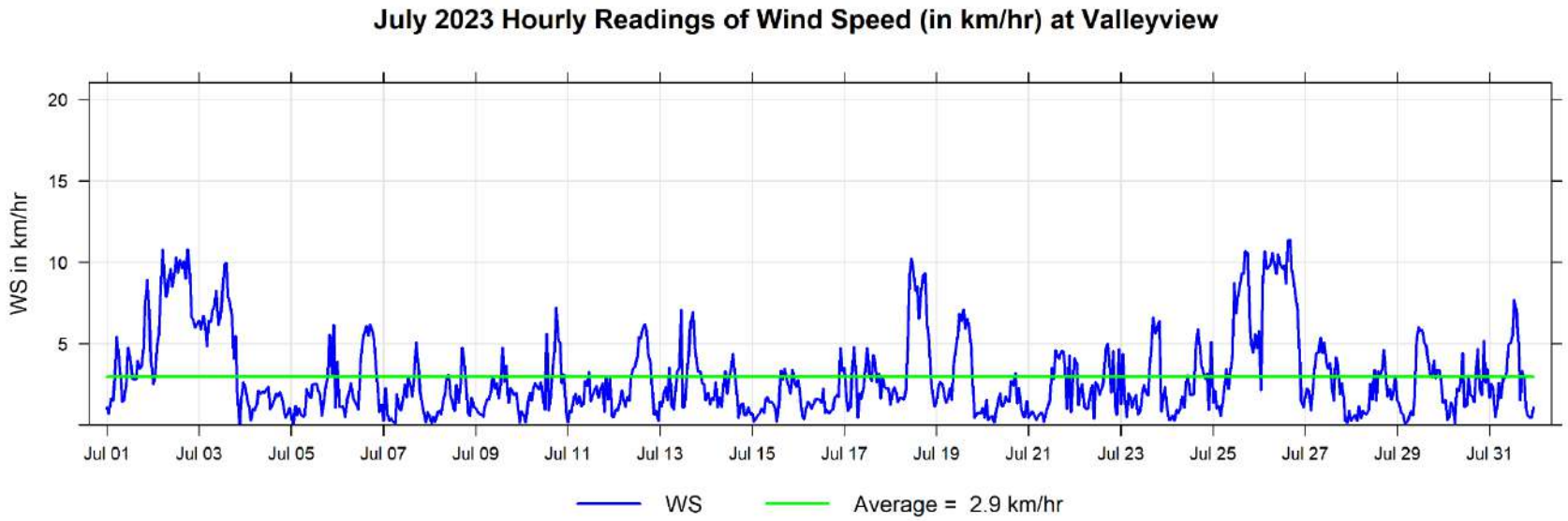


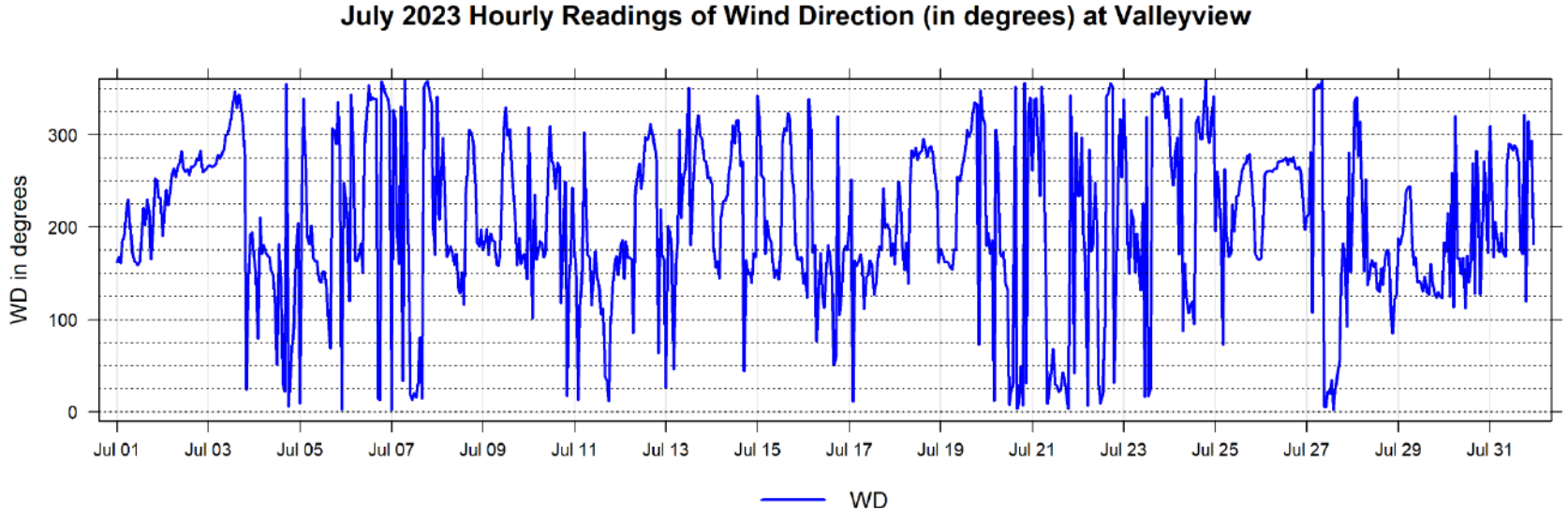
Note H_2S <75% for month, average is not valid

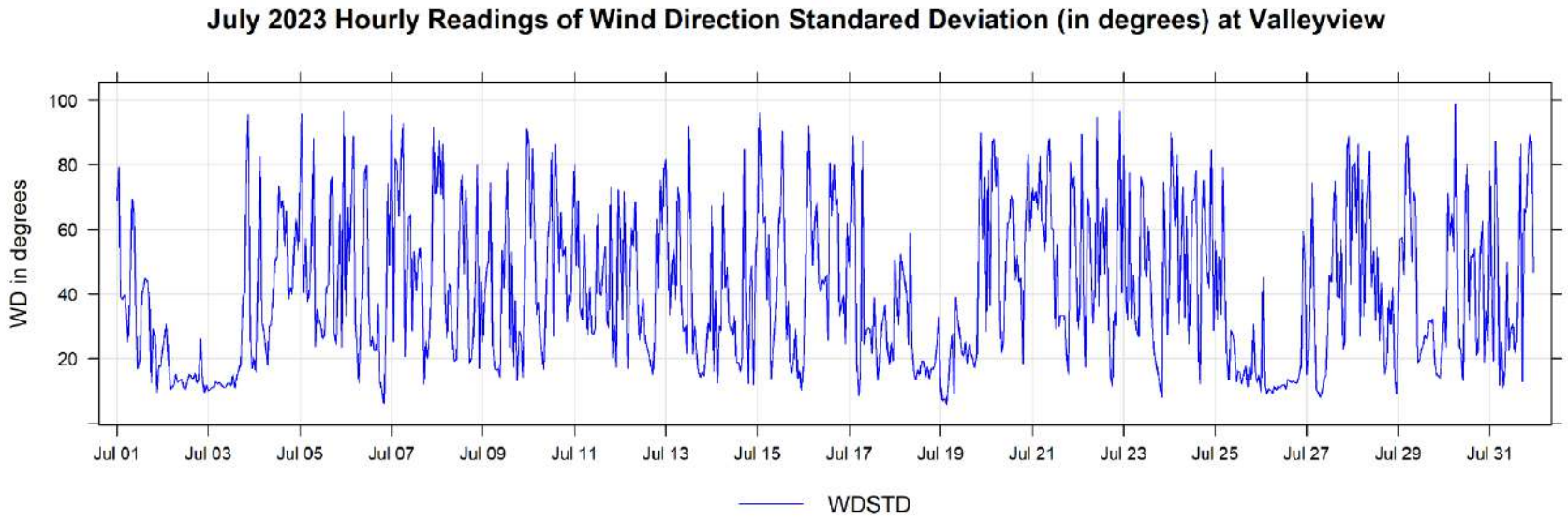


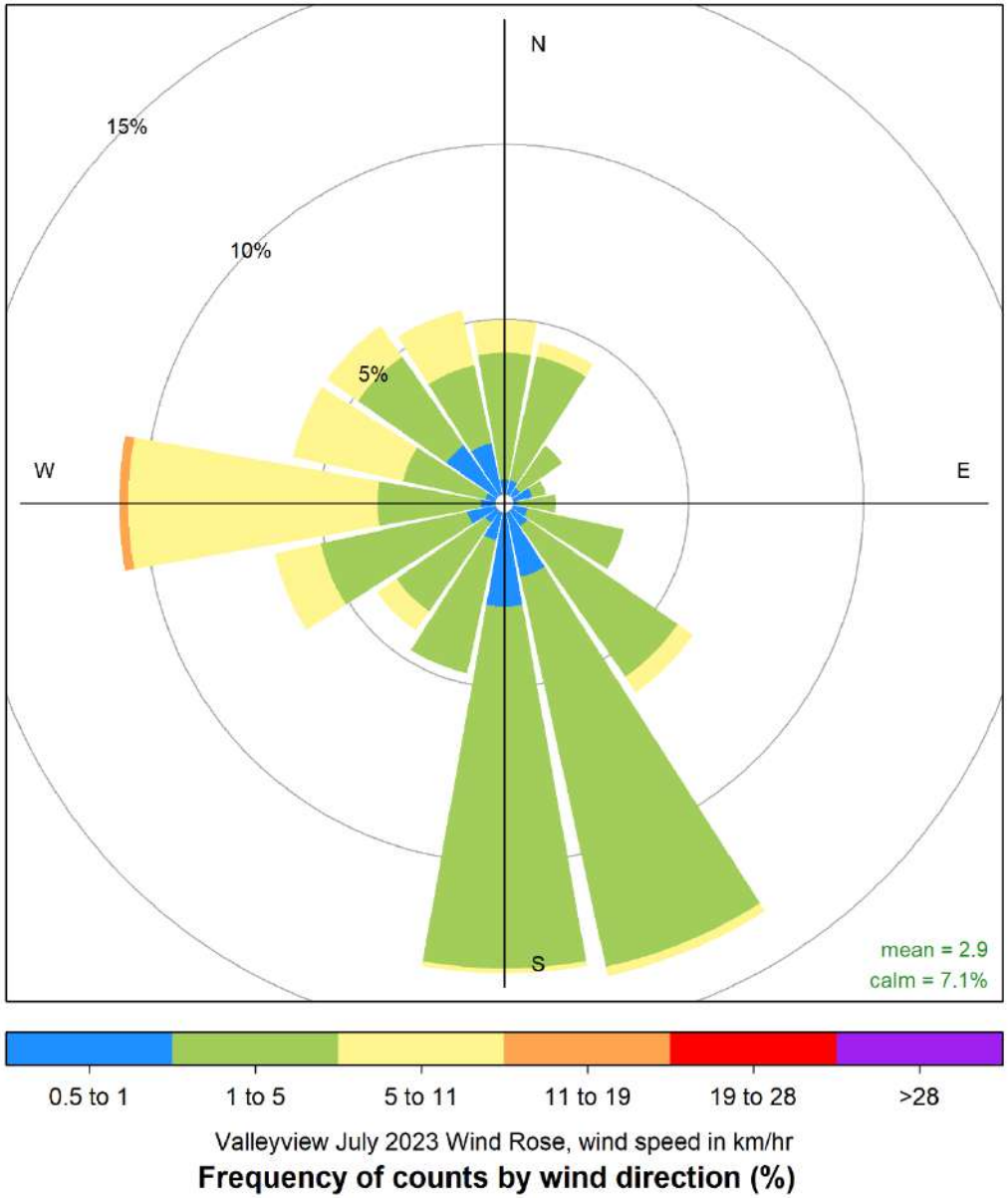

July 2023 Hourly Temperature Readings (in °C) at Valleyview
Temperature in °C
40
30
20
10
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
Temperature
Average = 17.4 °C


July 2023 Hourly Readings of Relative Humidity (in %) at Valleyview
RH in %
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
RH
Average = 76.6 %


July 2023 Hourly Readings of Wind Speed (in km/hr) at Valleyview
WS in km/hr
20
15
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 2.9 km/hr

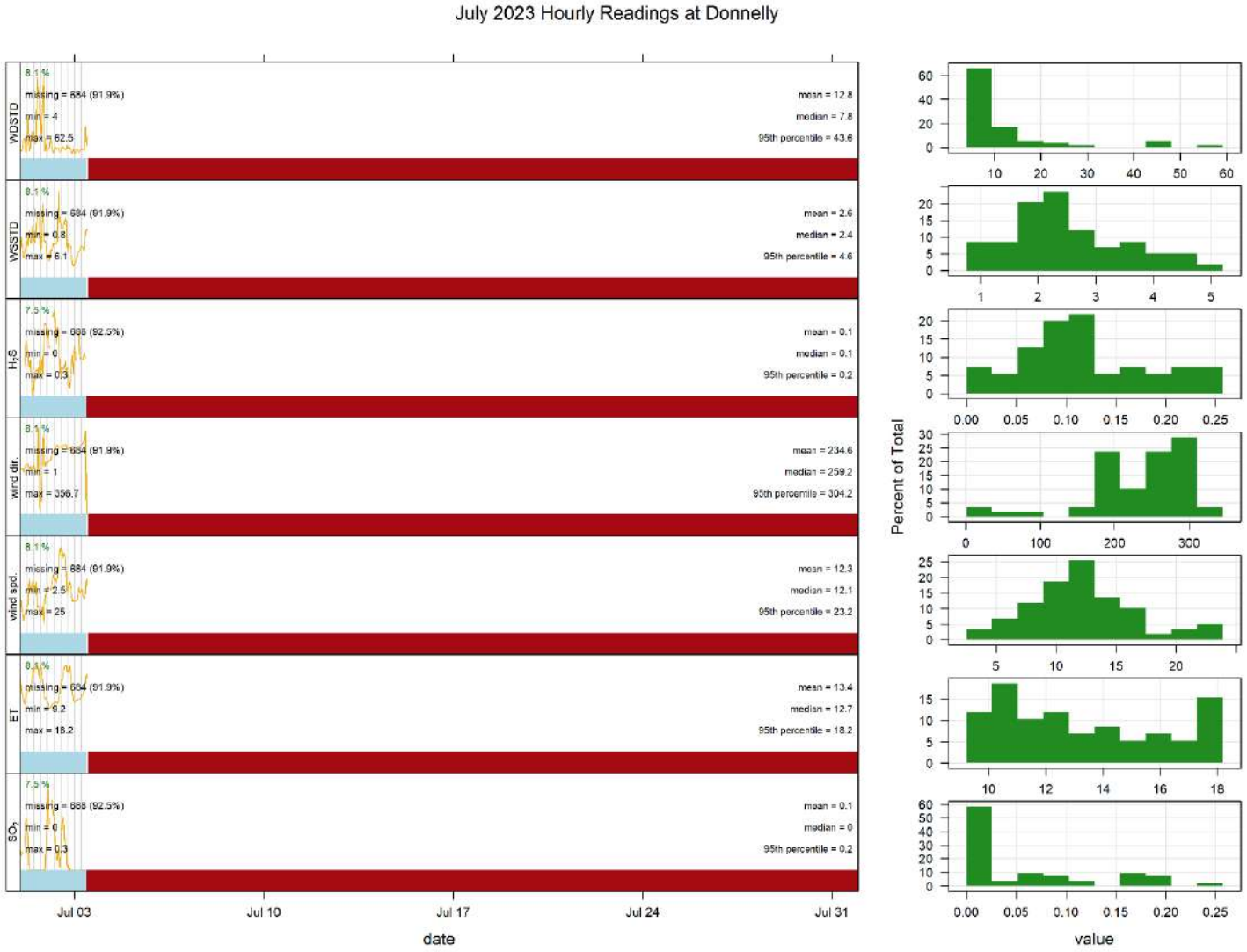

July 2023 Hourly Readings of Wind Direction (in degrees) at Valleyview
WD in degrees
300
200
100
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WD


July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Valleyview
WD in degrees
100
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WDSTD


N
15%
10%
5%
W
E
S
mean = 2.9
calm = 7.1%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Valleyview July 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

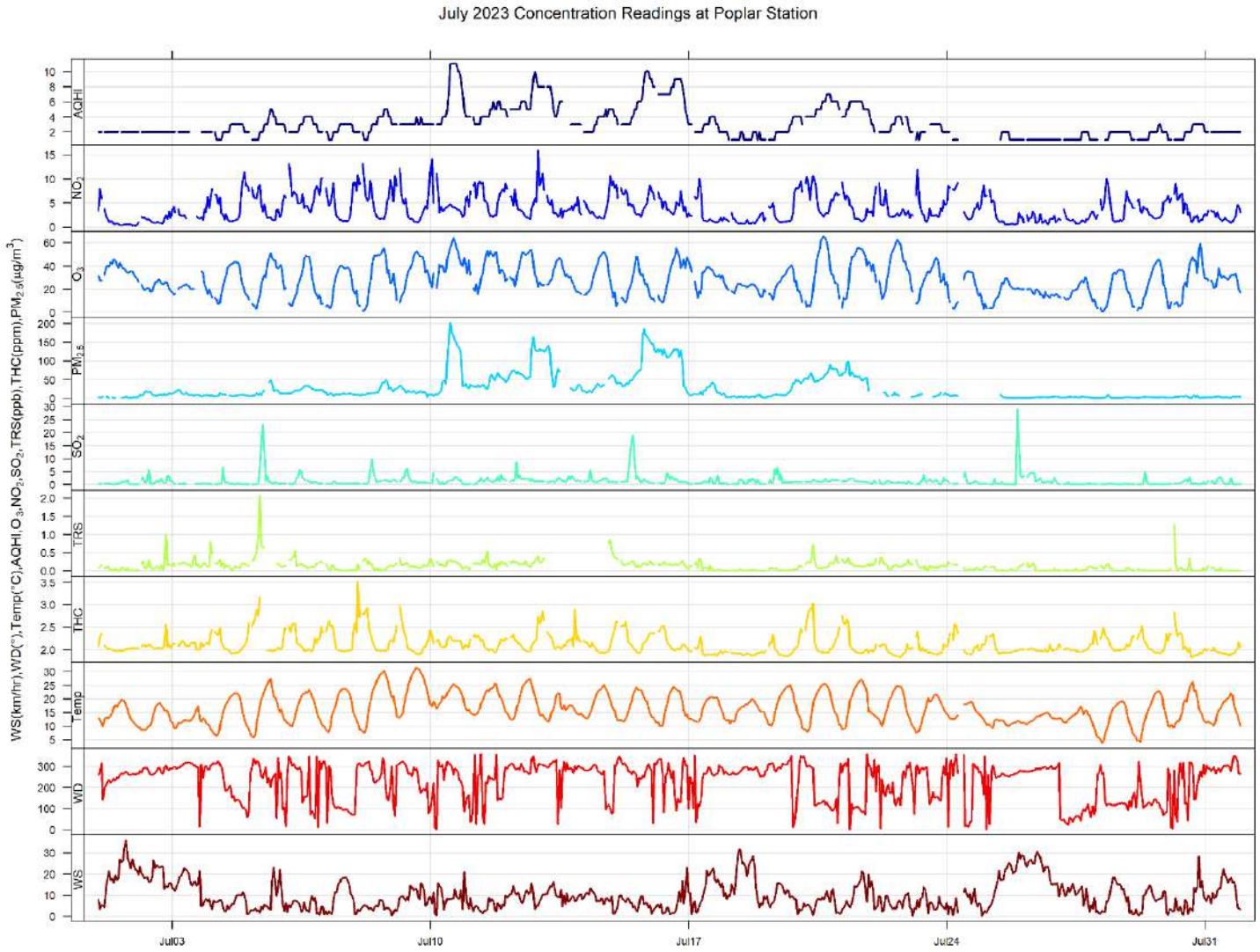
7 Donnelly Charts – Station Decommissioned on July 03, 2023

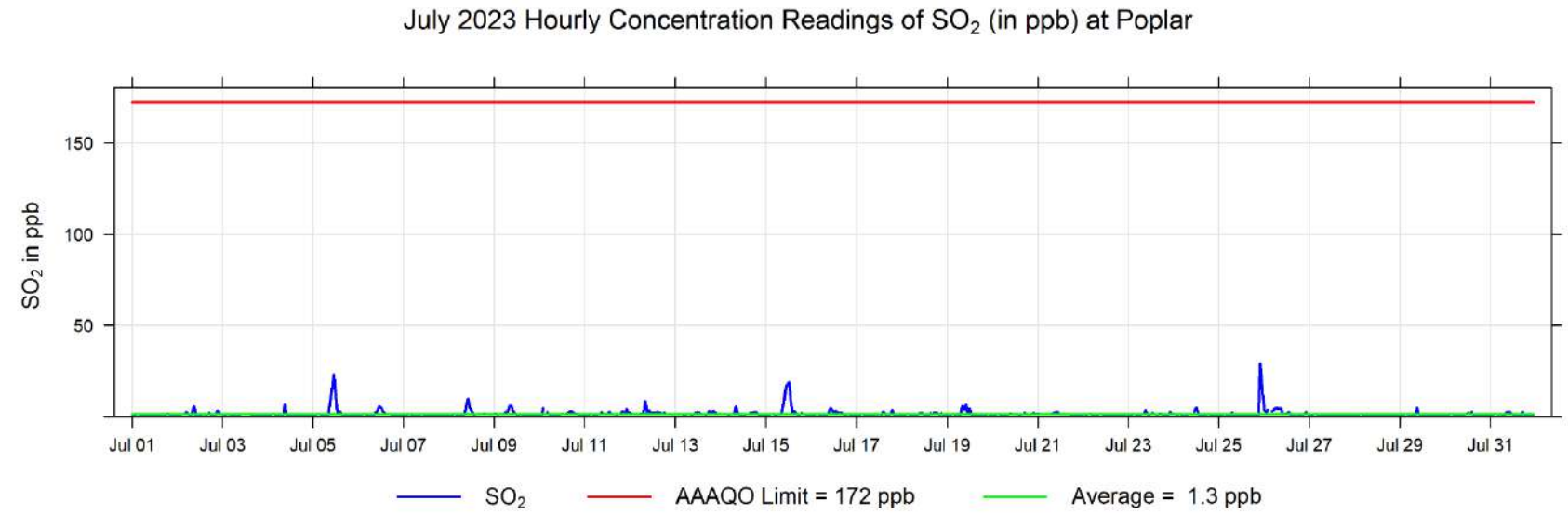
The following charts and histograms are not displayed for Donnelly Station due to shutdown early in Month

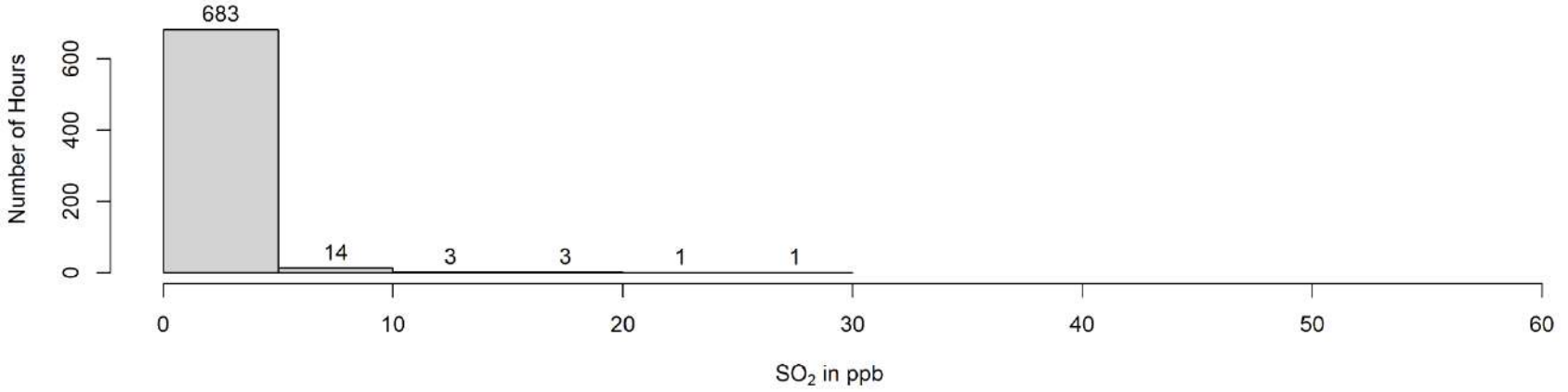


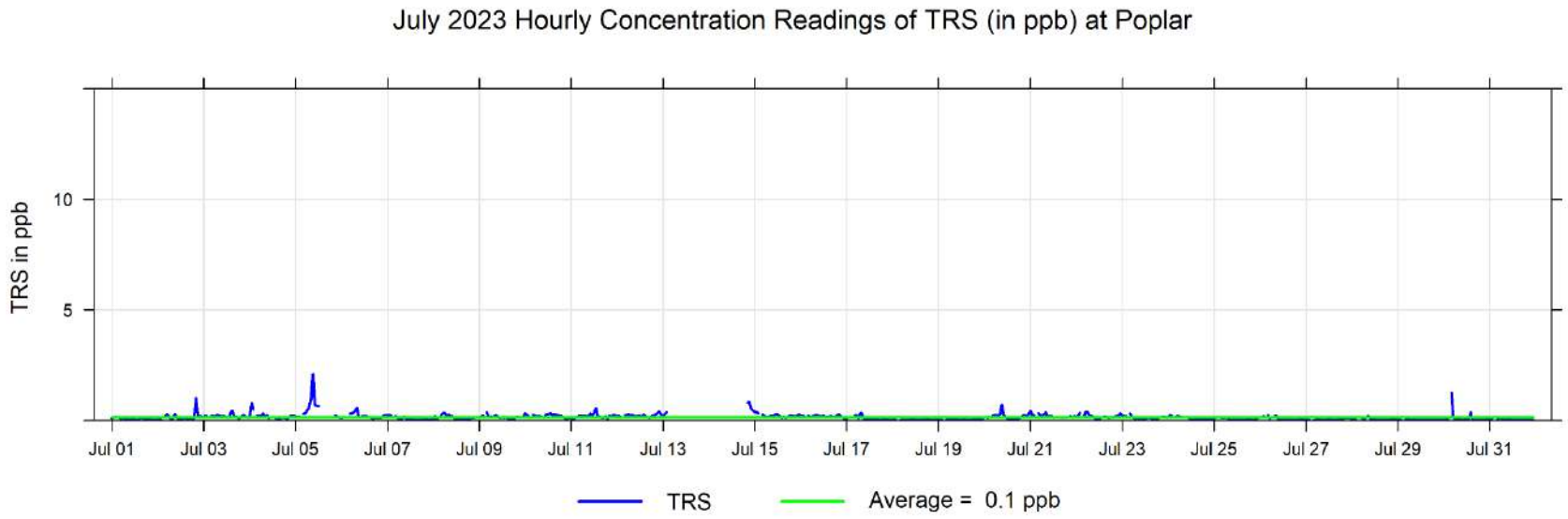
8 Poplar (Portable) Charts

The following pages include the charts and histograms for Poplar Portable Station

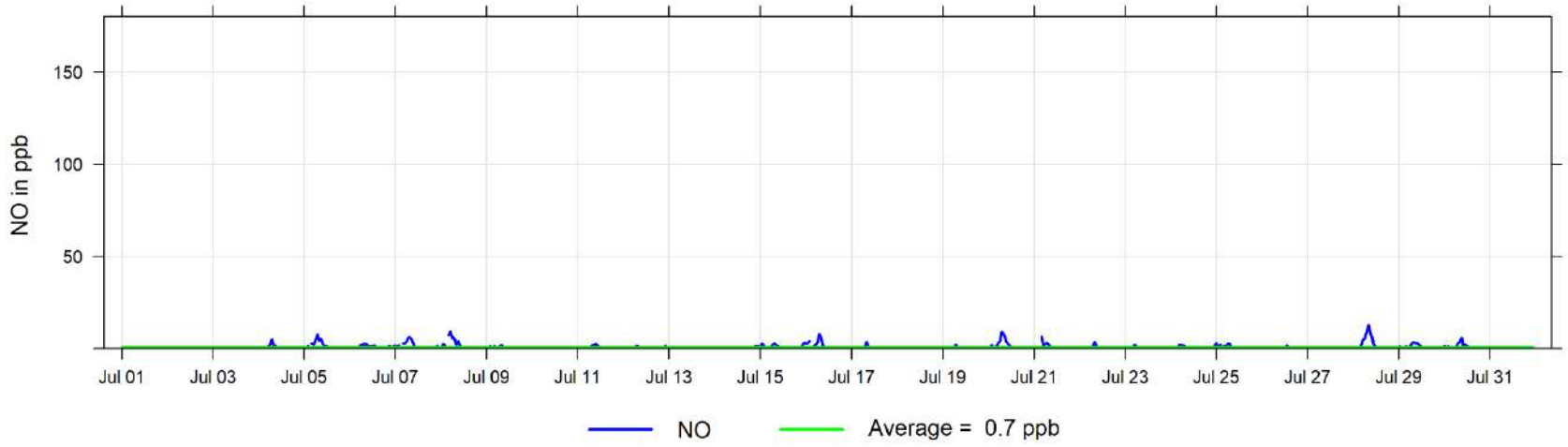



July 2023 Hourly Concentration Readings of SO_2 (in ppb) at Poplar
SO_2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
SO_2
AAAQO Limit = 172 ppb
Average = 1.3 ppb

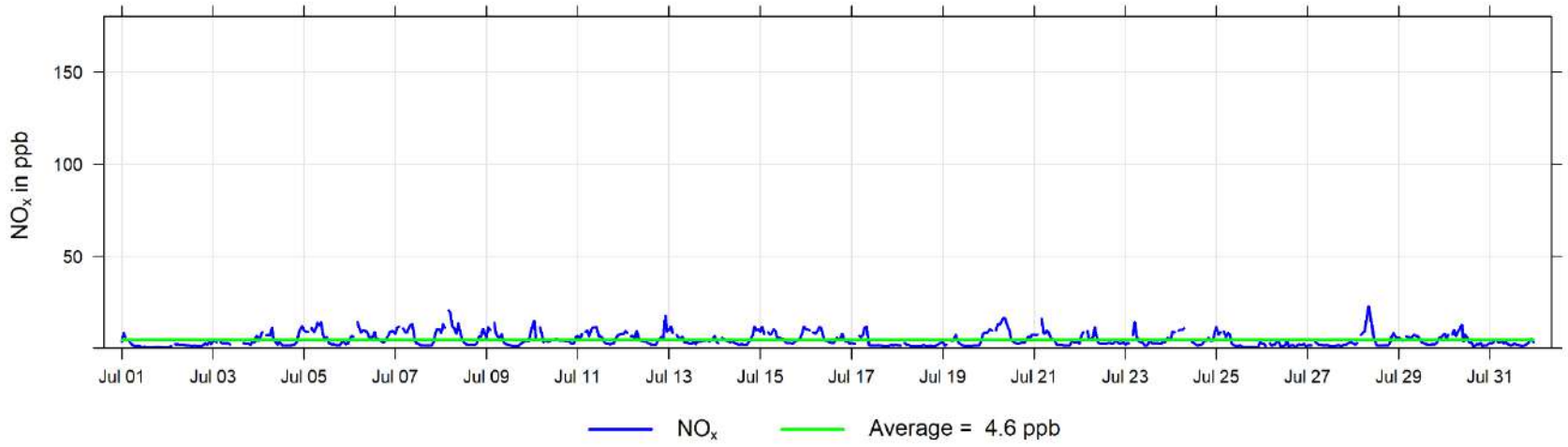

Number of Hours
0
200
400
600
683
14
3
3
1
1
0
10
20
30
40
50
60
SO_2 in ppb

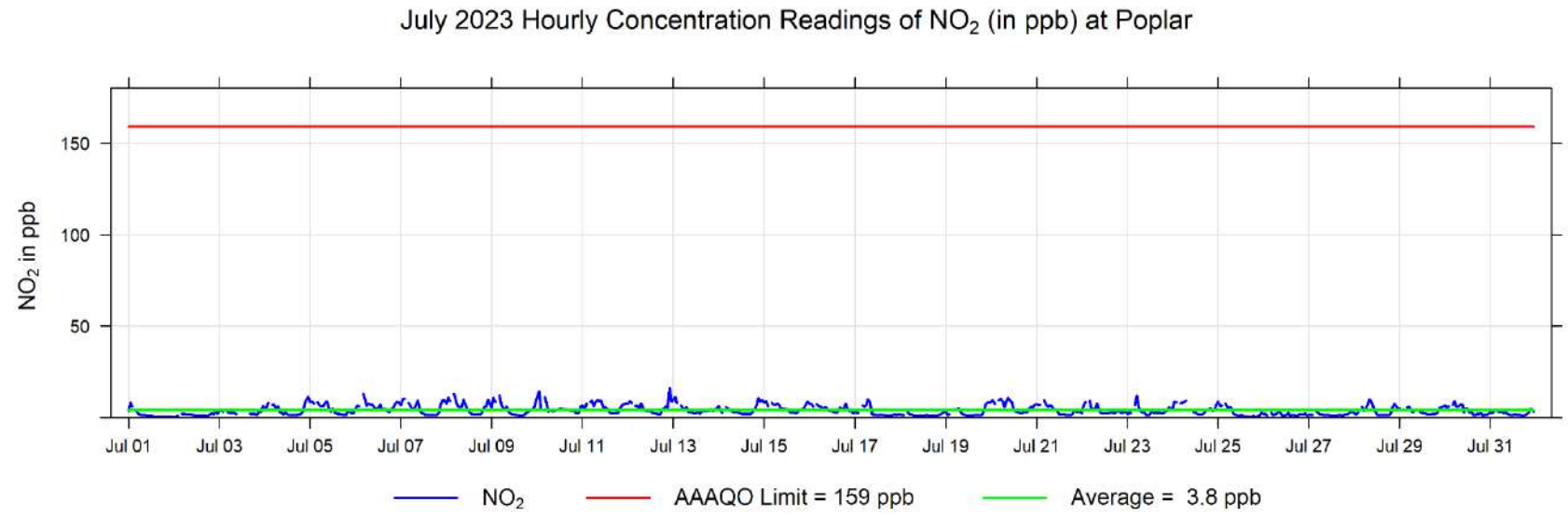

July 2023 Hourly Concentration Readings of TRS (in ppb) at Poplar
TRS in ppb
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
TRS
Average = 0.1 ppb

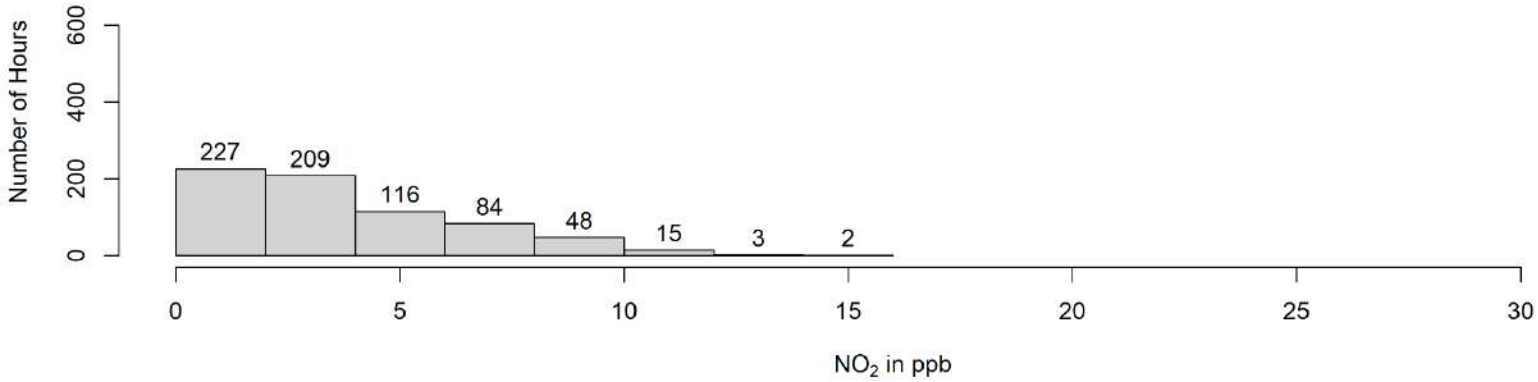
July 2023 Hourly Concentration Readings of NO (in ppb) at Poplar

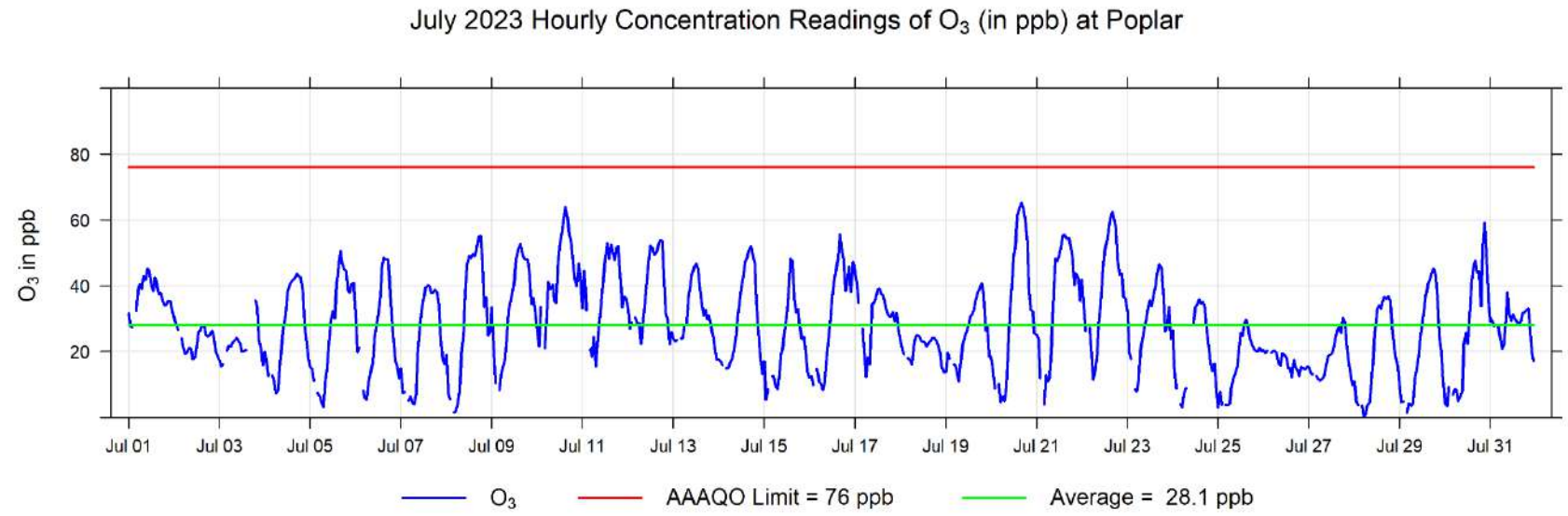


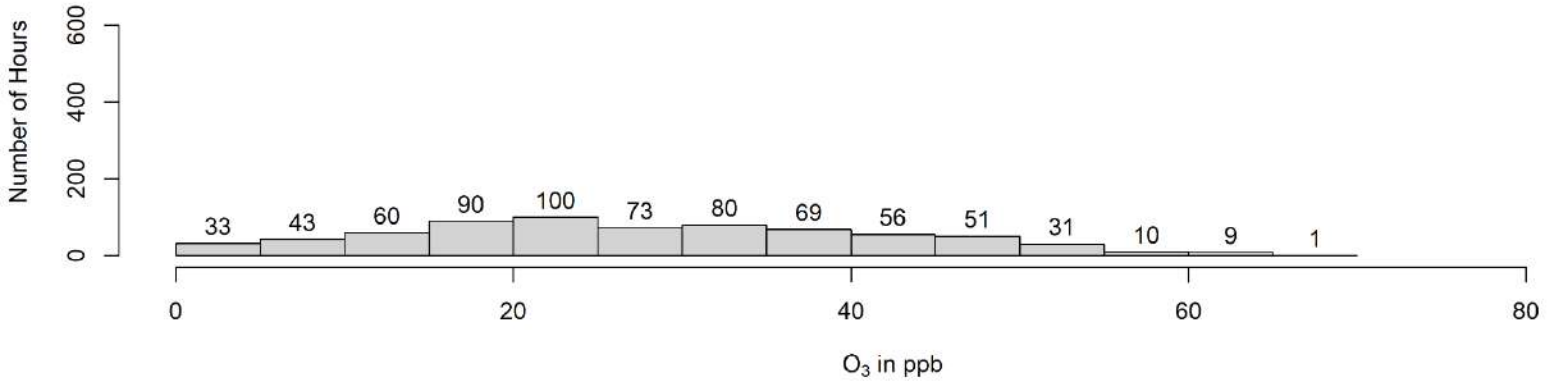
July 2023 Hourly Concentration Readings of NO_x (in ppb) at Poplar

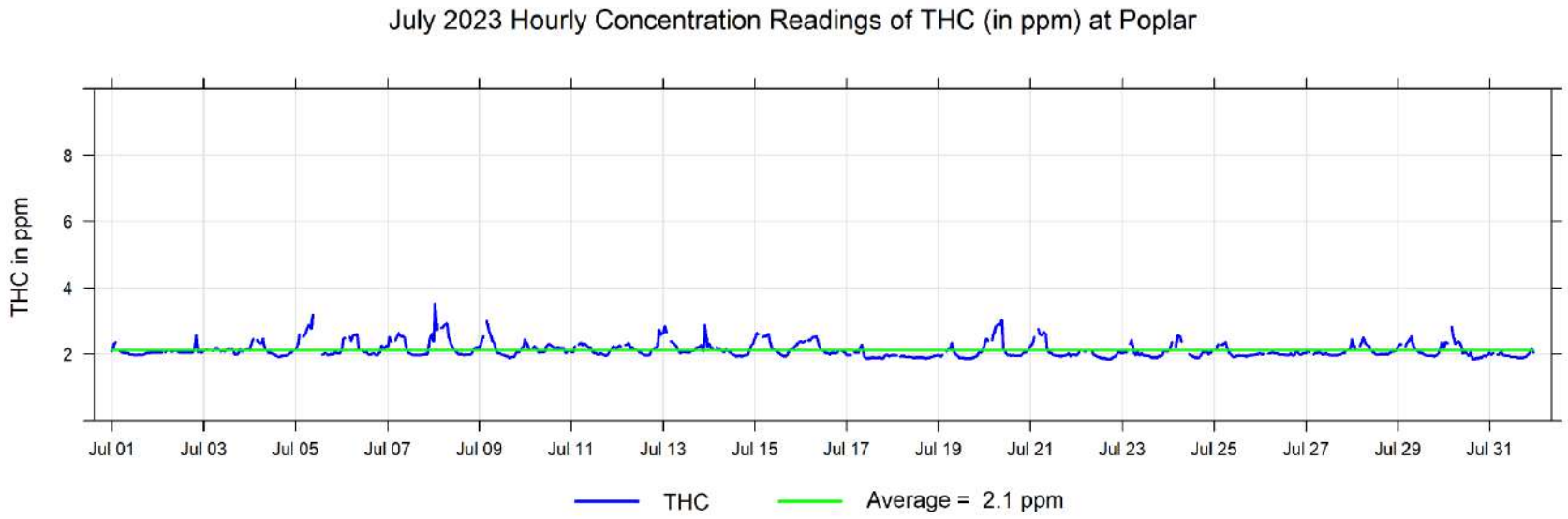


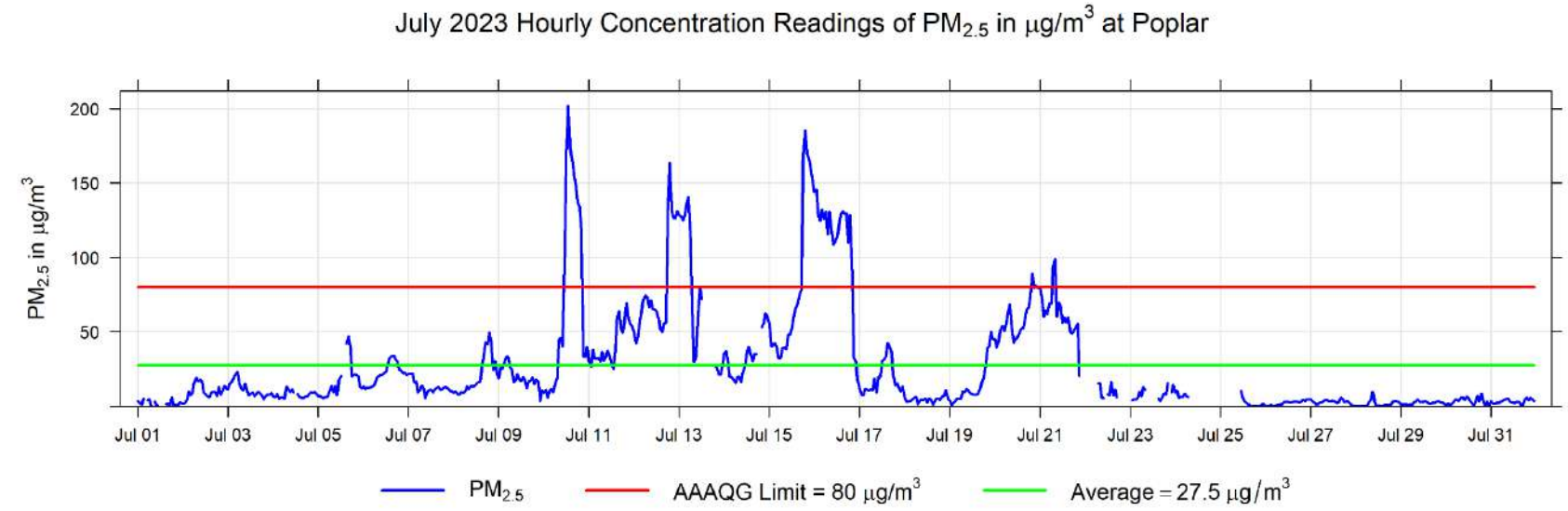

July 2023 Hourly Concentration Readings of NO2 (in ppb) at Poplar
NO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO2
AAAQO Limit = 159 ppb
Average = 3.8 ppb

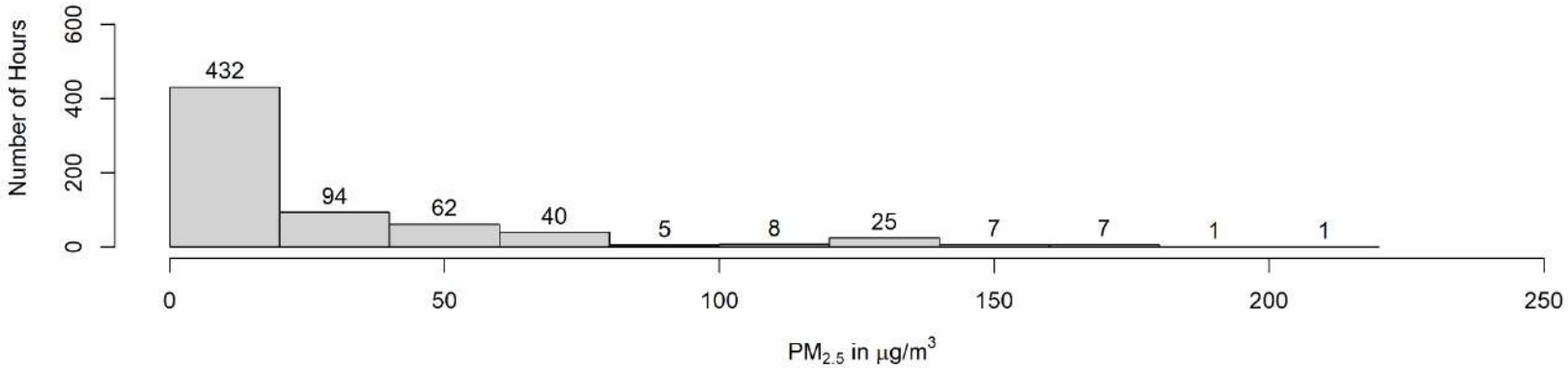

Number of Hours
0
200
400
600
227
209
116
84
48
15
3
2
0
5
10
15
20
25
30
NO2 in ppb

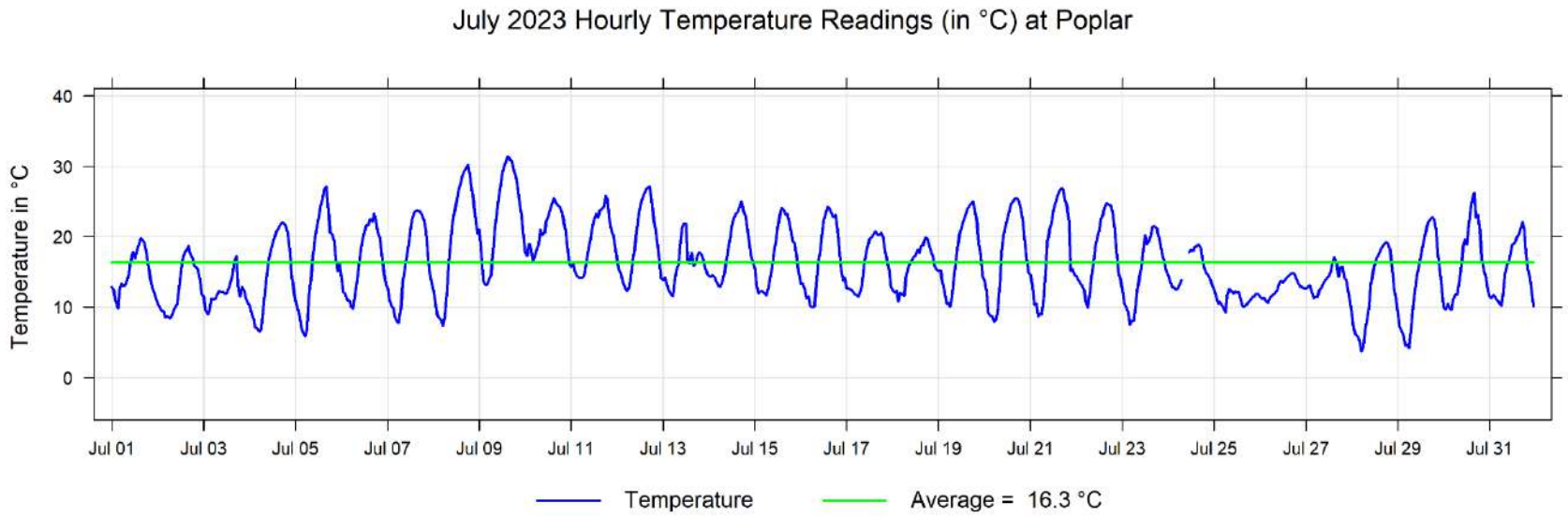

July 2023 Hourly Concentration Readings of O_3 (in ppb) at Poplar
O_3 in ppb
80
60
40
20
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
O_3
AAAQO Limit = 76 ppb
Average = 28.1 ppb

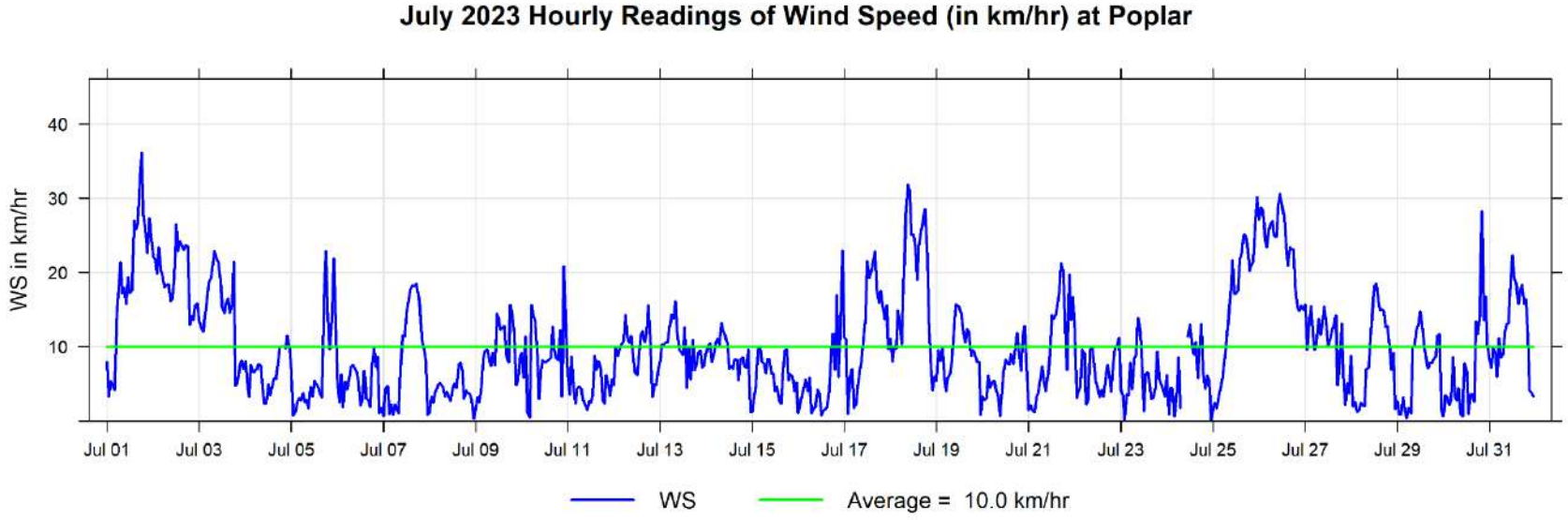

Number of Hours
0
200
400
600
33
43
60
90
100
73
80
69
56
51
31
10
9
1
0
20
40
60
80
O_3 in ppb

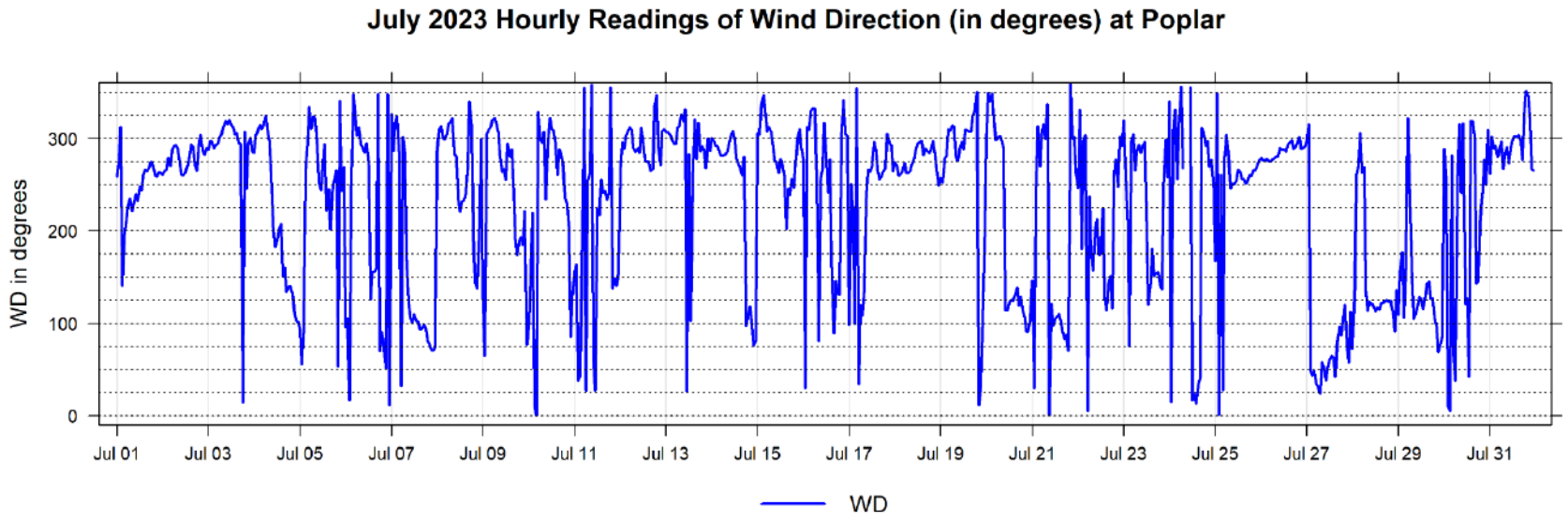

July 2023 Hourly Concentration Readings of THC (in ppm) at Poplar
THC in ppm
8
6
4
2
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
THC
Average = 2.1 ppm

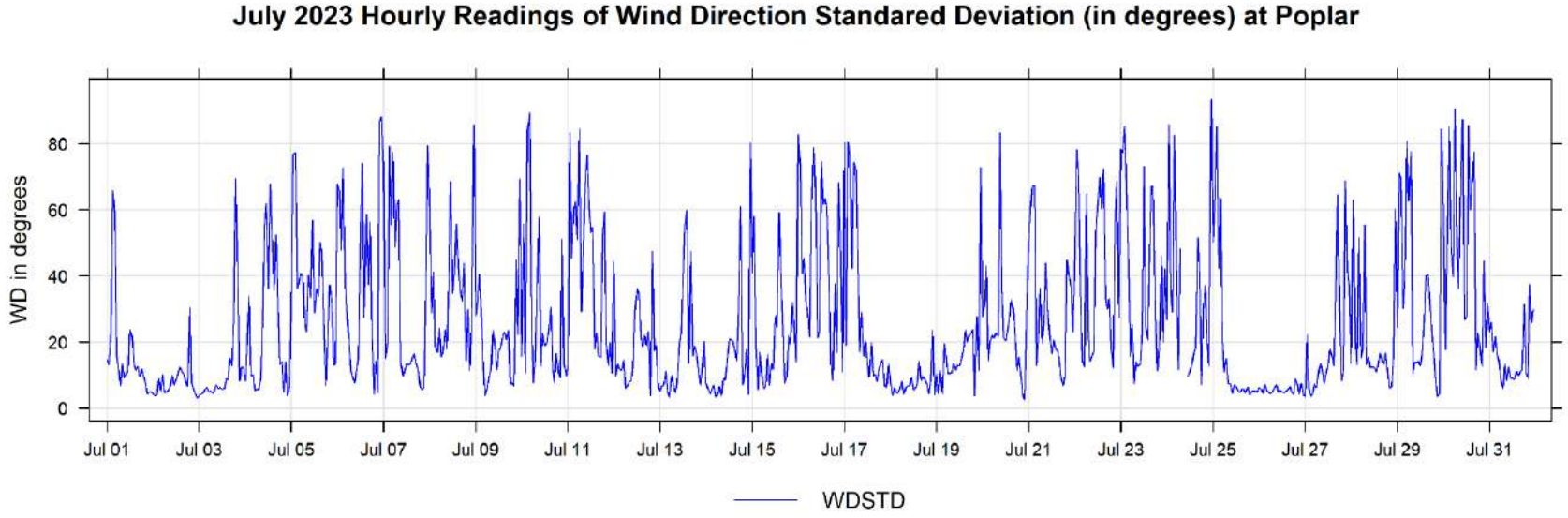

July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Poplar
PM2.5 in µg/m3
200
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 27.5 µg/m3

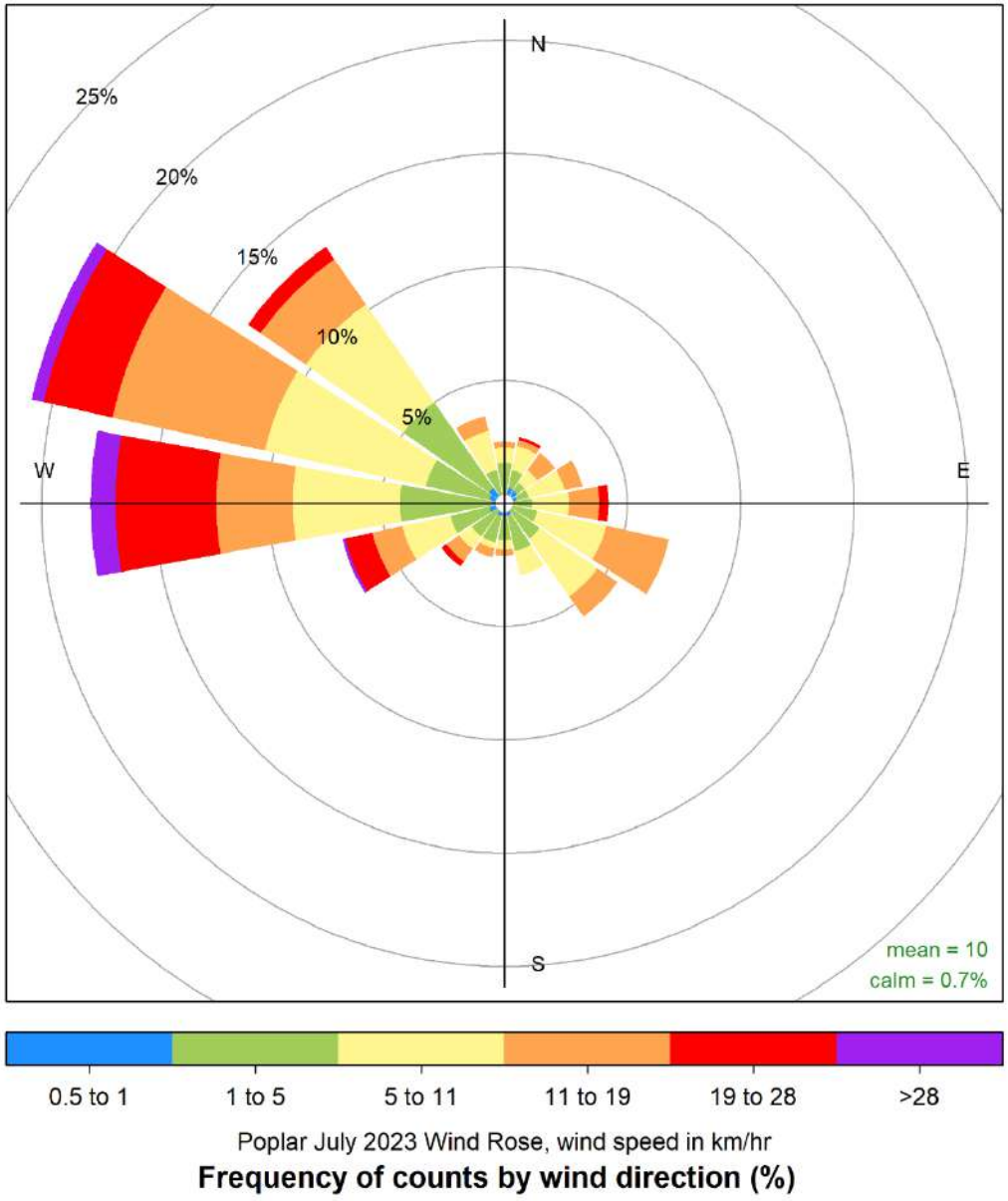

Number of Hours
0
200
400
600
432
94
62
40
5
8
25
7
7
1
1
0
50
100
150
200
250
PM2.5 in µg/m3


July 2023 Hourly Temperature Readings (in °C) at Poplar
Temperature in °C
40
30
20
10
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
Temperature
Average = 16.3 °C


July 2023 Hourly Readings of Wind Speed (in km/hr) at Poplar
WS in km/hr
40
30
20
10
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 10.0 km/hr

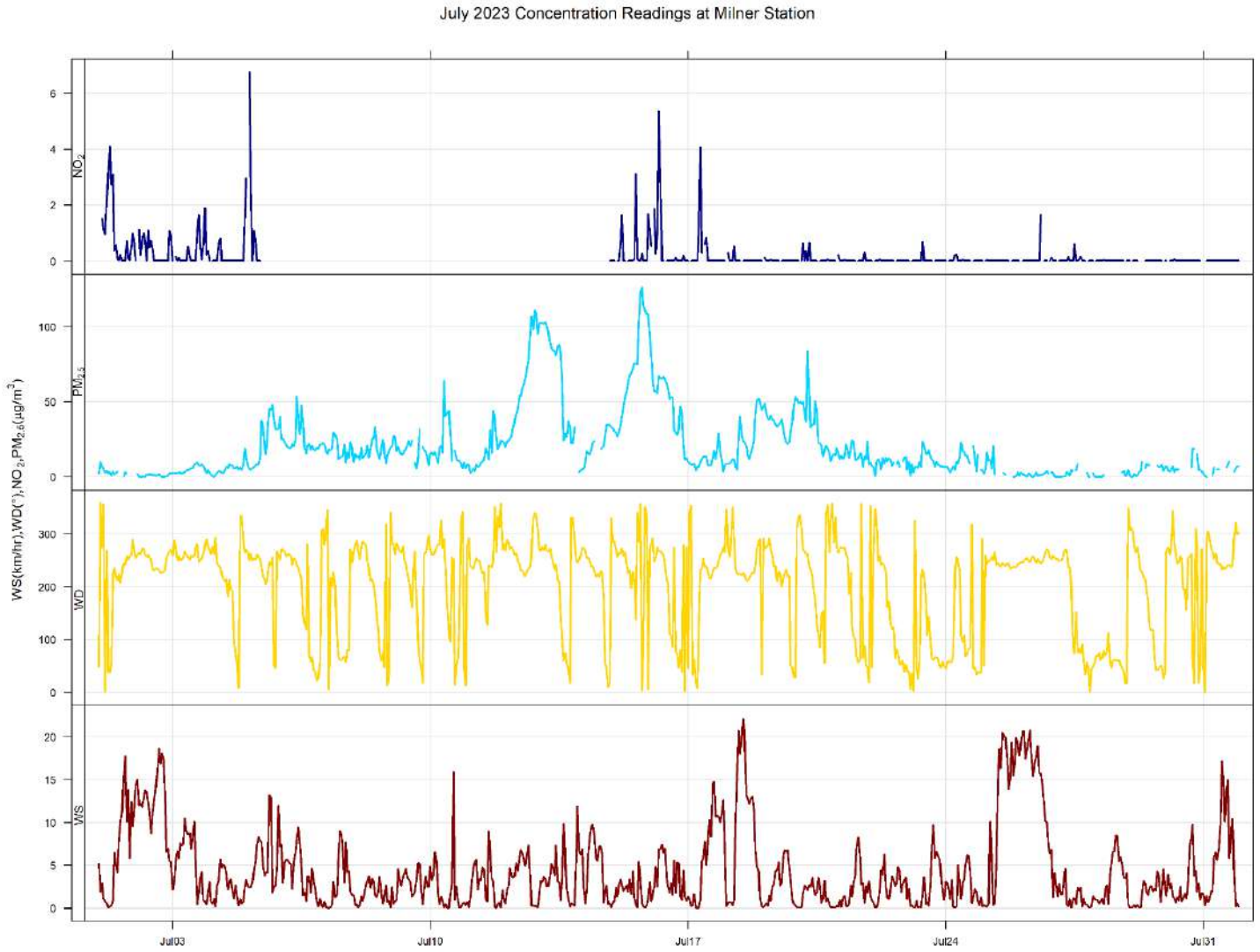

July 2023 Hourly Readings of Wind Direction (in degrees) at Poplar
WD in degrees
0
100
200
300
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WD

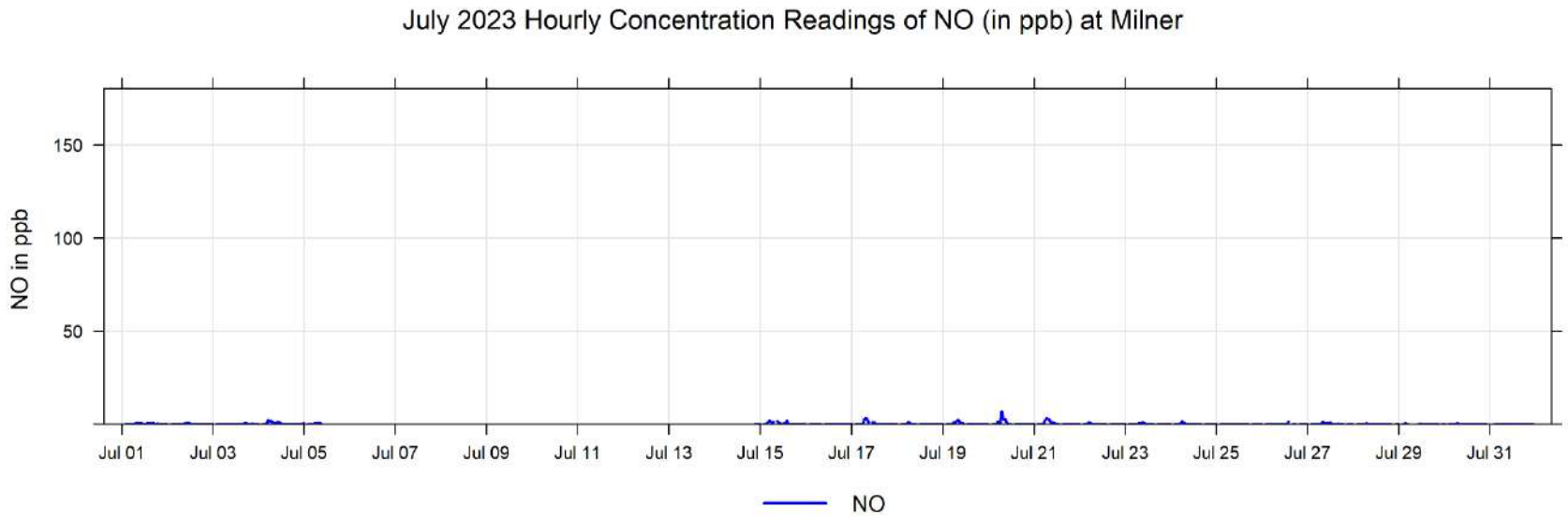

July 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Poplar
WD in degrees
0
20
40
60
80
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WDSTD

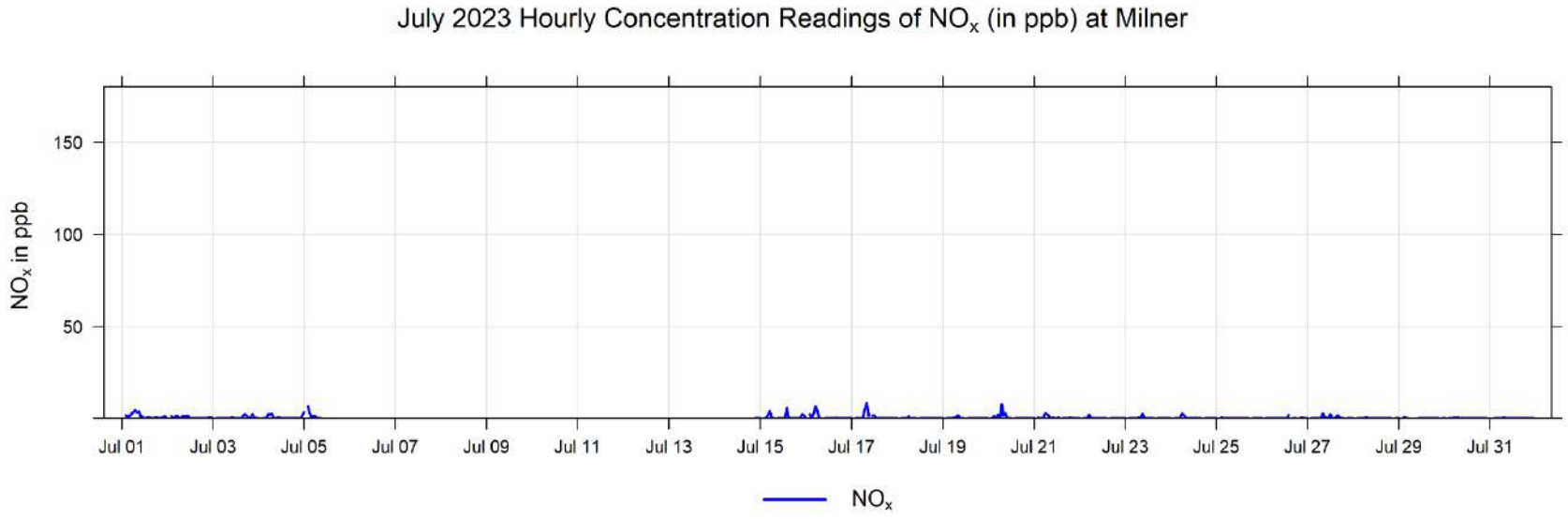

N
25%
20%
15%
10%
5%
W
E
S
mean = 10
calm = 0.7%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Poplar July 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

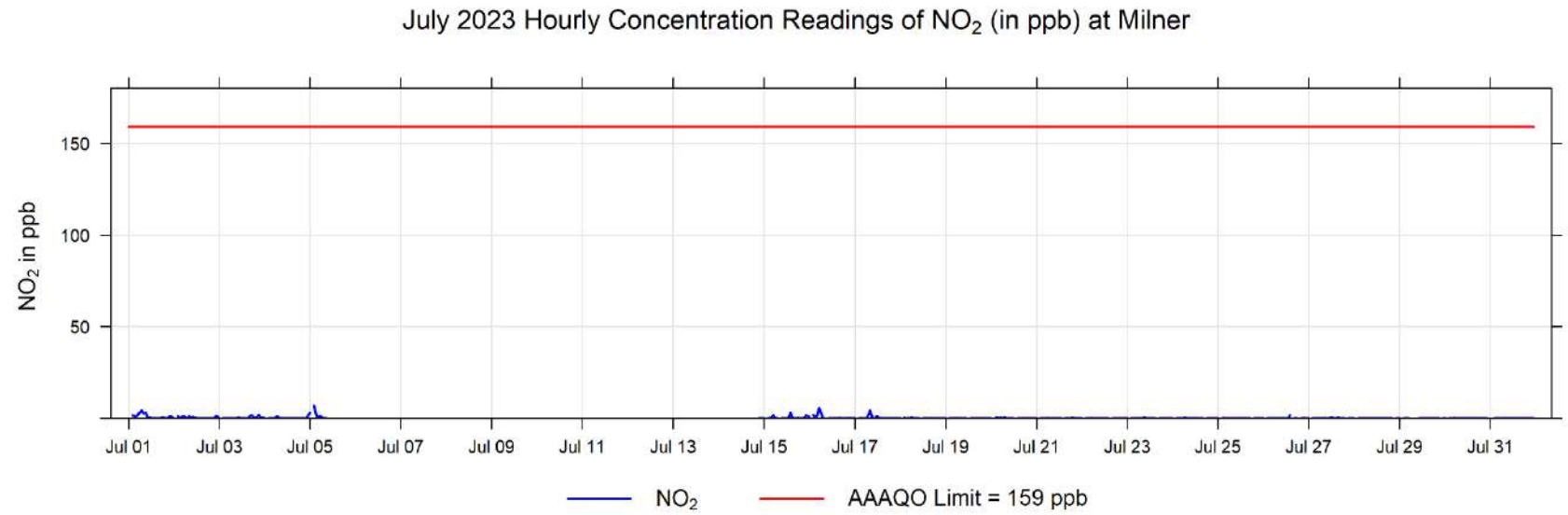
9 Milner Charts

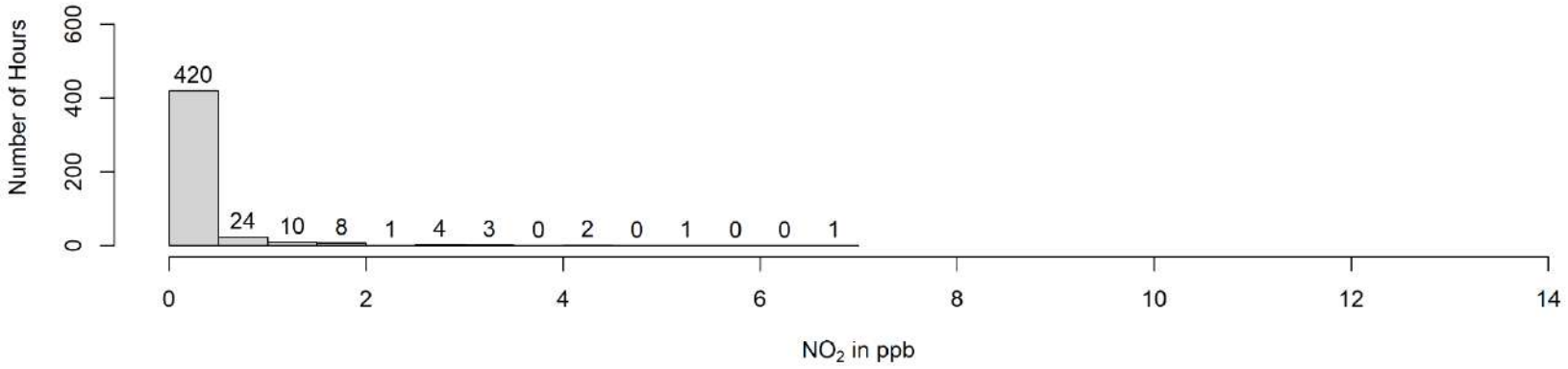
The following pages include the charts and histograms for Milner Station

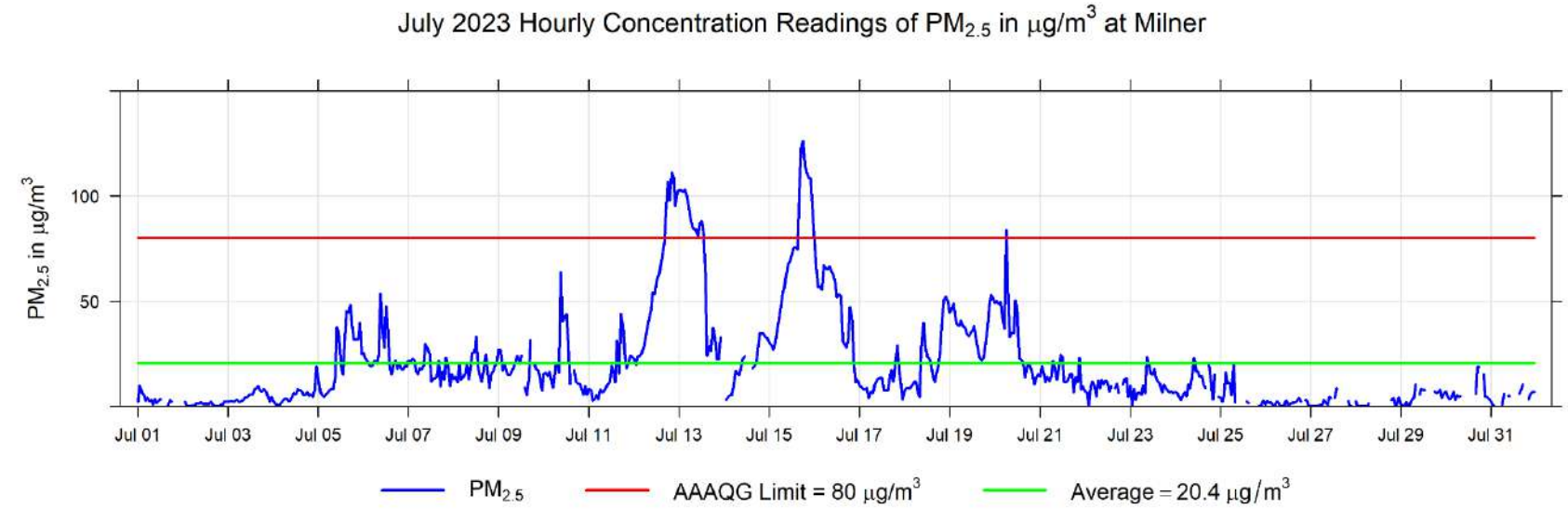


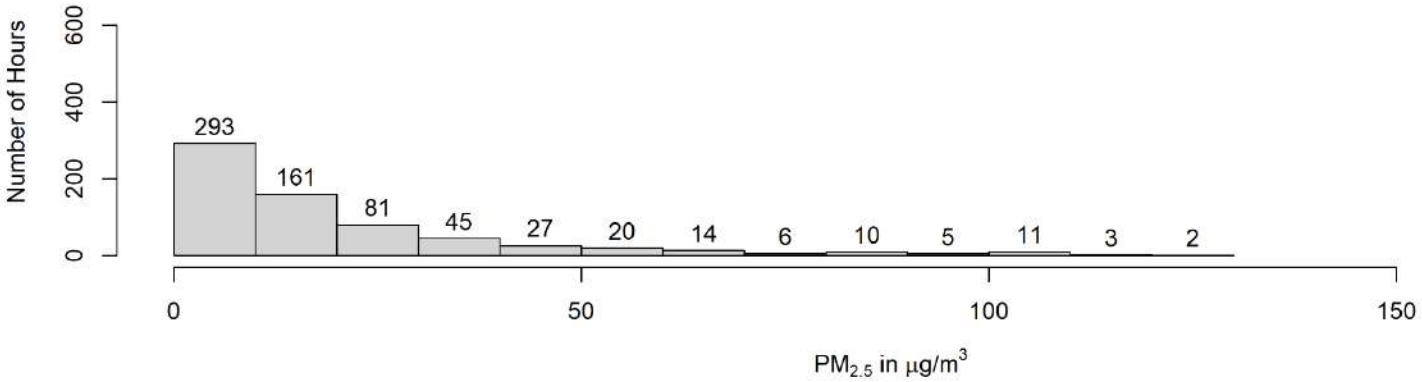

July 2023 Hourly Concentration Readings of NO (in ppb) at Milner
NO in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO

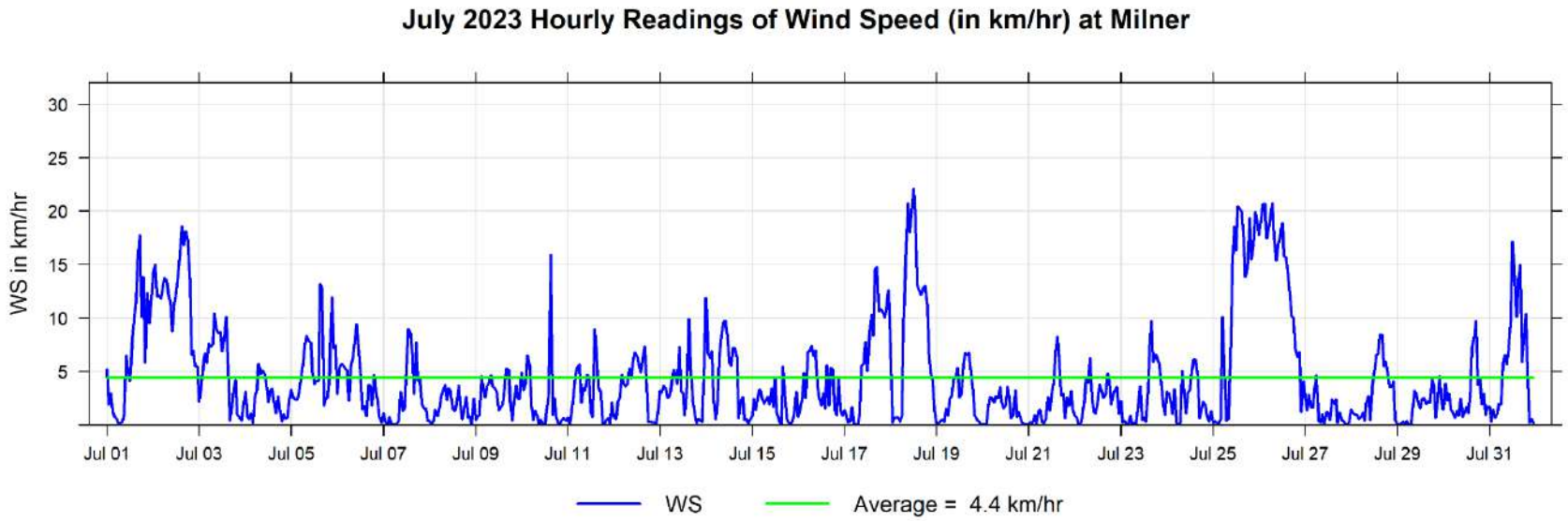

July 2023 Hourly Concentration Readings of NOx (in ppb) at Milner
NOx in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NOx

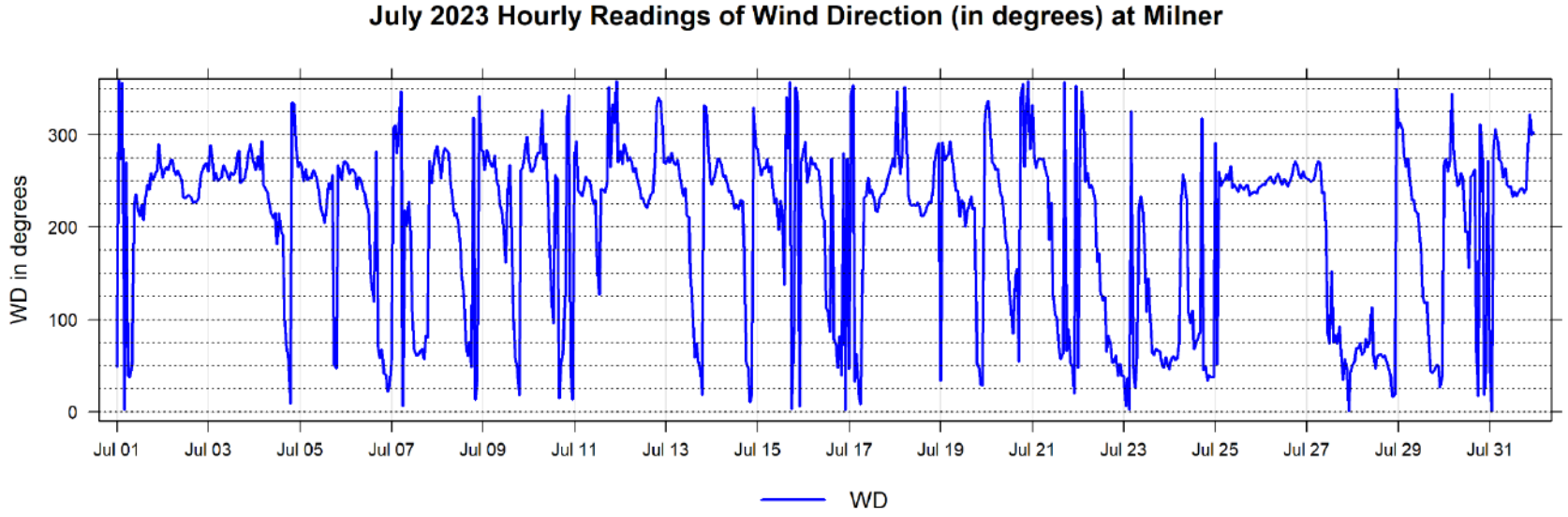

July 2023 Hourly Concentration Readings of NO2 (in ppb) at Milner
NO2 in ppb
150
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
NO2
AAAQO Limit = 159 ppb

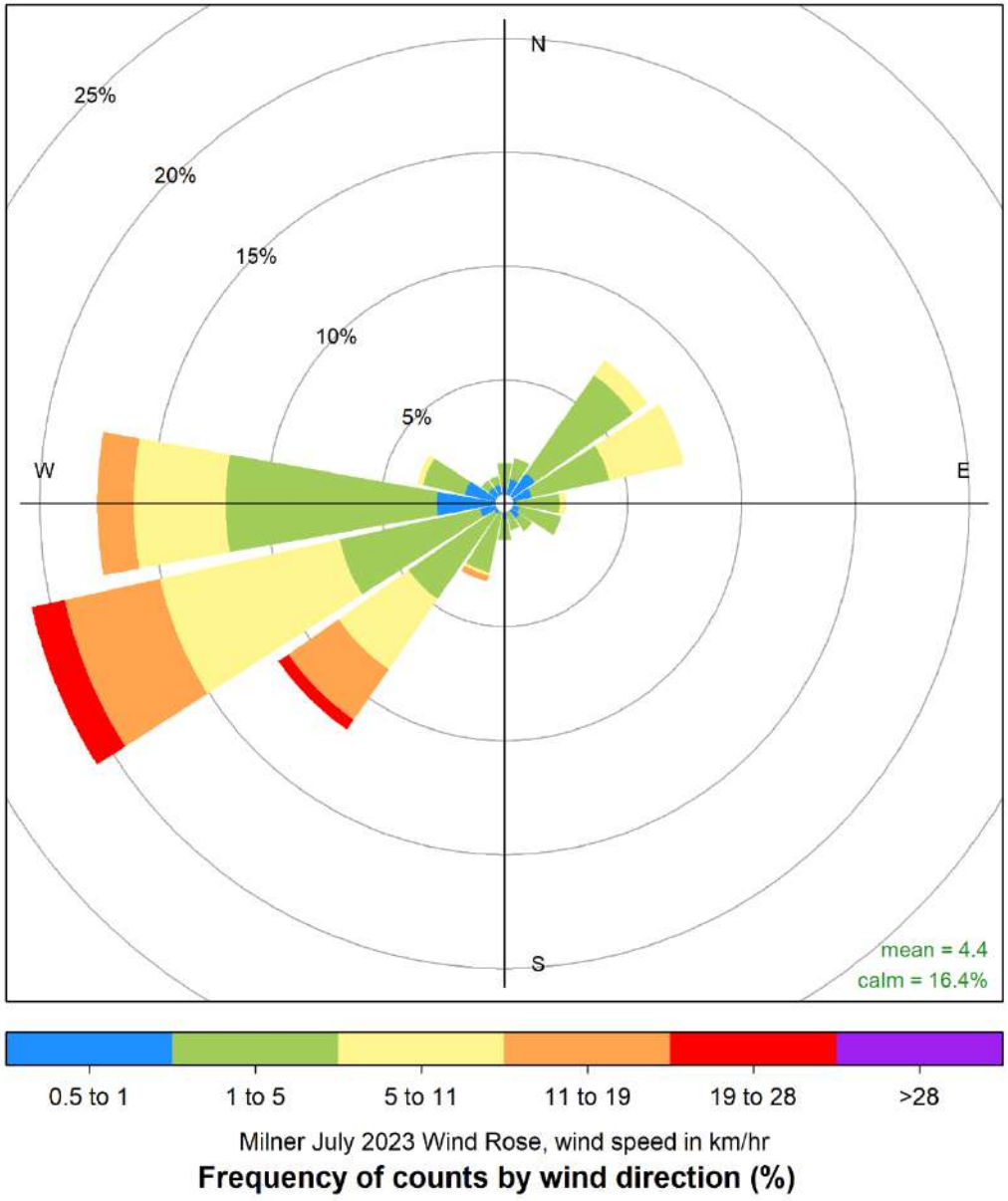

Number of Hours
0
200
400
600
420
24
10
8
1
4
3
0
2
0
1
0
0
1
0
2
4
6
8
10
12
14
NO2 in ppb


July 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Milner
PM2.5 in µg/m3
100
50
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
PM2.5
AAAQG Limit = 80 µg/m3
Average = 20.4 µg/m3

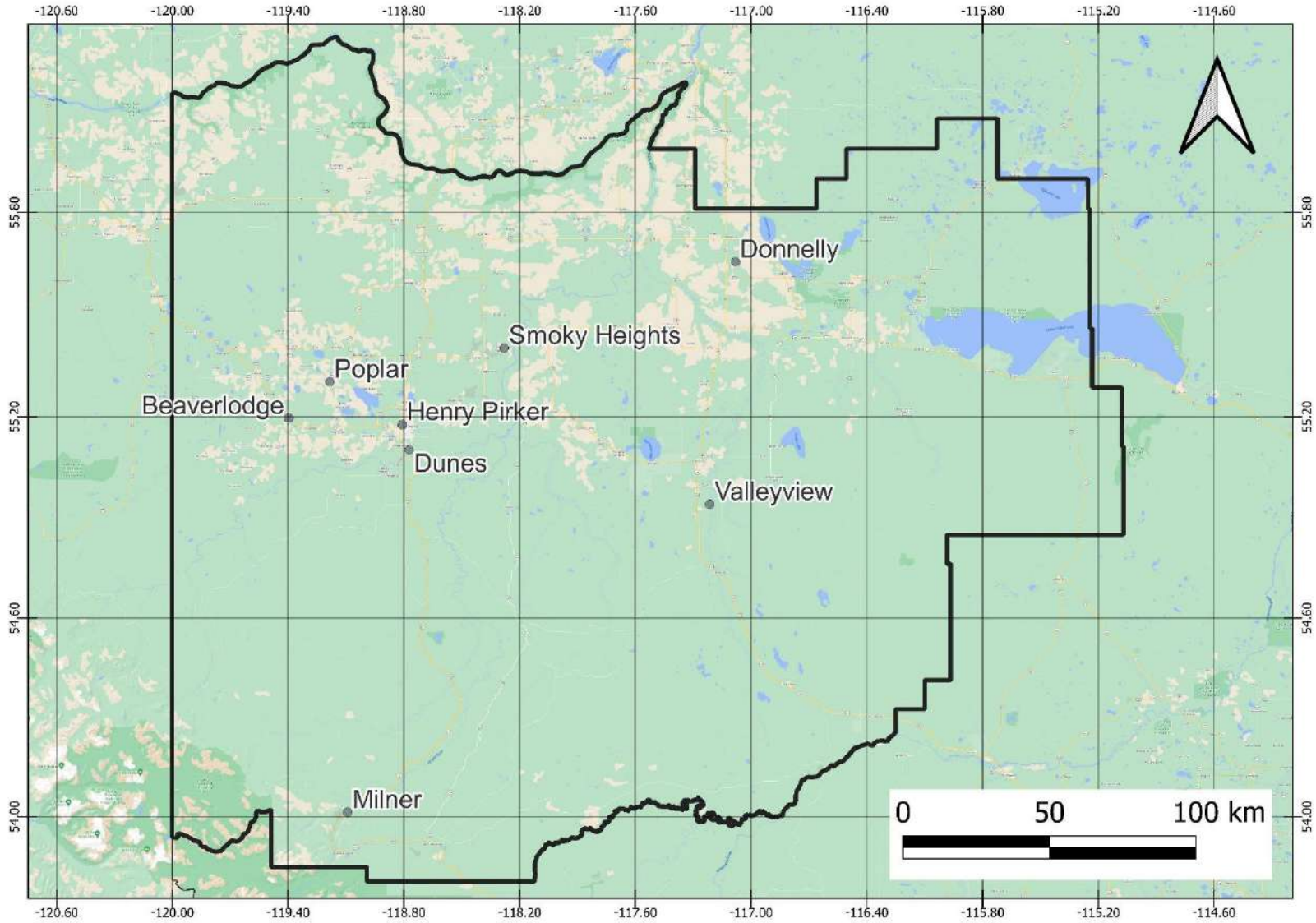

Number of Hours
0
200
400
600
293
161
81
45
27
20
14
6
10
5
11
3
2
0
50
100
150
PM2.5 in µg/m3


July 2023 Hourly Readings of Wind Speed (in km/hr) at Milner
WS in km/hr
30
25
20
15
10
5
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WS
Average = 4.4 km/hr

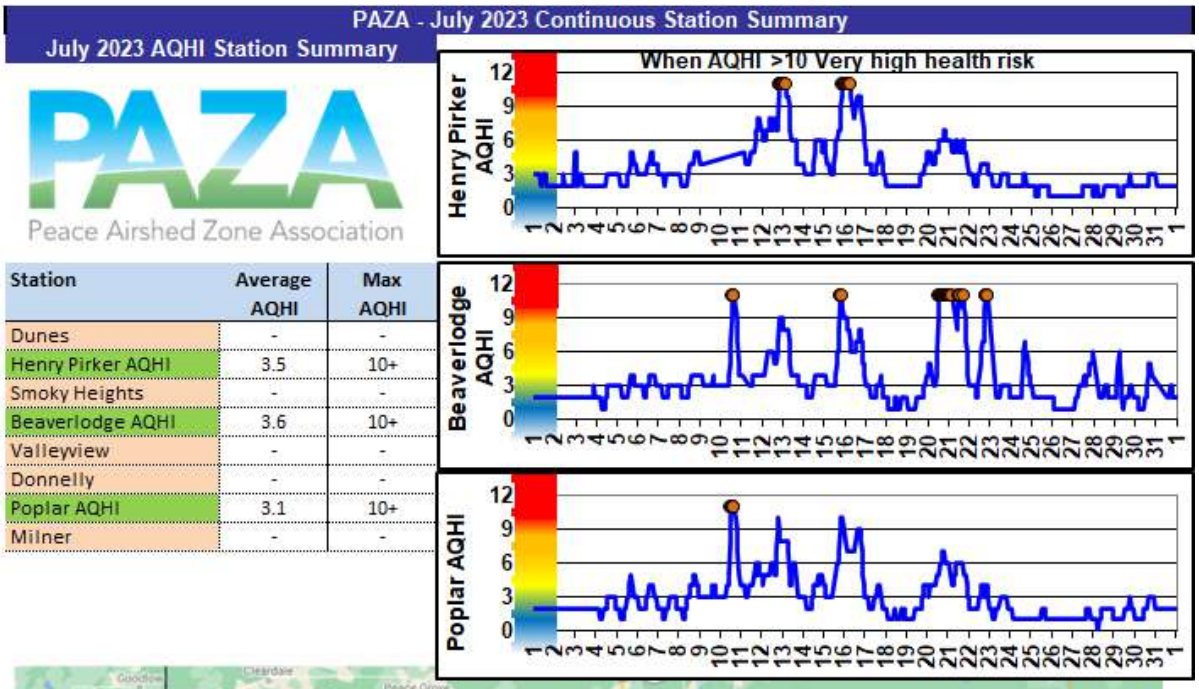

July 2023 Hourly Readings of Wind Direction (in degrees) at Milner
WD in degrees
300
200
100
0
Jul 01
Jul 03
Jul 05
Jul 07
Jul 09
Jul 11
Jul 13
Jul 15
Jul 17
Jul 19
Jul 21
Jul 23
Jul 25
Jul 27
Jul 29
Jul 31
WD


N
25%
20%
15%
10%
5%
W
E
S
mean = 4.4
calm = 16.4%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Milner July 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

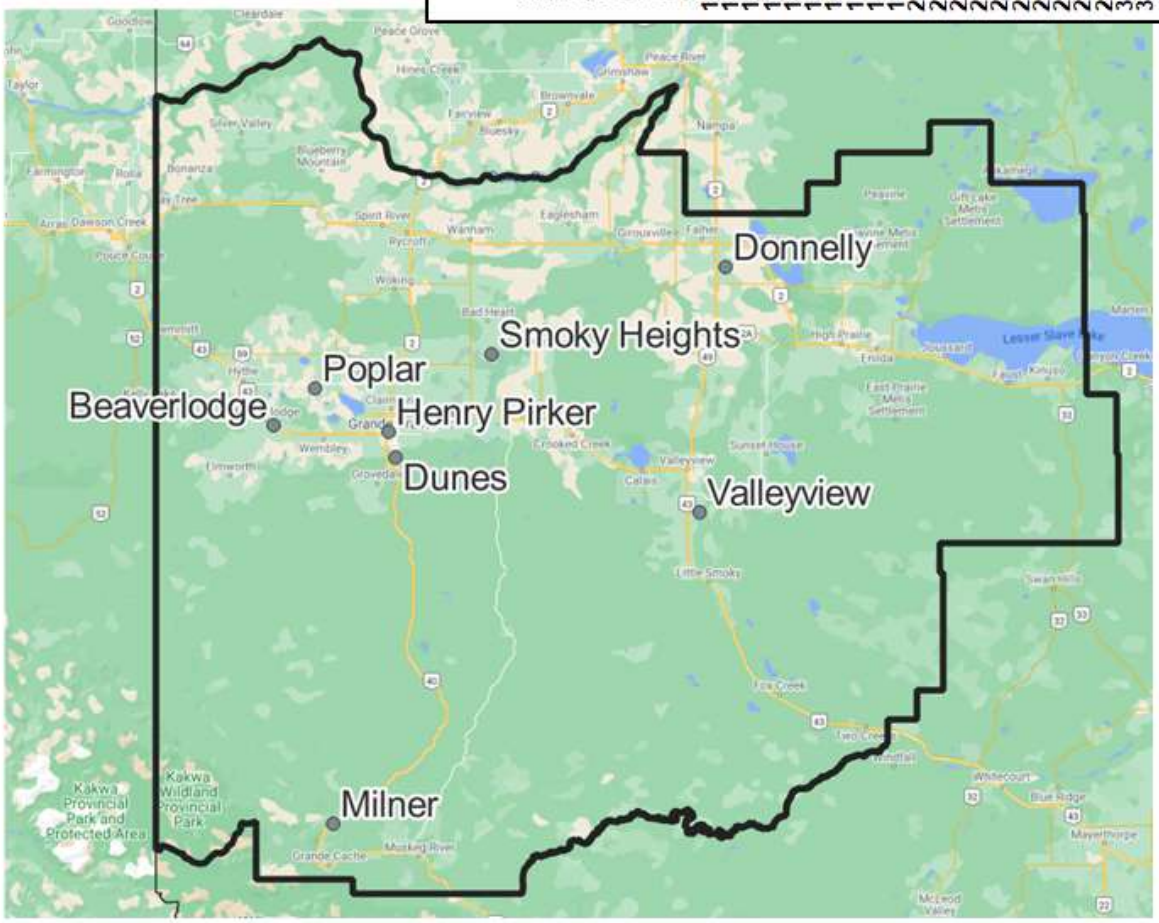
10 Concentration Summaries and Roses for PAZA



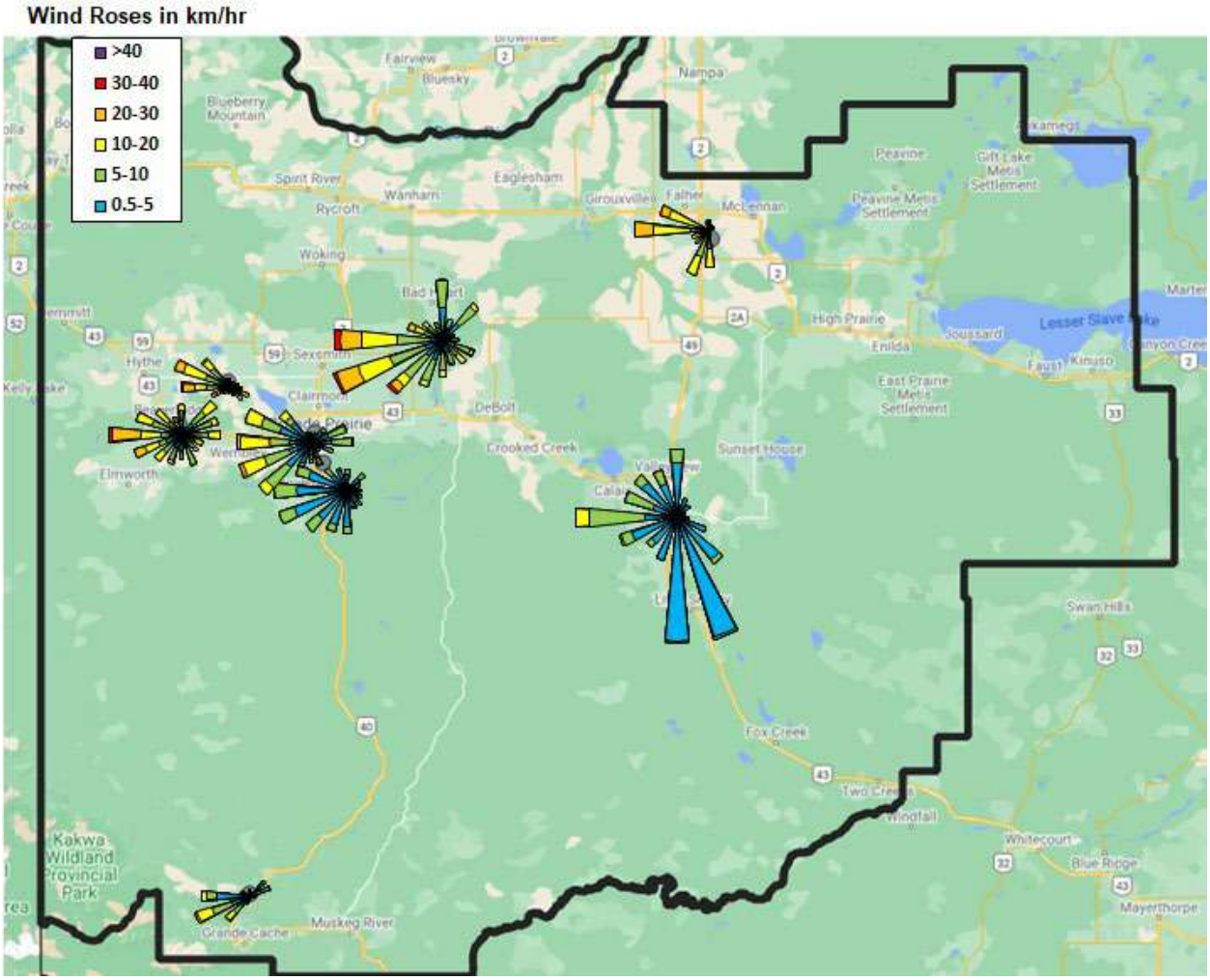
10.1 Air Quality Health Index (AQHI) Plots



Station	Average AQHI	Max AQHI
Dunes	-	-
Henry Pirker AQHI	3.5	10+
Smoky Heights	-	-
Beaverlodge AQHI	3.6	10+
Valleyview	-	-
Donnelly	-	-
Poplar AQHI	3.1	10+
Milner	-	-



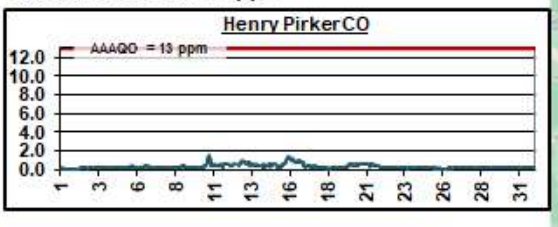
10.2 Wind Roses

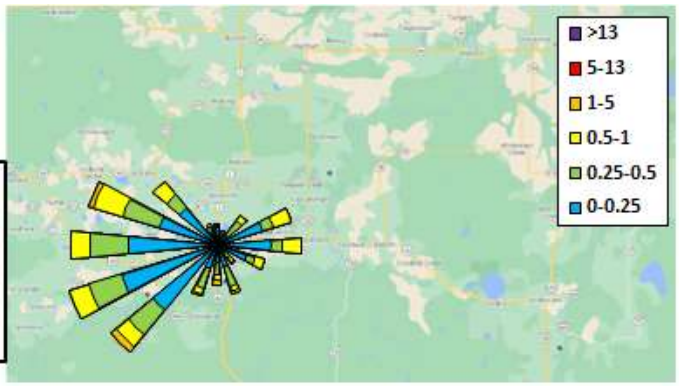


10.3 Carbon Monoxide (CO) Plots

July 2023 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.32	1.60

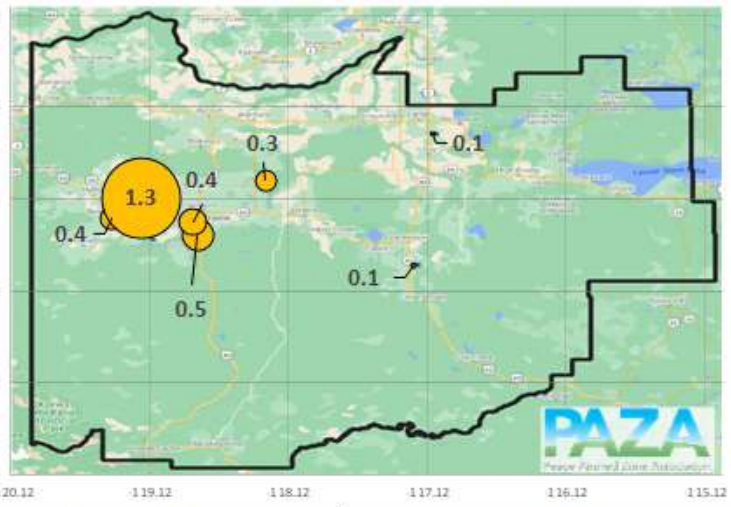
Carbon Monoxide in ppm



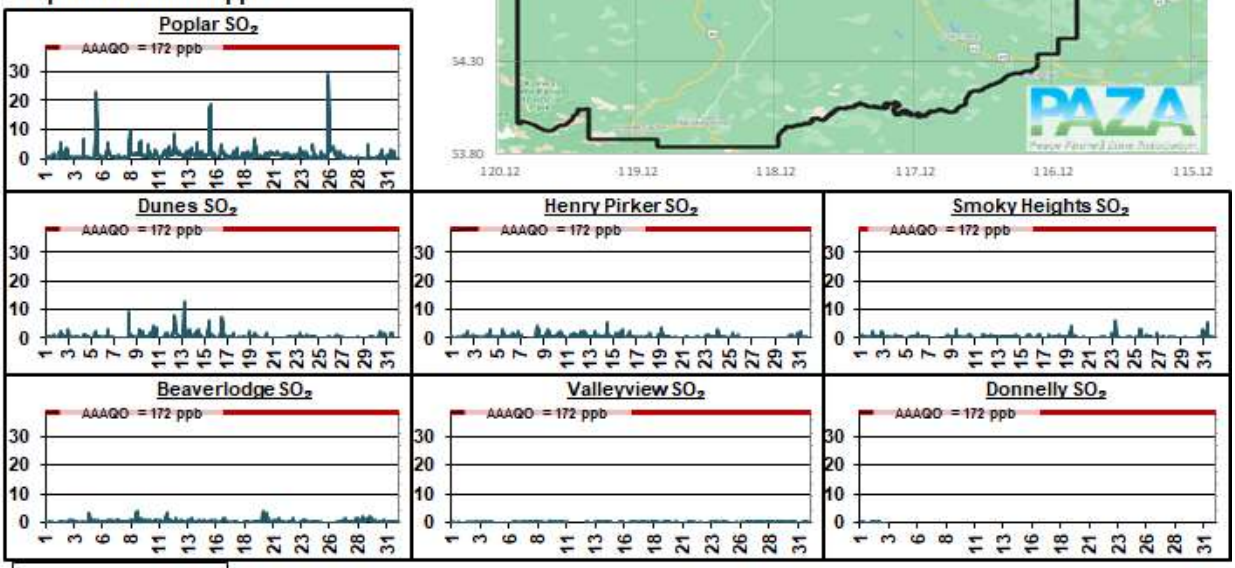


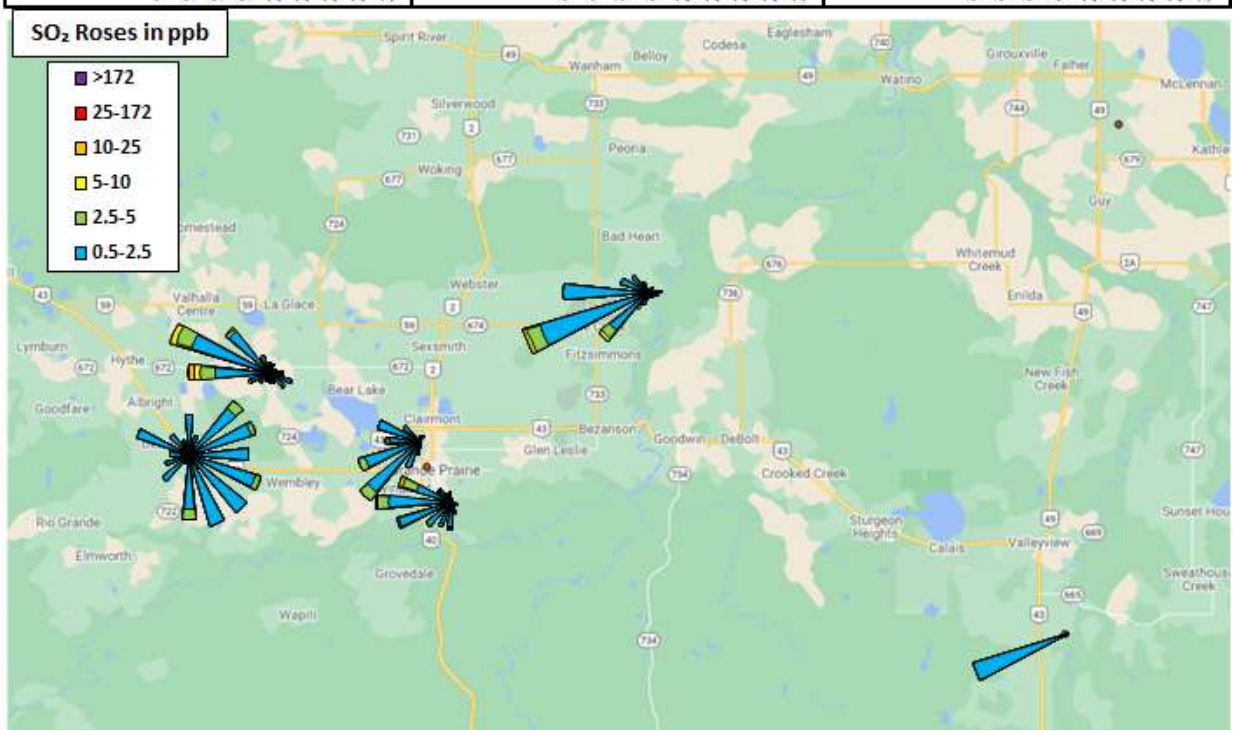
10.4 Sulphur Dioxide (SO_2) Plots

July 2023 SO_2 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes SO_2	0.5	12.6
Henry Pirker SO_2	0.4	5.2
Smoky Heights SO_2	0.3	5.9
Beaverlodge SO_2	0.4	4.2
Valleyview SO_2	0.1	0.6
Donnelly SO_2		0.3
Poplar SO_2	1.3	29.1
Milner SO_2	-	-



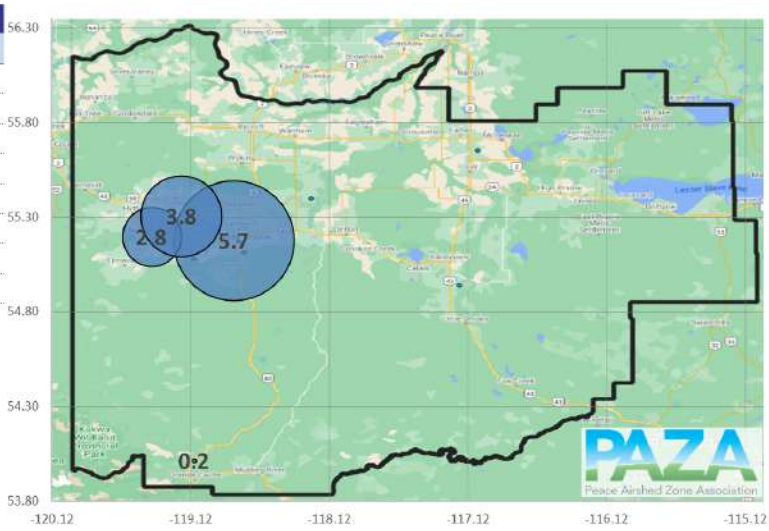
Sulphur Dioixde in ppb

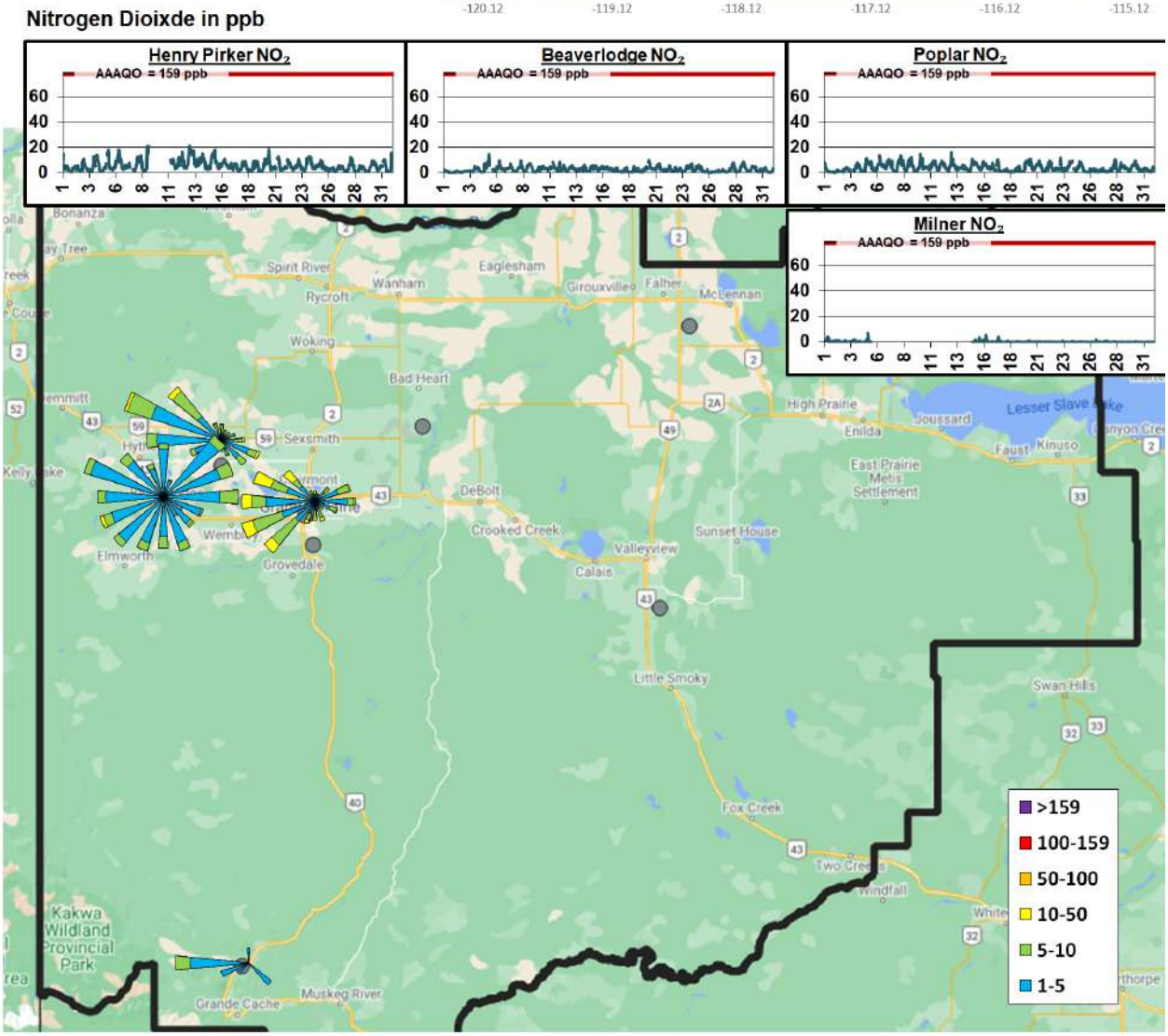




10.5 Nitrogen Dioxide (NO_2) Plots

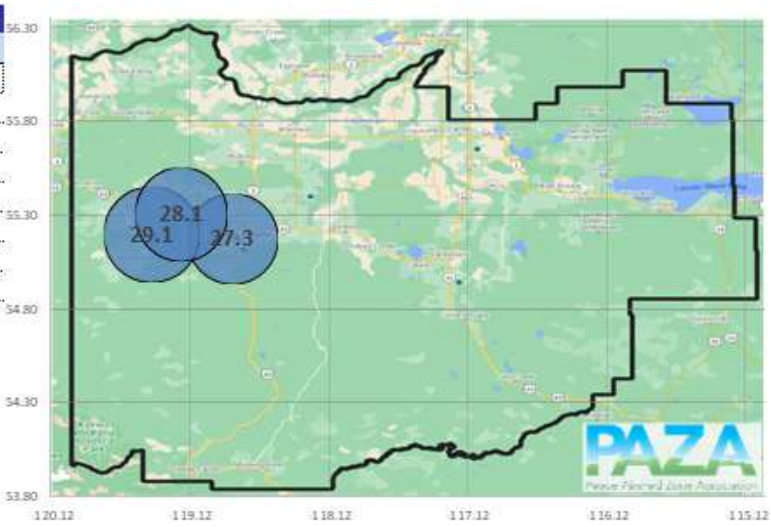
July 2023 NO_2 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes NO_2	-	-
Henry Pirker NO_2	5.7	21.4
Smoky Heights NO_2	-	-
Beaverlodge NO_2	2.8	14.4
Valleyview NO_2	-	-
Donnelly NO_2	-	-
Poplar NO_2	3.8	16.0
Milner NO_2	0.2	6.8



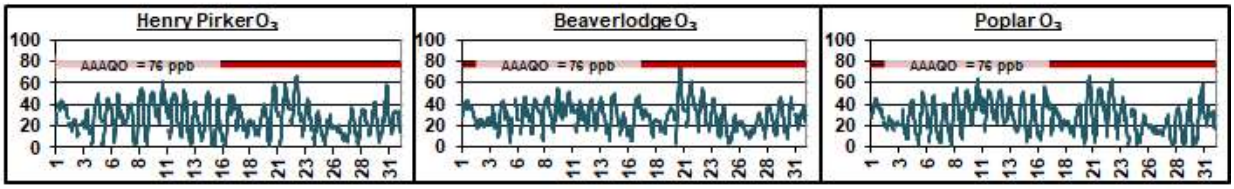


10.6 Ozone (O_3) Plots

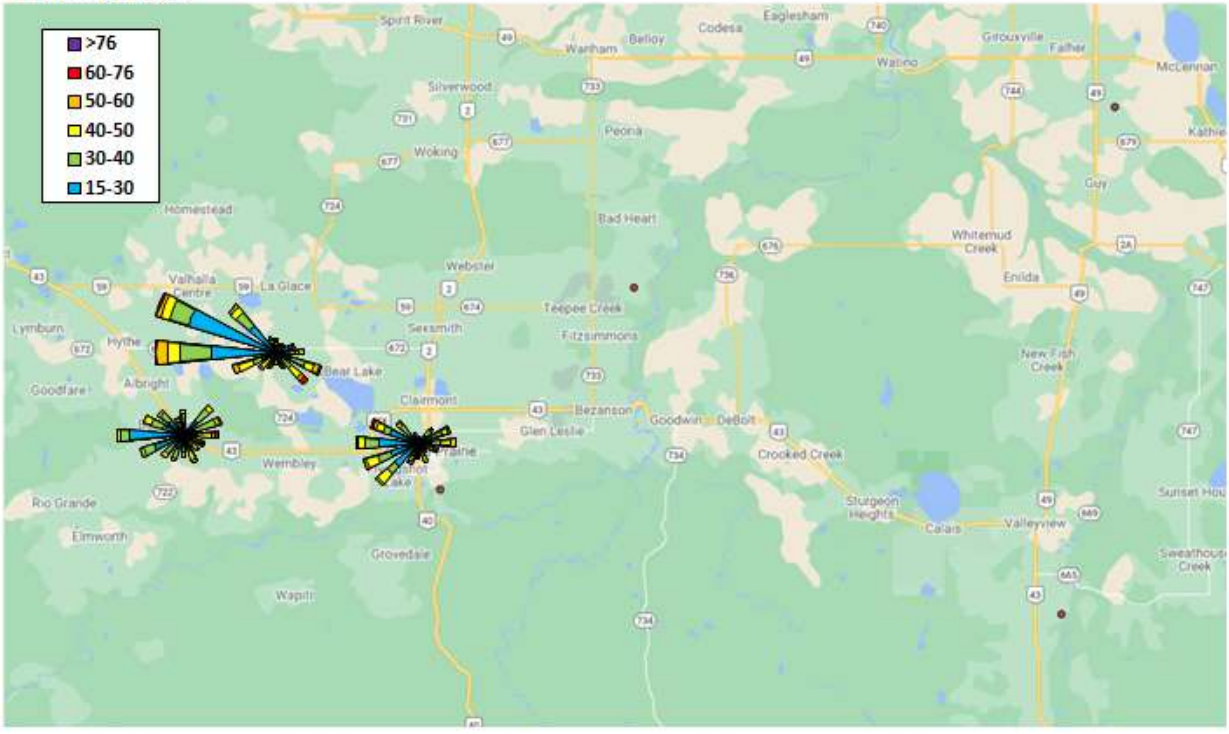
July 2023 O_3 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes O_3	-	-
Henry Pirker O_3	27.3	65.7
Smoky Heights O_3	-	-
Beaverlodge O_3	29.1	75.1
Valleyview O_3	-	-
Donnelly O_3	-	-
Poplar O_3	28.1	65.3
Milner O_3	-	-



Ozone in ppb

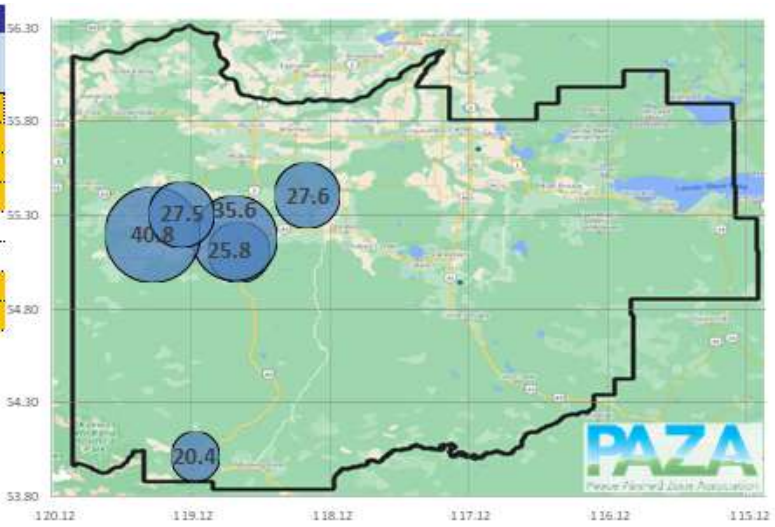


O_3 Roses in ppb

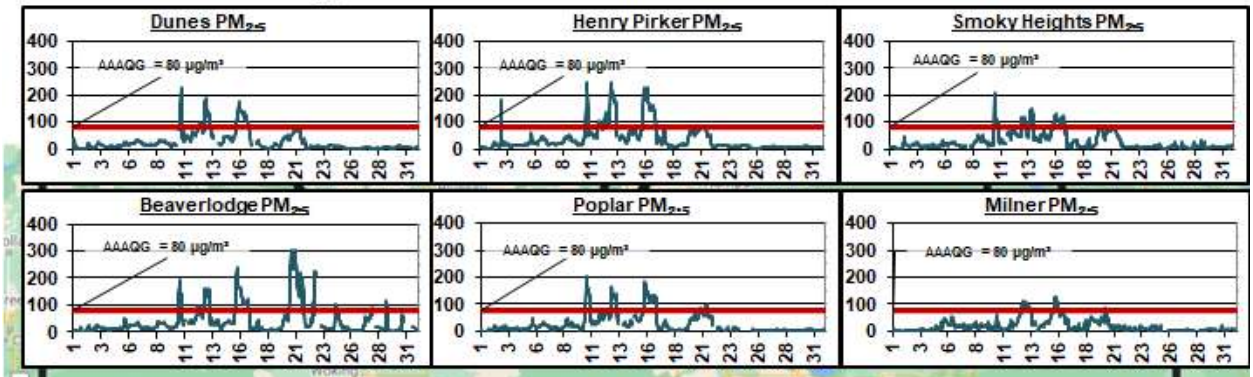


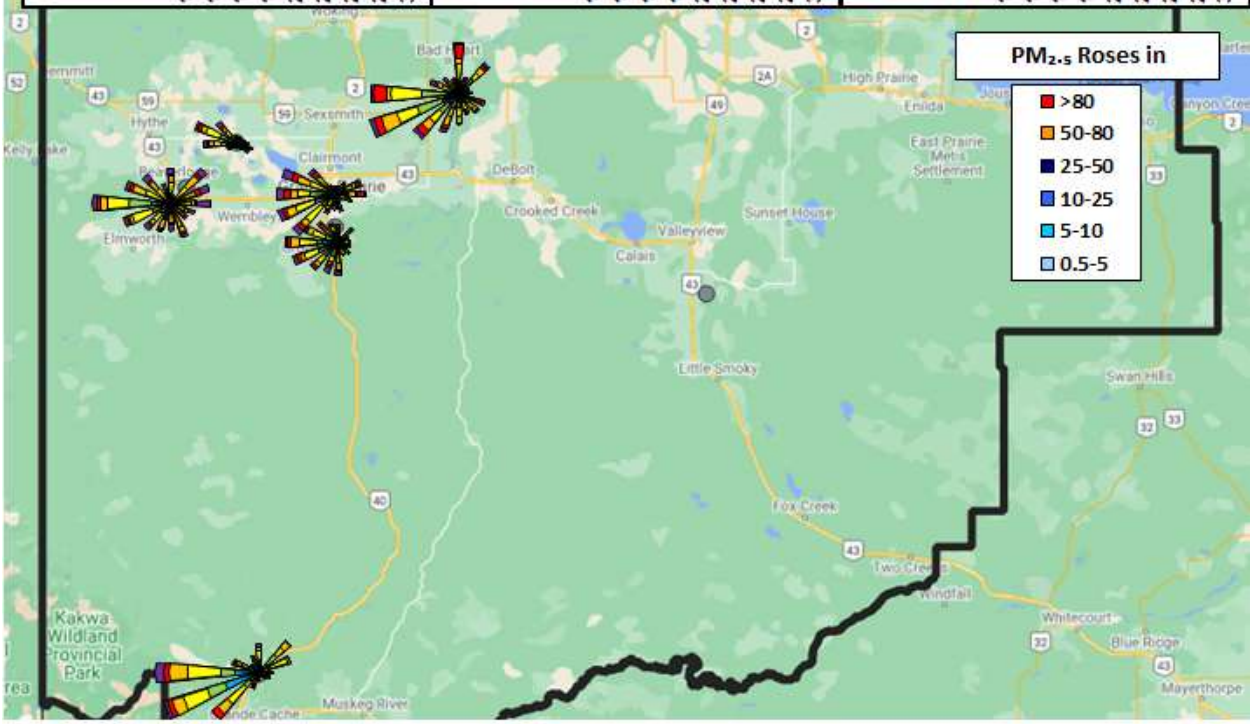
10.7 Fine Particulate Matter ($PM_{2.5}$) Plots

July 2023 $PM_{2.5}$ Station Summary		
Station	Avg µg/m³	Max µg/m³
Dunes $PM_{2.5}$	25.8	226.3
Henry Pirker $PM_{2.5}$	35.6	247.7
Smoky Heights $PM_{2.5}$	27.6	204.8
Beaverlodge $PM_{2.5}$	40.8	304.4
Valleyview $PM_{2.5}$	-	-
Donnelly $PM_{2.5}$	-	-
Poplar $PM_{2.5}$	27.5	202.1
Milner $PM_{2.5}$	20.4	126.1



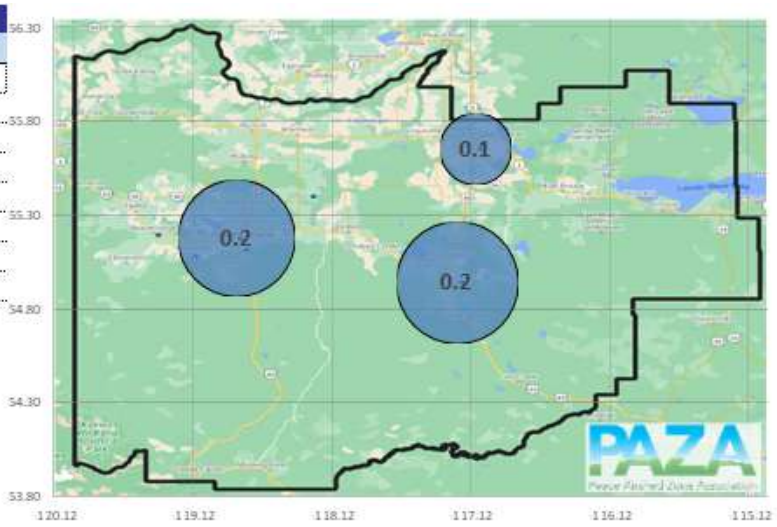
Fine Particulate Matter in µg/m³



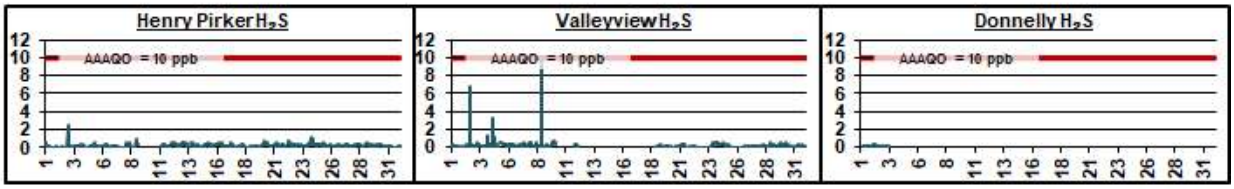


10.8 Hydrogen Sulphide (H_2S) Plots

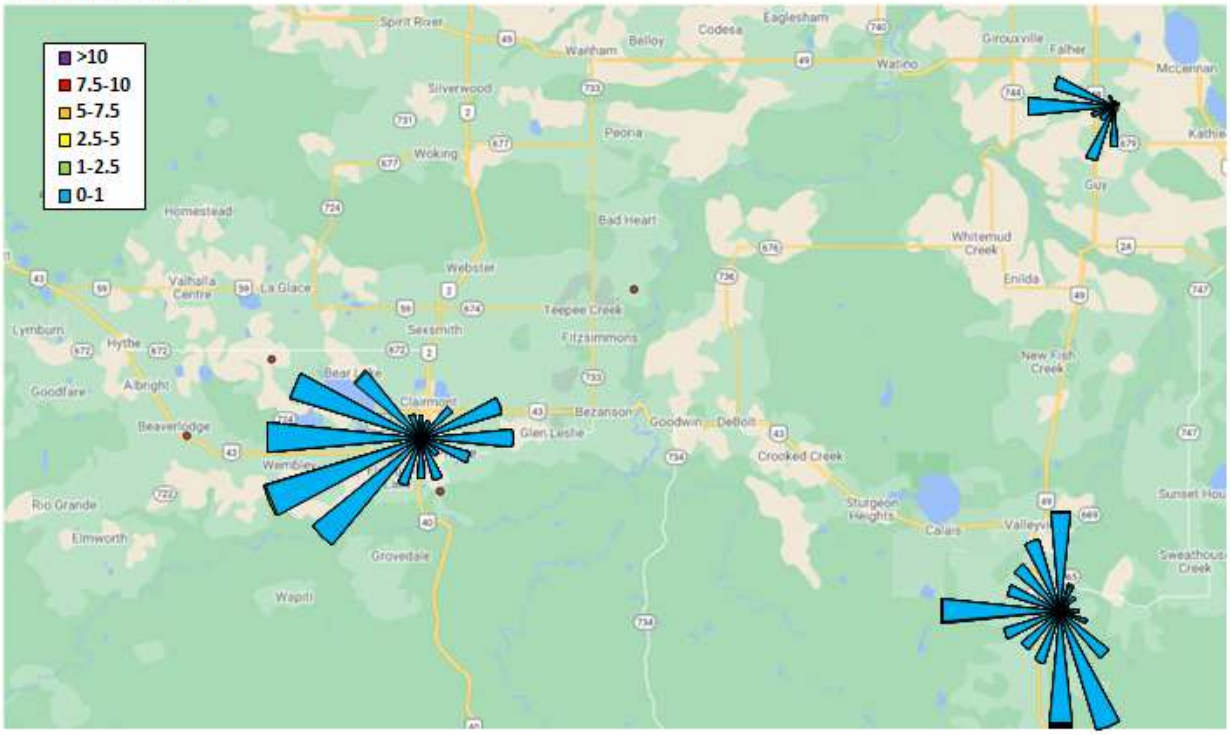
July 2023 H_2S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H_2S	-	-
Henry Pirker H_2S	0.2	2.6
Smoky Heights H_2S	-	-
Beaverlodge H_2S	-	-
Valleyview H_2S	0.2	9.9
Donnelly H_2S		0.3
Poplar H_2S	-	-
Milner H_2S	-	-



Hydrogen Sulphide in ppb

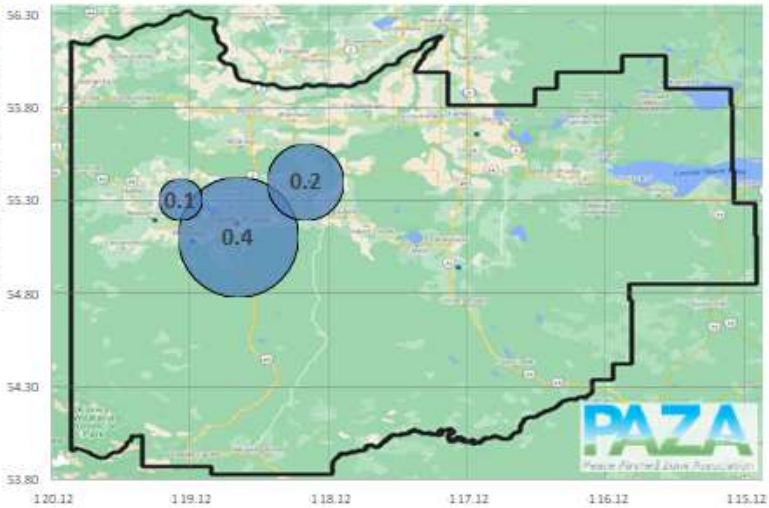


H_2S Roses in ppb

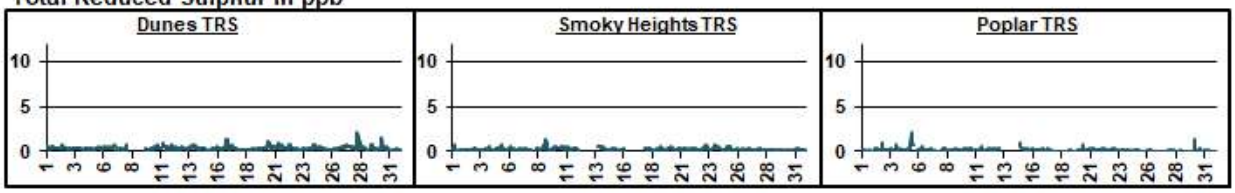


10.9 Total Reduced Sulphur (TRS) Plots

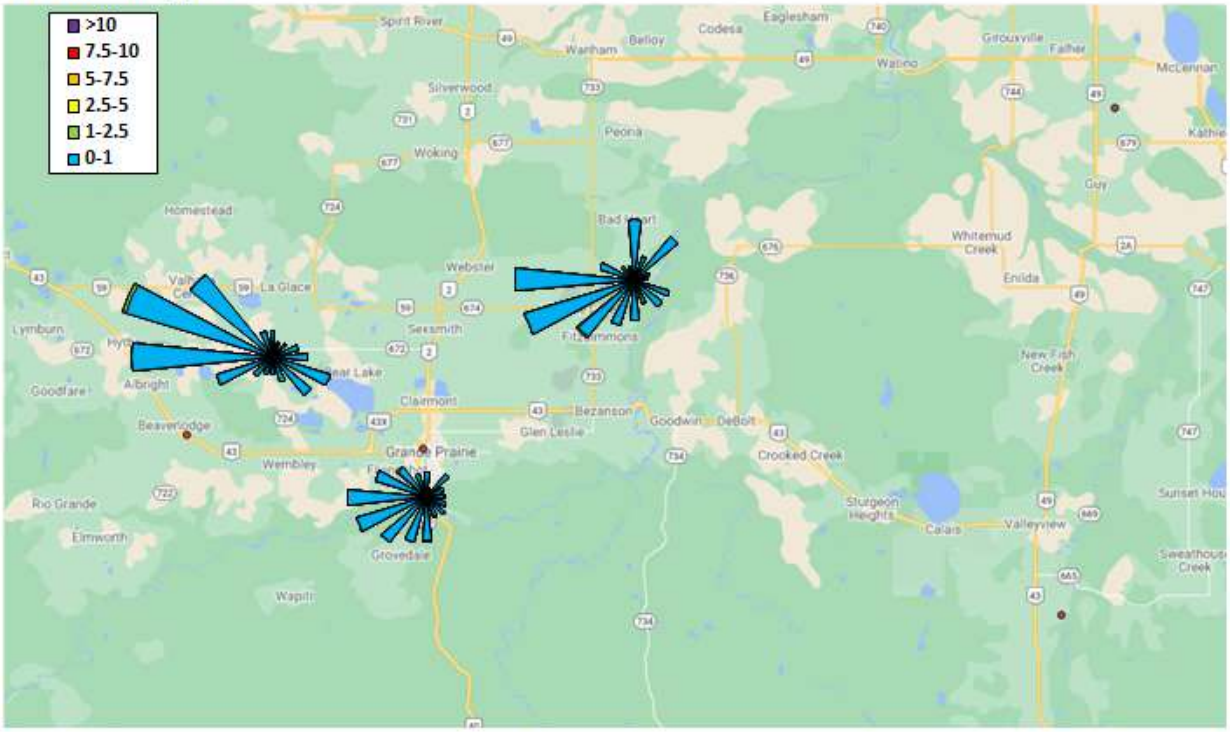
July 2023 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.4	2.2
Henry Pirker TRS	-	-
Smoky Heights TRS	0.2	1.3
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Donnelly TRS	-	-
Poplar TRS	0.1	2.1
Milner TRS	-	-



Total Reduced Sulphur in ppb



TRS Roses in ppb

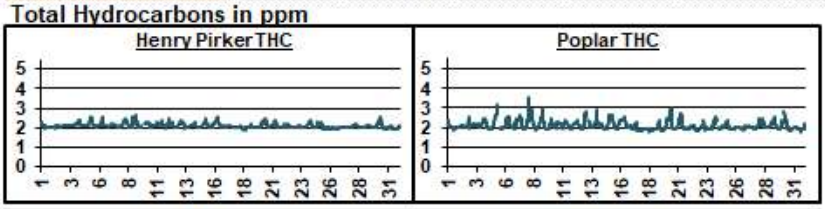


10.10 Total Hydrocarbon (THC) Plots

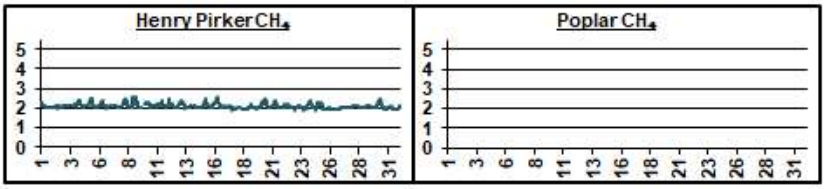
July 2023 THC Station Summary

Station	Total Hydrocarbons		Methane		Non-Methane HCs	
	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)
Dunes THC	-	-	-	-	-	-
Henry Pirker THC	2.1	2.6	2.1	2.6	0.0	0.2
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Donnelly THC	-	-	-	-	-	-
Poplar THC	2.1	3.5	-	-	-	-

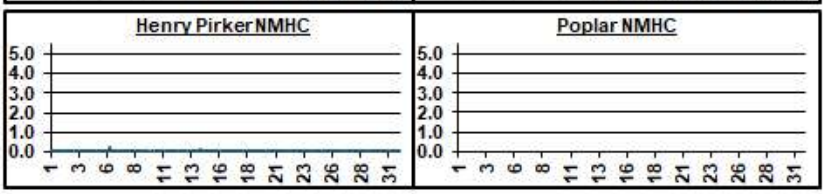
Total Hydrocarbons in ppm



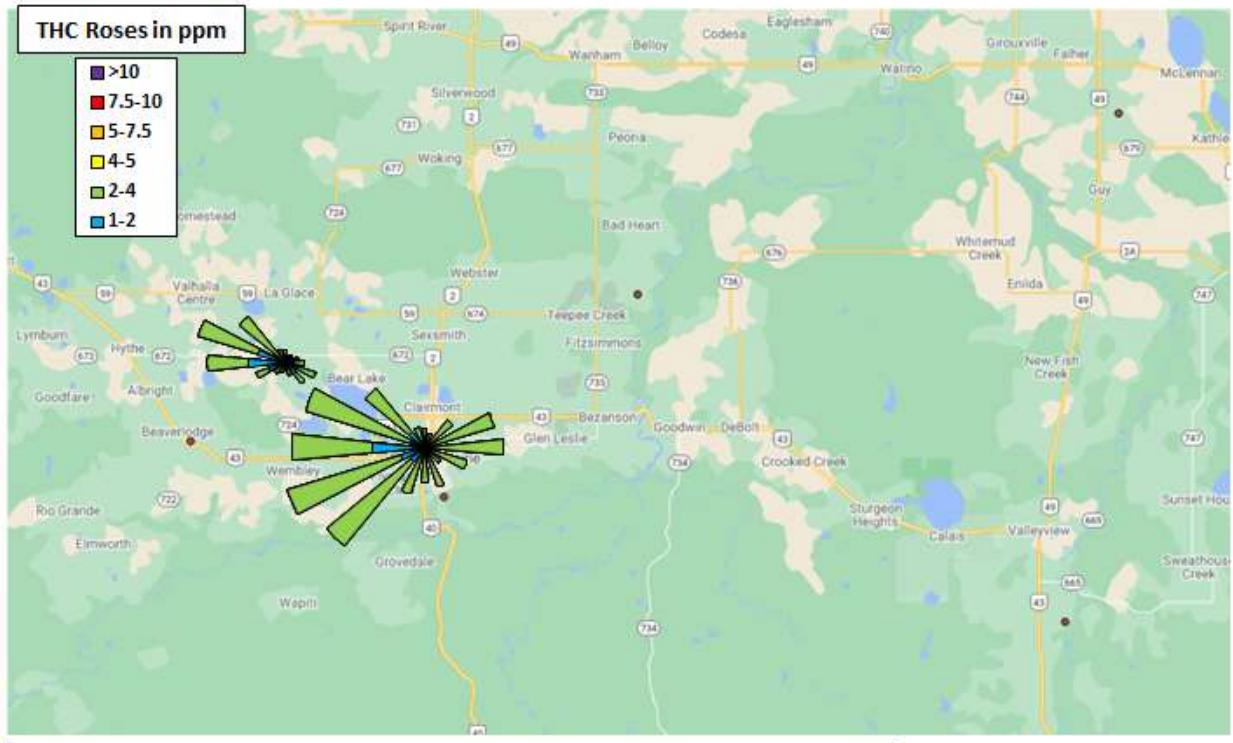
Total Hydrocarbons (THC)



Methane (CH_4)



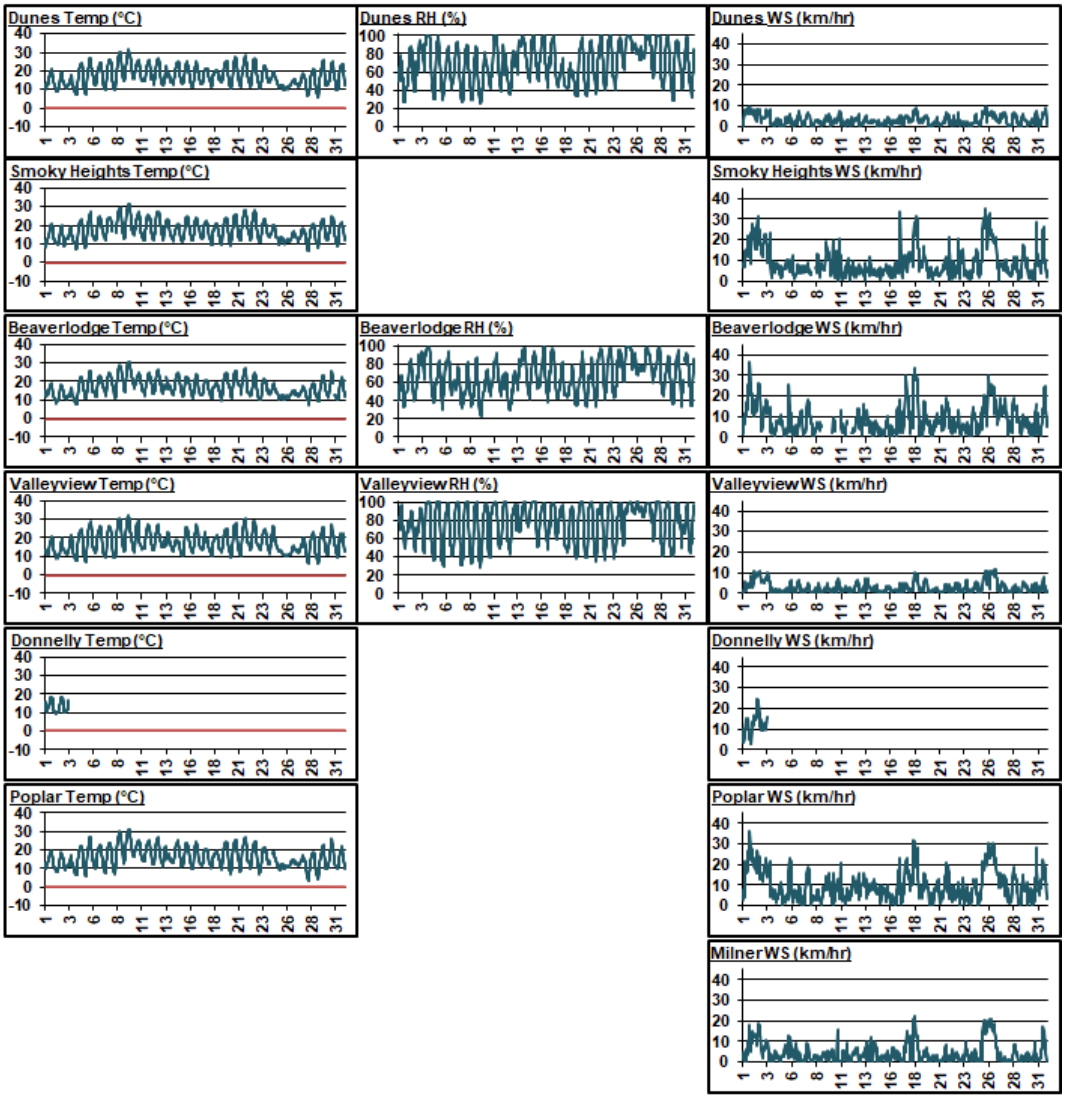
Non-Methane Hydrocarbons (NMHC)

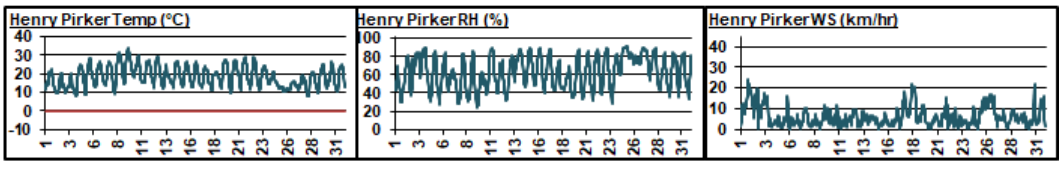


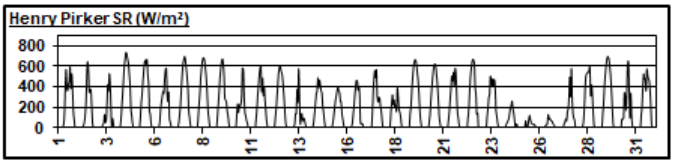
10.11 Meteorology Summary

July 2023 Meterological Summary						
Station	Temp (°C)	RH (%)	SR (W/m²)	WS (km/hr)	WD (deg)	WD
Dunes	17.3	69.1	-	3.2	251	WSW
Henry Pirker	18.5	62.8	176.3	6.3	255	WSW
Smoky Heights	17.3	-	-	8.9	254	WSW
Beaverlodge	17.0	66.9	-	8.8	273	W
Valleyview	17.4	76.7	-	2.9	259	WSW
Donnelly		-	-			
Poplar	16.3	-	-	10.0	284	WNW
Milner	-	-	-	4.4	246	WSW

Temp (°C) Outside Temperature
RH (%) Relative Humidity
SR (W/m²) Solar Radiation
WS (km/hr) Wind Speed
WD (deg) Wind Direction
WD Wind Direction







11 Passive Monitoring Data

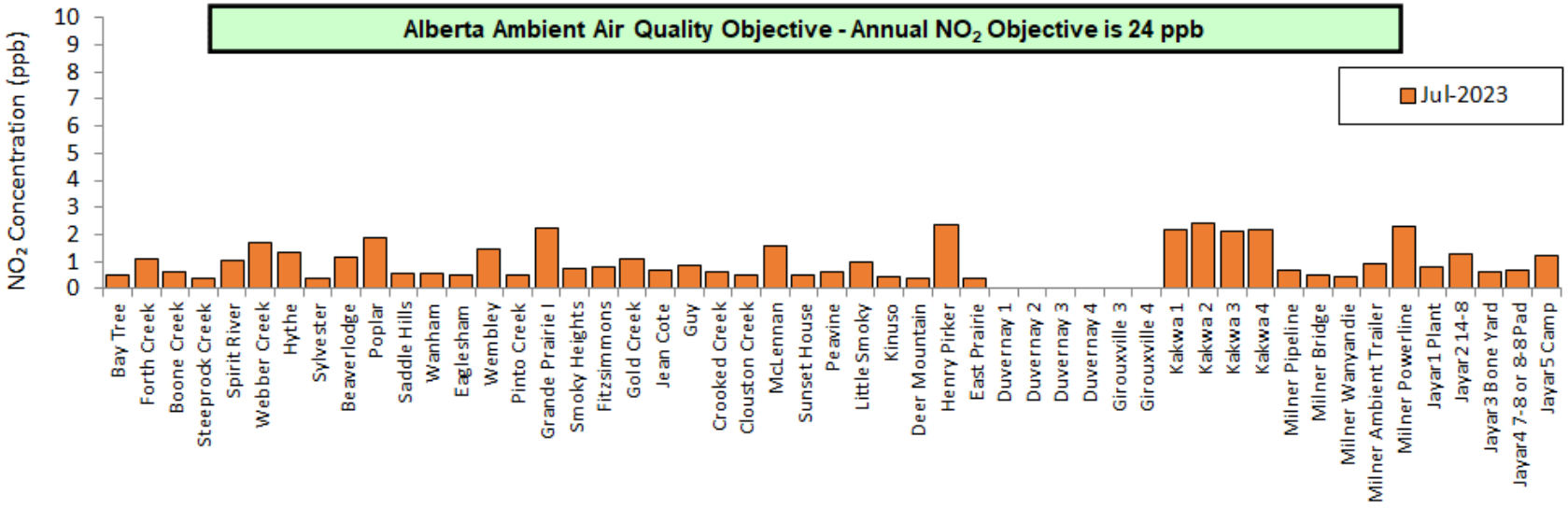
Peace Airshed Zone Association - PAZA Passive Stations for July 2023

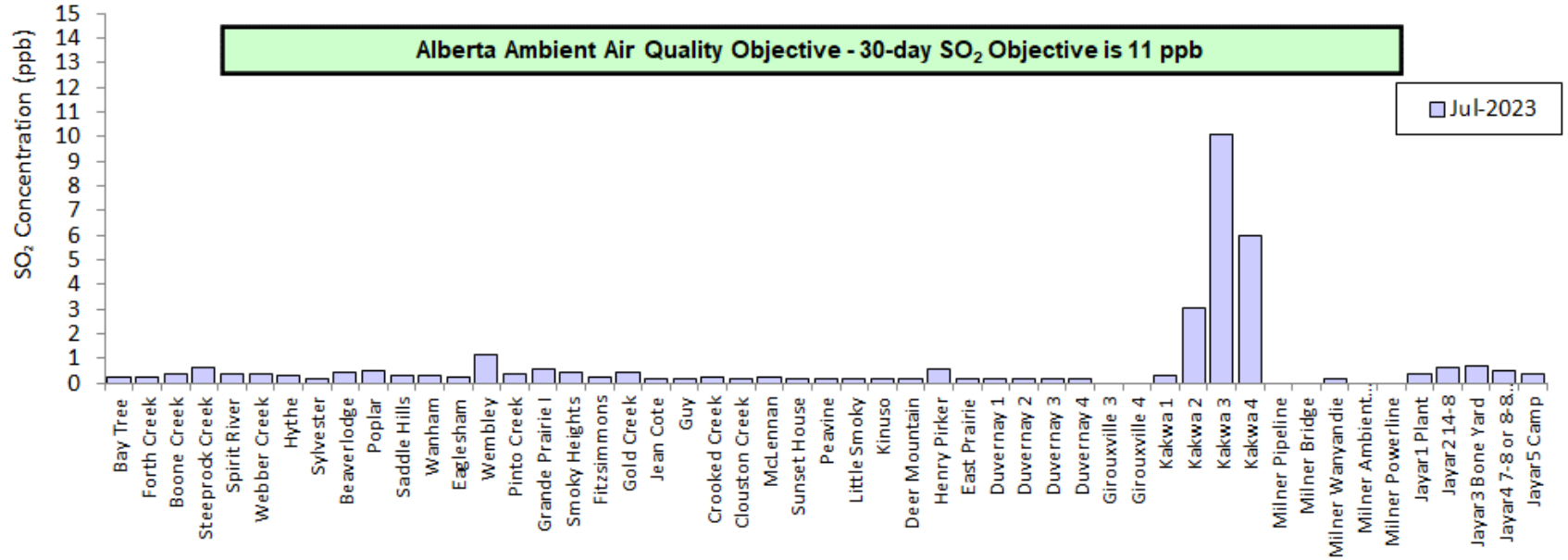
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
2a	Bay Tree			**0.5**		13-16-078-13 W6M
2b	Bay Tree			**0.5**		
3a	Forth Creek	**0.3**				04-13-082-07 W6M
3b	Forth Creek	**0.3**				
24a	Wembley			**1.5**		12-31-070-08 W6M
24b	Wembley			**1.4**		
25a	Pinto Creek	**0.3**				04-24-069-11 W6M
25b	Pinto Creek	**0.4**				
30a	Fitzsimmons	**0.2**				15-36-072-03 W6M
30b	Fitzsimmons	**0.3**				
36a	Guy	**0.2**				03-04-076-22 W5M
36b	Guy	**0.1**				
37a	Crooked Creek		**25.0**			16-01-071-26 W5M
37b	Crooked Creek		**24.8**			
46a	Little Smoky			**1.0**		12-01-065-21 W5M
46b	Little Smoky			**1.0**		
50a	East Prairie			**0.4**		11-13-079-08 W6M
50b	East Prairie			**0.4**		
G3a	Girouxville 3				**damaged**	14-02-077-23 W5M
G3b	Girouxville 3				**damaged**	
D2a	Duvernay 2	**0.2**			**0.12**	04-33-062-20 W5M
D2b	Duvernay 2	**0.2**			**0.11**	
K2a	Kakwa 2	**3.1**				08-13-063-05 W6M
K2b	Kakwa 2	**3.0**				
K3a	Kakwa 3				**0.14**	12-18-063-04 W6M
K3b	Kakwa 3				**0.13**	
K4a	Kakwa 4			**2.1**		06-18-063-04 W6M
K4b	Kakwa 4			**2.2**		
M9Aa	Milner Pipeline	**<0.1**				12-14-058-08 W6M
M9Ab	Milner Pipeline	**<0.1**				
M7a	Milner Wanyandie			**0.5**		11-13-058-08 W6M
M7b	Milner Wanyandie			**0.4**		
J5a	Jayar5 Camp	**0.4**				11-08-062-03 W6M
J5b	Jayar5 Camp	**0.4**				
J2a	Jayar2 14-8			**1.3**		07-08-062-03 W6M
J2b	Jayar2 14-8			**1.3**		
J1a	Jayar1 Plant				**0.09**	06-08-062-03 W6M
J1b	Jayar1 Plant				**0.08**	

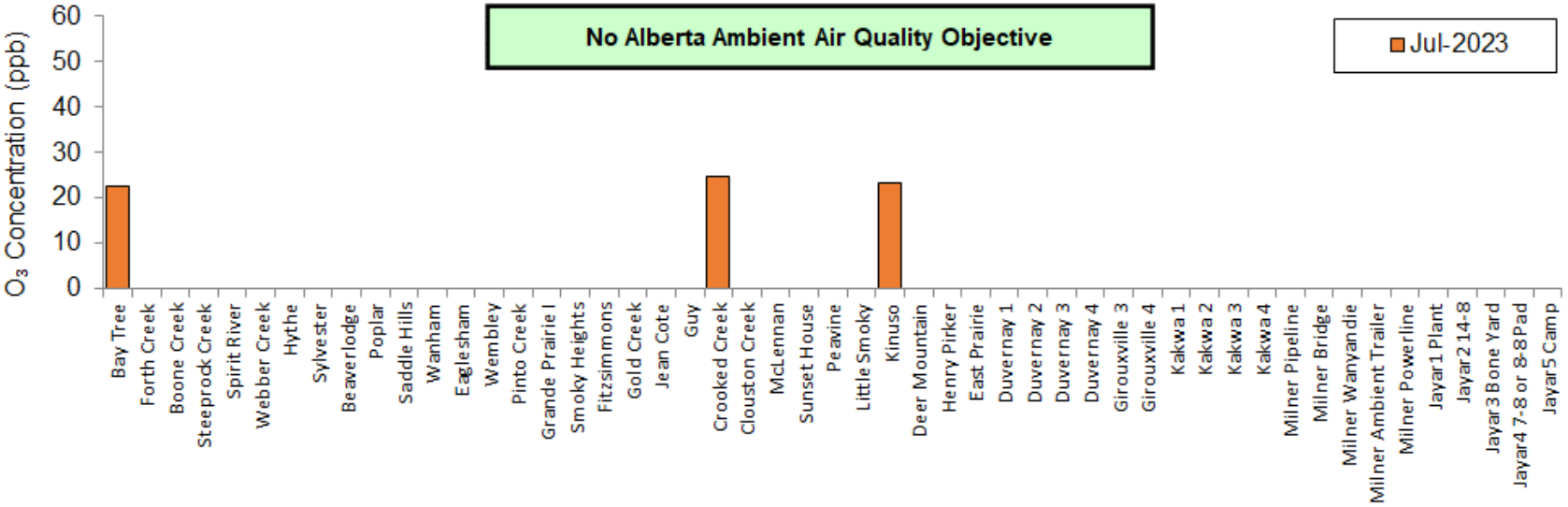
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.2	22.6	0.5	-	13-16-078-13 W6M
3	Forth Creek	0.3	-	1.1	-	04-13-082-07 W6M
5	Boone Creek	0.3	-	0.7	-	01-23-076-11 W6M
7	Steeprock Creek	0.7	-	0.4	-	09-35-072-13 W6M
9	Spirit River	0.4	-	1.0	-	08-12-079-07 W6M
11	Webber Creek	0.4	-	1.7	-	09-36-074-09 W6M
12	Hythe	0.3	-	1.4	-	14-36-072-11 W6M
14	Sylvester	0.2	-	0.4	-	08-06-069-12 W6M
16	Beaverlodge	0.4	-	1.2	-	15-36-071-10 W6M
17	Poplar	0.5	-	1.9	-	13-06-073-08 W6M
18	Saddle Hills	0.3	-	0.6	-	04-25-074-07 W6M
19	Wanham	0.3	-	0.6	-	16-22-077-03 W6M
21	Eaglesham	0.2	-	0.5	-	16-21-079-25 W5M
24	Wembley	1.2	-	1.5	-	12-31-070-08 W6M
25	Pinto Creek	0.3	-	0.5	-	04-24-069-11 W6M
27	Grande Prairie I	0.6	-	2.2	-	08-15-071-06 W6M
29	Smoky Heights	0.4	-	0.7	-	04-06-075-02 W6M
30	Fitzsimmons	0.2	-	0.8	-	15-36-072-03 W6M
32	Gold Creek	0.5	-	1.1	-	06-33-067-05 W6M
35	Jean Cote	0.2	-	0.7	-	12-35-079-21 W5M
36	Guy	0.2	-	0.9	0.23	03-04-076-22 W5M
37	Crooked Creek	0.3	24.9	0.6	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	0.5	-	12-01-073-22 W5M
40	McLennan	0.2	-	1.6	-	03-29-077-19 W5M
42	Sunset House	0.2	-	0.5	-	05-32-070-19 W5M
44	Peavine	0.2	-	0.6	-	03-05-079-15 W5M
46	Little Smoky	0.2	-	1.0	-	12-01-065-21 W5M
47	Kinuso	0.2	23.3	0.4	-	12-10-073-10 W5M
48	Deer Mountain	0.2	-	0.4	-	15-22-068-09 W5M
49	Henry Pirker	0.6	-	2.4	-	17-26-071-06 W6M
50	East Prairie	0.2	-	0.4	-	11-13-079-08 W6M
D1	Duvernay 1	0.2	-	-	0.12	04-33-062-20 W5M
D2	Duvernay 2	0.2	-	-	0.12	04-33-062-20 W5M
D3	Duvernay 3	0.2	-	-	0.11	04-33-062-20 W5M
D4	Duvernay 4	0.2	-	-	0.29	04-33-062-20 W5M
G3	Girouxville 3	-	-	-	damaged	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	damaged	04-08-077-22 W5M
K1	Kakwa 1	0.3	-	2.2	0.09	01-13-063-05 W6M
K2	Kakwa 2	3.1	-	2.4	0.10	08-13-063-05 W6M
K3	Kakwa 3	10.1	-	2.1	0.14	12-18-063-04 W6M
K4	Kakwa 4	6.0	-	2.2	0.14	06-18-063-04 W6M
M1	Milner Pipeline	<0.1	-	0.7	-	12-14-058-08 W6M
M2	Milner Bridge	<0.1	-	0.5	-	08-06-057-08 W6M
M3	Milner Wanyandie	0.2	-	0.5	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	<0.1	-	0.9	-	09-15-058-08 W6M
M5	Milner Powerline	<0.1	-	2.3	-	06-14-058-08 W6M
J1	Jayar1 Plant	0.4	-	0.8	0.09	06-08-062-03 W6M
J2	Jayar2 14-8	0.6	-	1.3	0.11	07-08-062-03 W6M
J3	Jayar3 Bone Yard	0.7	-	0.6	0.08	14-08-062-03 W6M
J4	Jayar4 7-8 or 8-8 Pad	0.5	-	0.7	0.07	10-08-062-03 W6M
J5	Jayar5 Camp	0.4	-	1.2	0.19	11-08-062-03 W6M

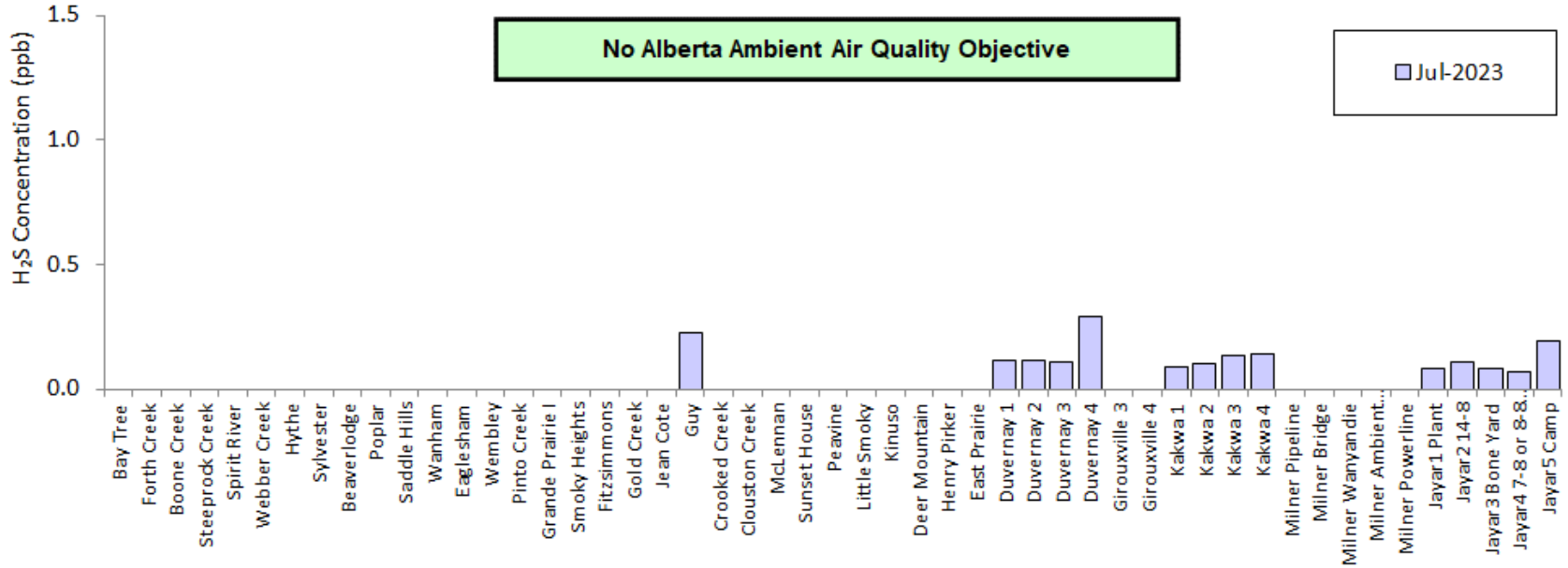
Passive Summary for July 2023

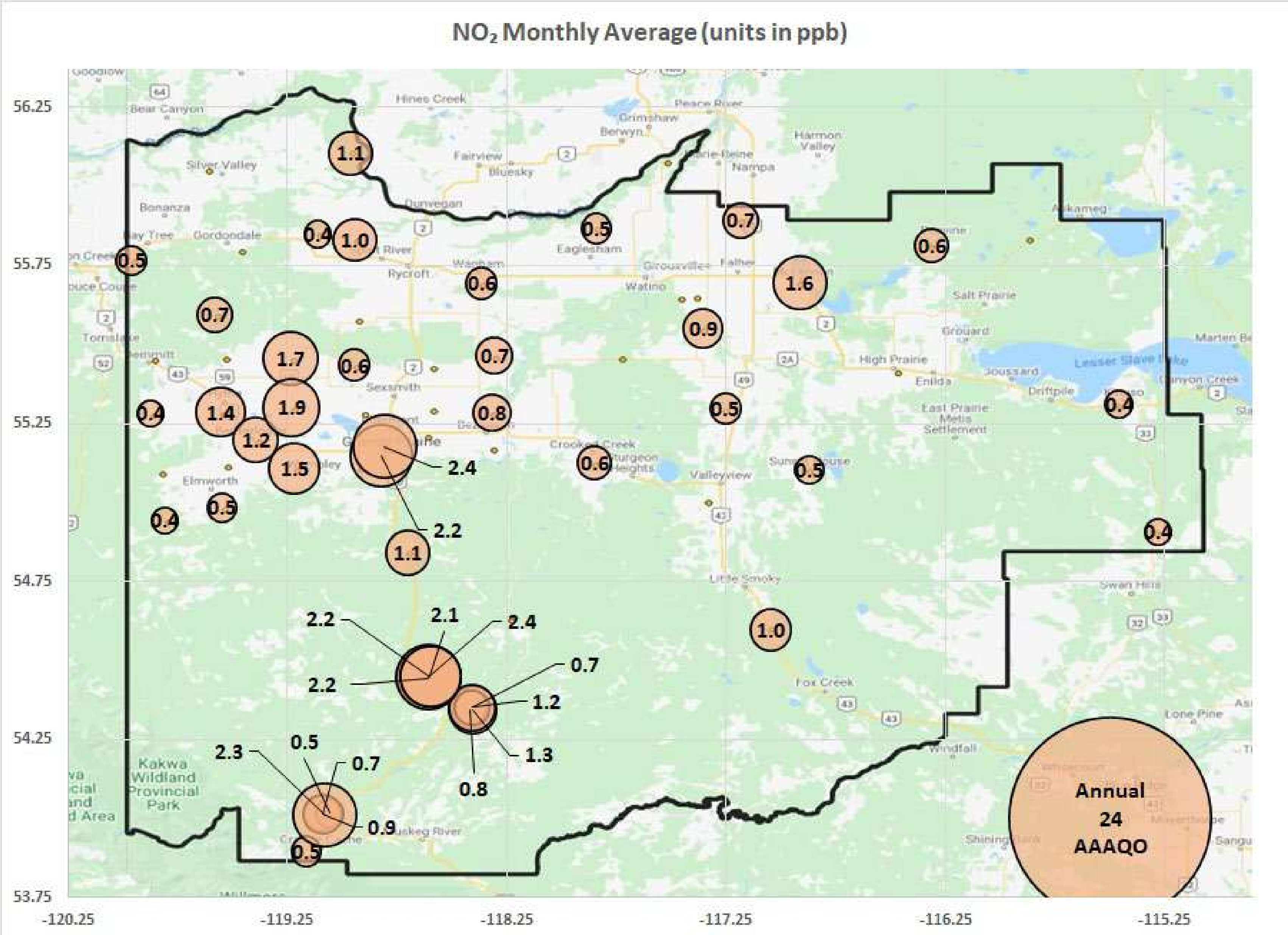
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
	Passive Summary for July 2023 (PAZA)			
Mean	0.7	23.6	1.0	0.1
Standard Deviation	1.7	1.2	0.6	0.1
Minimum	0.2 Duvernay 3 (#D3)	22.6 Bay Tree (#2)	0.4 Sylvester (#14)	0.1 Jayar4 7-8 or 8-8 Pad
Maximum	10.1 Kakwa 3 (#K3)	24.9 Crooked Creek (#37)	2.4 Kakwa 2 (#K2)	0.3 Duvernay 4 (#D4)
	Continuous and Passive Monitoring Comparision			
PAZA Beaverlodge Station	**0.4**	**29.1**	**2.8**	**-**
Beaverlodge Passive (#16)	**0.4**	**-**	**1.2**	**-**
PAZA Henry Pirker Station	**0.4**	**27.3**	**5.7**	**0.2**
Henry Pirker passive (#49)	**0.6**	**-**	**2.4**	**-**
Milner Station	**-**	**-**	**0.4**	**-**
Milner passive	**<0.1**	**-**	**0.9**	**-**

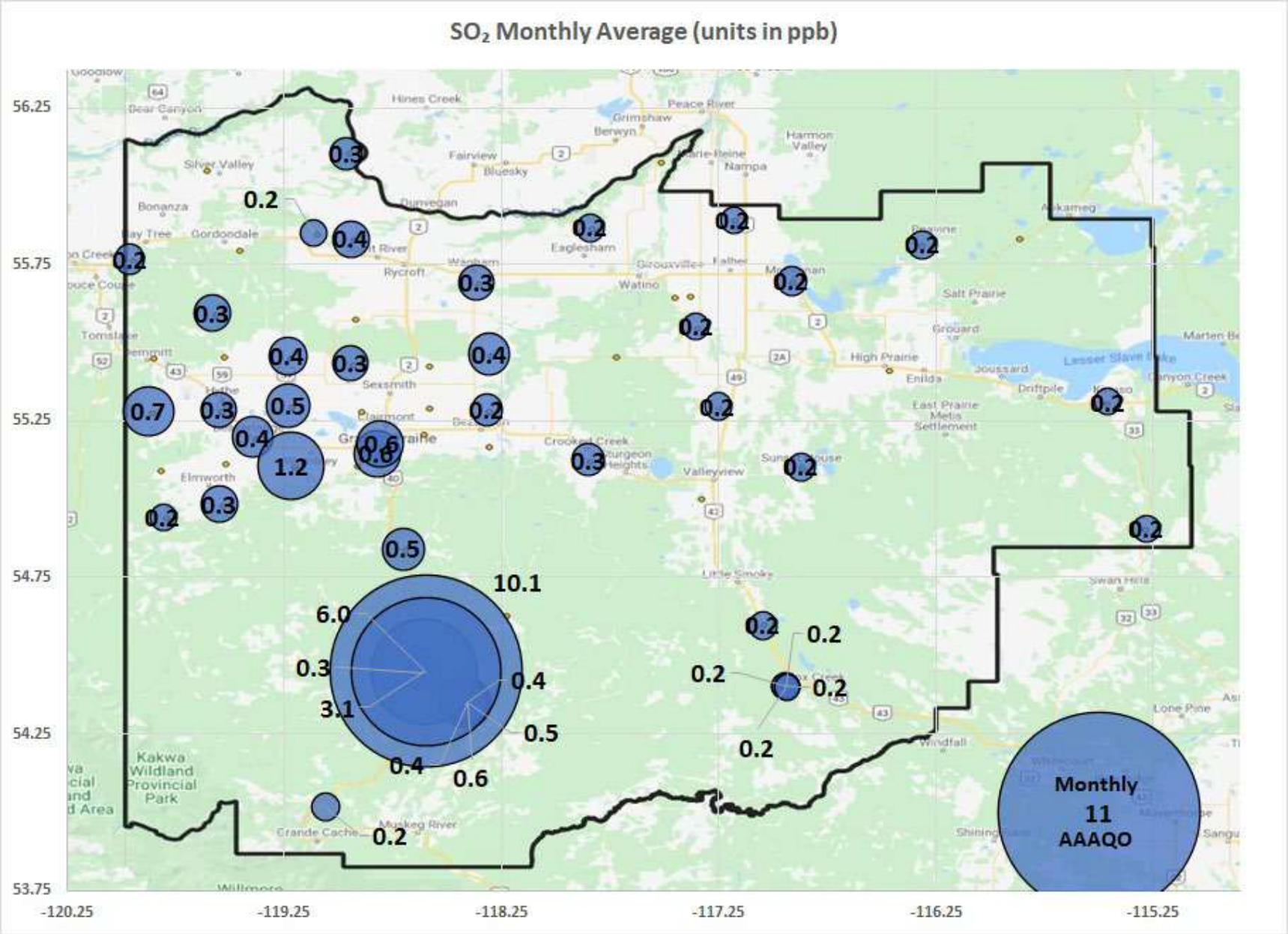

Alberta Ambient Air Quality Objective - Annual NO2 Objective is 24 ppb
NO2 Concentration (ppb)
Jul-2023
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Girouxville 3
Girouxville 4
Kakwa 1
Kakwa 2
Kakwa 3
Kakwa 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient Trailer
Milner Powerline
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8 Pad
Jayar5 Camp

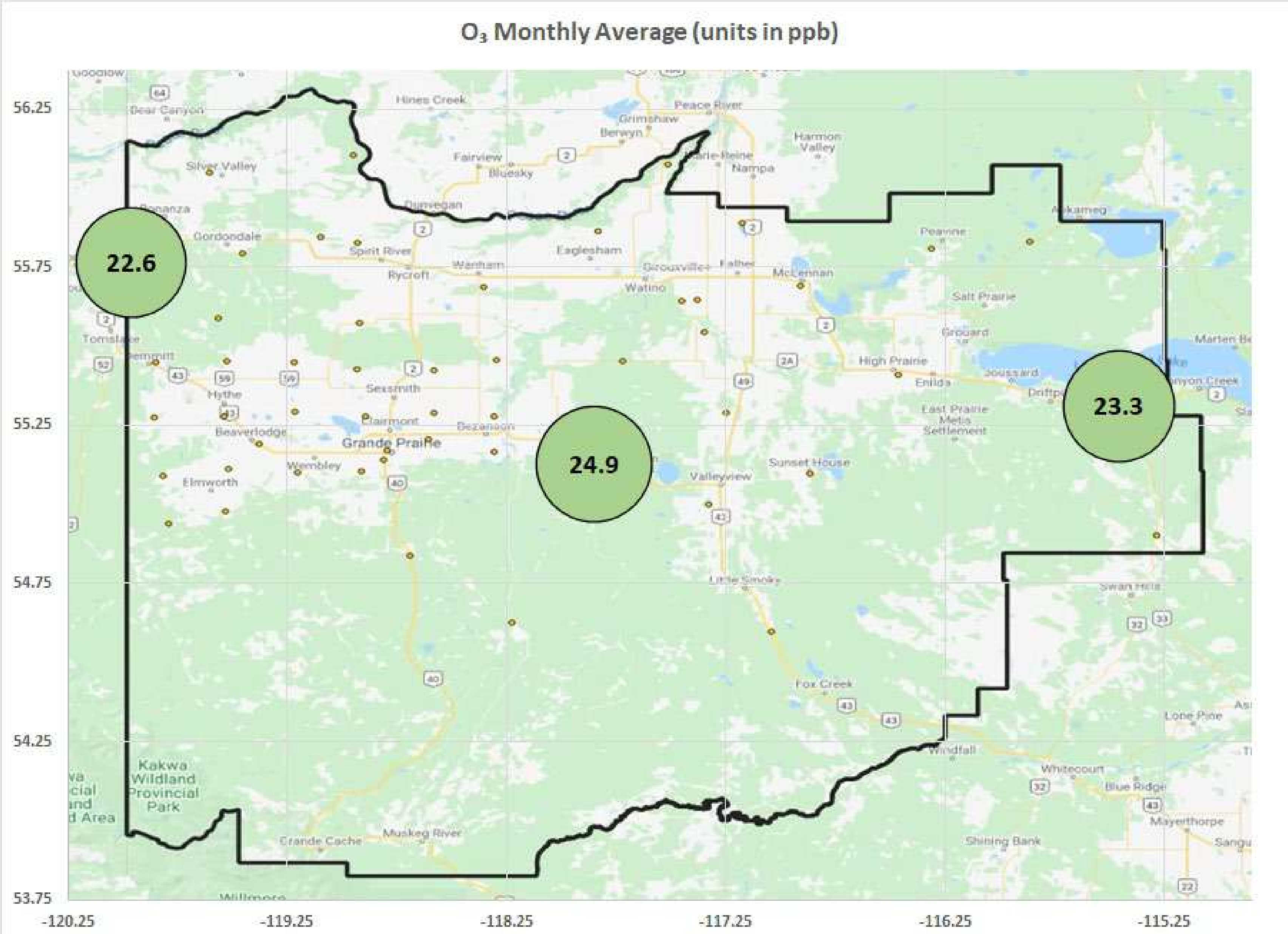

Alberta Ambient Air Quality Objective - 30-day SO2 Objective is 11 ppb
SO2 Concentration (ppb)
Jul-2023
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Girouxville 3
Girouxville 4
Kakwa 1
Kakwa 2
Kakwa 3
Kakwa 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient...
Milner Powerline
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8...
Jayar5 Camp

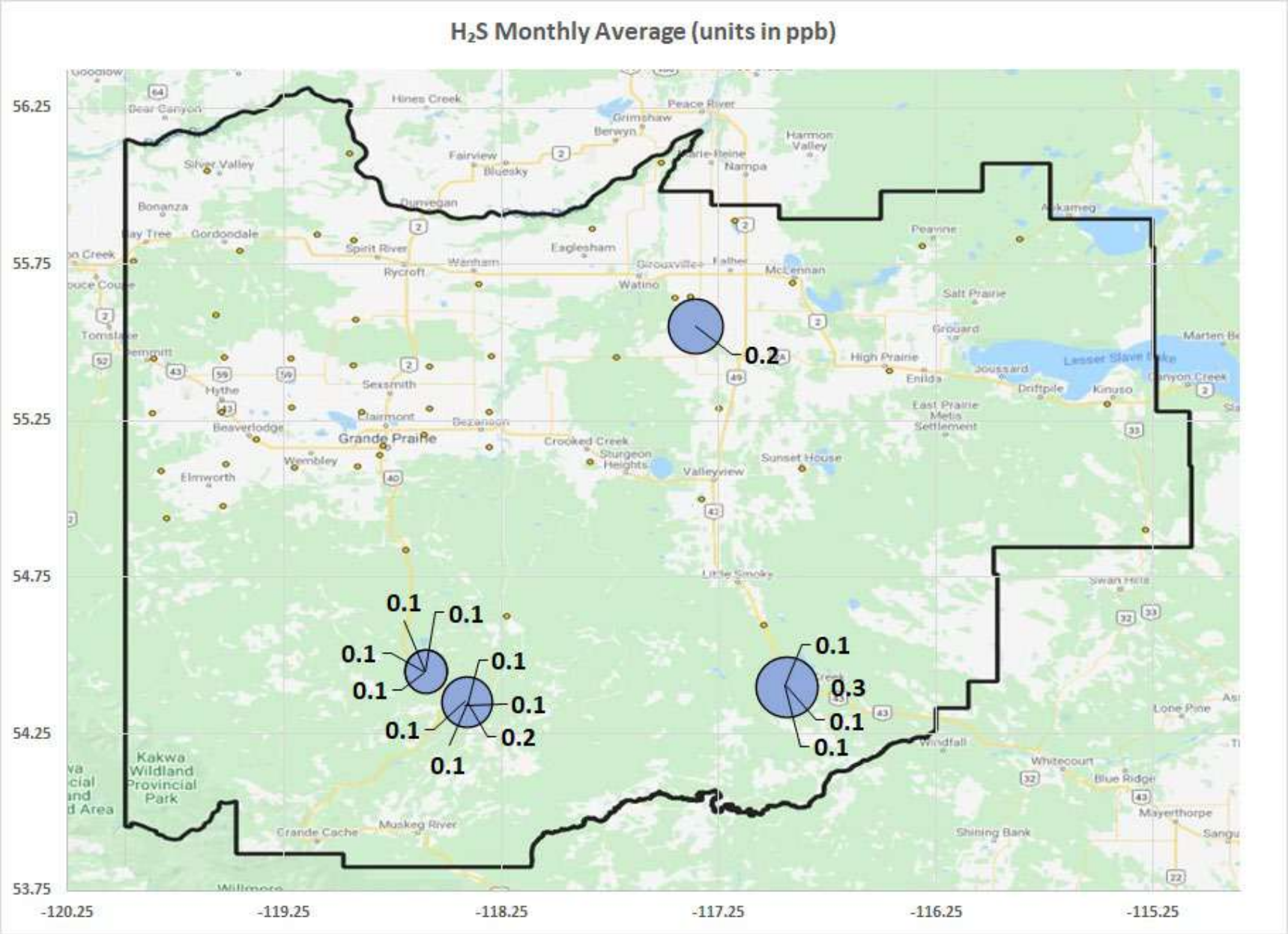

No Alberta Ambient Air Quality Objective
Jul-2023
O3 Concentration (ppb)
60
50
40
30
20
10
0
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Girouxville 3
Girouxville 4
Kakwa 1
Kakwa 2
Kakwa 3
Kakwa 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient Trailer
Milner Powerline
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8 Pad
Jayar5 Camp


No Alberta Ambient Air Quality Objective
Jul-2023
H2S Concentration (ppb)
1.5
1.0
0.5
0.0
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Girouxville 3
Girouxville 4
Kakwa 1
Kakwa 2
Kakwa 3
Kakwa 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient...
Milner Powerline
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8...
Jayar5 Camp


NO₂ Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Annual
24
AAAQO


SO2 Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Monthly
11
AAAQO

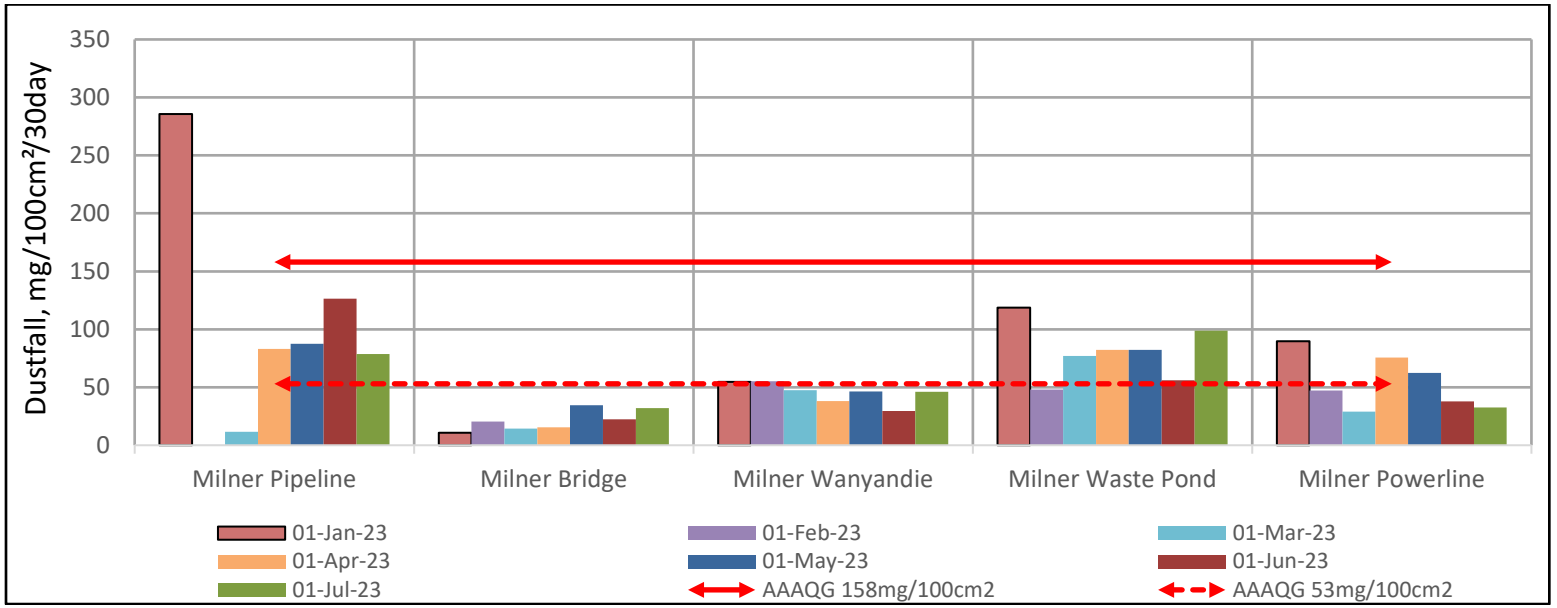

O$_3$ Monthly Average (units in ppb)
22.6
24.9
23.3
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Grande Prairie
Valleyview
Fox Creek
Peace River
High Prairie
Grimshaw
Sexsmith
Beaverlodge
Spirit River
Fairview
McLennan
Grande Cache
Kakwa Wildland Provincial Park


H2S Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
0.2
0.1
0.1
0.1
0.1
0.1
0.1
0.1
0.1
0.1
0.3
0.1
0.1
Kakwa Wildland Provincial Park
Grande Prairie
Peace River
Hines Creek
Fairview
Dunvegan
Spirit River
Eaglesham
Rycroft
Watino
McLennan
Salt Prairie
Grouard
High Prairie
Enilda
Joussard
Lesser Slave Lake
Driftpile
Kinuso
East Prairie Metis Settlement
Sexsmith
Beaverlodge
Hythe
Wembley
Elmworth
Crooked Creek
Sturgeon Heights
Valleyview
Sunset House
Little Smoky
Swan Hills
Lone Pine
Whitecourt
Blue Ridge
Mayerthorpe
Shining Bank
Grande Cache
Muskeg River

12 Dustfall Monitoring Data

Milner Dustfall Samples July 2023

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm²/30day	Fixed Dustfall (30 day) mg/100cm²/30day	Exposure days	Field Notes
July	2023	Milner Pipeline	78.8	31.4	33	
July	2023	Milner Bridge	32.1	17.4	33	
July	2023	Milner Wanyandie	46.1	11.5	33	
July	2023	Milner Waste Pond	98.8	47.4	33	
July	2023	Milner Powerline	32.7	16.7	33	
July	2023	Milner Powerline Dup	42.7	18.0	33	RPD= 27% / 7%



End of Report

Peace Airshed Zone Association

Peace Airshed Zone Association

Ambient Air Monitoring Report

July 2023