



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

April 2023

May 31, 2023

Alberta Environment and Parks

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

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

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of April 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, Poplar-Portable and Milner.
Detailed Summaries are included in the report.

Calibration and Data Submission:

Monthly report, hourly data and calibration reports for April 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
Penn West Petroleum Ltd.	Tangent	13-29-080-23-W5	00001746-02-00
	Pouce Coupe	16-07-078-11-W6	00000614-01-00
Petrus Resources	Rycroft	08-25-077-06-W6	00011351-02-00
	Spirit River	08-34-077-06-W6	00011096-02-00
Strathcona Resources Ltd.	Jayar Sour Gas Processing Plant	06-08-062-03 W6	03612040-00-00
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
Tidewater Midstream and Infrastructure Ltd.	Pipestone Sour Gas Plant	NW-35-70-9 W6	00403309-00-00
Veresen Energy	Hythe Brainard	11-18-074-12-W6	00010910-02-00
Weyerhaeuser Canada	Grande Prairie Pulp and Wood Plant	01-14-070-05-W6	00000113-02-00

Concentrations in excess of the Clean Air (Maximum Levels) Regulation:

There were 73 PM_{2.5} 1hr readings above the AAAQG and 12 PM_{2.5} 24hr reading above the AAAQO, the following is a summary of the readings.

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

Reference Number	Site	Date	From MST	To MST	Hour average (µg/m ³)	WS km/hr	WD degrees
411249	Milner	01-Apr-23	05:00	06:00	132.0	0.9	275
411249	Milner	01-Apr-23	06:00	07:00	90.9	0.0	258
411249	Milner	01-Apr-23	07:00	08:00	107.8	2.4	264
411249	Milner	01-Apr-23	16:00	17:00	83.2	11.4	230
411249	Milner	01-Apr-23	17:00	18:00	84.0	5.6	234
411266	Milner	02-Apr-23	23:00	00:00	85.3	4.7	277
411266	Milner	02-Apr-23	01:00	02:00	105.5	6.4	272
411266	Milner	02-Apr-23	04:00	05:00	101.2	4.7	275
411266	Milner	02-Apr-23	14:00	15:00	99.2	7.4	220
411266	Milner	02-Apr-23	16:00	17:00	105.9	4.4	245
411294	Milner	03-Apr-23	00:00	01:00	129.6	1.0	276
411294	Milner	03-Apr-23	04:00	05:00	124.6	8.3	259
411294	Milner	03-Apr-23	07:00	08:00	92.5	11.4	244
411294	Milner	03-Apr-23	08:00	09:00	81.5	12.2	249
411294	Milner	03-Apr-23	17:00	18:00	125.3	1.4	68
411339	Milner	04-Apr-23	03:00	04:00	108.4	0.7	280
411339	Milner	04-Apr-23	04:00	05:00	165.5	3.0	265
411339	Milner	04-Apr-23	16:00	17:00	84.0	4.9	88
411339	Milner	04-Apr-23	17:00	18:00	94.8	0.6	299
411393	Milner	05-Apr-23	02:00	03:00	88.6	0.0	316
411393	Milner	05-Apr-23	03:00	04:00	80.9	0.0	327
411393	Milner	05-Apr-23	04:00	05:00	209.1	0.0	335
411393	Milner	05-Apr-23	05:00	06:00	329.1	0.0	257
411393	Milner	05-Apr-23	06:00	07:00	294.9	0.1	277
411393	Milner	05-Apr-23	07:00	08:00	232.6	0.4	229
411393	Milner	05-Apr-23	10:00	11:00	89.0	8.3	215
411393	Milner	05-Apr-23	15:00	16:00	93.5	15.9	232
411393	Milner	05-Apr-23	16:00	17:00	145.8	16.9	226
411393	Milner	05-Apr-23	17:00	18:00	85.5	13.4	221
411441	Milner	06-Apr-23	04:00	05:00	84.7	0.8	287
411441	Milner	06-Apr-23	05:00	06:00	83.8	0.9	271
411441	Milner	06-Apr-23	07:00	08:00	282.4	0.8	258
411441	Milner	06-Apr-23	08:00	09:00	112.1	1.1	250
411441	Milner	06-Apr-23	09:00	10:00	87.0	2.1	249
411441	Milner	06-Apr-23	13:00	14:00	80.4	15.3	236
411441	Milner	06-Apr-23	16:00	17:00	110.0	11.8	227
411441	Milner	06-Apr-23	17:00	18:00	212.8	13.6	245
411460	Milner	07-Apr-23	07:00	08:00	101.6	0.1	233
411460	Milner	07-Apr-23	16:00	17:00	137.7	17.0	231
411460	Milner	07-Apr-23	17:00	18:00	199.4	17.6	243
411507	Milner	09-Apr-23	14:00	15:00	87.1	28.2	240
411507	Milner	09-Apr-23	17:00	18:00	91.1	20.8	244
411610	Milner	11-Apr-23	05:00	06:00	96.8	0.0	66
411739	Milner	15-Apr-23	06:00	07:00	94.6	0.9	264
411739	Milner	15-Apr-23	16:00	17:00	103.9	13.7	227
411739	Milner	15-Apr-23	17:00	18:00	117.4	12.4	226
411739	Milner	15-Apr-23	20:00	21:00	107.1	8.4	243

411739	Milner	15-Apr-23	21:00	22:00	84.5	4.6	250
411801	Milner	16-Apr-23	02:00	03:00	83.4	0.1	351
411801	Milner	16-Apr-23	04:00	05:00	119.1	0.4	56
411801	Milner	16-Apr-23	05:00	06:00	234.2	0.3	291
411801	Milner	16-Apr-23	16:00	17:00	147.8	11.7	237
411801	Milner	16-Apr-23	17:00	18:00	219.1	16.1	240
411801	Milner	16-Apr-23	18:00	19:00	98.1	14.6	250
411801	Milner	16-Apr-23	21:00	22:00	94.2	4.4	272
411801	Milner	16-Apr-23	22:00	23:00	114.1	0.5	284
411801	Milner	17-Apr-23	01:00	02:00	118.3	10.3	263
411801	Milner	17-Apr-23	05:00	06:00	156.9	18.0	244
411801	Milner	17-Apr-23	06:00	07:00	132.7	20.1	254
411801	Milner	17-Apr-23	07:00	08:00	90.1	18.8	260
411801	Milner	17-Apr-23	08:00	09:00	237.1	23.8	259
411801	Milner	17-Apr-23	09:00	10:00	115.5	24.4	233
411801	Milner	17-Apr-23	10:00	11:00	109.1	25.5	240
411801	Milner	17-Apr-23	12:00	13:00	150.6	24.0	243
411801	Milner	17-Apr-23	14:00	15:00	96.2	22.0	230
411801	Milner	17-Apr-23	17:00	18:00	110.3	15.8	232
411801	Milner	18-Apr-23	01:00	02:00	161.5	1.8	281
411801	Milner	18-Apr-23	02:00	03:00	105.5	0.8	349
411801	Milner	18-Apr-23	03:00	04:00	125.9	1.6	293
411801	Milner	18-Apr-23	04:00	05:00	157.3	0.5	292
411801	Milner	18-Apr-23	05:00	06:00	344.8	2.6	269
411801	Milner	18-Apr-23	06:00	07:00	145.6	3.1	267
411801	Milner	18-Apr-23	07:00	08:00	131.9	4.2	243

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

Reference Number	Site	Date	Day average (µg/m ³)	WS km/hr	WD degrees
411249	Milner	01-Apr-23	52.3	5.1	250
411266	Milner	02-Apr-23	49.7	5.3	195
411294	Milner	03-Apr-23	52.5	4.7	184
411339	Milner	04-Apr-23	36.9	2.9	206
411393	Milner	05-Apr-23	89.6	6.8	250
411441	Milner	06-Apr-23	62.7	4.8	236
411460	Milner	07-Apr-23	46.4	7.7	239
411507	Milner	09-Apr-23	32.5	9.9	199
411739	Milner	15-Apr-23	49.6	5.1	244
411801	Milner	16-Apr-23	79.5	4.5	240
411801	Milner	17-Apr-23	81.1	15.1	259
411801	Milner	18-Apr-23	69.5	5.4	246

Operational times less than 90 percent:

Poplar CH4/NMHC are not in operation.

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

Air Incidents

None were reported.

Deviations from Authorized Monitoring Methods

None were reported.

Passive Monitoring

- 53 Stations throughout the PAZA zone
 - Passive sample analyses were performed by Bureau Veritas Laboratories
- The following notes were recorded:
 - Milner Powerline site had note: SO₂ Sample on Ground. Head bent. Fixed head and tightened.
 - Jayar1 Plant site had note: Pole down on ground
 - Wanham Site had note: SO₂ was broken on collection. outer filter missing.
- There were 16 duplicates sampled in the month of April.
- Six SO₂ duplicates located at Boone Creek, Steeprock Creek, Duvernay 1, Kakwa 4, Milner Pipeline, Jayar1 Plant; RPD ranging from 3% to 67% (one fail, Jayar1 Plant, 0.2 and 0.1)
- One O₃ duplicate located at Bay Tree; RPD 8% (no fails)
- Six NO₂ duplicates at Webber Creek, Hythe, Kinuso, Kakwa 1, Milner Bridge, Jayar2 14-8; RPD ranging from 2% to 50% (no fails)
- Three H₂S duplicates, Duvernay 1, Kakwa 3, Jayar4 7-8 or 8-8 Pad; RPD 15% to 46% (no fails)
- There were no exceedances of the AAAQOs for all monitored parameters at any of the passive monitoring stations during this month.

Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- There was one duplicate sampled collected for each in the month of April.
 - RPD ranged from 2% to 13%
- Total dustfall ranged from 15.4 to 83.0 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.

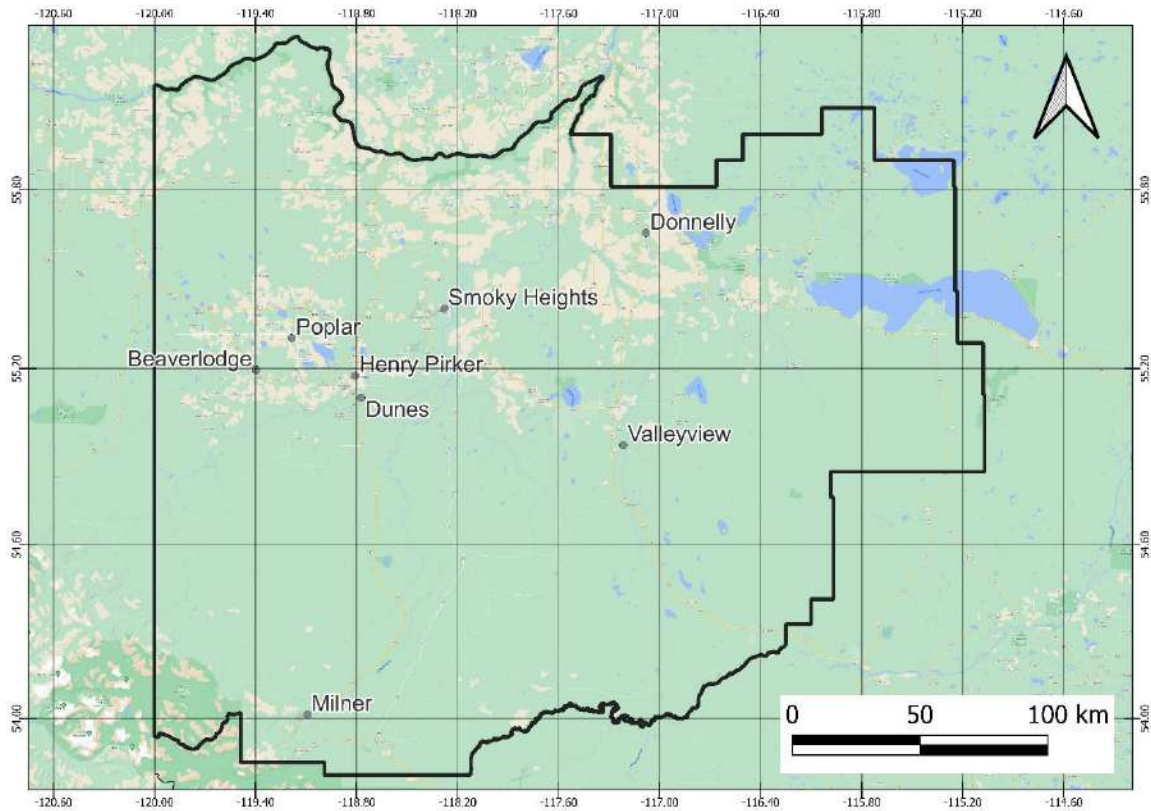


Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager

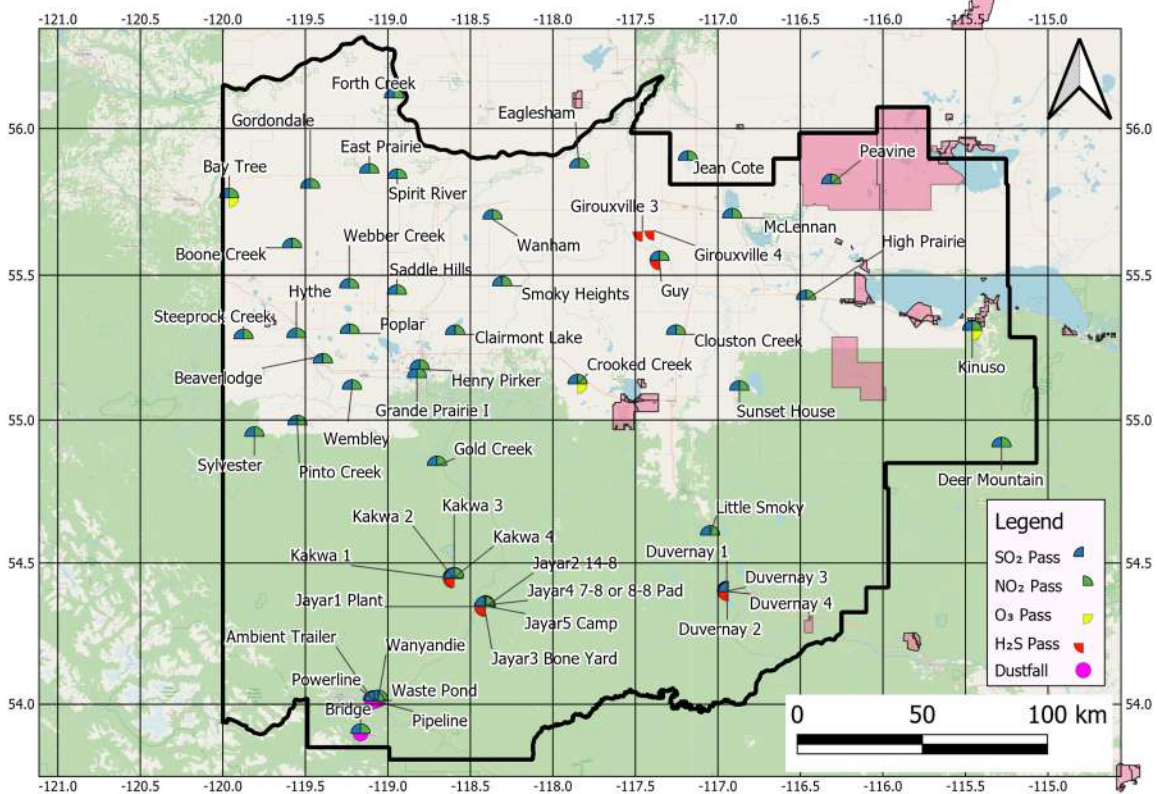
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PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 April 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 - April 2023 Beaverlodge Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.4	0.0	95.0%	100.0%	6.0	-	Apr-07 11:00	1.4	-	Apr-06	-	-	-	-	Apr 10, 2023
NO ₂ (ppb)	3.0	0.3	95.0%	100.0%	17.7	159	Apr-06 22:00	6.5	-	Apr-06	0	-	-	-	Apr 10, 2023
NO _x (ppb)	3.4	0.3	95.0%	100.0%	20.6	-	Apr-15 08:00	8.0	-	Apr-06	-	-	-	-	Apr 10, 2023
O ₃ (ppb)	40.1	16.5	95.3%	100.0%	60.4	76	Apr-30 17:00	52.5	-	Apr-28	0	-	-	-	Apr 10, 2023
PM _{2.5} (µg/m ³)	3.1	0.2	99.6%	100.0%	22.5	80	May-01 00:00	10.4	29	Apr-30	0	-	0	-	Apr 10, 2023
SO ₂ (ppb)	0.6	0.0	94.9%	99.6%	10.3	172	Apr-09 11:00	1.8	48	Apr-30	0	-	0	0	Apr 06, 2023
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	5.1	-6.4	100.0%	100.0%	26.1	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>									
RH (%)	52.9	16.3	100.0%	100.0%	98.0										
WS (km/hr)	10.8	0.0	100.0%	100.0%	47.6										
WD (deg)	266	3.7	100.0%	100.0%	359.8	<div style="border: 1px solid black; padding: 2px;"> Average Wind Direction 266 W </div>									

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	No Operational issues noted
O ₃	Thermo	49iQ	No Operational issues noted
PM _{2.5}	Sharp	5030	No Operational issues noted
SO ₂	Thermo	43i-TLE	Perm tube replacement, resulted in span issues, maintenance and manual span checks (3hrs)
Met Equip	MetOne	50.5	No Operational issues noted

1.2 Dunes Air Monitoring Station

PAZA - April 2023 Dunes Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
PM _{2.5} (µg/m ³)	2.8	0.0	96.0%	96.3%	26.3	80	Apr-17 01:00	7.2	29	Apr-21	0	-	0	-	Apr-19-2023
SO ₂ (ppb)	0.5	0.0	93.3%	97.9%	8.3	172	Apr-22 18:00	1.4	48	Apr-09	0	-	0	0	Apr-19-2023
TRS (ppb)	0.2	0.0	93.2%	97.8%	1.8	-	Apr-18 11:00	0.5	-	Apr-18	-	-	-	-	Apr-18-2023
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	5.3	-9.2	97.9%	97.9%	26.5	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>									
RH (%)	50.0	9.4	97.9%	97.9%	94.2										
WS (km/hr)	4.5	0.0	97.9%	97.9%	16.1										
WD (deg)	285	0.4	97.9%	97.9%	359.2	<div style="border: 1px solid black; padding: 2px;"> Average Wind Direction 285 WNW </div>									

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Thermo	TEOM AB	Power failure Apr29-30 (15hrs); power failure resulted in data shift (12hrs removed)
SO ₂	TECO	43i	Power failure Apr29-30 (15hrs)
TRS	TECO	43C	Power failure Apr29-30 (15hrs); span glitch Apr 18 removed (1hr)
Met Equip	Gil/RMYoung	MetPak/RMY86004	Power failure Apr29-30 (15hrs)

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - April 2023 Henry Pirker Station Report

Parameter	April			Operational	Max	1-hour		8-hour / 24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
NO (ppb)	2.3	0.0	95.1%	100.0%	59.0	-	Apr-01 08:00	11.0	-	Apr-06	-	-	-	-	Apr 03, 2023	
NO ₂ (ppb)	8.5	0.9	95.1%	100.0%	45.0	159	Apr-01 07:00	16.8	-	Apr-06	0	-	-	-	Apr 03, 2023	
NO _x (ppb)	10.9	1.1	95.1%	100.0%	101.0	-	Apr-01 08:00	28.0	-	Apr-06	-	-	-	-	Apr 03, 2023	
O ₃ (ppb)	35.2	0.4	95.3%	100.0%	62.7	76	Apr-30 14:00	48.9	-	Apr-28	0	-	-	-	Apr 03, 2023	
PM _{2.5} (µg/m ³)	6.6	0.4	99.6%	99.7%	41.3	80	May-01 00:00	15.6	29	Apr-30	0	-	0	-	Apr 06, 2023	
SO ₂ (ppb)	0.3	0.0	95.3%	100.0%	10.8	172	Apr-10 07:00	1.4	48	Apr-10	0	-	0	0	Apr 03, 2023	
H ₂ S (ppb)	0.1	0.0	95.3%	100.0%	1.3	10	Apr-26 01:00	0.4	3	Apr-11	0	-	0	-	Apr 06, 2023	
CH ₄ (ppm)	2.1	1.8	89.7%	94.7%	4.0	-	Apr-16 06:00	2.4	-	Apr-16	-	-	-	-	Apr 11, 2023	
THC (ppm)	2.1	1.7	89.7%	94.9%	4.2	-	Apr-16 06:00	2.4	-	Apr-16	-	-	-	-	Apr 11, 2023	
NMHC (ppm)	0.0	0.0	89.7%	94.7%	0.3	-	Apr-01 08:00	0.1	-	Apr-06	-	-	-	-	Apr 11, 2023	
CO (ppm)	0.2	0.1	95.1%	100.0%	0.7	13	Apr-06 07:00	0.3	5	Apr-06	0	0	-	-	Apr 11, 2023	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	6.5	-8.4	100.0%	100.0%	27.2	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>										
RH (%)	49.0	8.3	100.0%	100.0%	84.3											
SR (W/m ²)	156.2	0.0	100.0%	100.0%	648.4											
WS (km/hr)	7.3	0.1	100.0%	100.0%	33.0											
WD (deg)	266	0.0	100.0%	100.0%	359.6	Average Wind Direction		266	W							

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42IQ	No Operational issues noted
O ₃	TECO	49I	No Operational issues noted
PM _{2.5}	API	T640	shortly after calibration there was a short period of data failure and loss (2hrs)
SO ₂	TEI	43I-TLE	No Operational issues noted
H ₂ S	TEI	450i	No Operational issues noted
THC/CH ₄ /NMHC	TEI	55i	Apr 11 removal cal for repair (data removed to last good span, 6hrs); Apr 28 removal calibration due to CH ₄ , data removed to last good span, 6hrs (Replaced rotor & condition the column); Data for THC was adjusted from April 5 to April 11 by 5% to account for negative spiking, likely as a result of a failing actuator
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 - April 2023 Smoky Heights Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
PM _{2.5} (µg/m ³)	3.9	0.1	99.6%	100.0%	52.7	80	Apr-14 20:00	12.6	29	Apr-30	0	-	0	-	Apr 20, 2023	
SO ₂ (ppb)	0.2	0.0	95.3%	100.0%	5.7	172	Apr-04 06:00	0.7	48	Apr-04	0	-	0	0	Apr 20, 2023	
TRS (ppb)	0.2	0.0	95.1%	100.0%	1.3	-	Apr-01 11:00	0.4	-	Apr-01	-	-	-	-	Apr 20, 2023	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	5.2	-8.3	100.0%	100.0%	26.3	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>										
WS (km/hr)	11.6	0.4	100.0%	100.0%	49.2											
WD (deg)	244	0.0	100.0%	100.0%	359.7	Average Wind Direction		244	WNW							

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Sharp	5030	No Operational issues noted during the month
SO ₂	TECO	43i	No Operational issues noted during the month
TRS	TEI	43I APSAA	No Operational issues noted during the month
Met Equip	MetOne	50.5	No Operational issues noted during the month

1.5 Valleyview Air Monitoring Station

PAZA - April 2023 Valleyview Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
SO ₂ (ppb)	0.1	0.0	92.4%	97.1%	3.8	172	Apr-06 02:00	0.4	48	Apr-06	0	-	0	0	Apr 27, 2023	
H ₂ S (ppb)	0.1	0.0	92.2%	97.1%	1.2	10	Apr-19 18:00	0.3	3	Apr-17	0	-	0	-	Apr 27, 2023	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	6.2	-7.8	96.8%	97.1%	27.7	<div style="border: 1px solid black; padding: 5px;"> <p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> </div>										
RH (%)	55.6	12.7	96.8%	97.1%	99.9											
WS (km/hr)	4.9	0.1	96.8%	97.1%	17.0											
WD (deg)	210	0.0	96.8%	97.1%	359.9											
									Average Wind Direction		210 NW					

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	TEI	43i-APSCB	Power failure Apr 4-5, 30 (21hrs removed)
H ₂ S	TEI	450i-APHAA / 43C	Power failure Apr 4-5, 30 (21hrs removed)
Met Equip	RMYoung	RMY86004	Power failure Apr 4-5, 30 (21hrs removed)

1.6 Donnelly Air Monitoring Station

PAZA - April 2023 Donnelly Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
SO ₂ (ppb)	0.2	0.0	94.3%	98.8%	1.3	172	Apr-26 08:00	0.3	48	Apr-26	0	-	0	0	Apr 27, 2023	
H ₂ S (ppb)	0.0	0.0	94.3%	98.8%	1.3	10	Apr-04 10:00	0.2	3	Apr-04	0	-	0	-	Apr 27, 2023	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	5.6	-8.1	98.8%	98.8%	26.8	<div style="border: 1px solid black; padding: 5px;"> <p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> </div>										
WS (km/hr)	9.9	0.6	98.8%	98.8%	42.3											
WD (deg)	186	1.4	98.8%	98.8%	358.9											
																Average Wind Direction

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	Teco	43i	Apr 13-16 communication and DAS failure (9hrs)
H ₂ S	Thermo	45C	Apr 13-16 communication and DAS failure (9hrs)
Met Equip	RMYoung	5103	Apr 13-16 communication and DAS failure (9hrs)

1.7 Poplar Air Monitoring Station

PAZA - April 2023 Poplar Station Report

Parameter	April			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d		
NO (ppb)	0.9	0.0	94.6%	99.6%	14.6	-	Apr-08 10:00	2.5	-	Apr-15	-	-	-	-	Apr 25, 2023	
NO ₂ (ppb)	4.8	0.5	94.6%	99.6%	26.5	159	Apr-06 02:00	10.6	-	Apr-06	0	-	-	-	Apr 25, 2023	
NO _x (ppb)	5.8	0.4	94.6%	99.6%	30.8	-	Apr-08 10:00	12.8	-	Apr-06	-	-	-	-	Apr 25, 2023	
O ₃ (ppb)	36.4	4.3	94.3%	99.0%	62.2	76	Apr-30 15:00	47.2	-	Apr-28	0	-	-	-	Apr 25, 2023	
PM _{2.5} (µg/m ³)	2.1	0.0	98.2%	98.6%	14.0	80	May-01 00:00	9.0	29	Apr-30	0	-	0	0	Apr 24, 2023	
SO ₂ (ppb)	1.0	0.0	94.9%	99.6%	19.3	172	Apr-26 21:00	3.2	48	Apr-26	0	-	0	0	Apr 25, 2023	
TRS (ppb)	0.3	0.0	94.7%	99.6%	26.6	-	Apr-06 02:00	1.9	-	Apr-06	-	-	-	-	Apr 24, 2023	
CH ₄ (ppm)	removed Dec 12, 2022															
THC (ppm)	2.2	1.9	94.3%	99.0%	10.2	-	Apr-06 02:00	2.9	-	Apr-06	-	-	-	-	Apr 24, 2023	
NMHC (ppm)	removed Dec 12, 2022															
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	3.8	-8.4	99.6%	99.6%	25.3	<div style="border: 1px solid black; padding: 5px;"> <p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> </div>										
WS (km/hr)	12.1	0.1	99.6%	99.6%	51.7											
WD (deg)	281	1.0	99.6%	99.6%	359.4											
																Average Wind Direction

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	TEI	42i	Apr 18 power failure (3hrs)
O ₃	TEI	49i	Apr 18 power failure (4hrs); additional 3hrs not valid removed
PM _{2.5}	Thermo	TEOM AB	Apr 18 power failure (3hrs); excessive negative drift <-3µg/m ³ (7hrs)
SO ₂	TEI	43i	Apr 18 power failure (3hrs)
TRS	TEI	43i	Apr 18 power failure (3hrs)
THC	TEI	55i / 511i-LT	CH ₄ , NMHC not in service; Apr 18 power failure (4hrs); additional 3hrs not valid removed
Met Equip	MetOne	50.5	Apr 18 power failure (3hrs)

1.8 Milner Air Monitoring Station

PAZA - April 2023 Milner Station Report

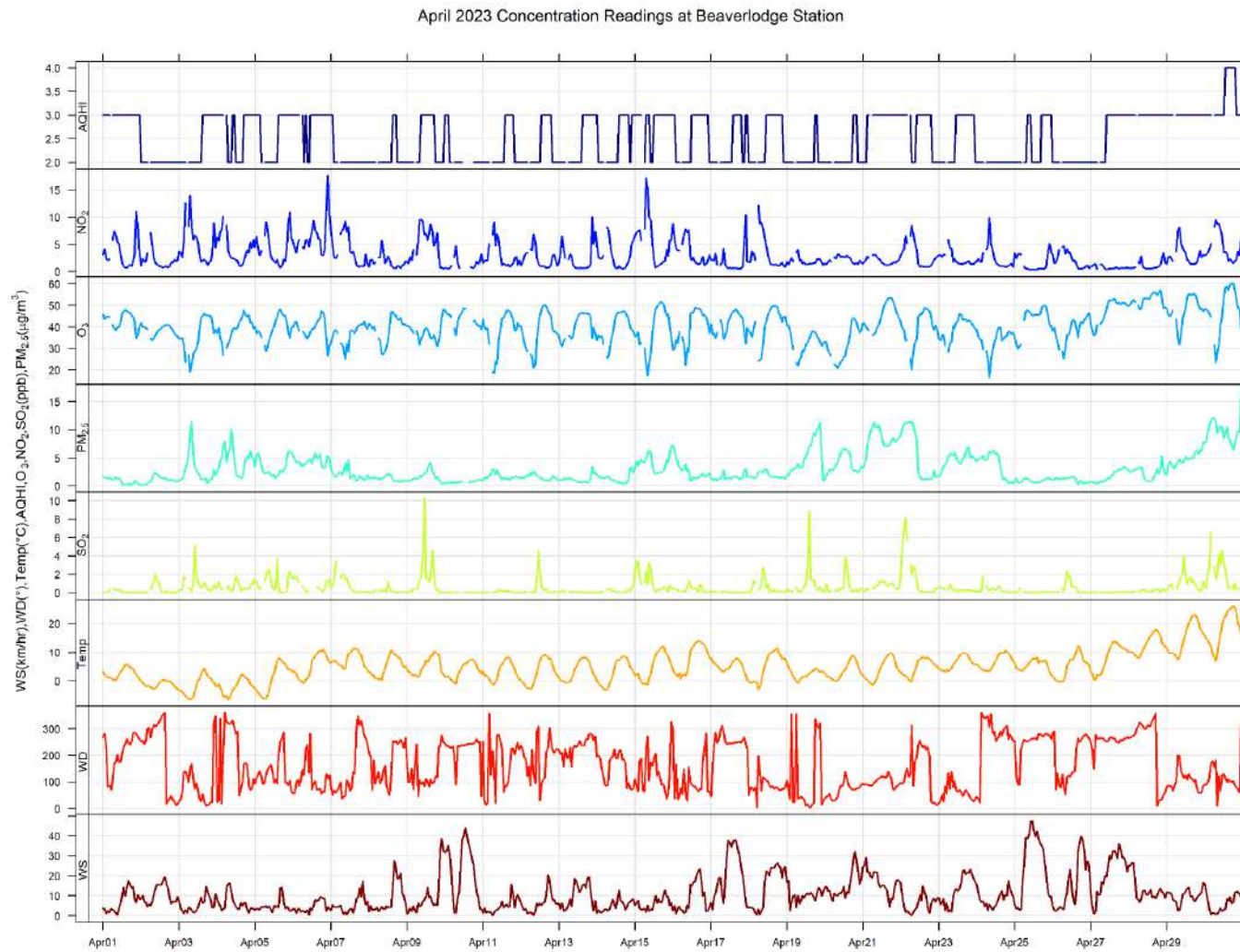
Parameter	April				Max	1-hour		Max	24-hour		Exceedance				Calibration Date
	Average	Minimum	Valid	Operational		Objective	Max Day and Time		Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.4	0.0	90.6%	96.1%	26.7	-	Apr-07 09:00	2.3	-	Apr-07	-	-	-	-	Apr 18, 2023
NO ₂ (ppb)	2.4	0.0	90.6%	96.1%	25.5	159	Apr-05 08:00	5.9	-	Apr-05	0	-	-	-	Apr 18, 2023
NO _x (ppb)	2.9	0.0	90.6%	96.1%	48.6	-	Apr-05 08:00	7.9	-	Apr-05	-	-	-	-	Apr 18, 2023
PM _{2.5} (µg/m ³)	28.6	0.0	95.6%	96.1%	344.8	80	Apr-18 06:00	89.6	29	Apr-05	73	-	12	-	Apr 18, 2023
	Average	Minimum	Valid	Operational	Maximum										
WS (km/hr)	6.4	0.0	97.6%	97.6%	28.2										
WD (deg)	242	0.5	97.6%	97.6%	357.0										
						Note: Valid hours must be greater than 75% Operational hours must be greater than 90%									
						Average Wind Direction		242		WSW					

Update Summary:

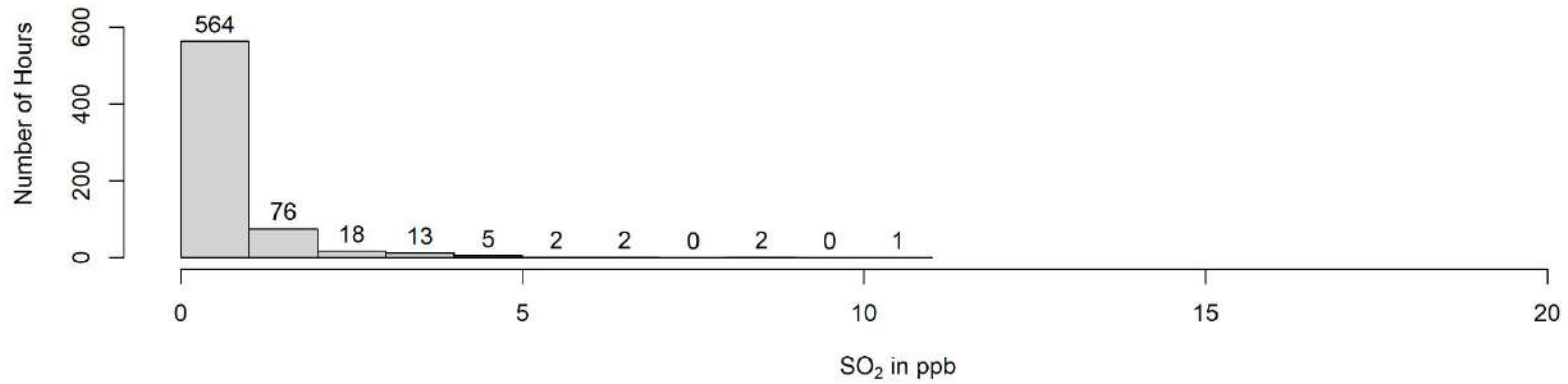
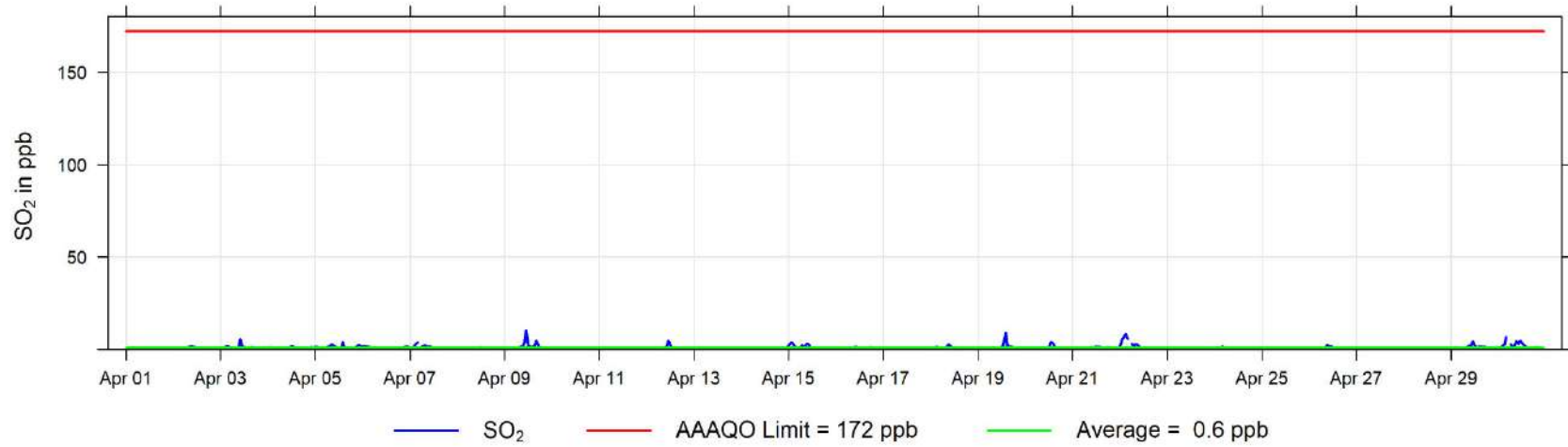
Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	Removal and install calibrations on Apr18 + Apr26 (10hrs maintenance), manual span check April 24 (1hr); DAS failure Apr 27-28 (17hrs)
PM _{2.5}	TEOM	AB	Excessive elevated readings during month (73x1hr and 12x24hr) + excessive negative drift (11hrs); DAS failure Apr 27-28 (17hrs)
Met Equip	MetOne	50.5	DAS failure Apr 27-28 (17hrs)

2 Beaverlodge Charts

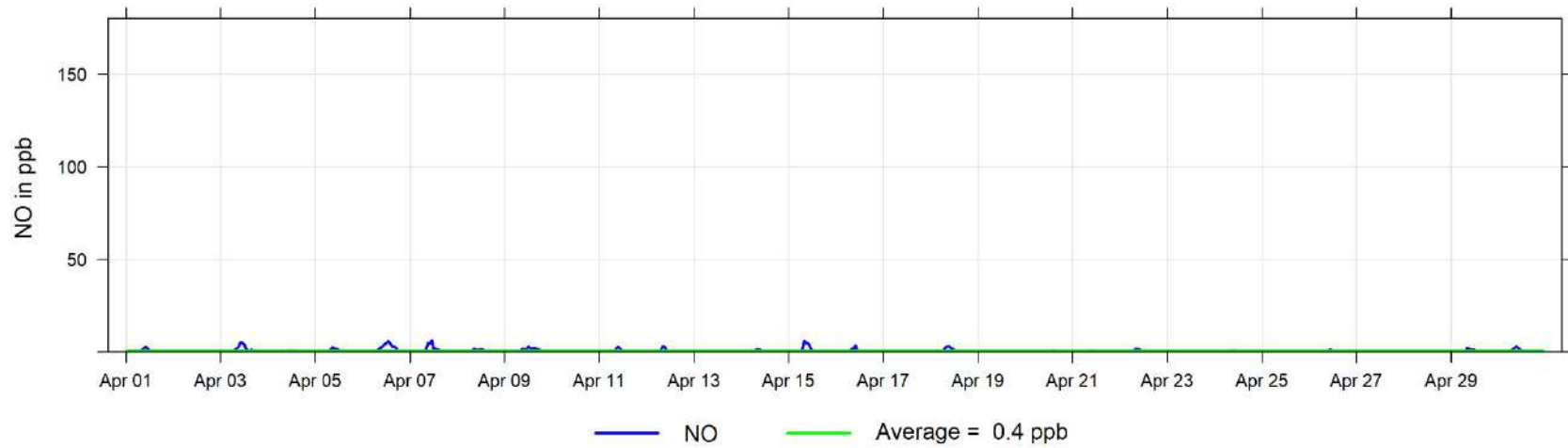
The following pages include the charts and histograms for Beaverlodge Station



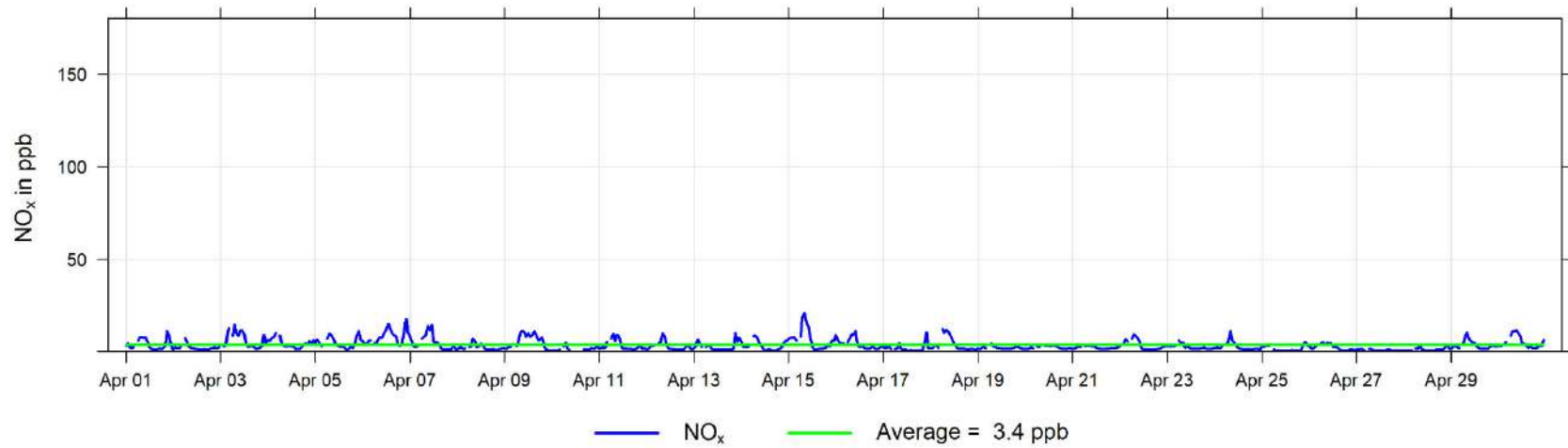
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Beaverlodge



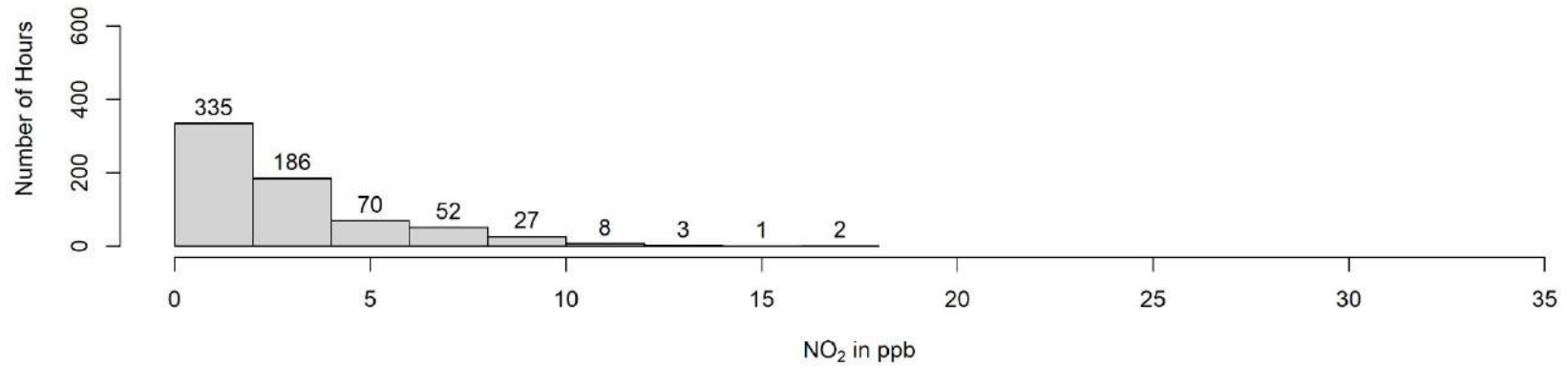
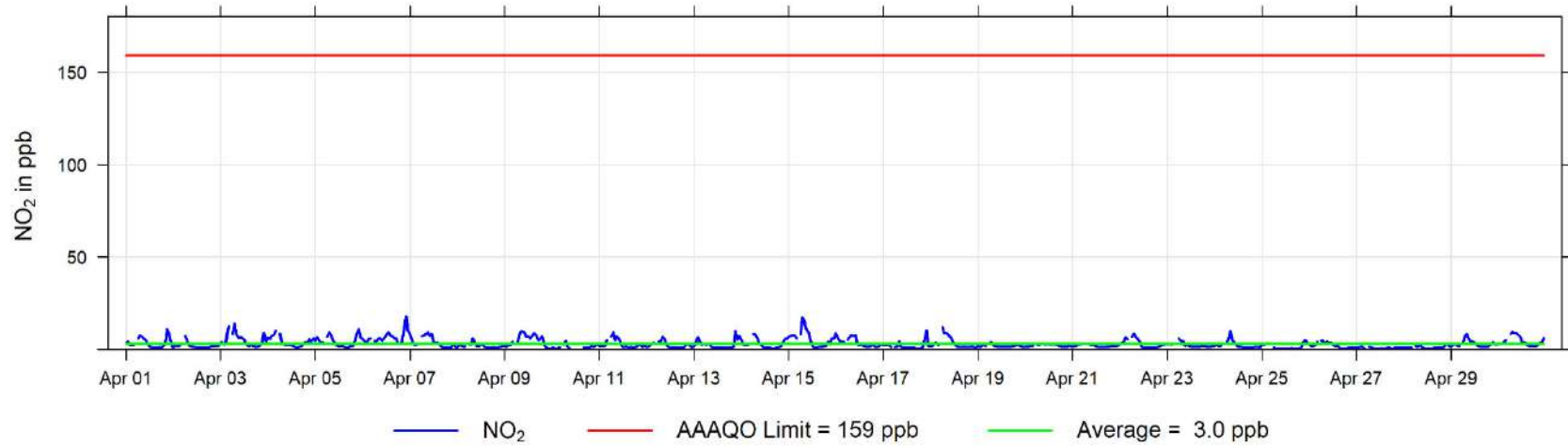
April 2023 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



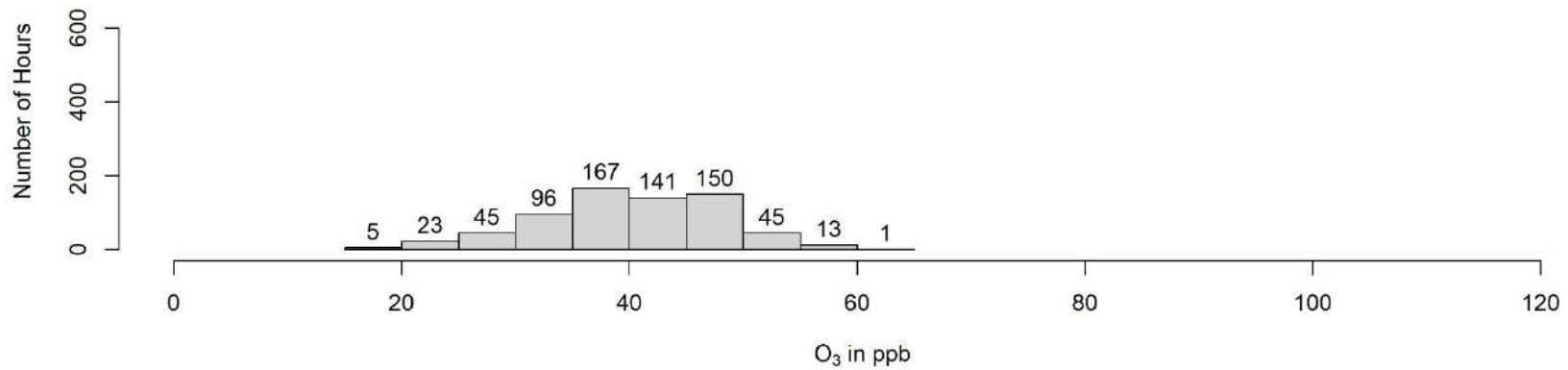
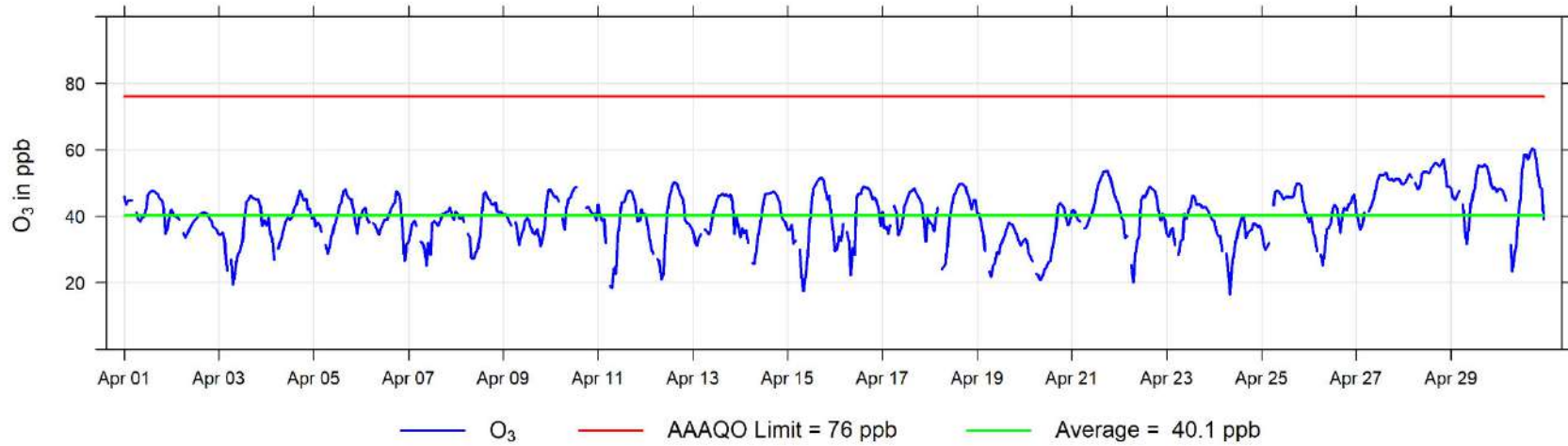
April 2023 Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge



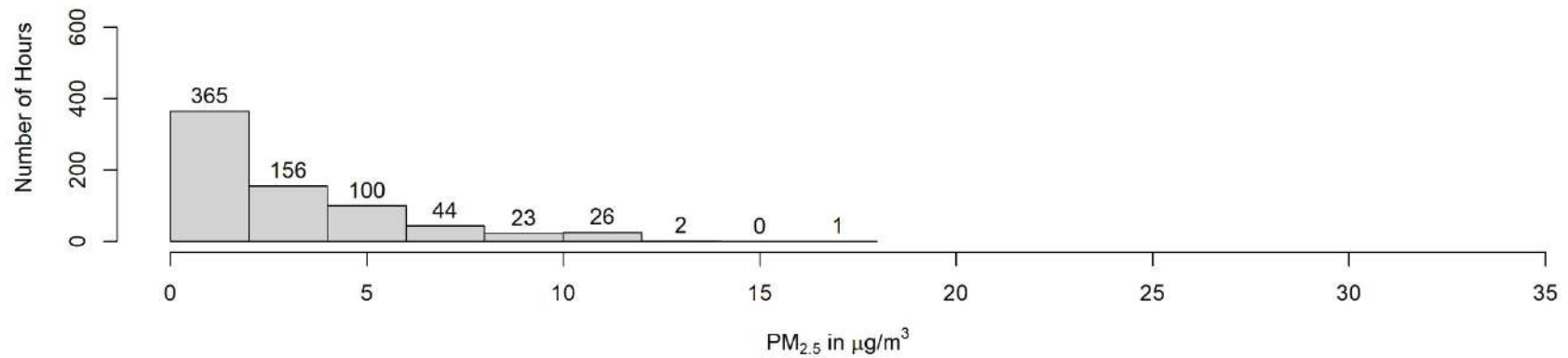
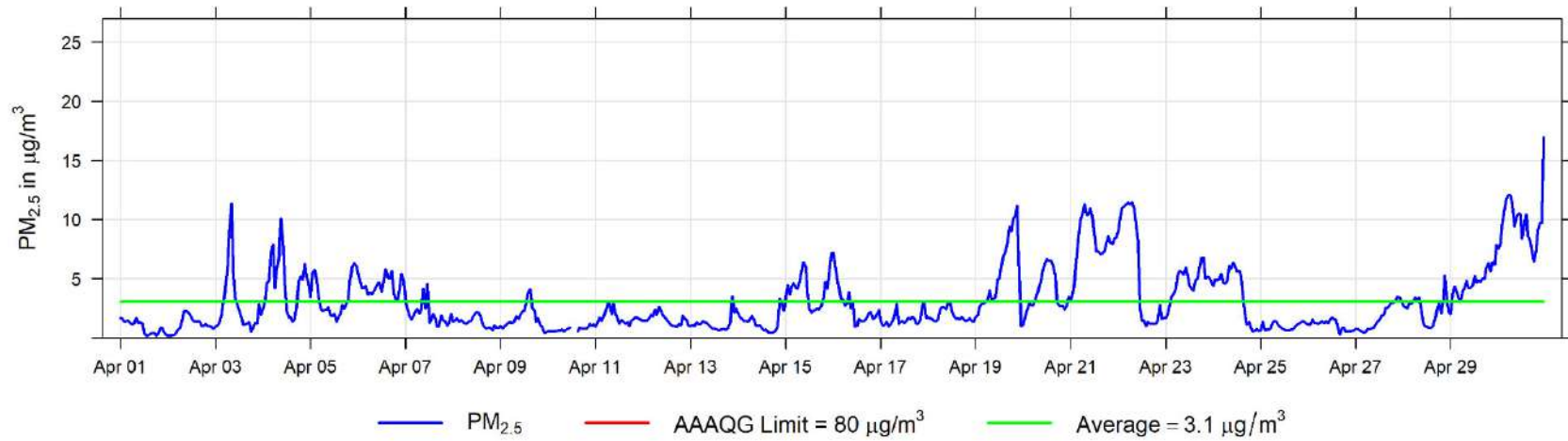
April 2023 Hourly Concentration Readings of NO₂ (in ppb) at Beaverlodge



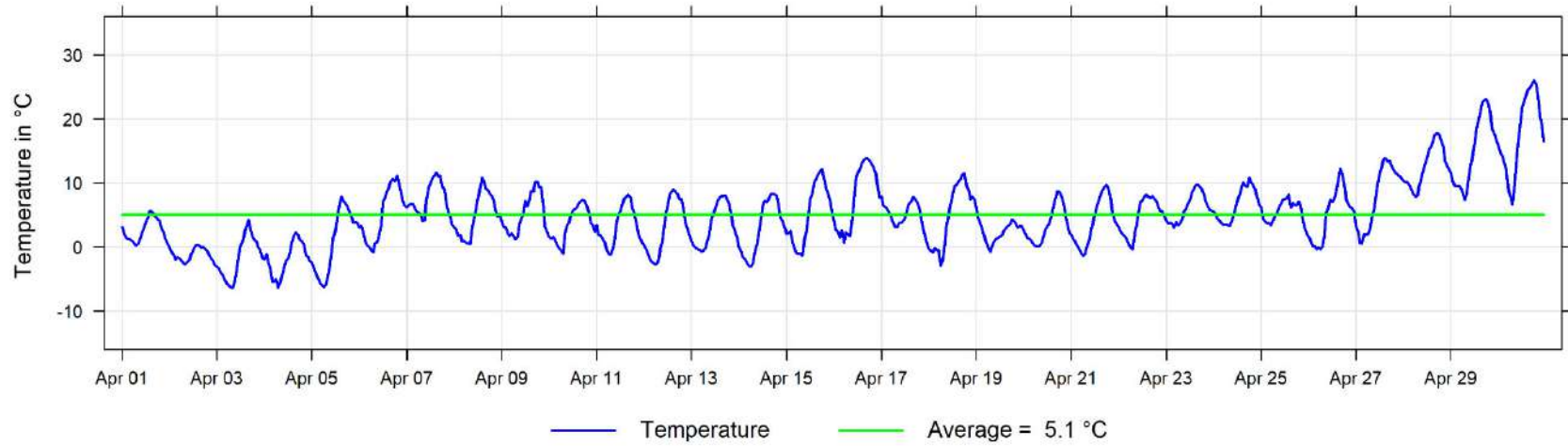
April 2023 Hourly Concentration Readings of O₃ (in ppb) at Beaverlodge



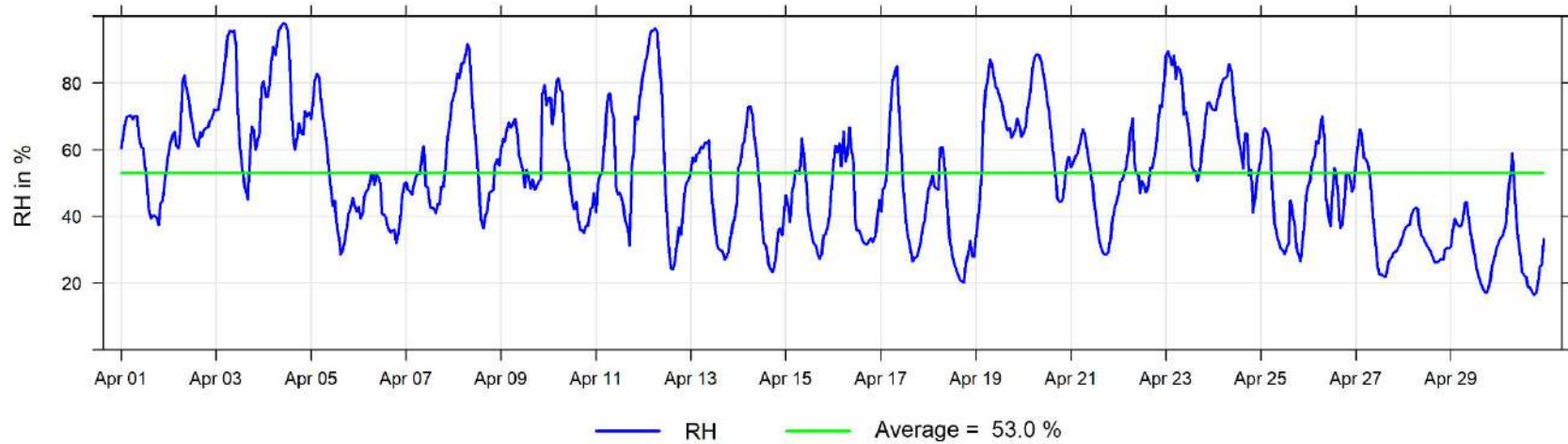
April 2023 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Beaverlodge



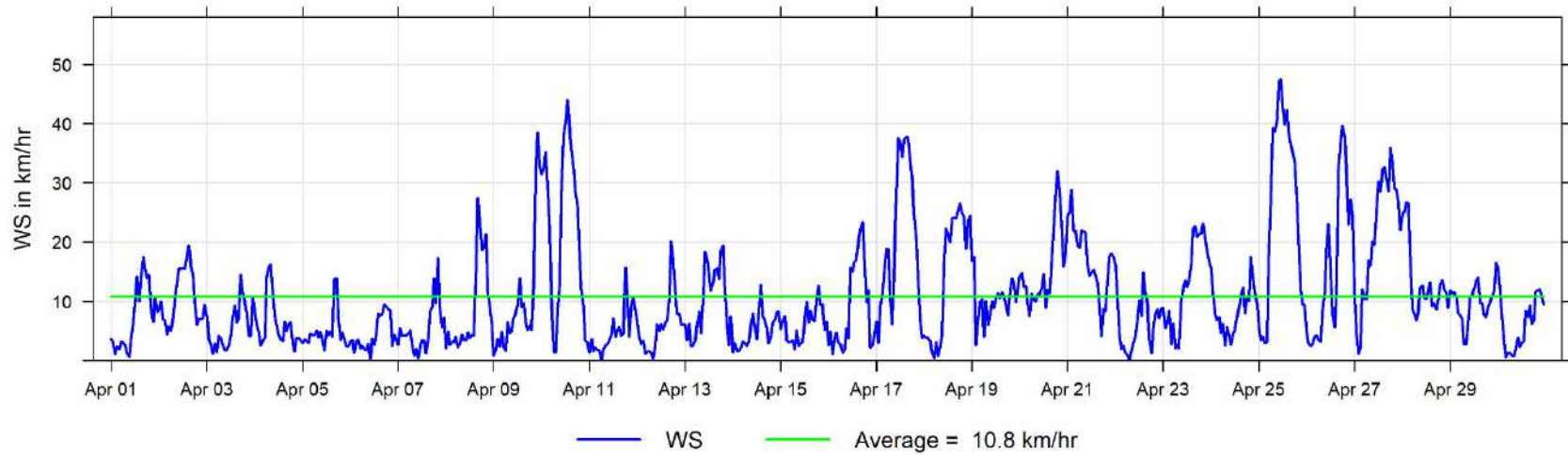
April 2023 Hourly Temperature Readings (in °C) at Beaverlodge



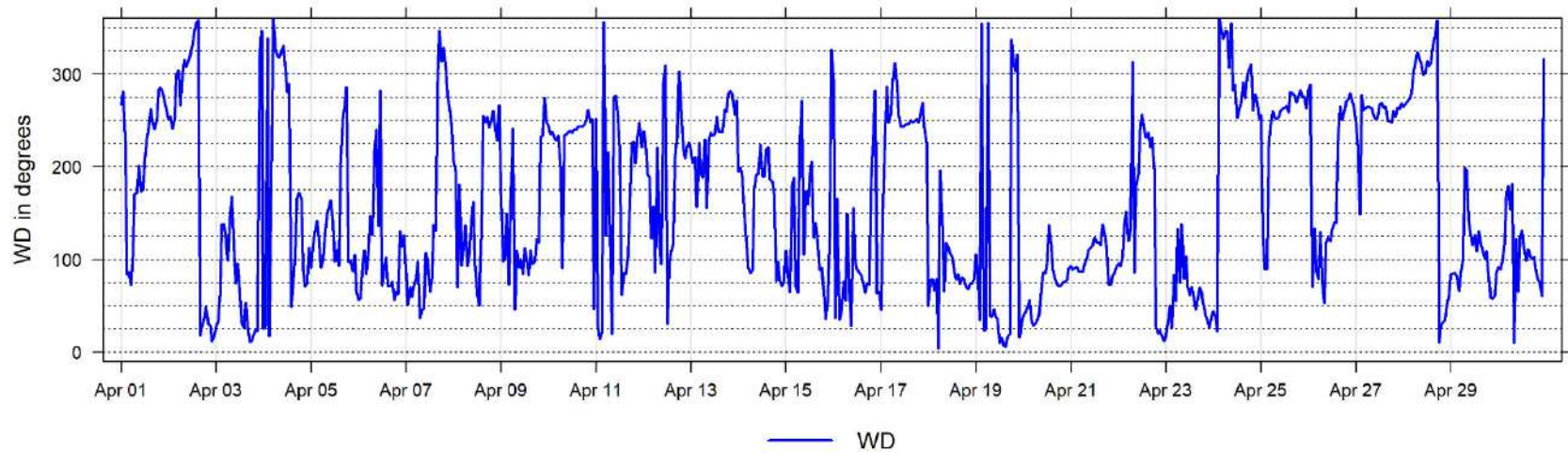
April 2023 Hourly Readings of Relative Humidity (in %) at Beaverlodge



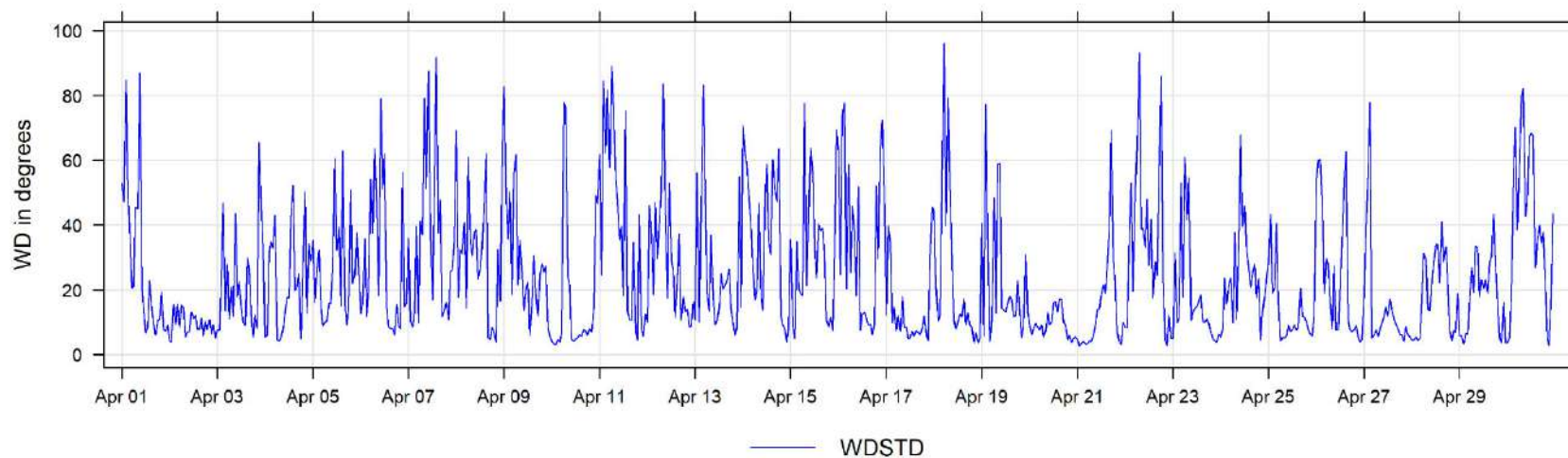
April 2023 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

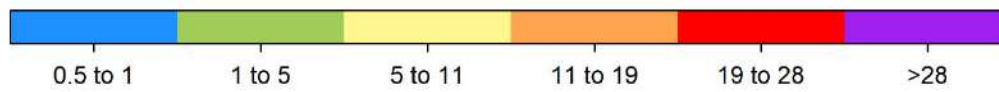
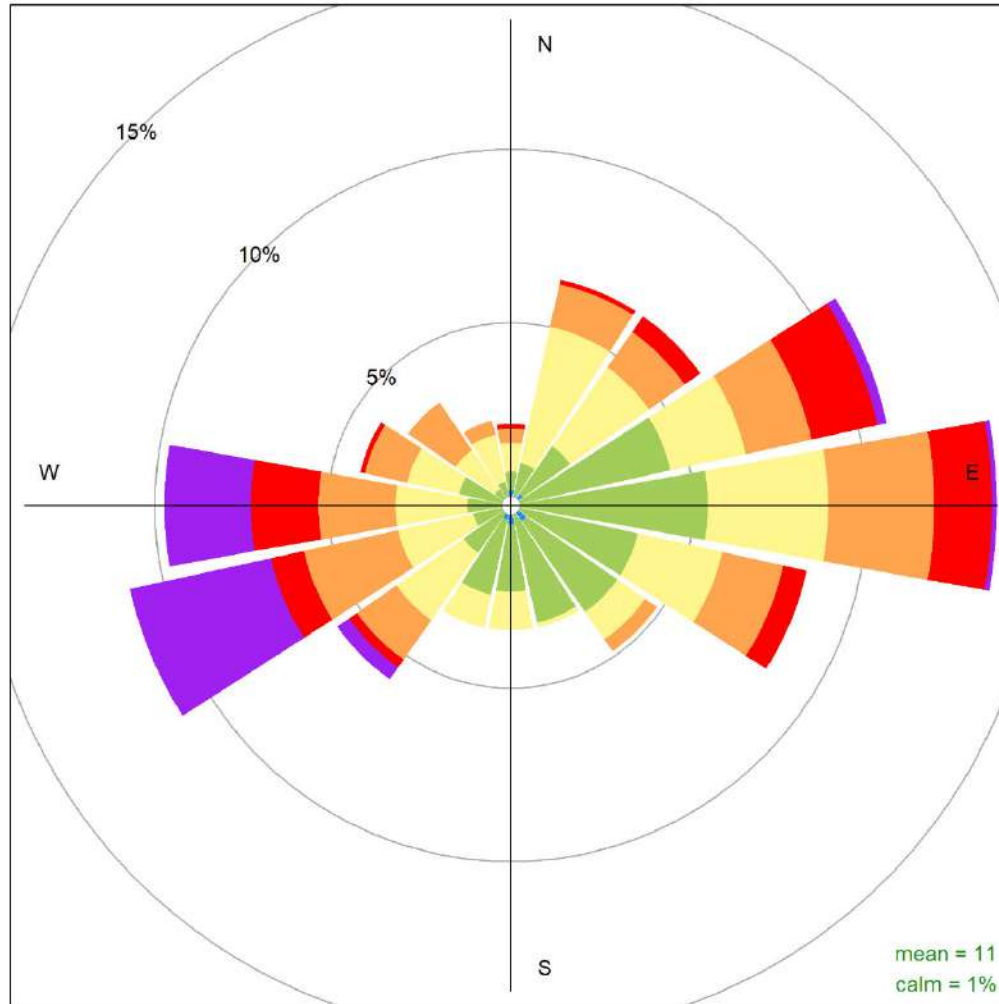


April 2023 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Beaverlodge

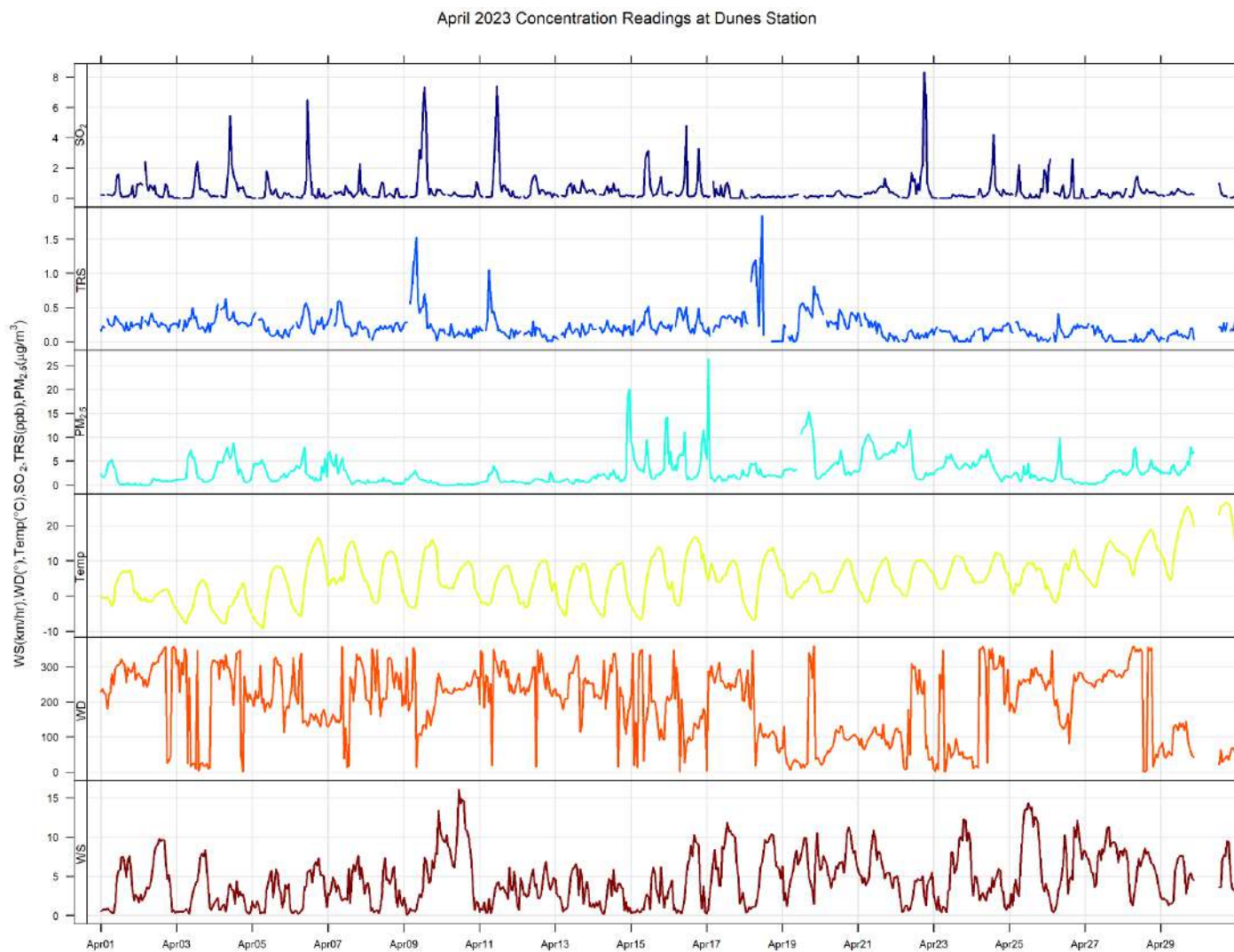




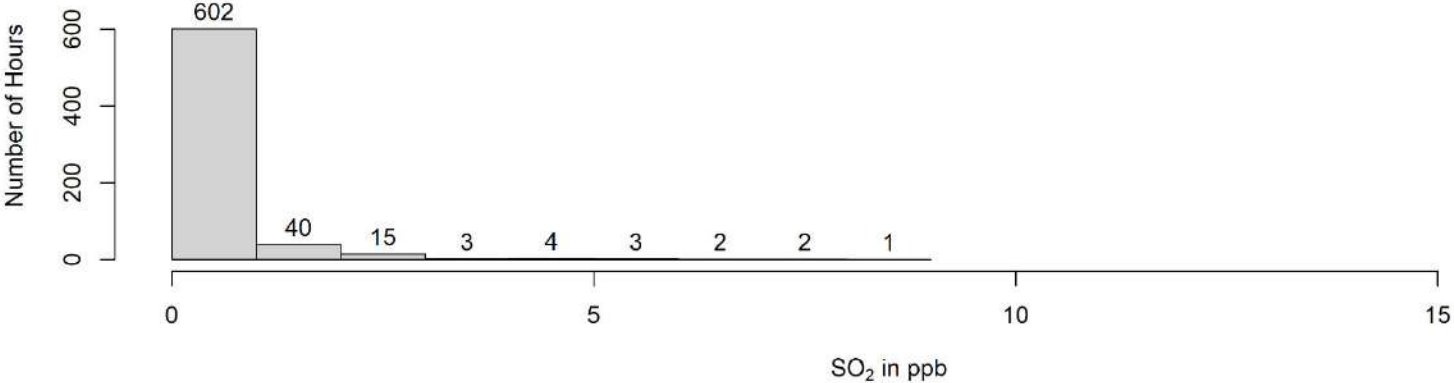
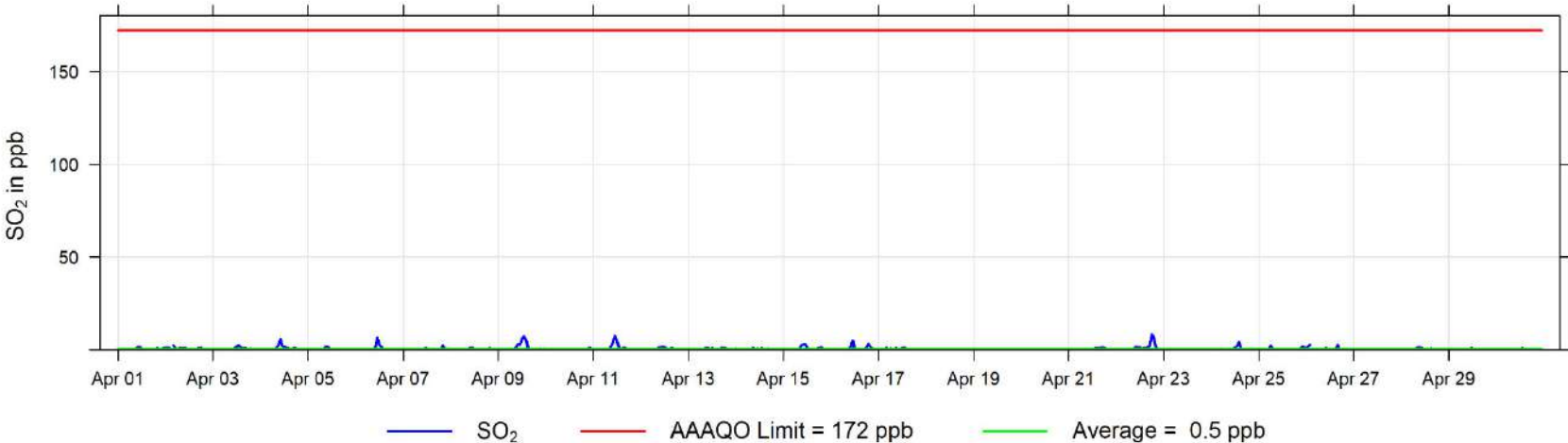
Beaverlodge April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

3 Dunes Charts

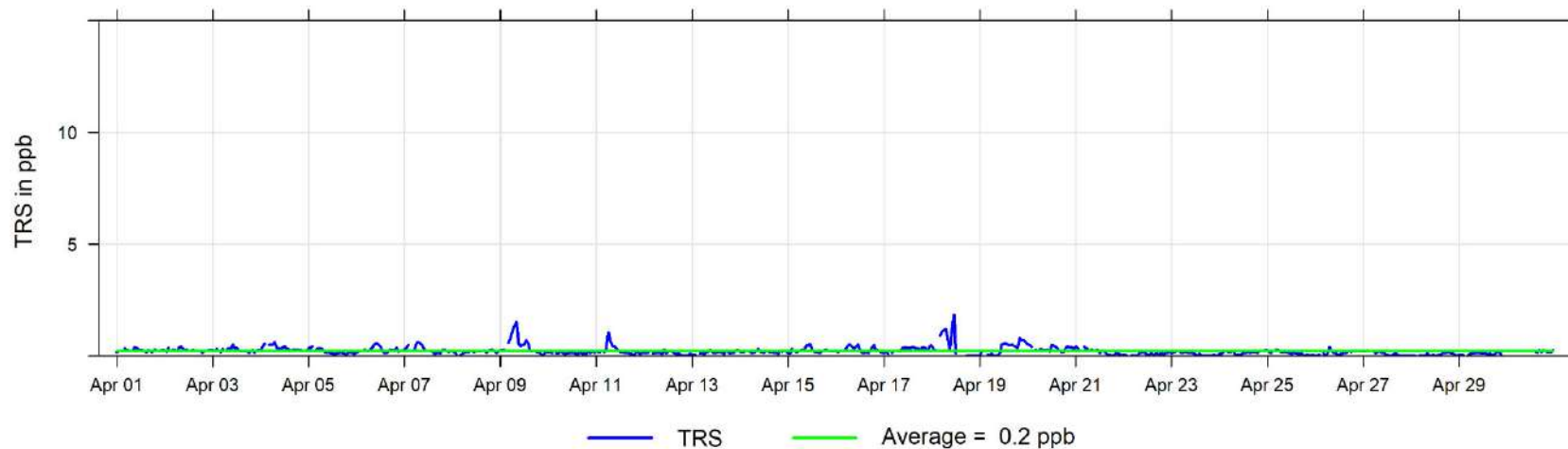
The following pages include the charts and histograms for Dunes Station



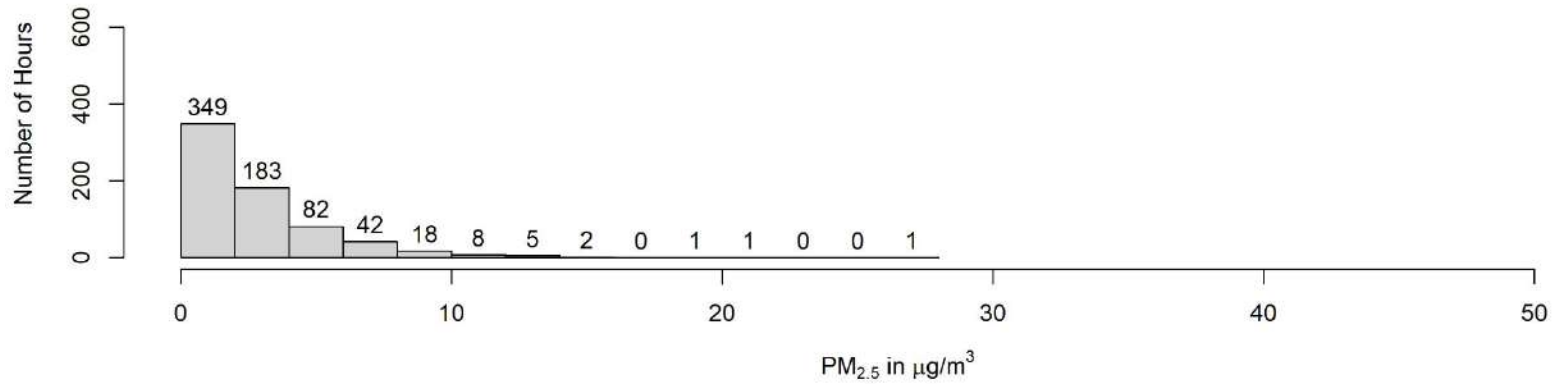
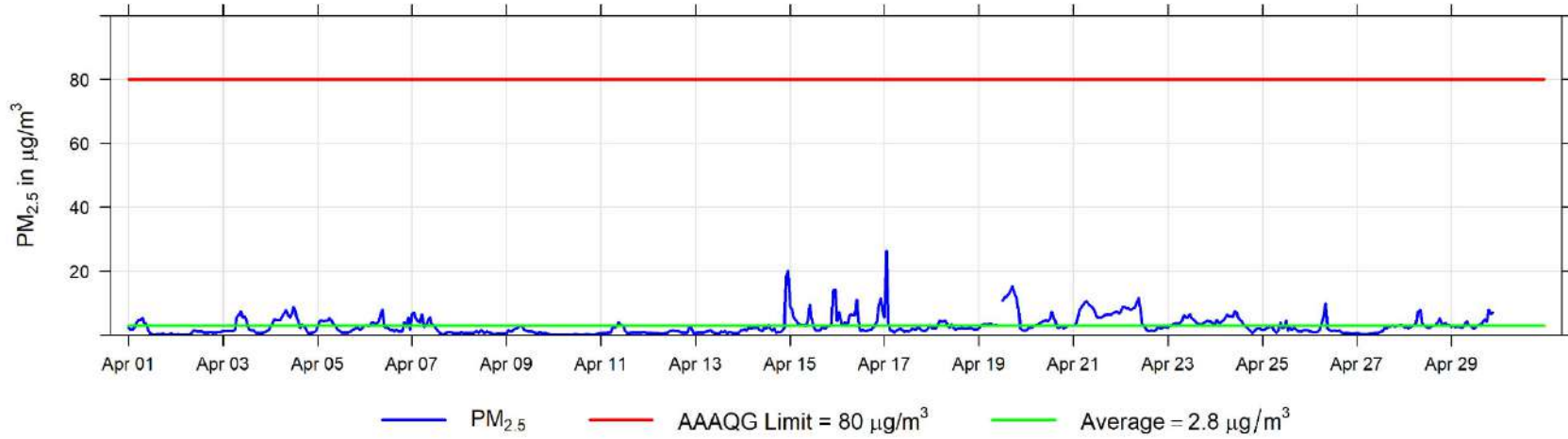
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Dunes



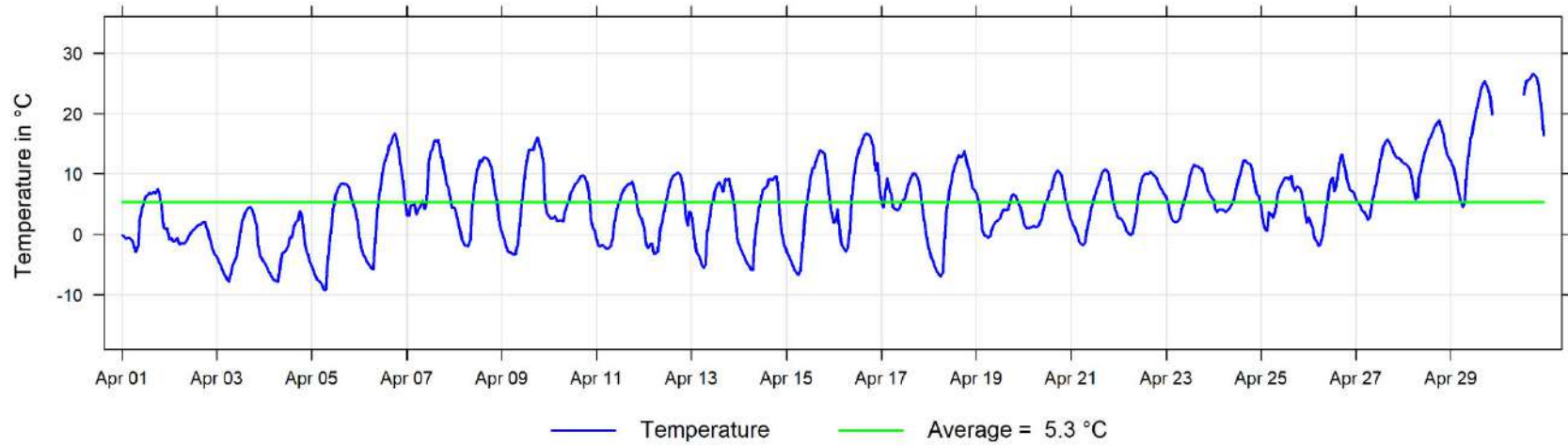
April 2023 Hourly Concentration Readings of TRS (in ppb) at Dunes



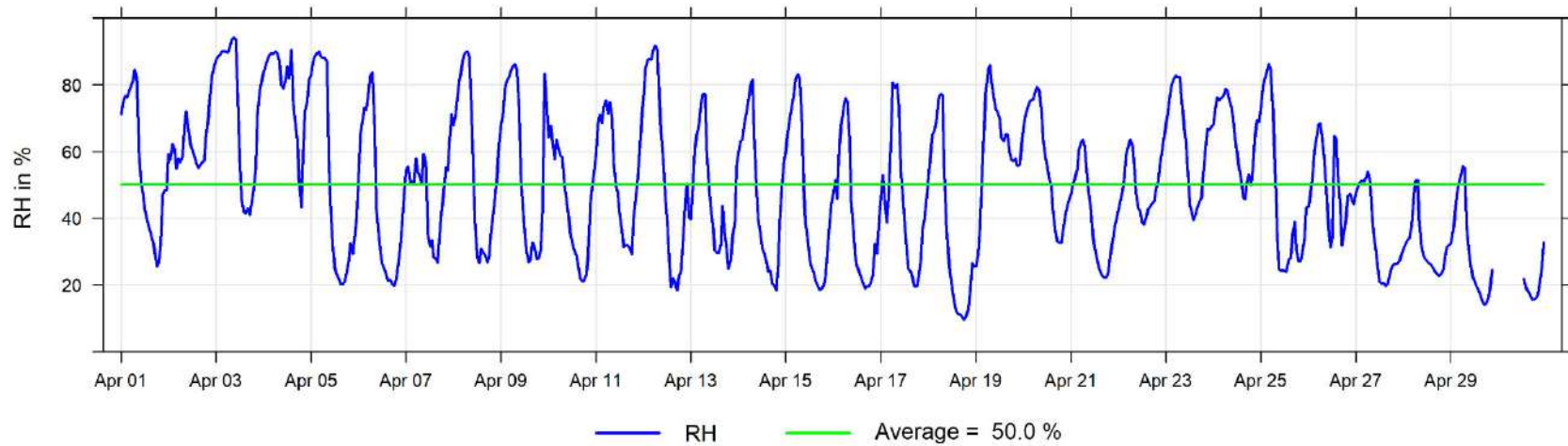
April 2023 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Dunes



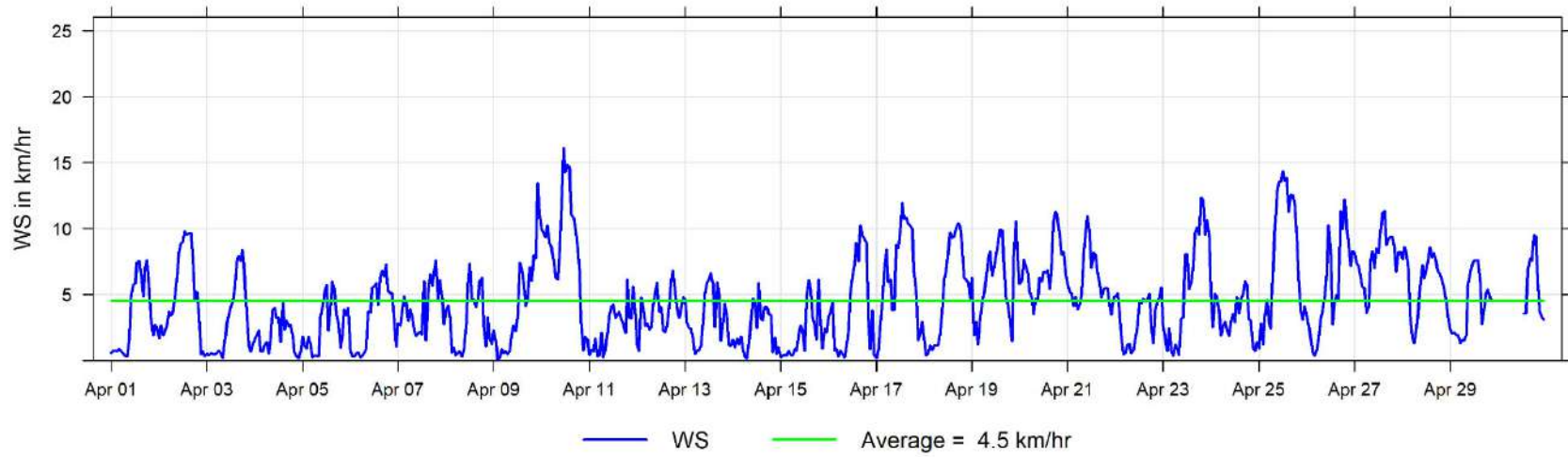
April 2023 Hourly Temperature Readings (in °C) at Dunes



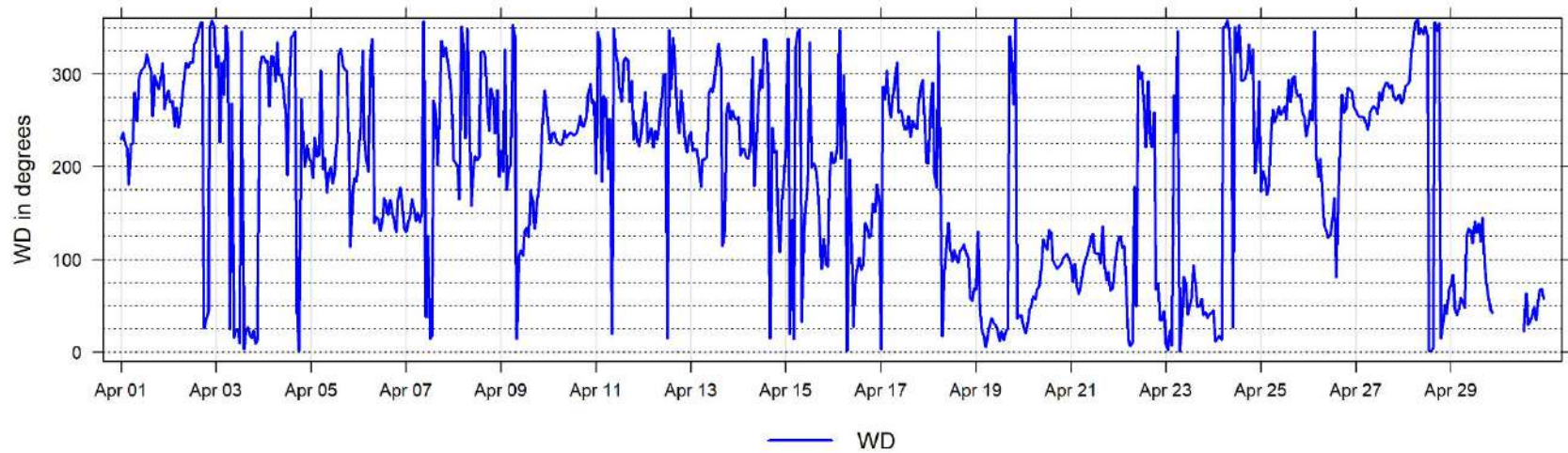
April 2023 Hourly Readings of Relative Humidity (in %) at Dunes



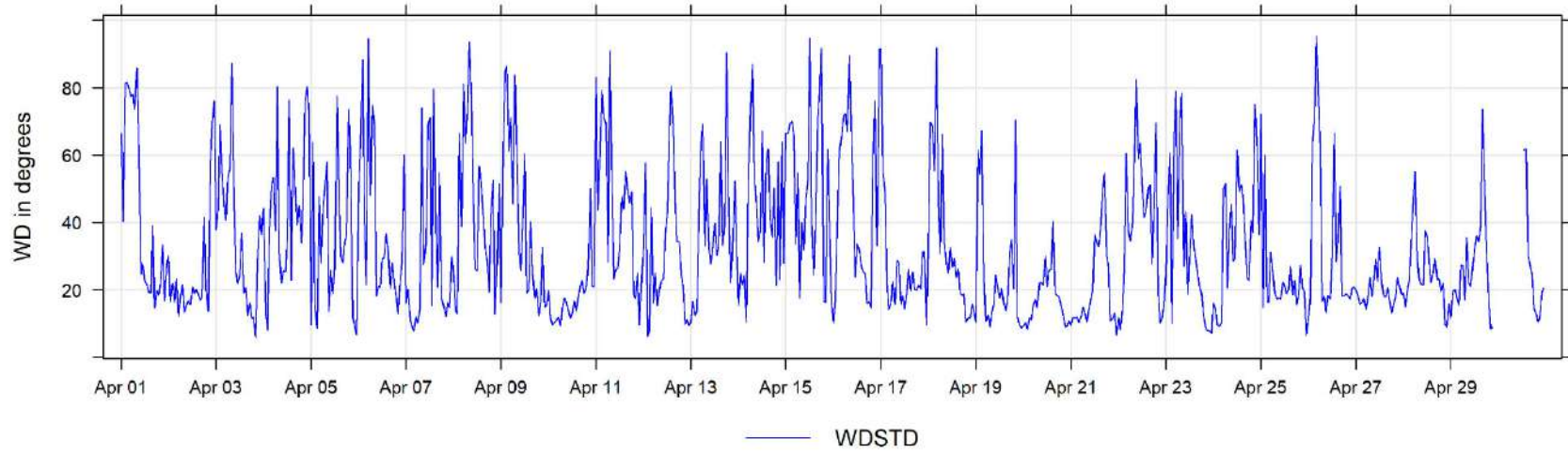
April 2023 Hourly Readings of Wind Speed (in km/hr) at Dunes

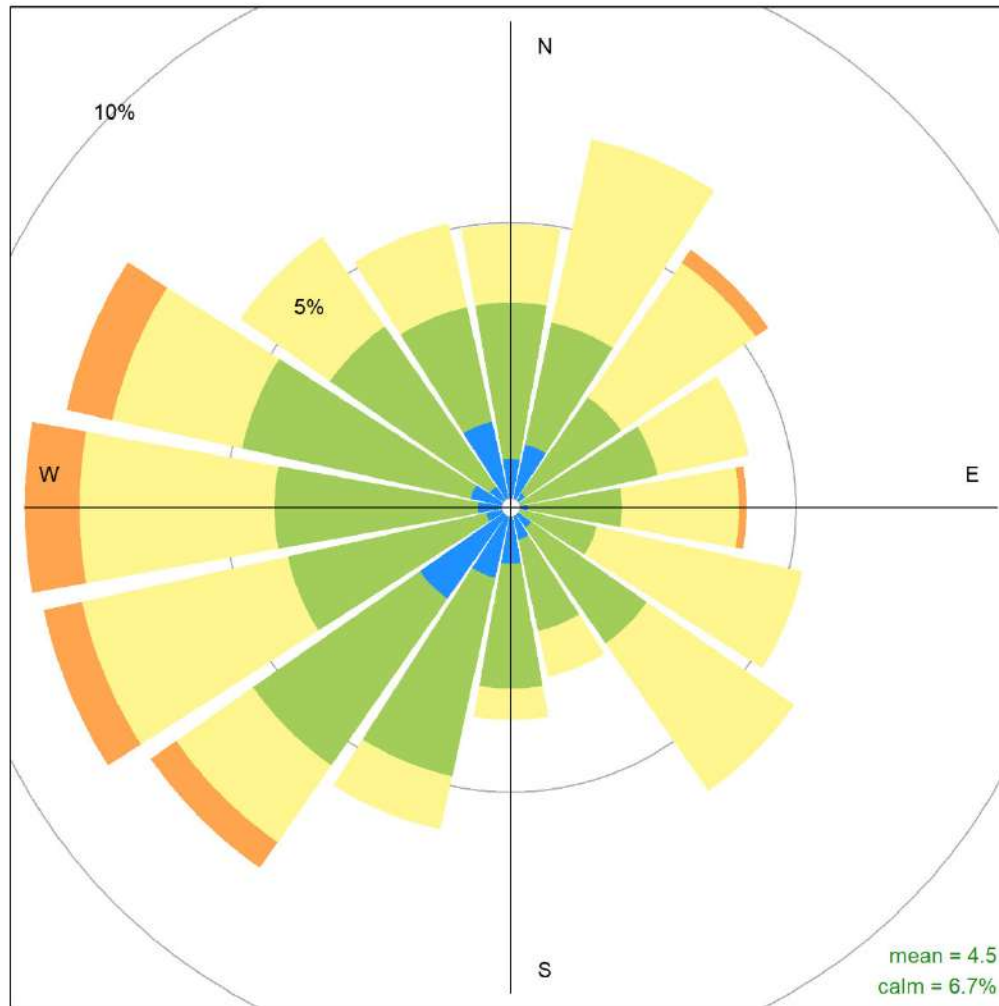


April 2023 Hourly Readings of Wind Direction (in degrees) at Dunes



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Dunes



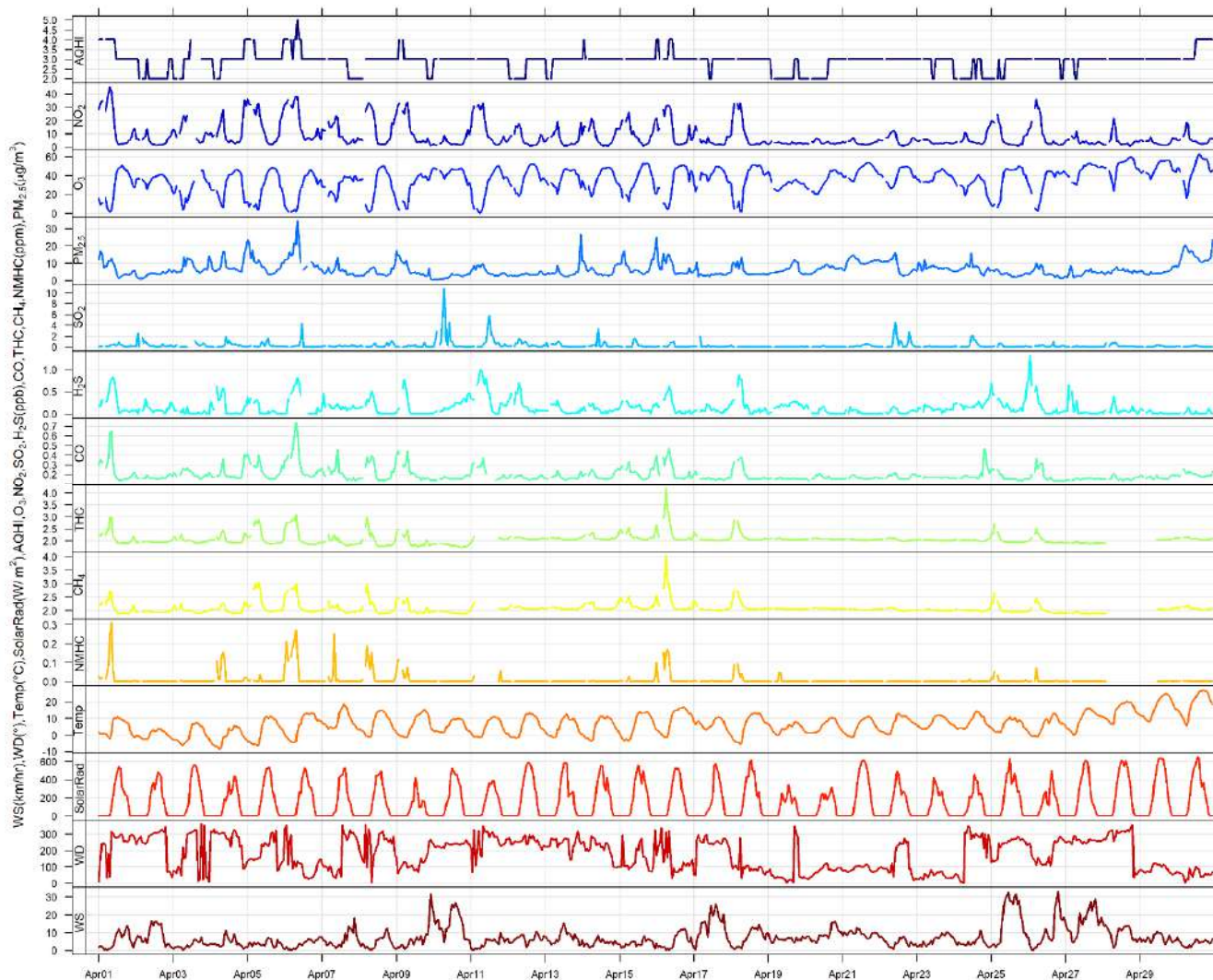


Dunes April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

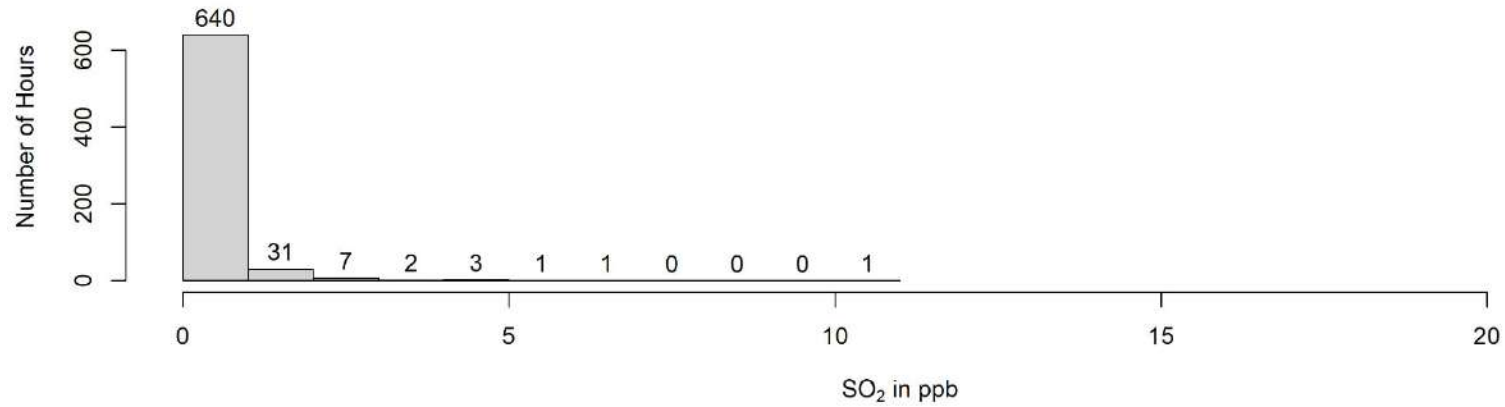
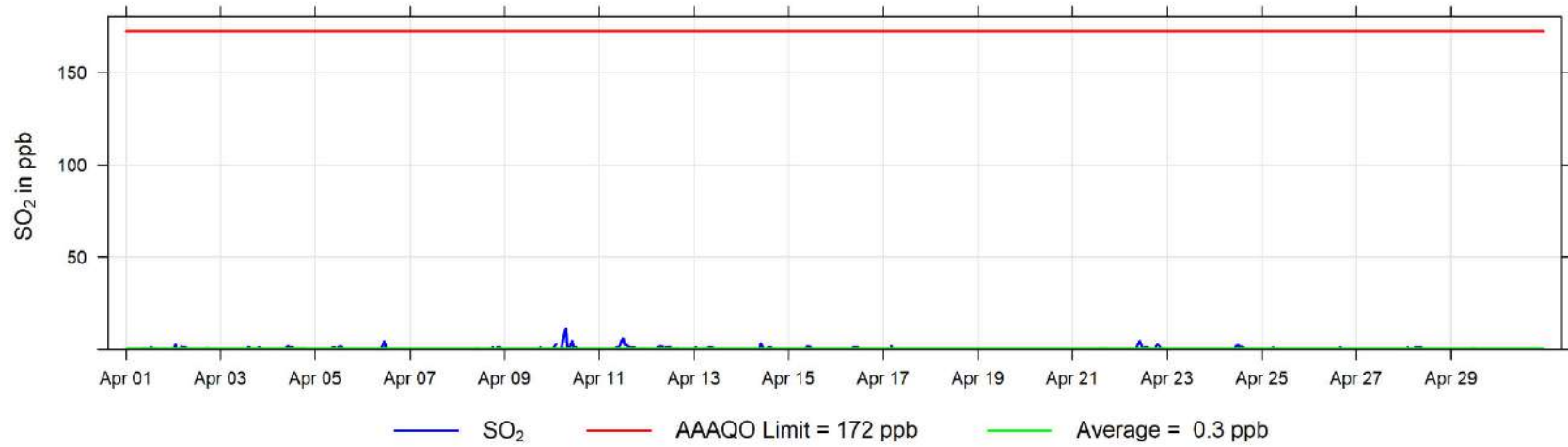
4 Grande Prairie - Henry Pirker Charts

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

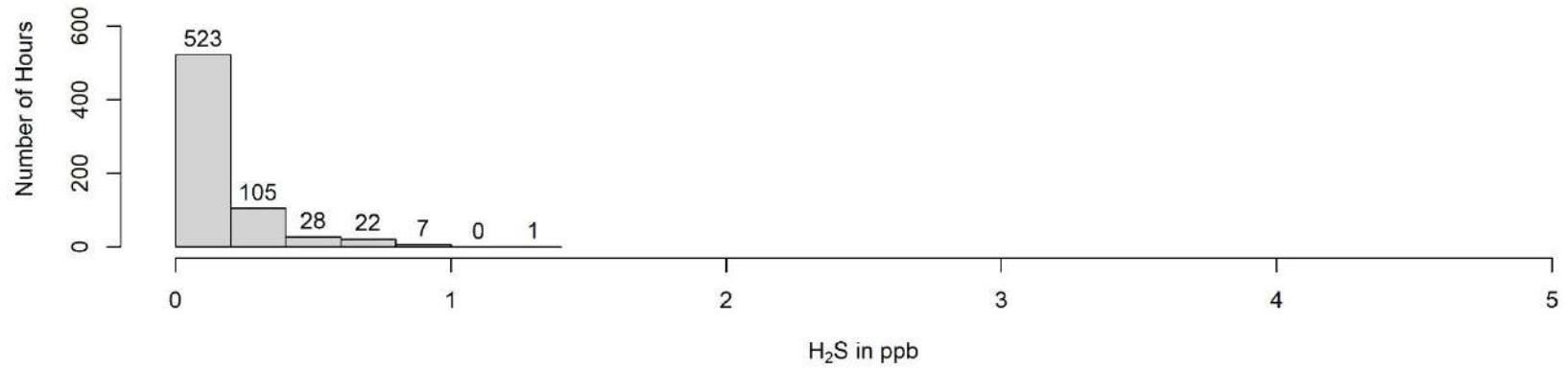
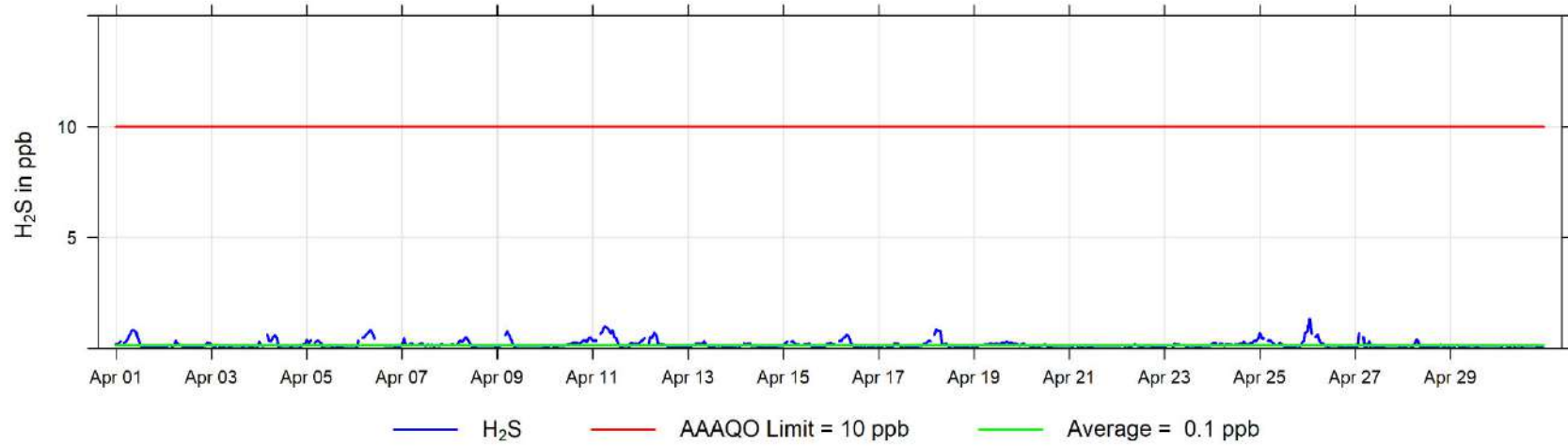
April 2023 Concentration Readings at Henry Pirker Station



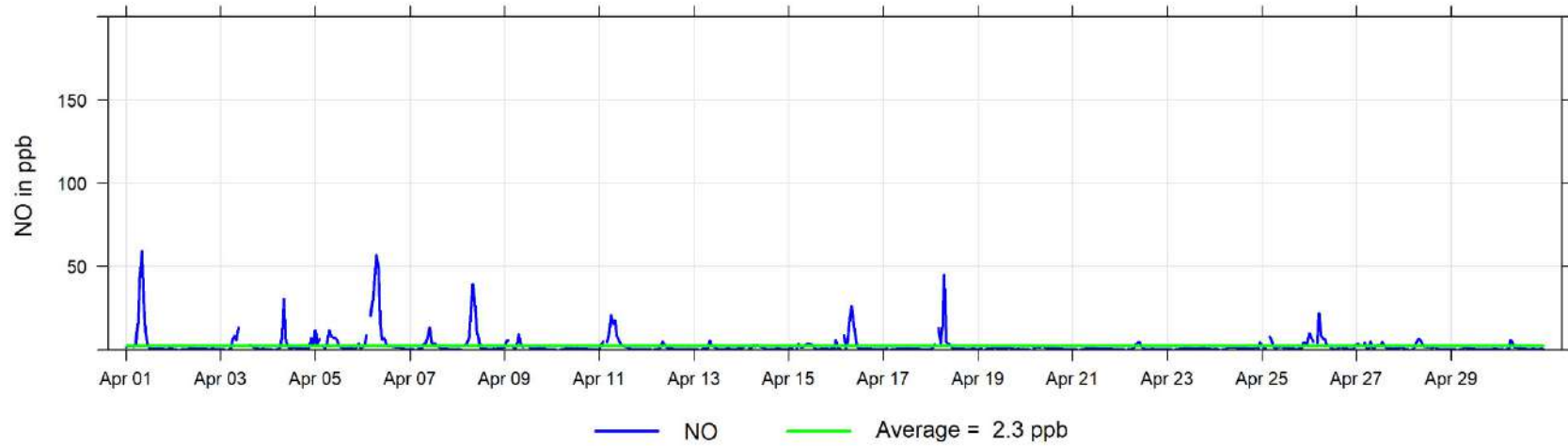
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Henry Pirker



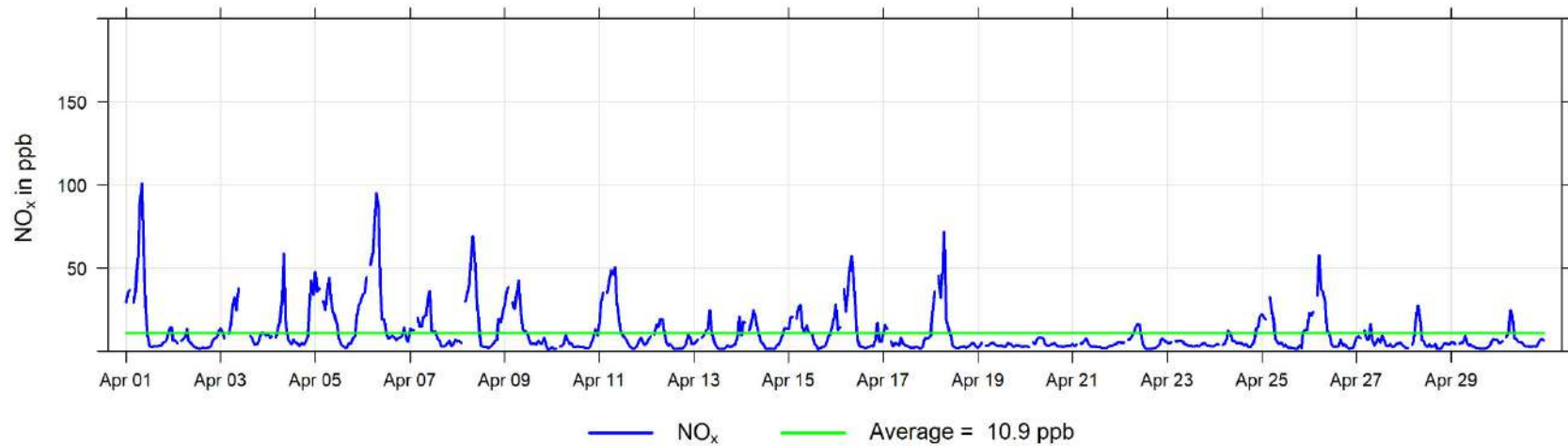
April 2023 Hourly Concentration Readings of H₂S (in ppb) at Henry Pirker



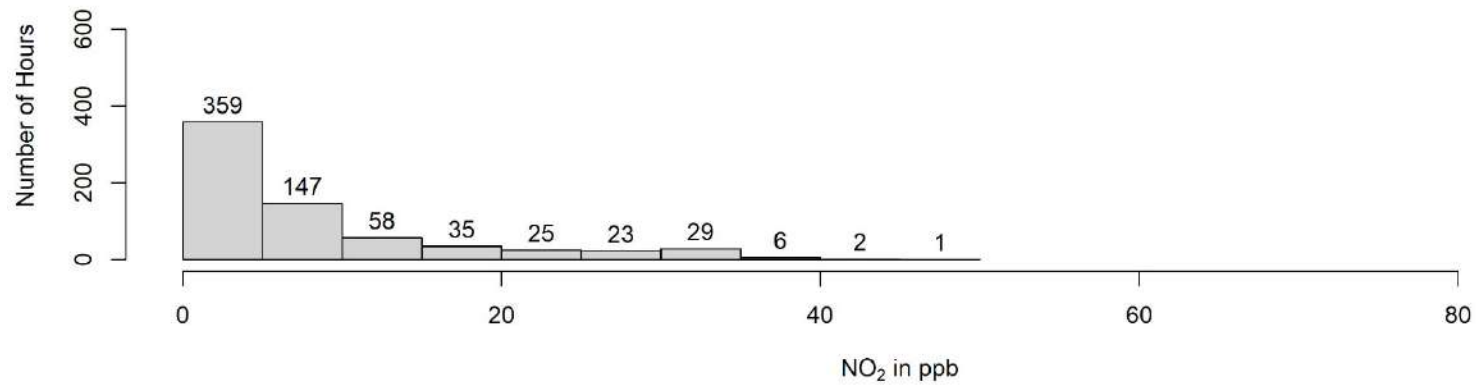
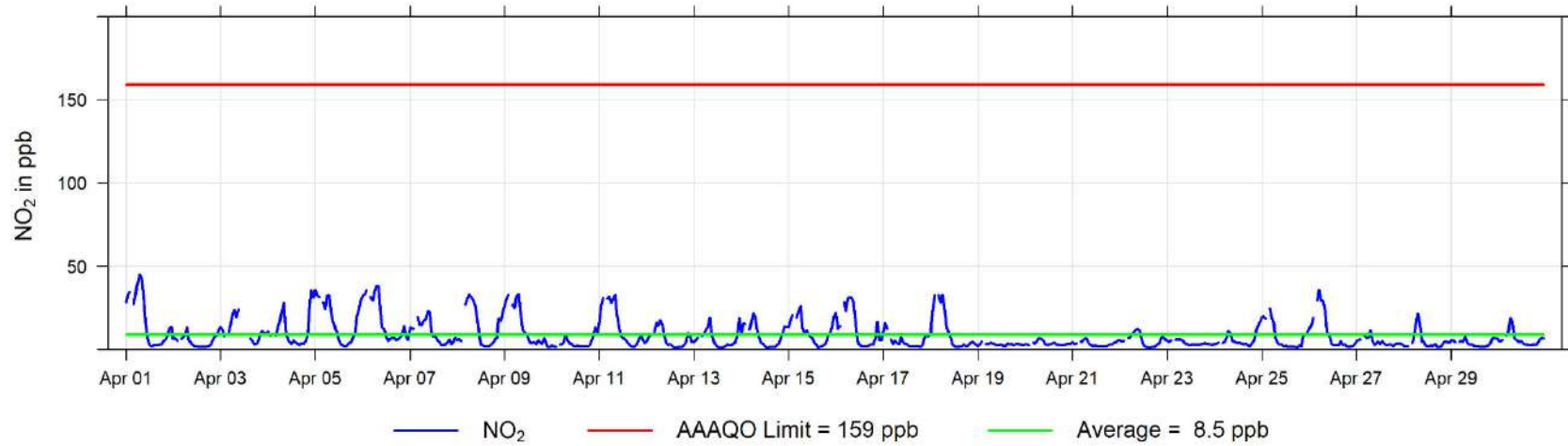
April 2023 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



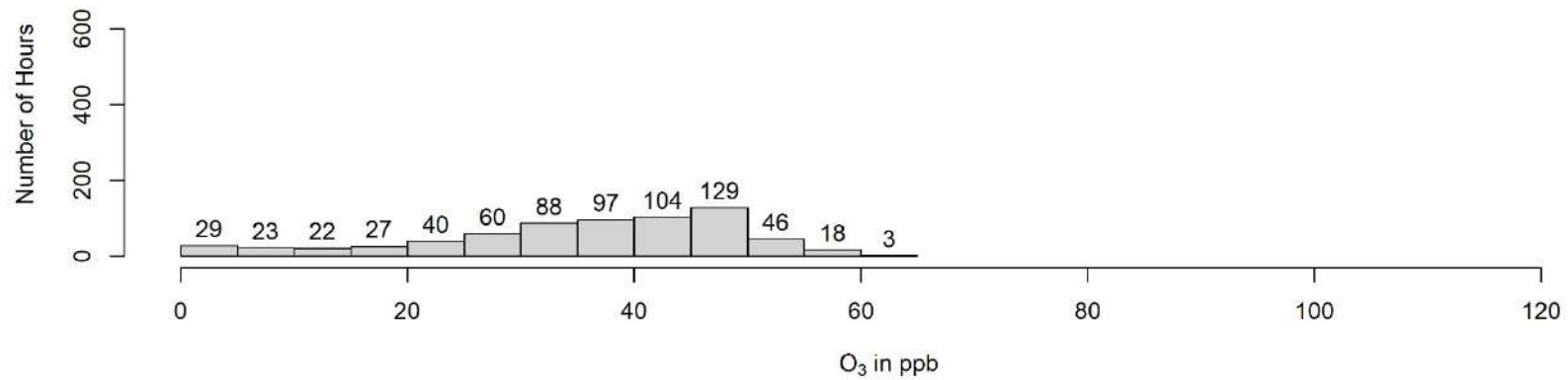
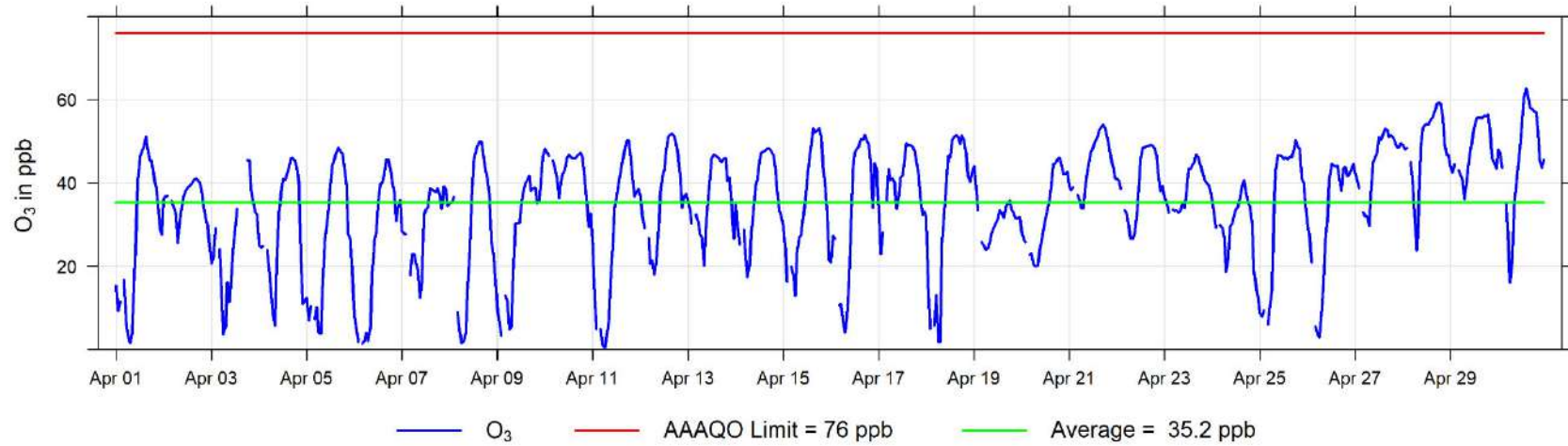
April 2023 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



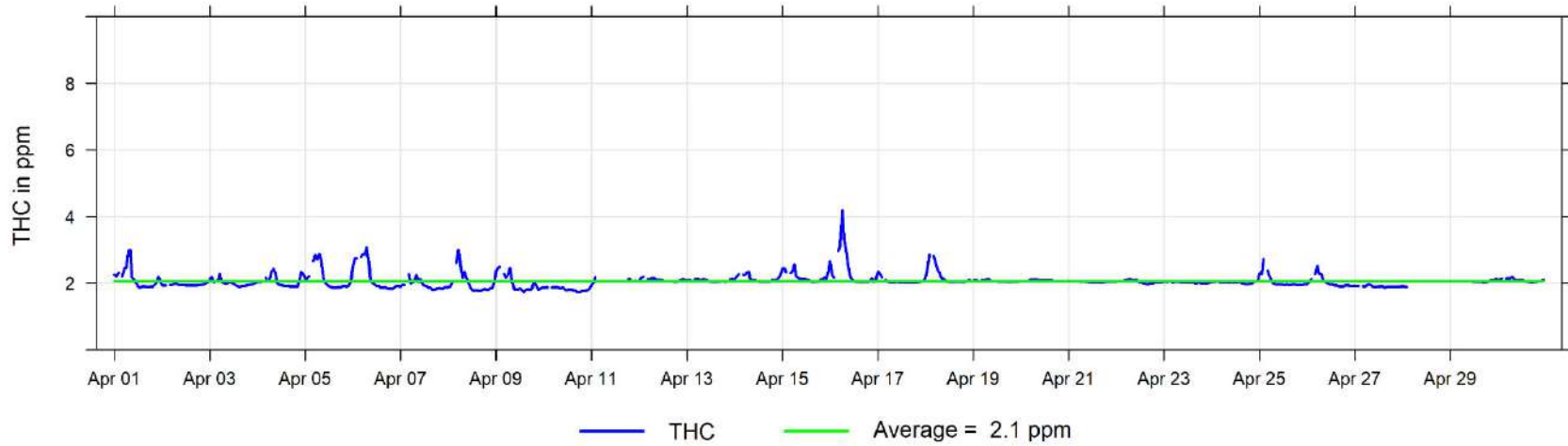
April 2023 Hourly Concentration Readings of NO₂ (in ppb) at Henry Pirker



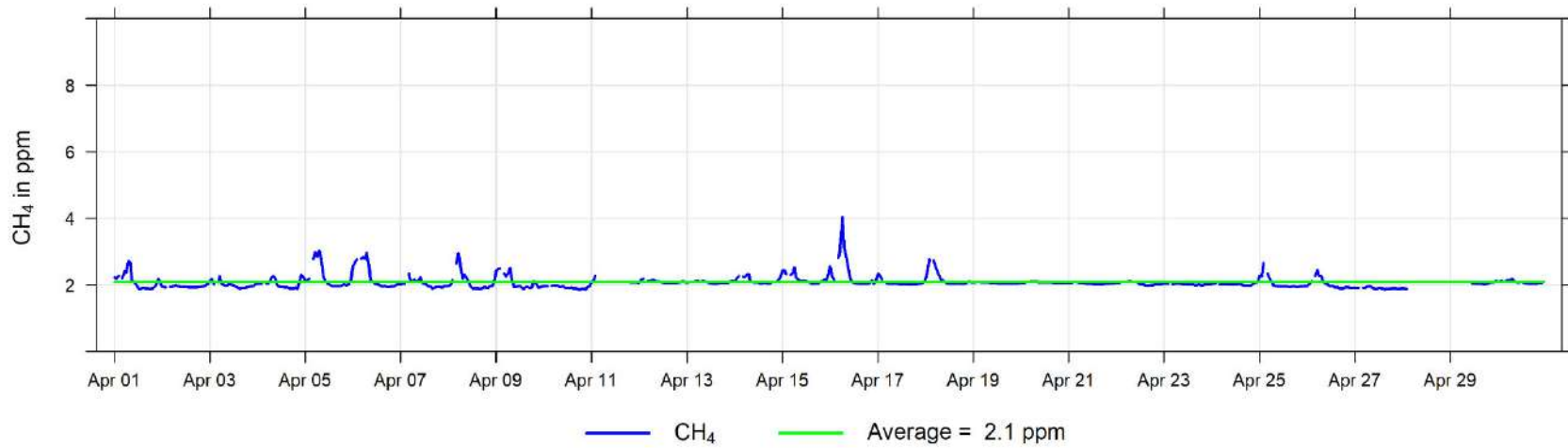
April 2023 Hourly Concentration Readings of O₃ (in ppb) at Henry Pirker



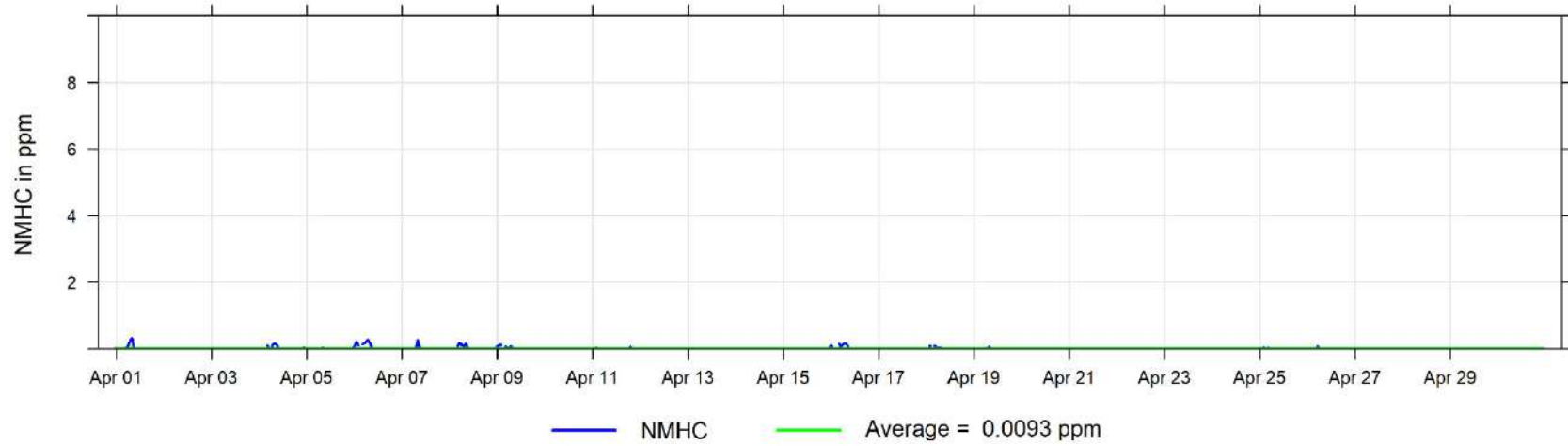
April 2023 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



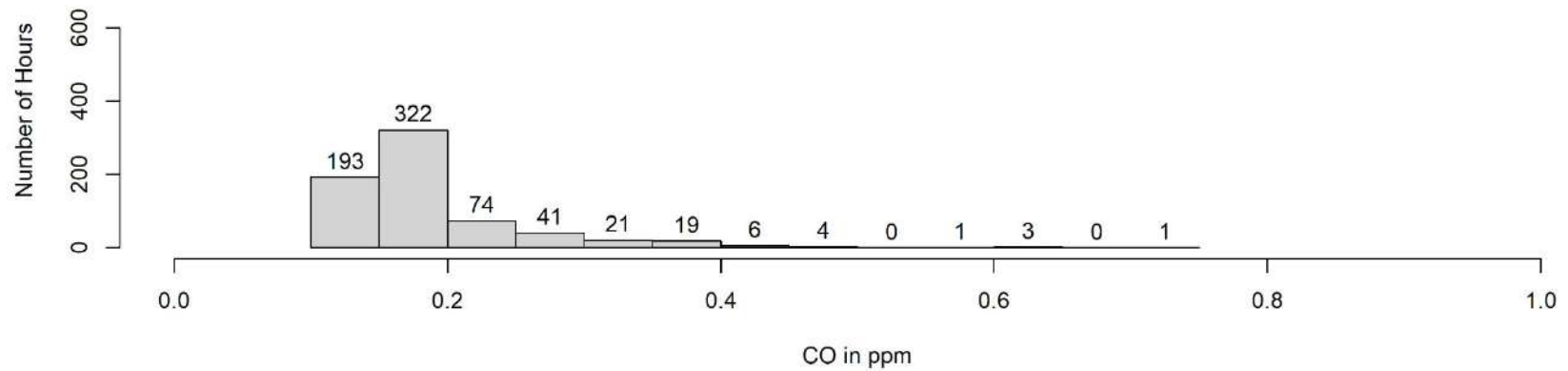
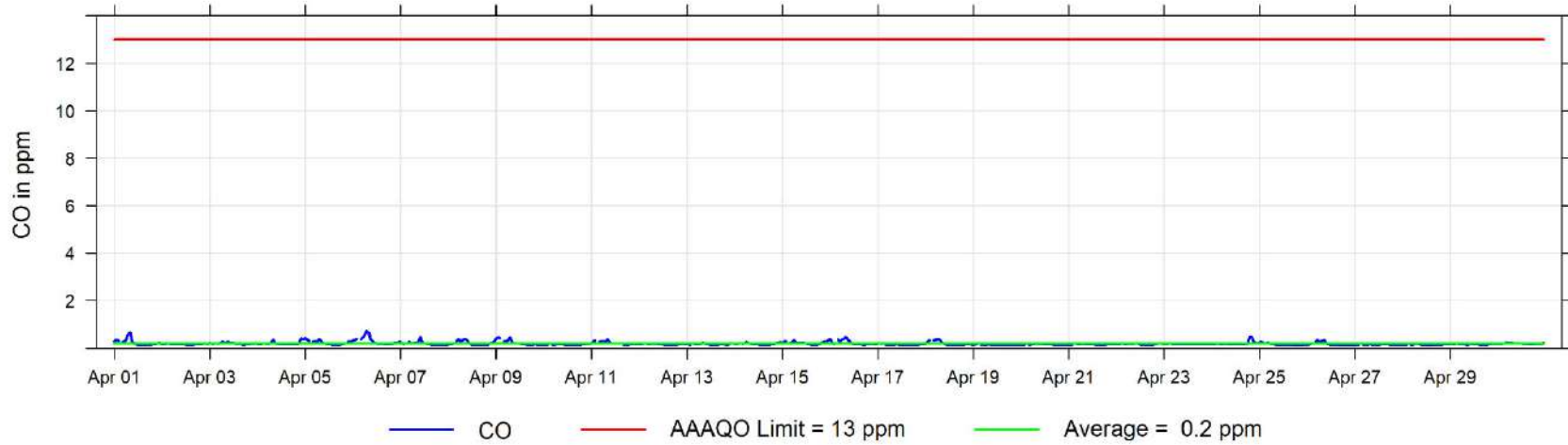
April 2023 Hourly Concentration Readings of CH₄ (in ppm) at Henry Pirker



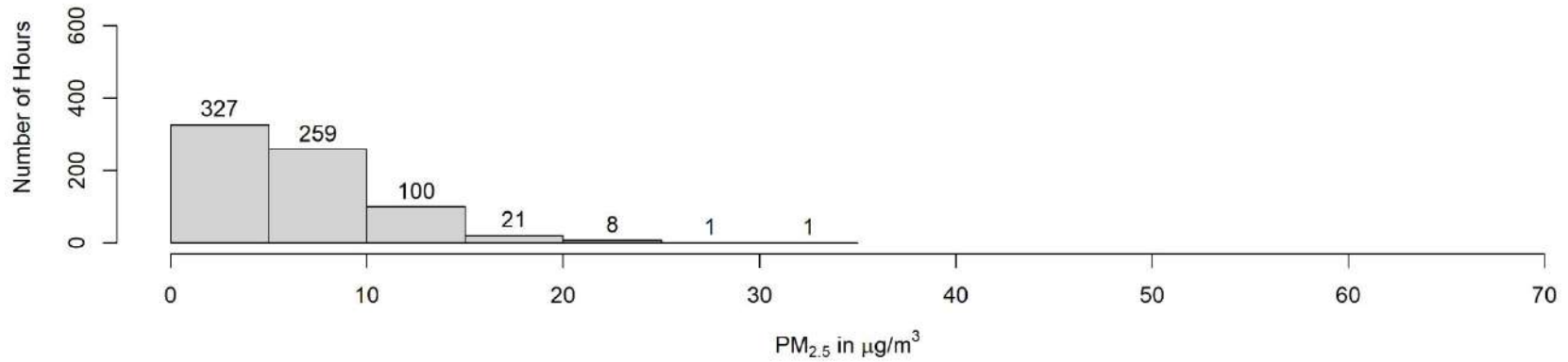
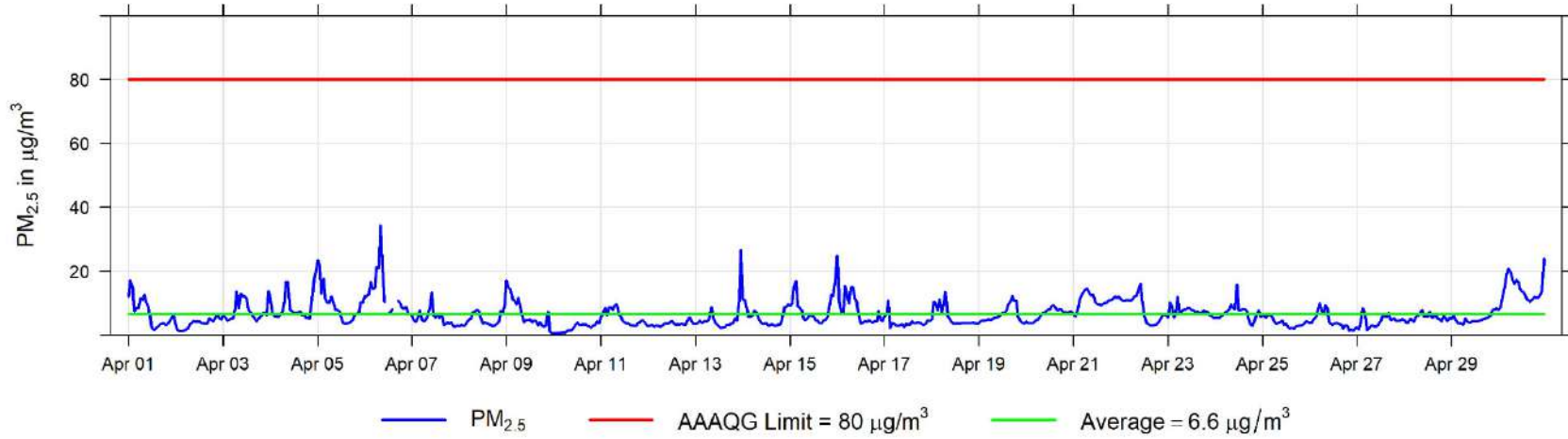
April 2023 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



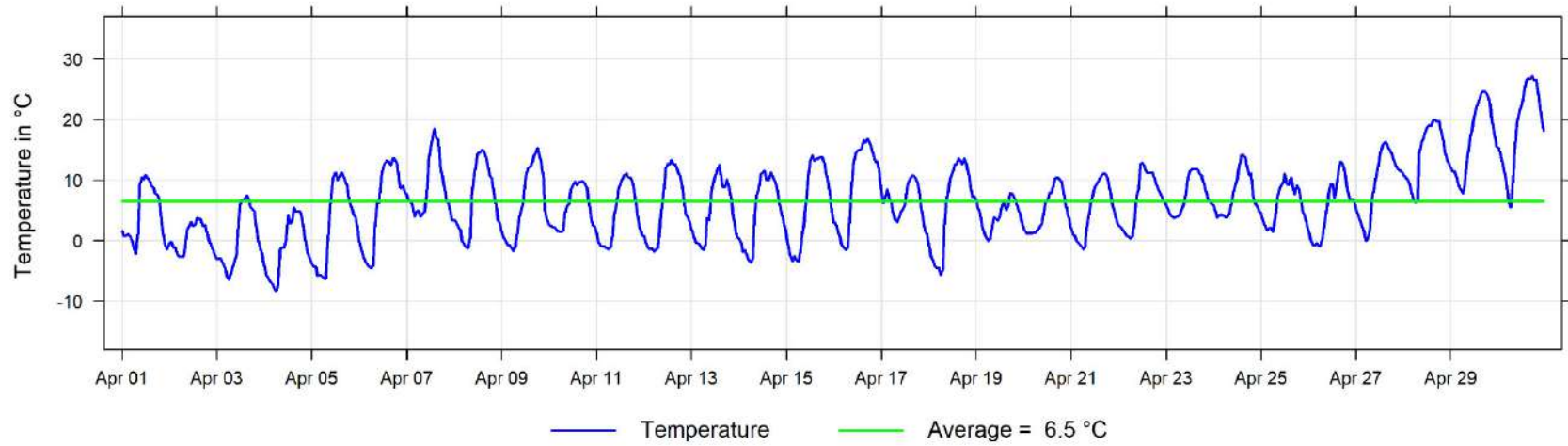
April 2023 Hourly Concentration Readings of CO (in ppm) at Henry Pirker



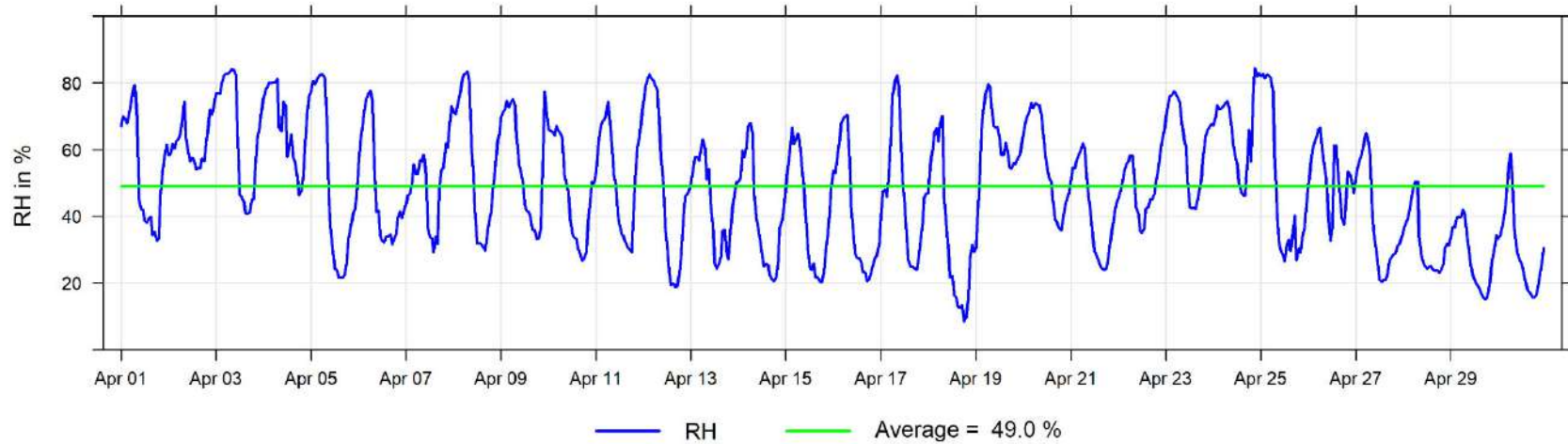
April 2023 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Henry Pirker



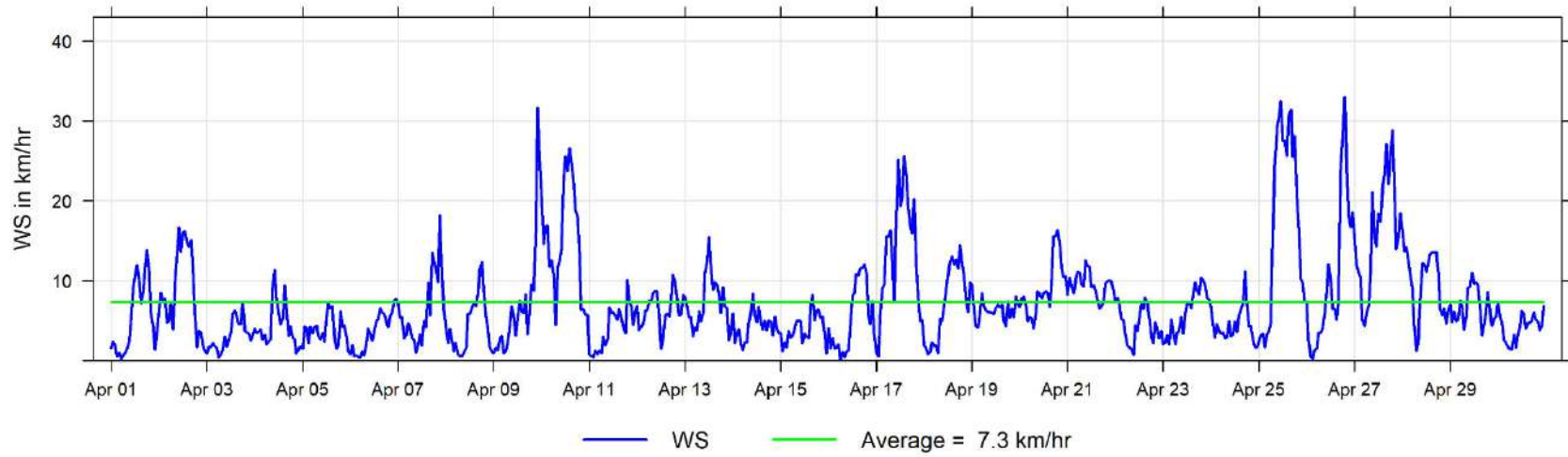
April 2023 Hourly Temperature Readings (in °C) at Henry Pirker



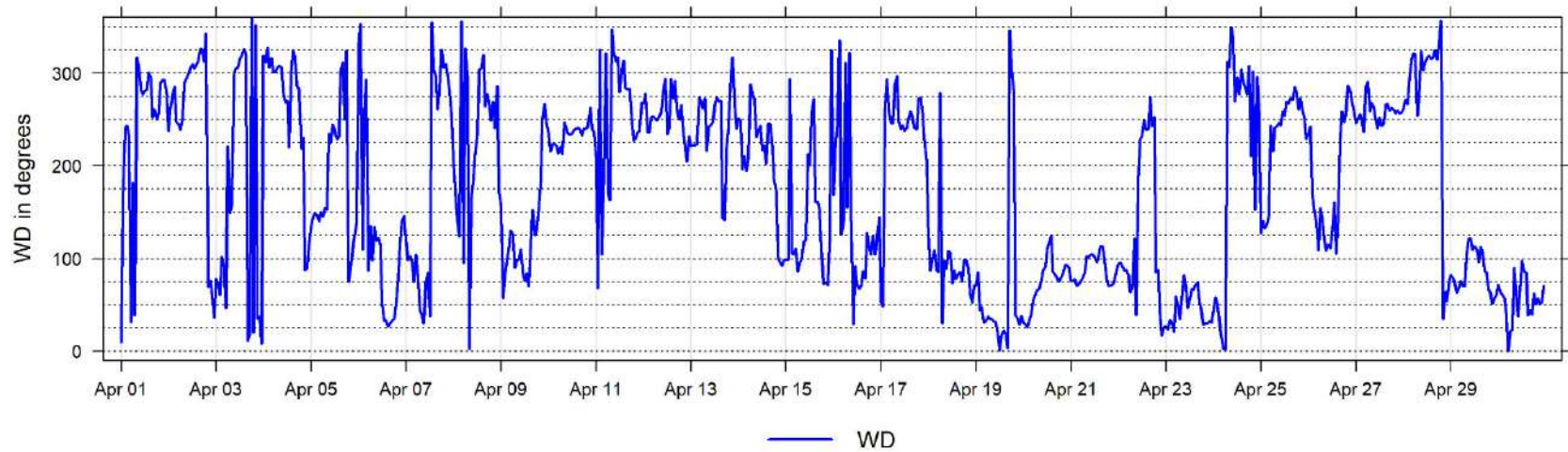
April 2023 Hourly Readings of Relative Humidity (in %) at Henry Pirker



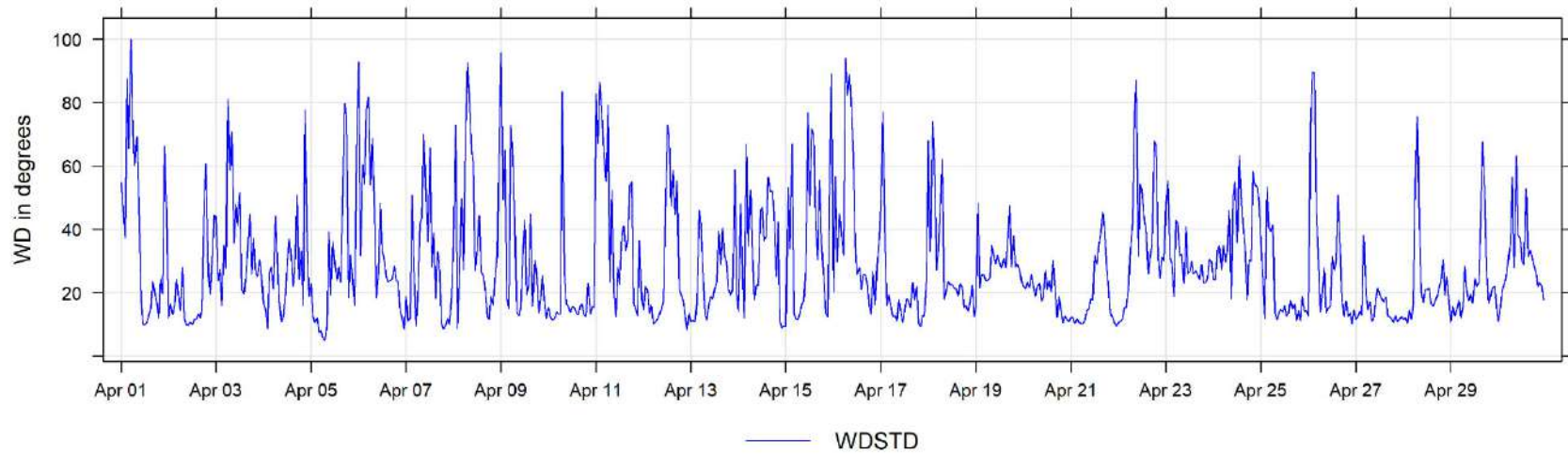
April 2023 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker

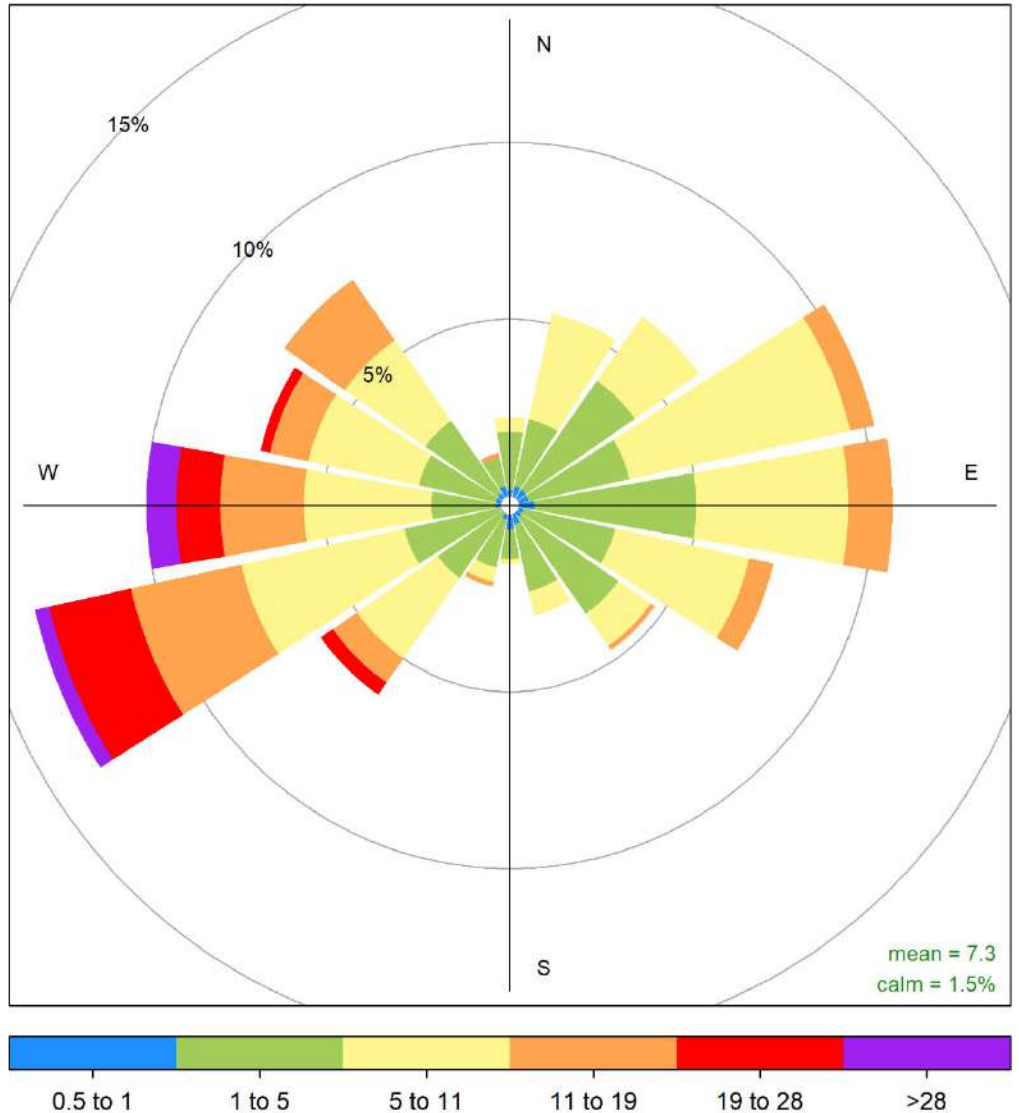


April 2023 Hourly Readings of Wind Direction (in degrees) at Henry Pirker



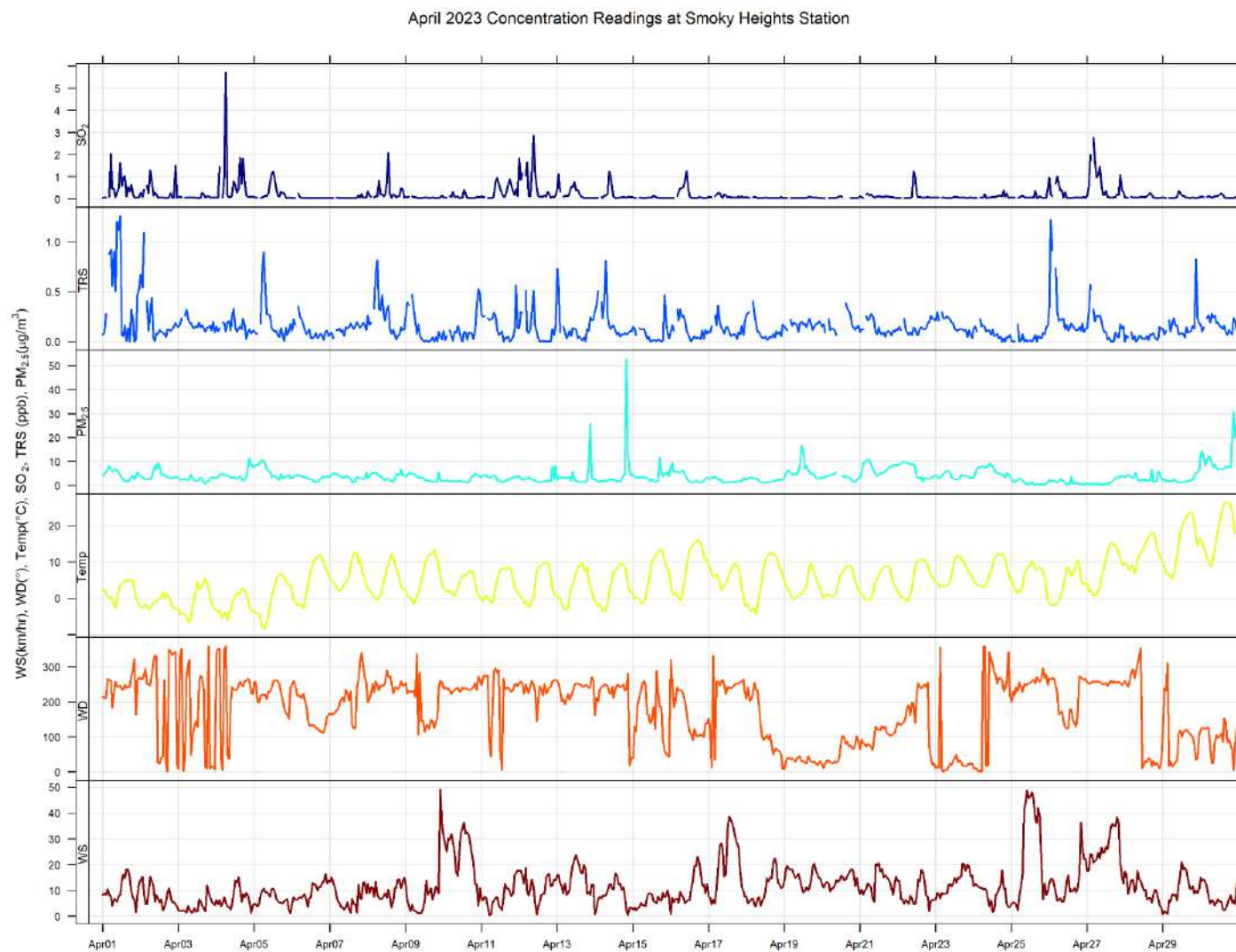
April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Henry Pirker



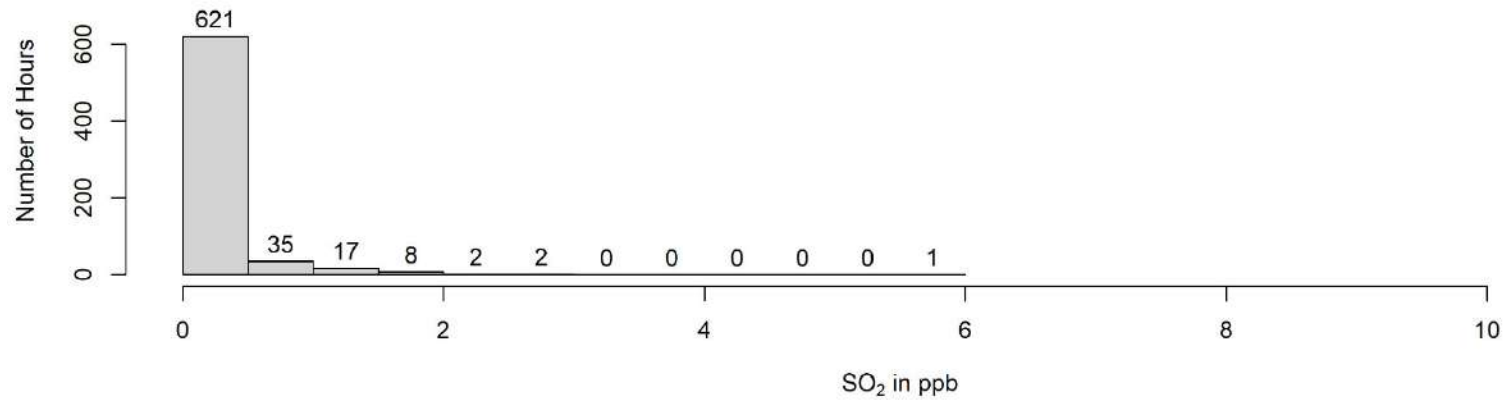
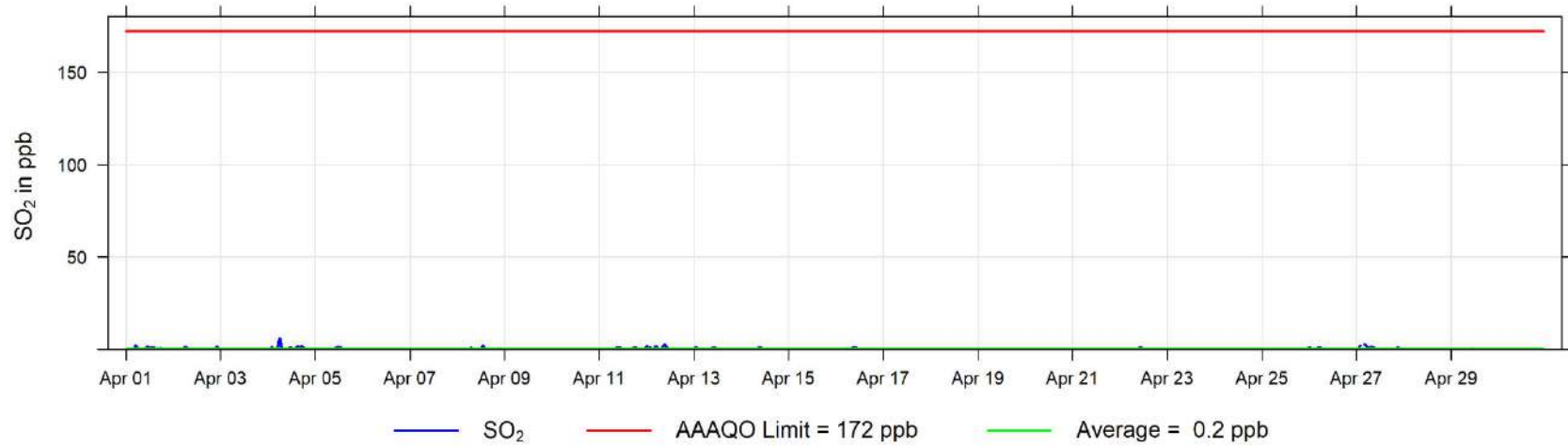


5 Smoky Heights Charts

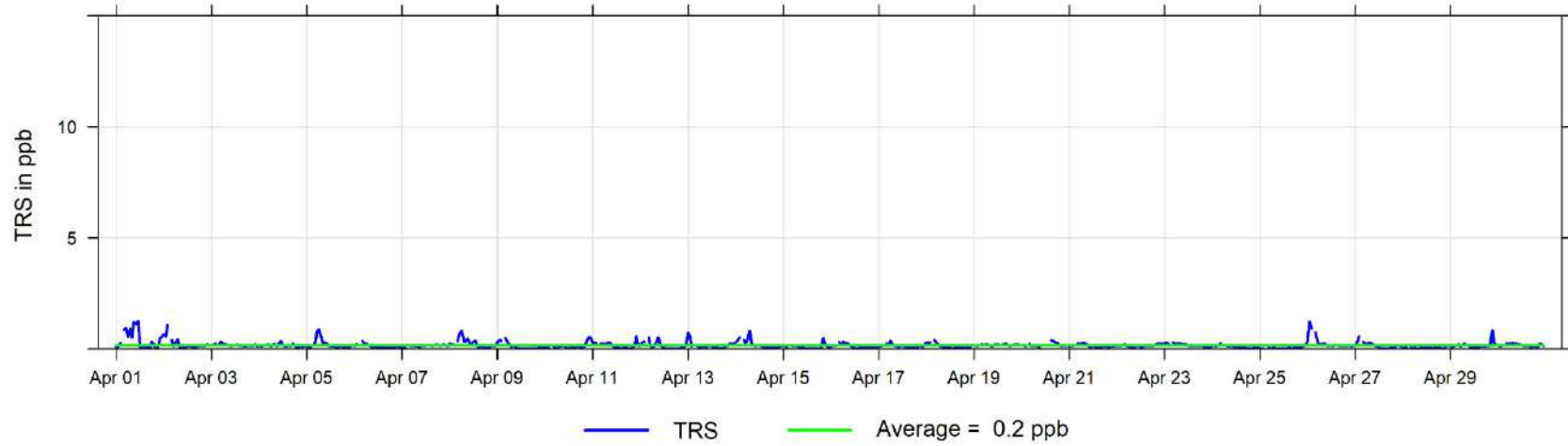
The following pages include the charts and histograms for Smoky Heights Station



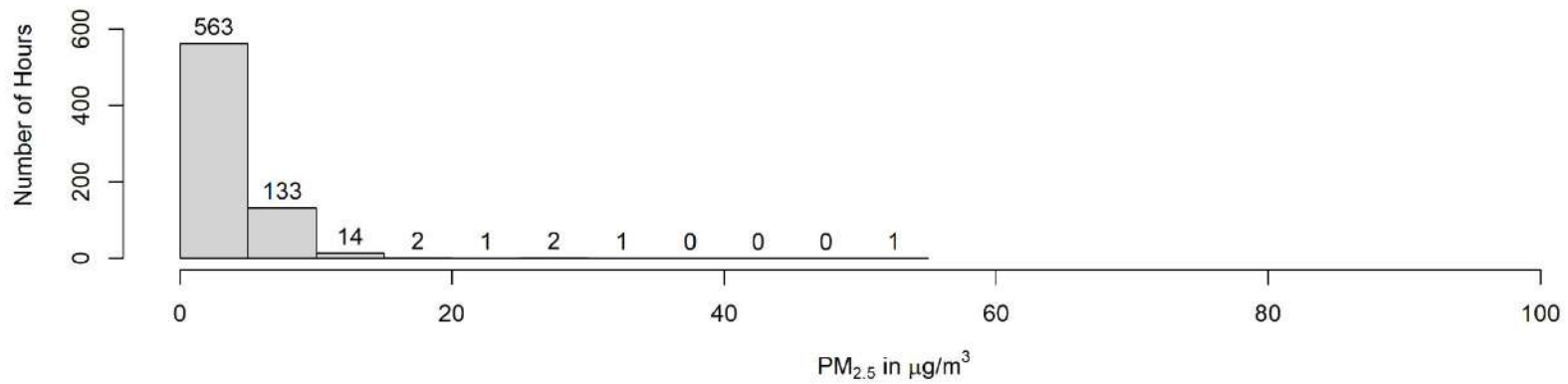
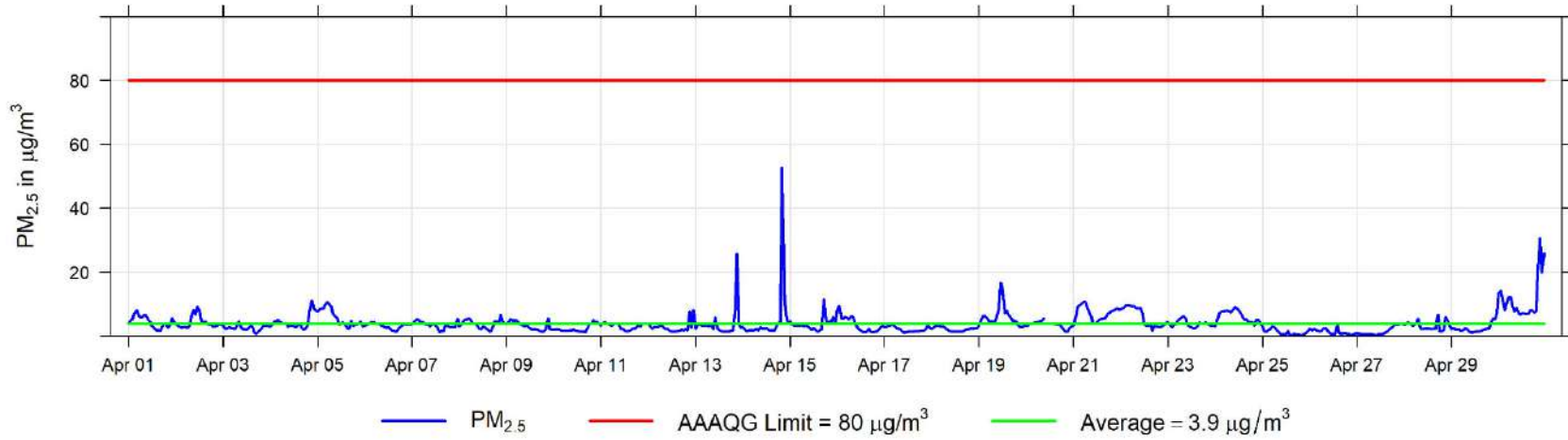
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights



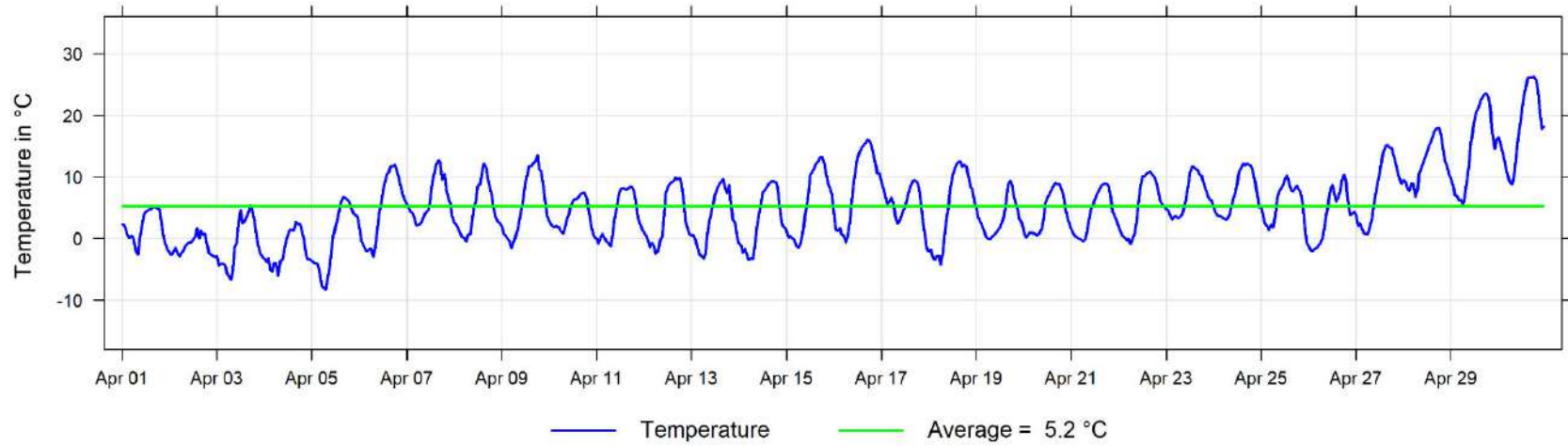
April 2023 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights



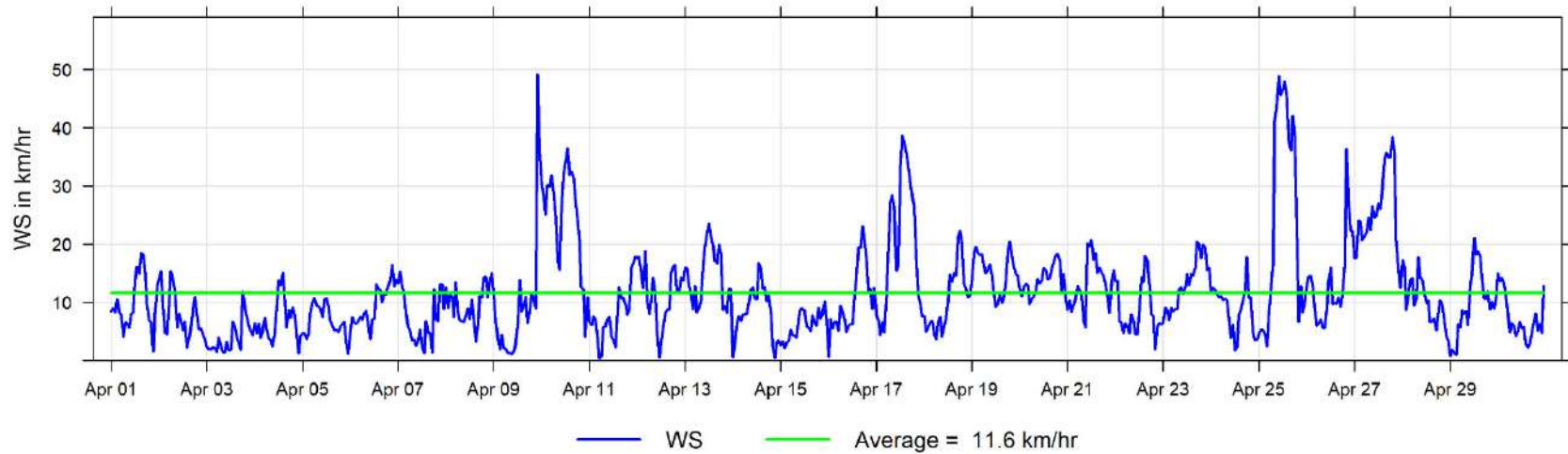
April 2023 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



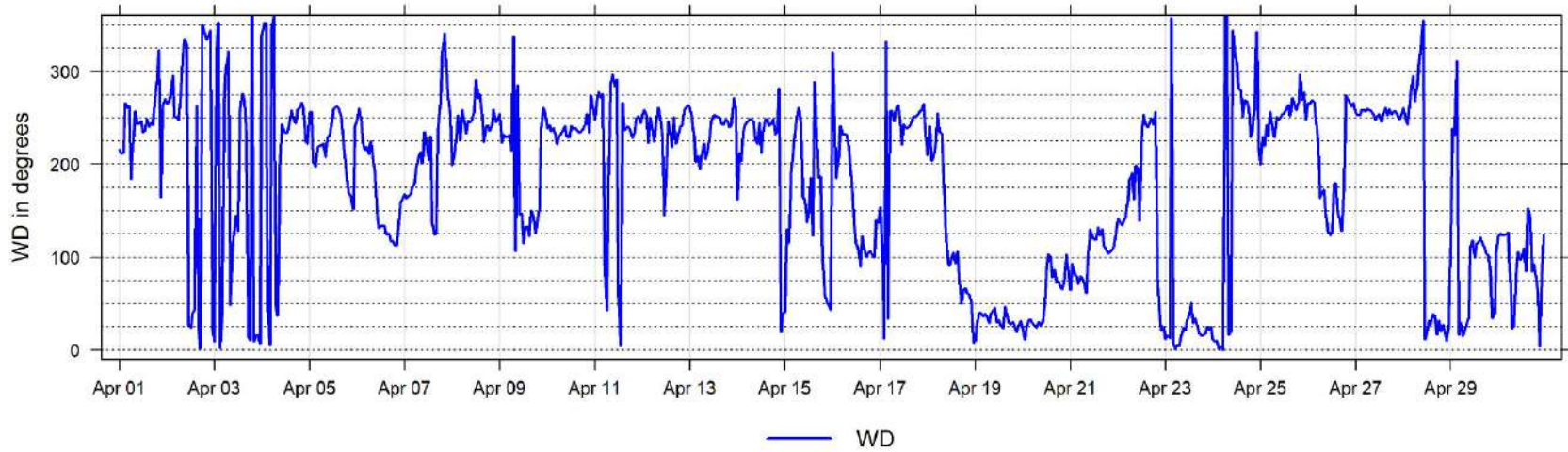
April 2023 Hourly Temperature Readings (in °C) at Smoky Heights



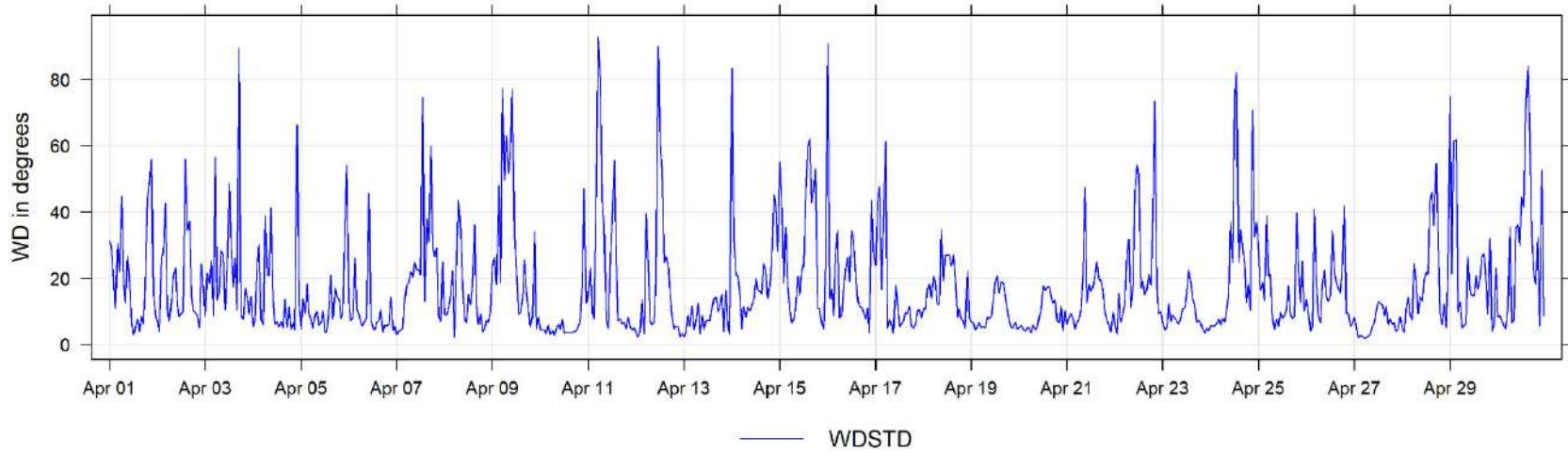
April 2023 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

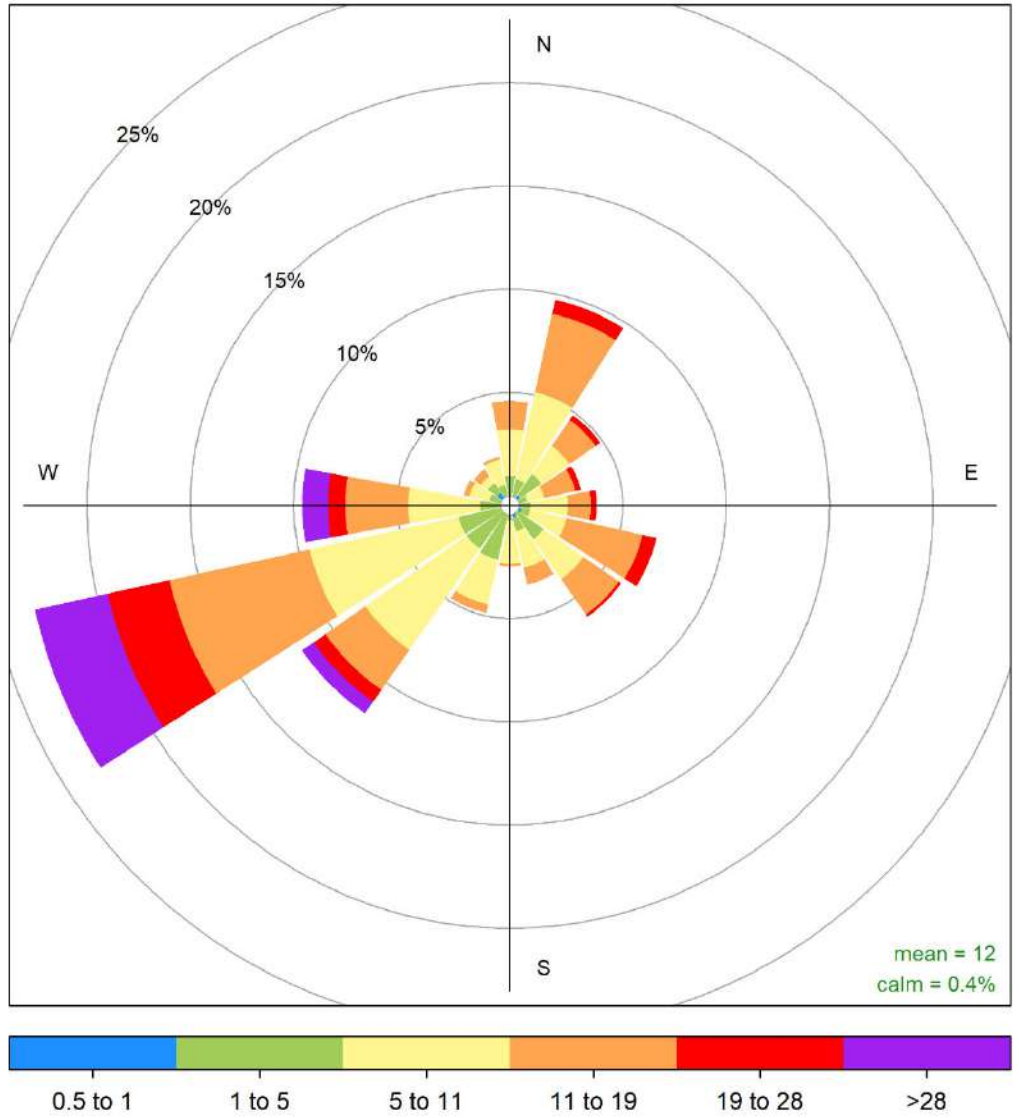


April 2023 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Smoky Heights

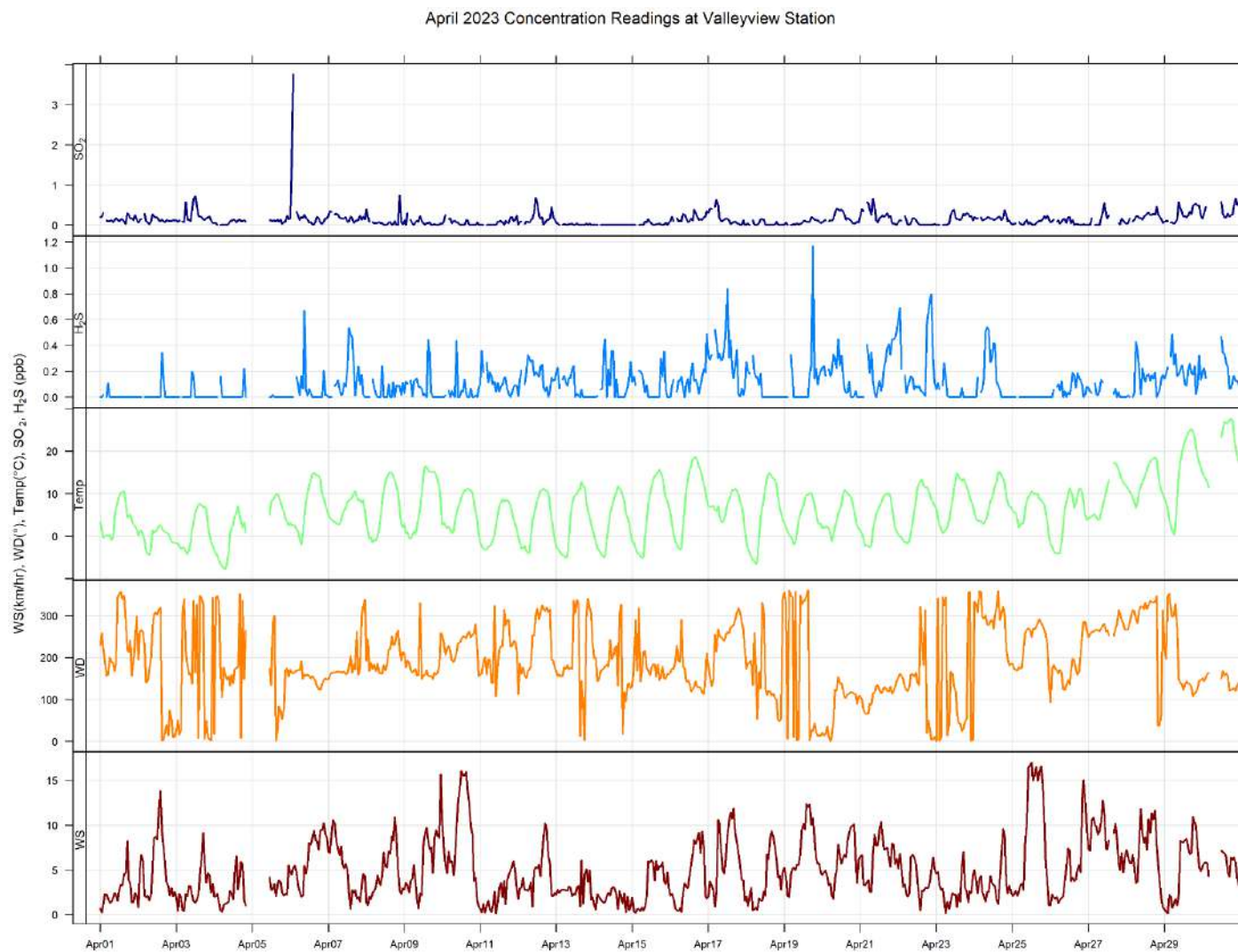




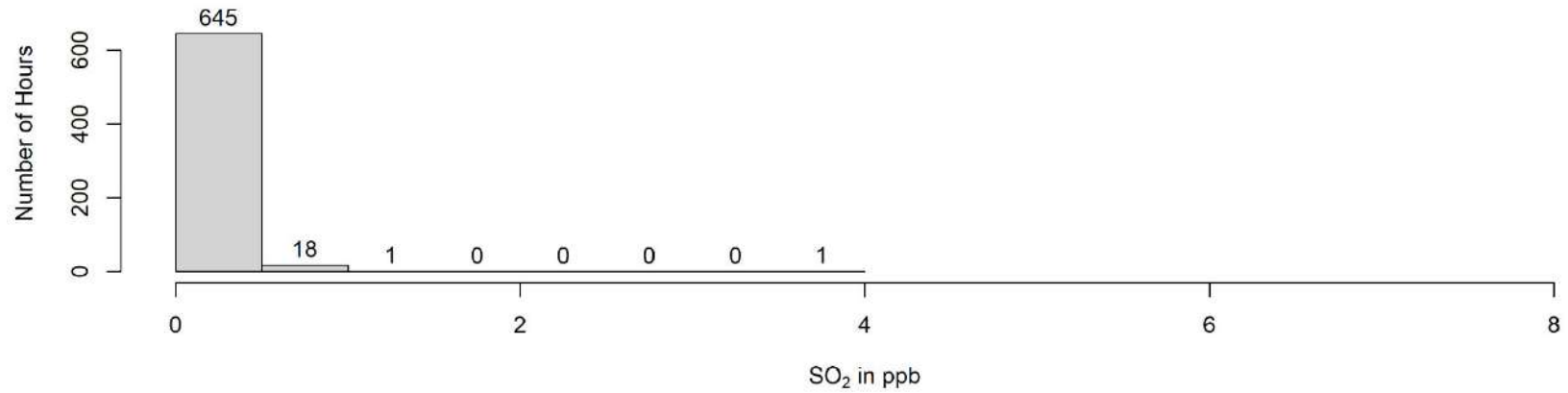
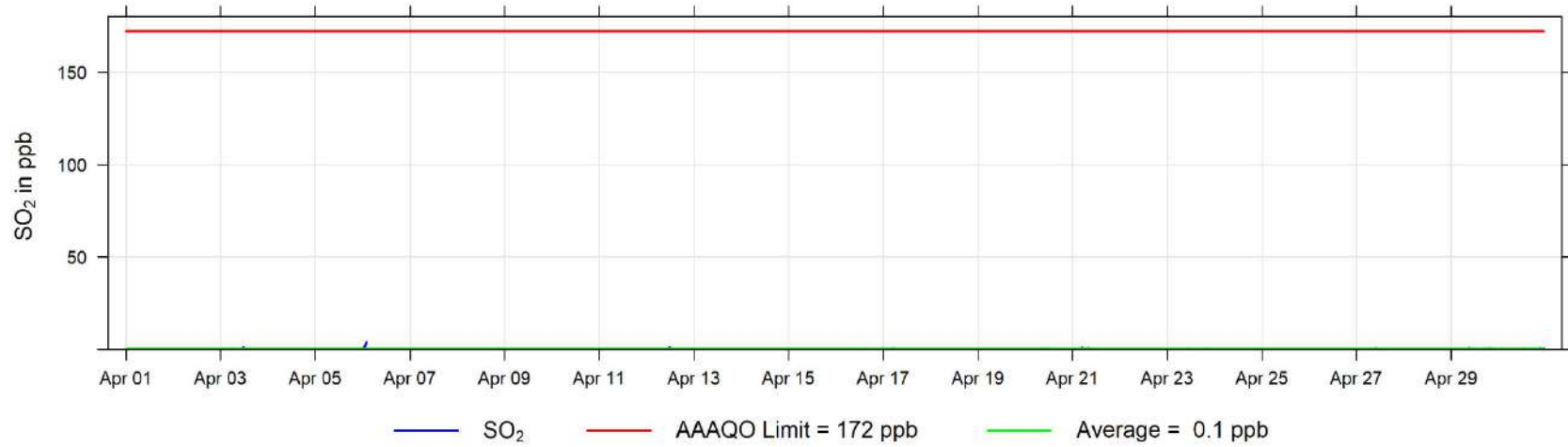
Smoky Heights April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

6 Valleyview Charts

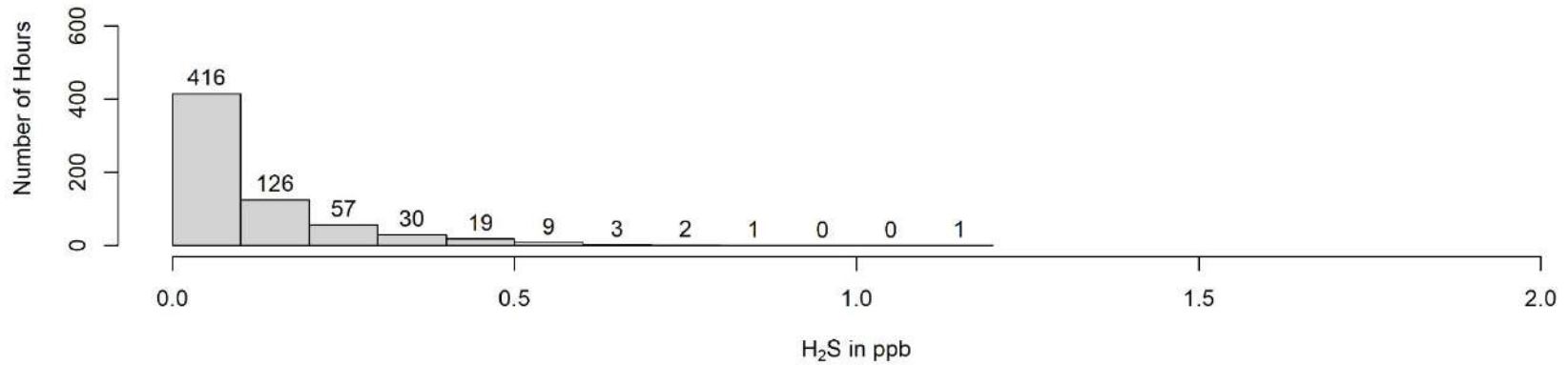
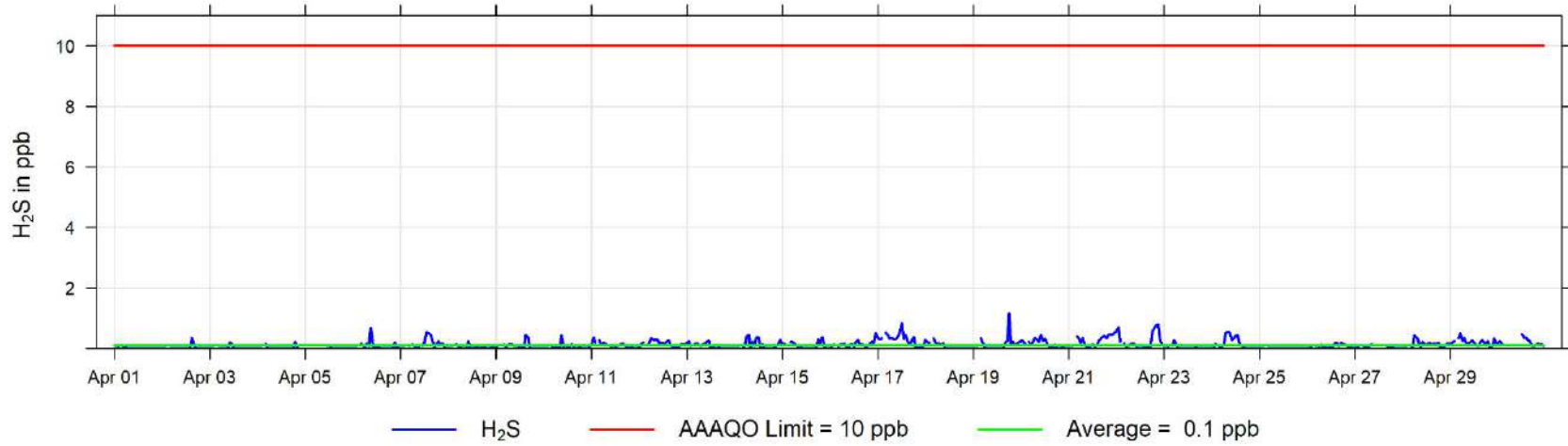
The following pages include the charts and histograms for Valleyview Station



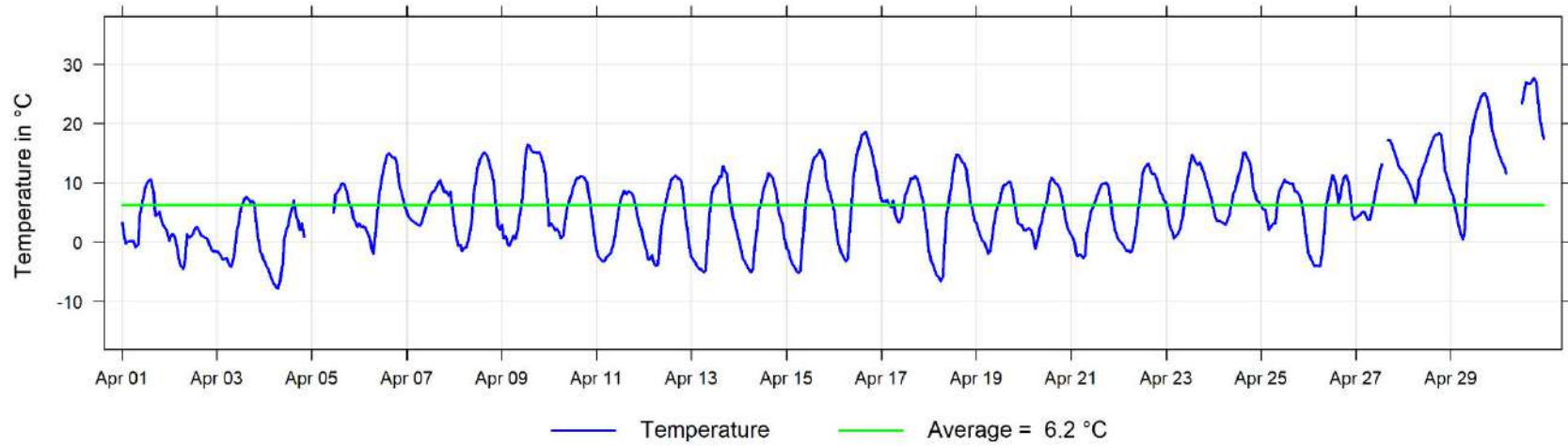
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview



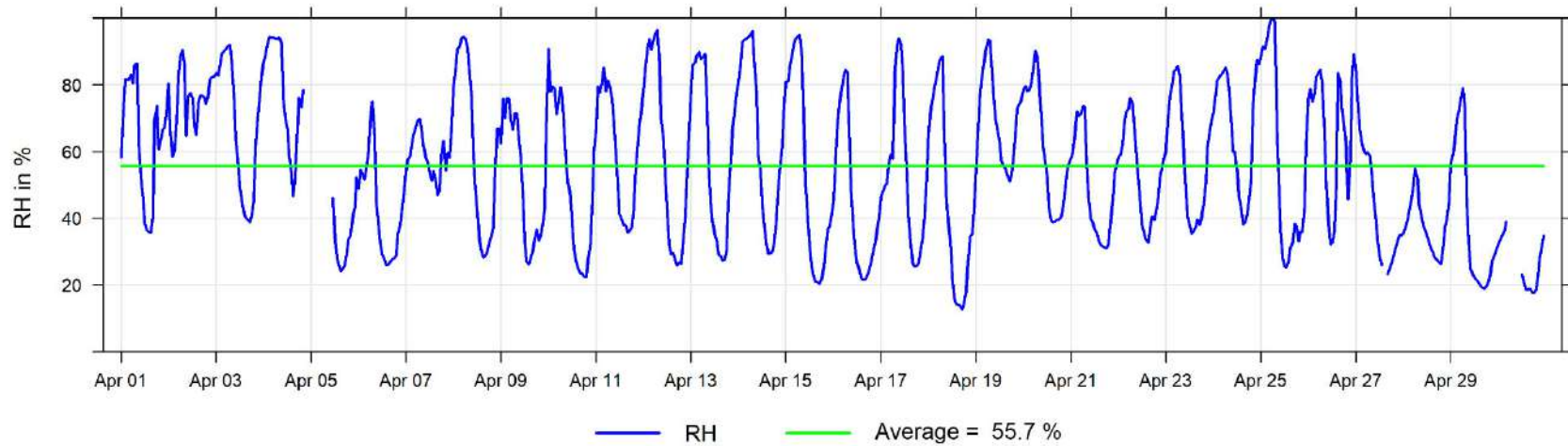
April 2023 Hourly Concentration Readings of H₂S (in ppb) at Valleyview



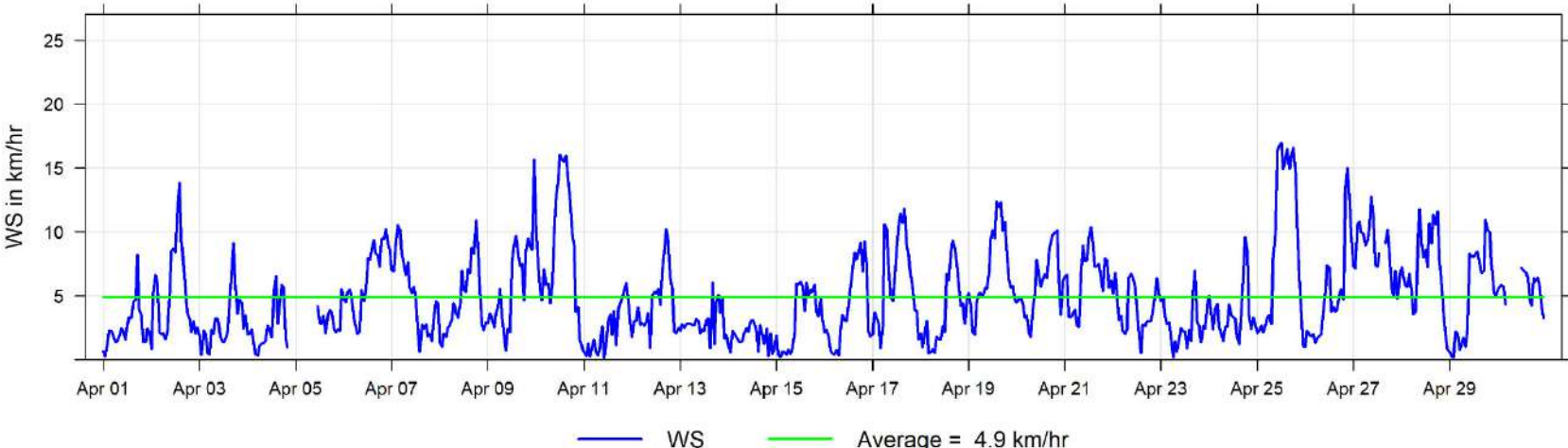
April 2023 Hourly Temperature Readings (in °C) at Valleyview



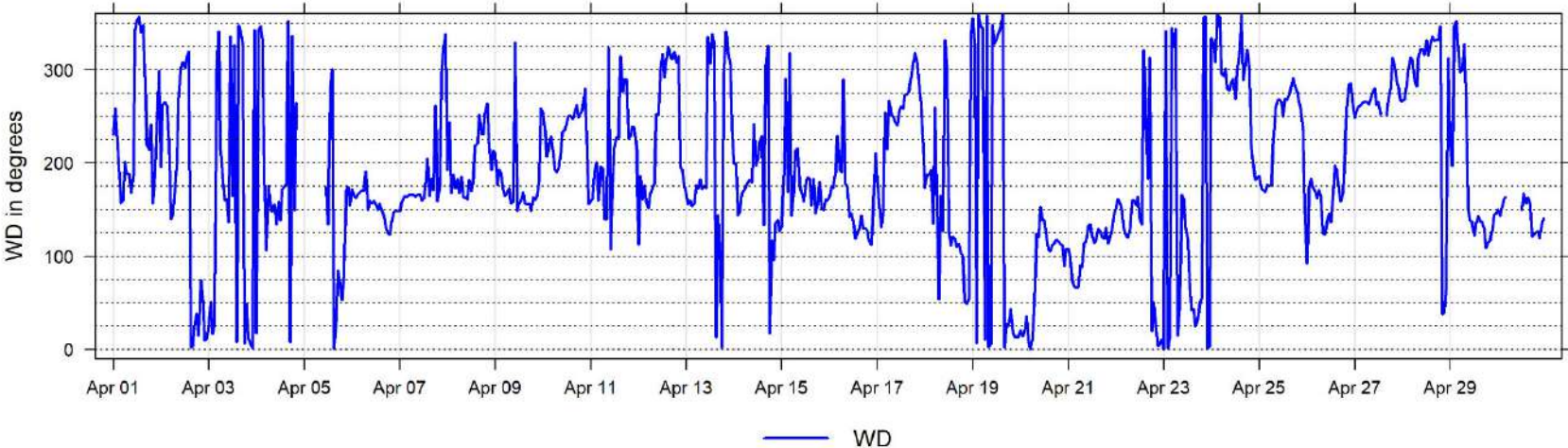
April 2023 Hourly Readings of Relative Humidity (in %) at Valleyview



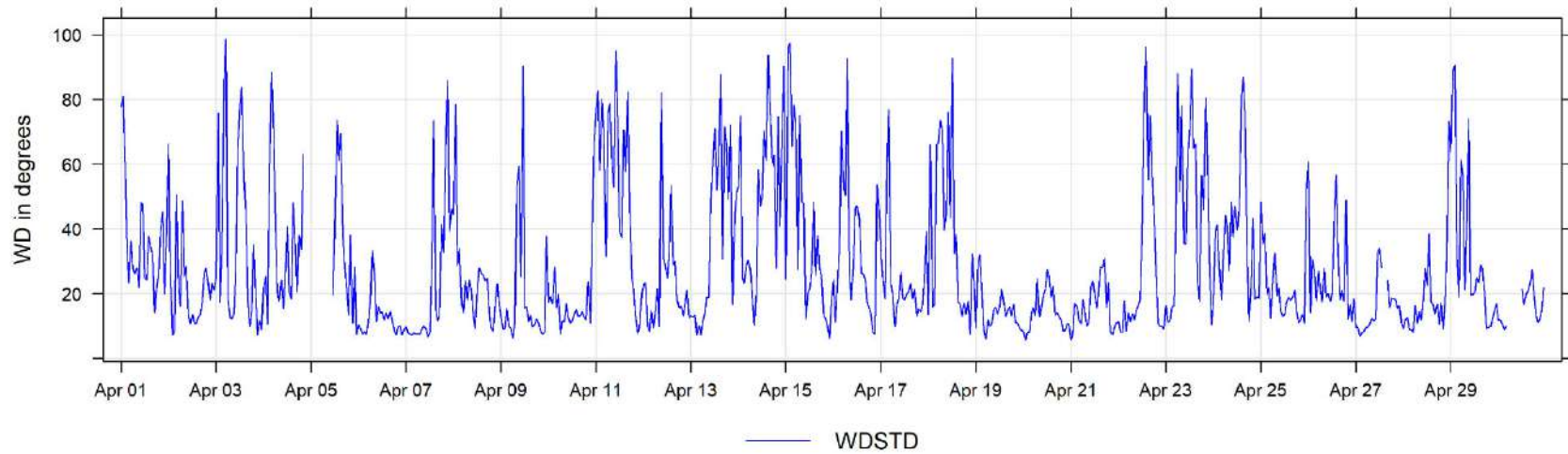
April 2023 Hourly Readings of Wind Speed (in km/hr) at Valleyview

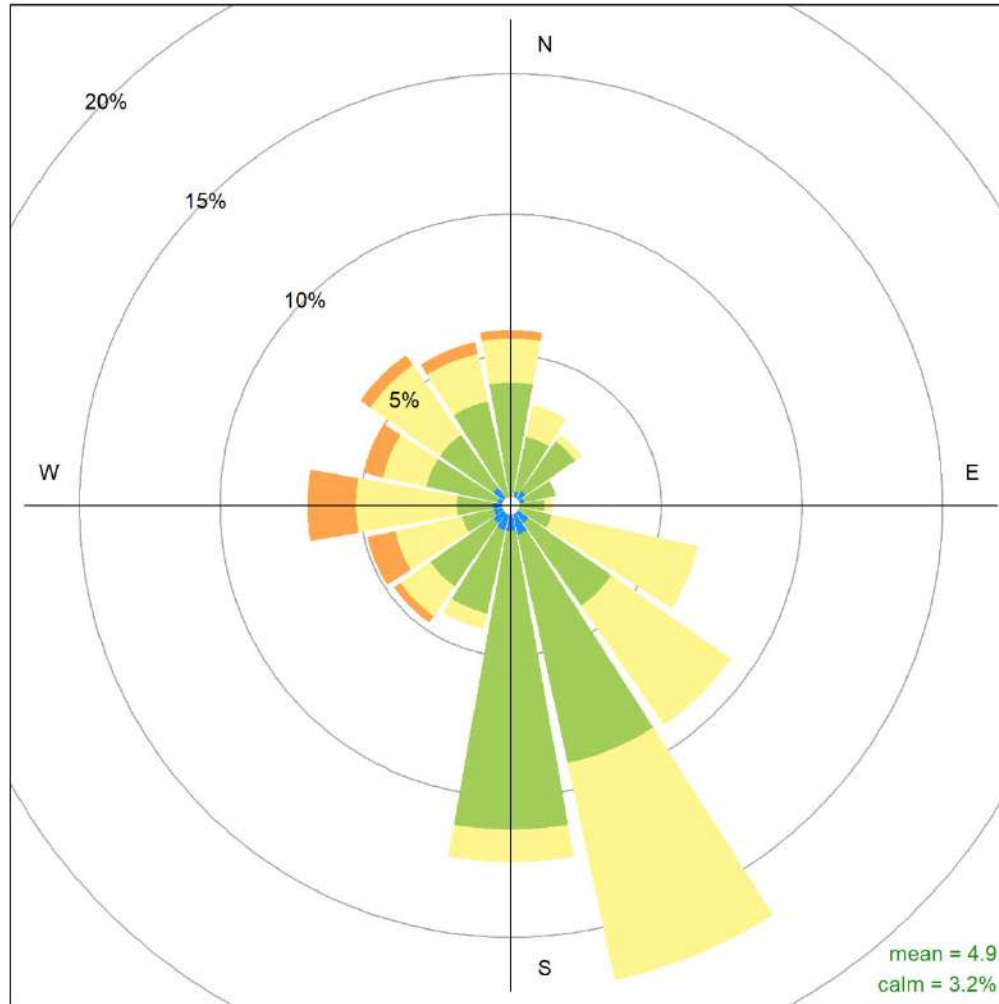


April 2023 Hourly Readings of Wind Direction (in degrees) at Valleyview



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Valleyview

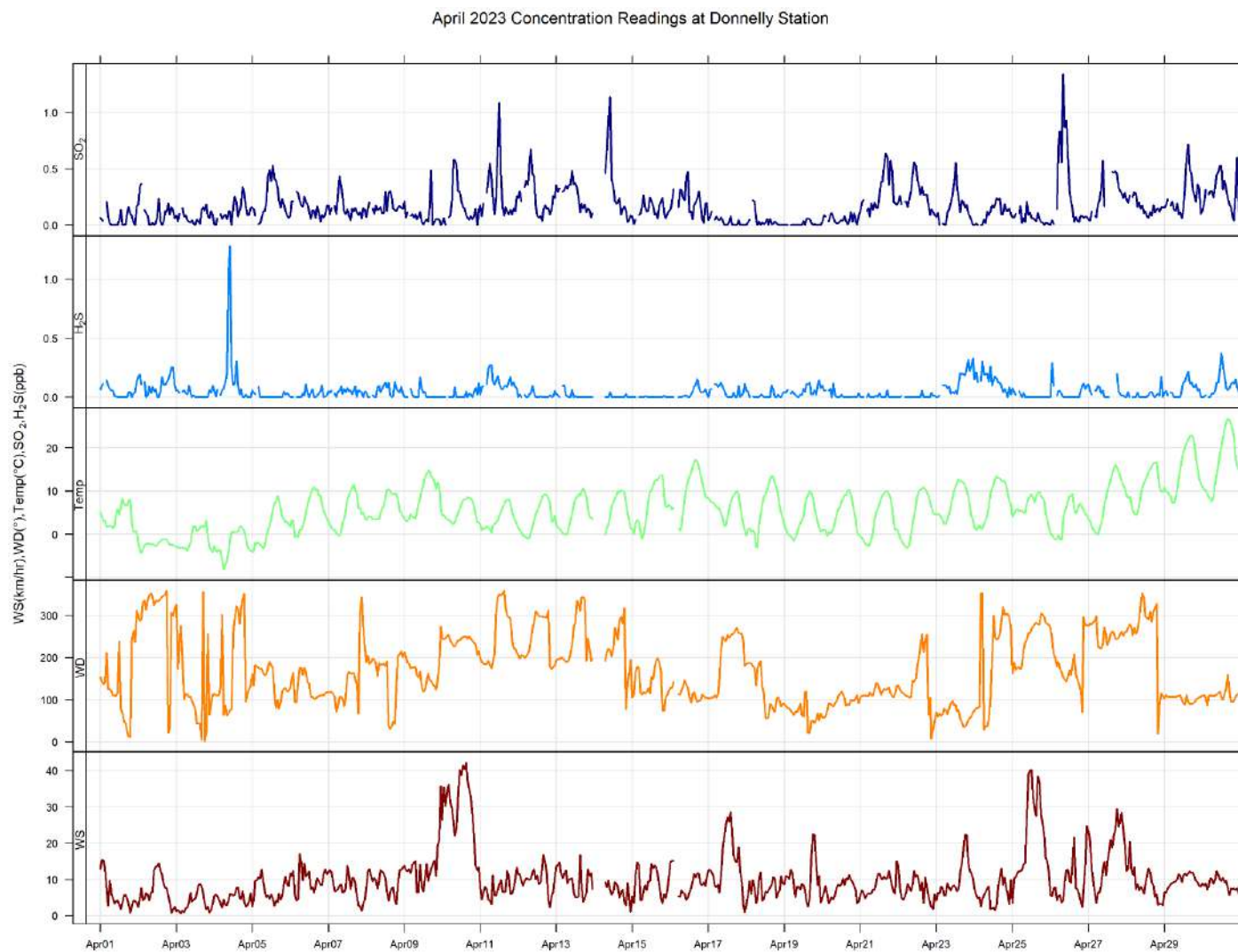




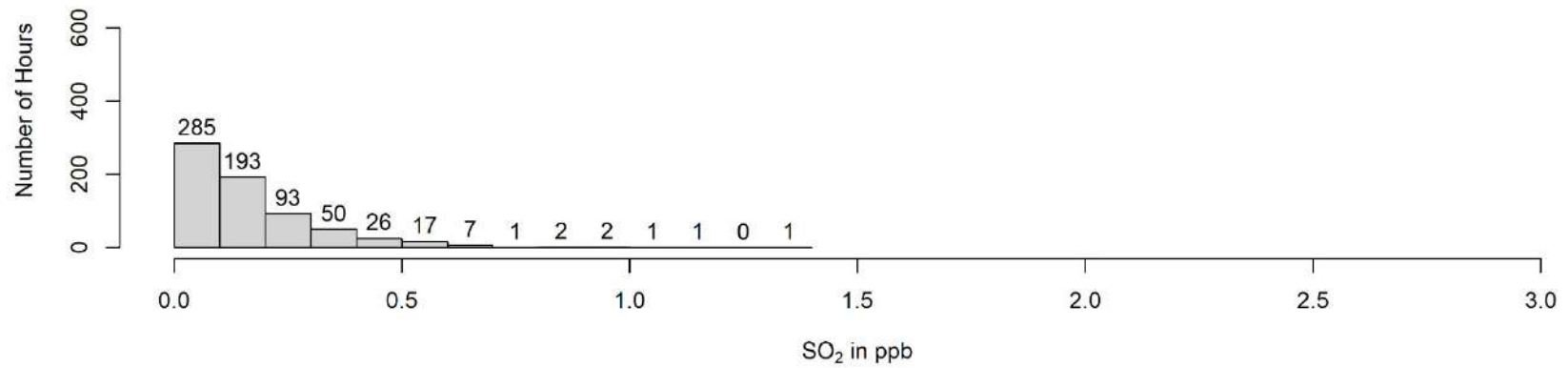
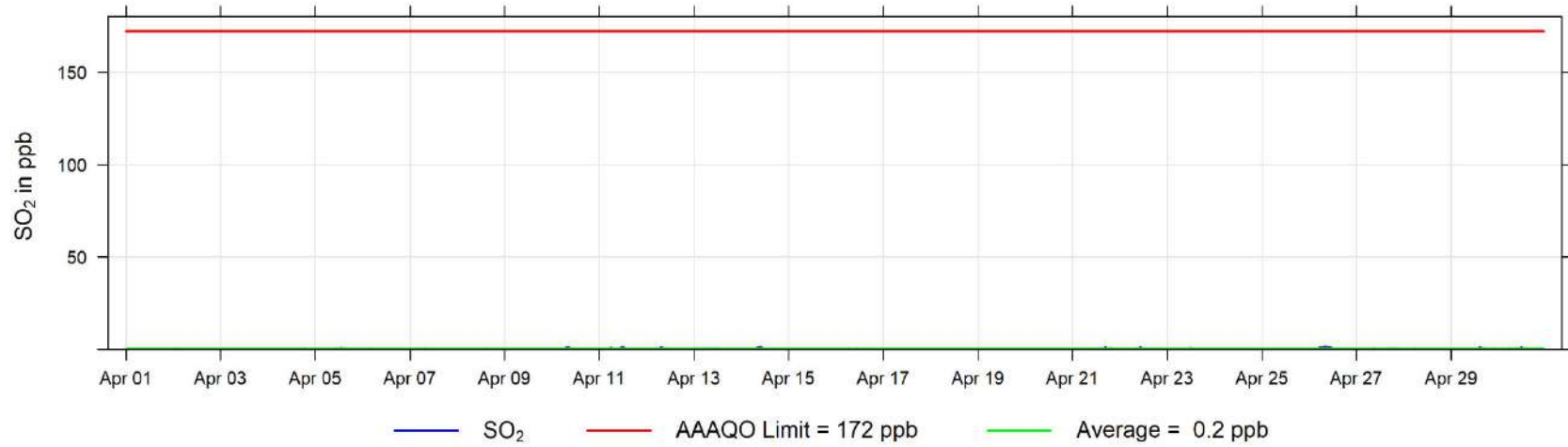
Valleyview April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

7 Donnelly Charts

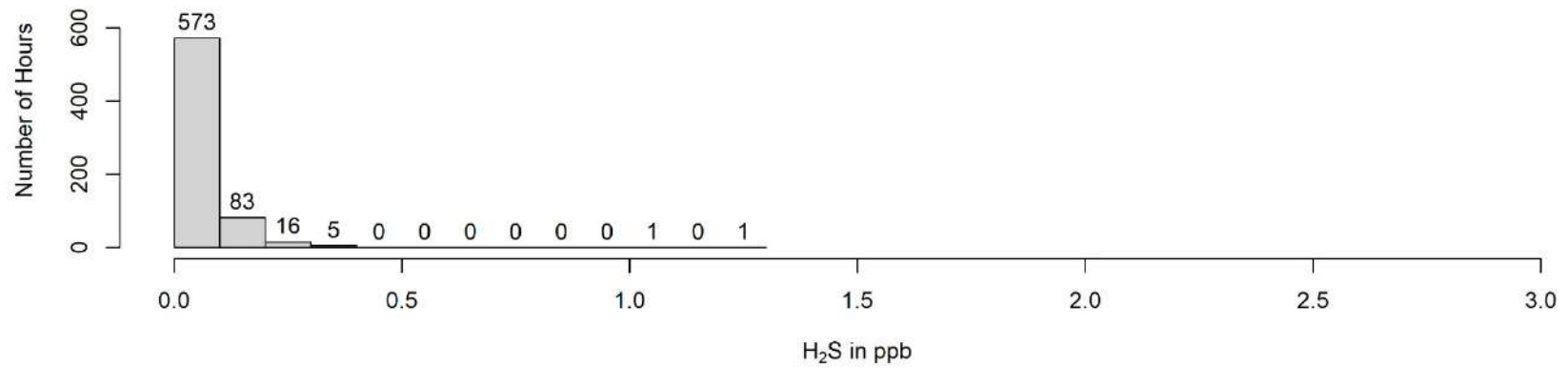
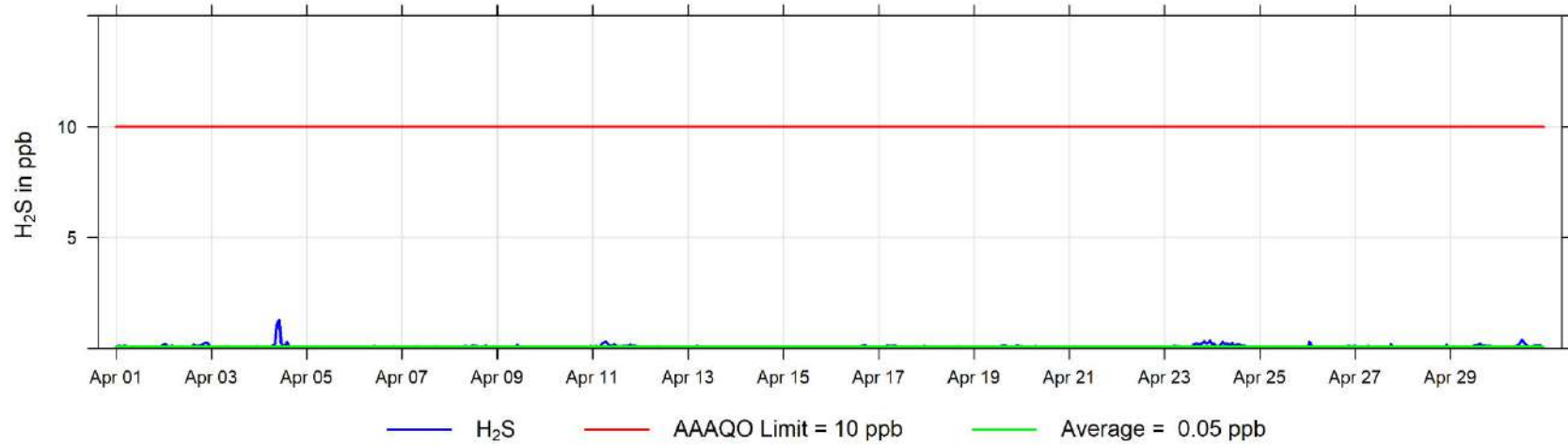
The following pages include the charts and histograms for Donnelly Station



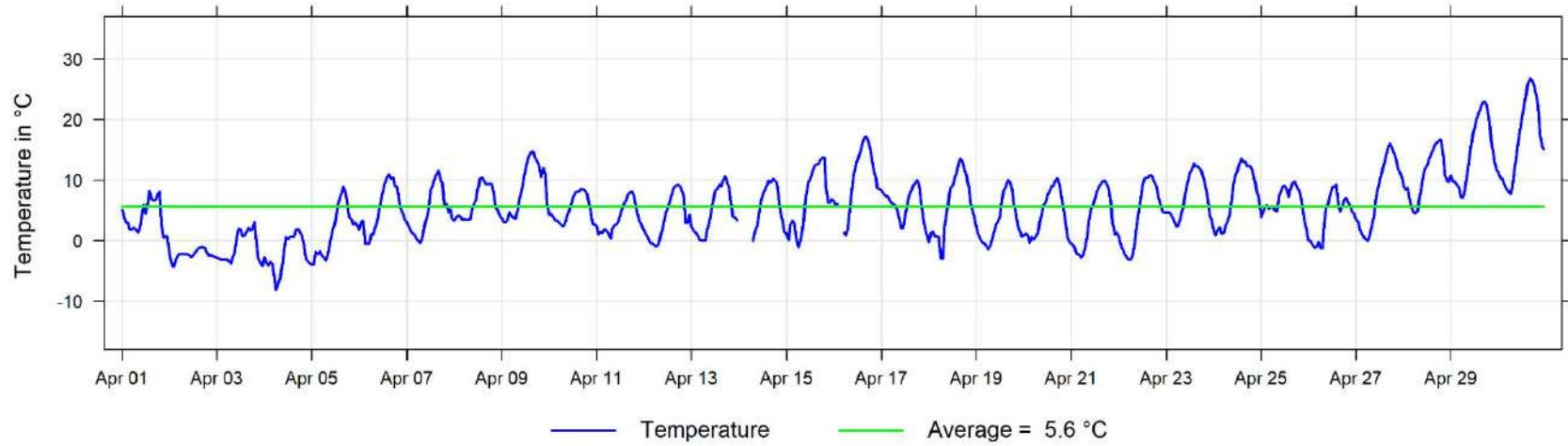
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Donnelly



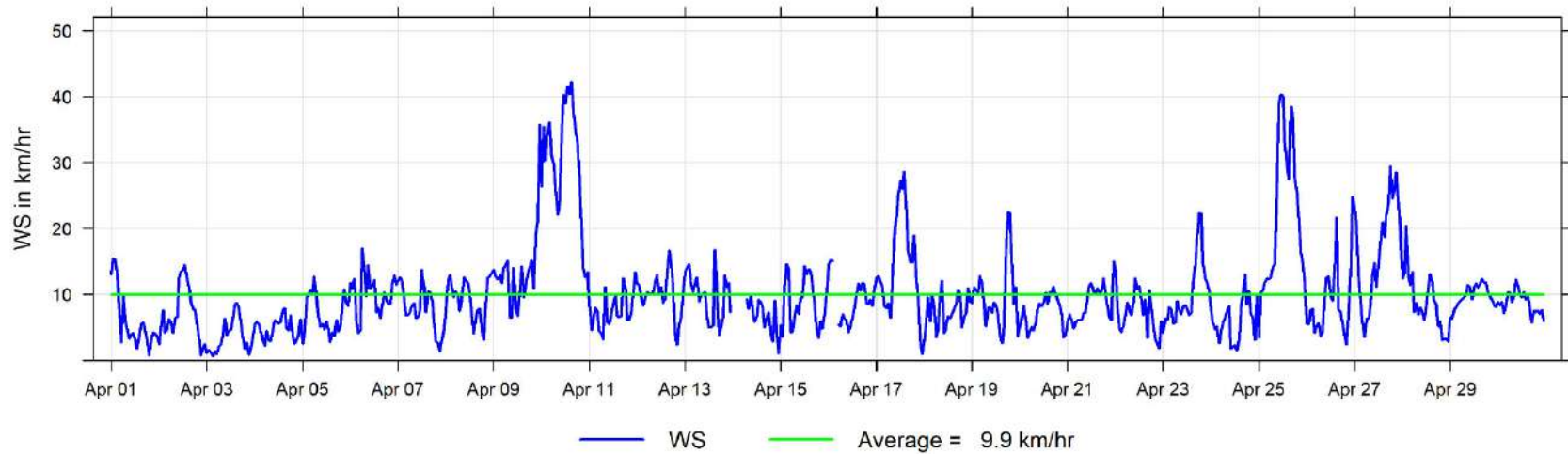
April 2023 Hourly Concentration Readings of H₂S (in ppb) at Donnelly



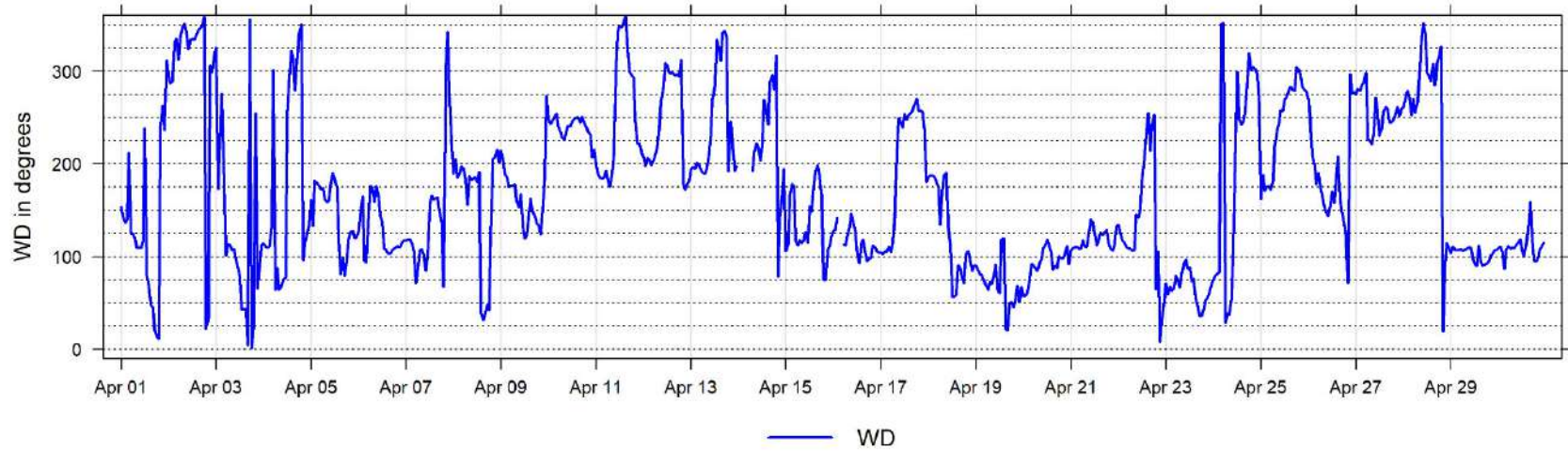
April 2023 Hourly Temperature Readings (in °C) at Donnelly



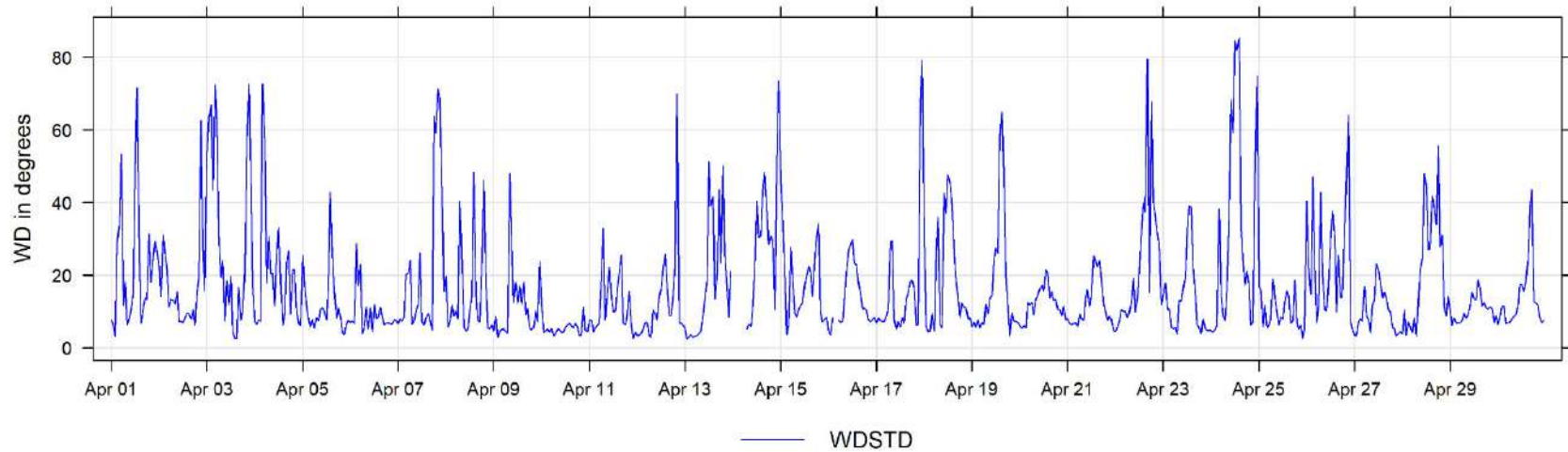
April 2023 Hourly Readings of Wind Speed (in km/hr) at Donnelly

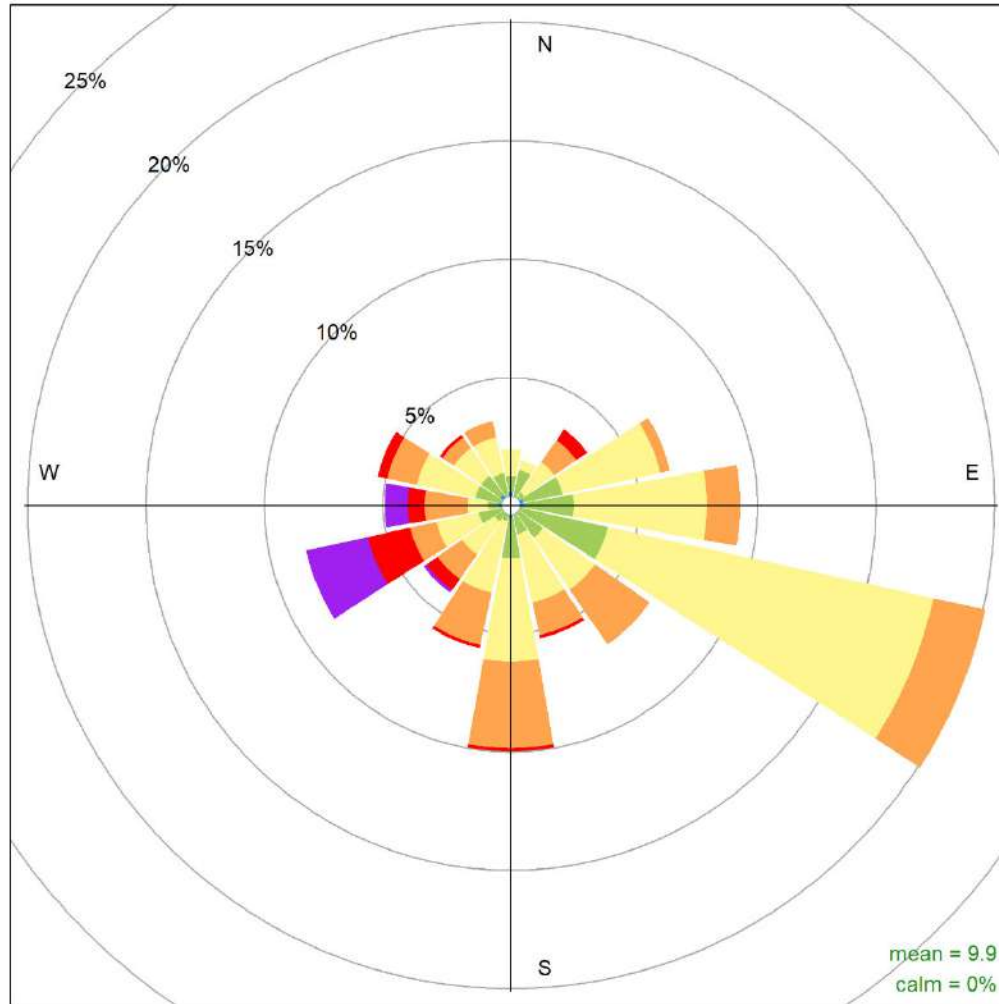


April 2023 Hourly Readings of Wind Direction (in degrees) at Donnelly



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Donnelly

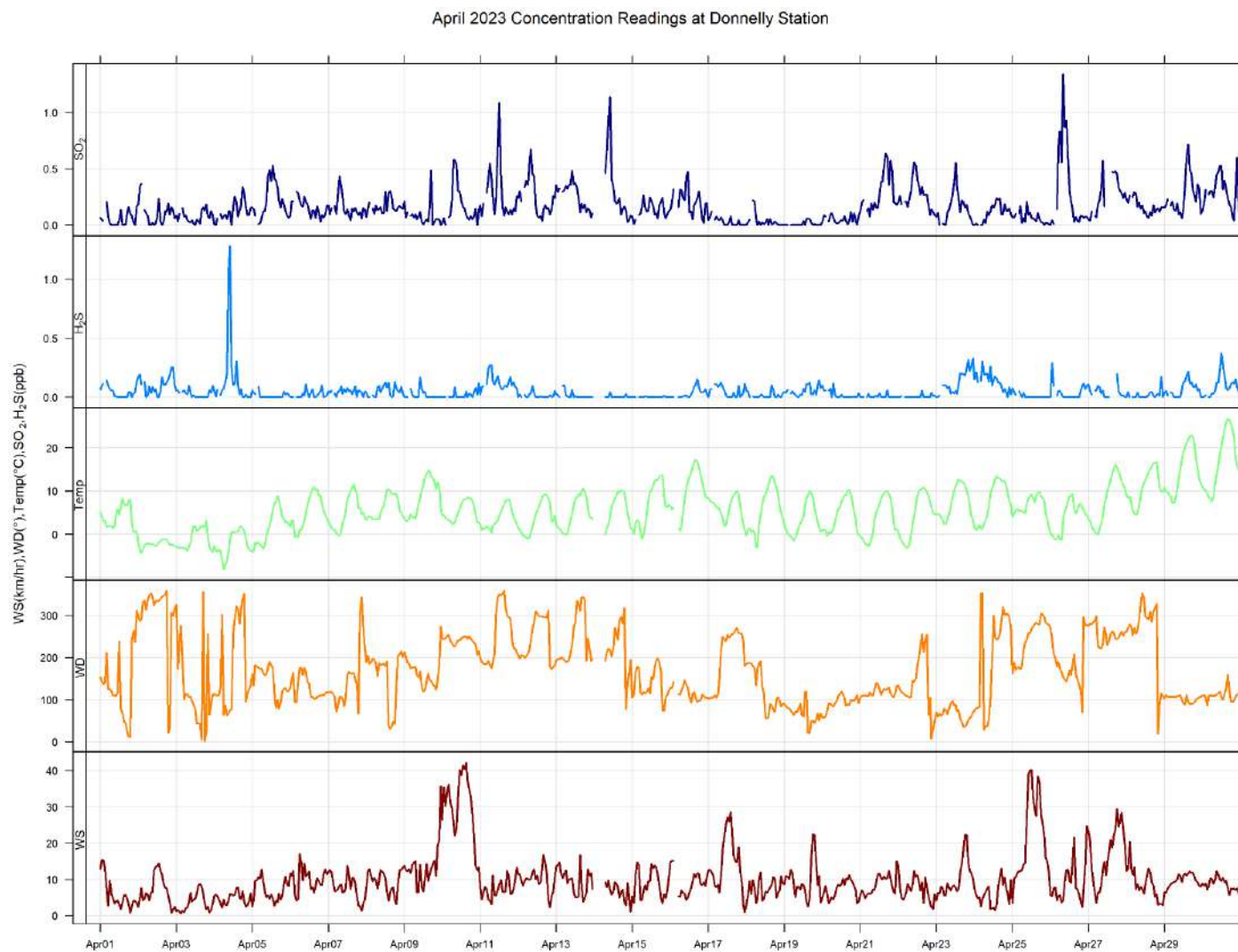




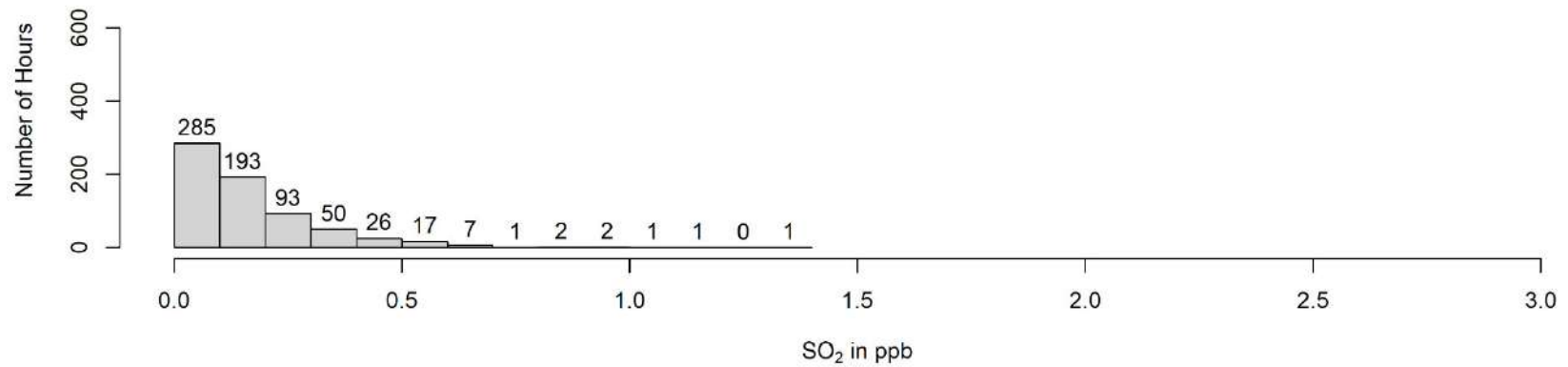
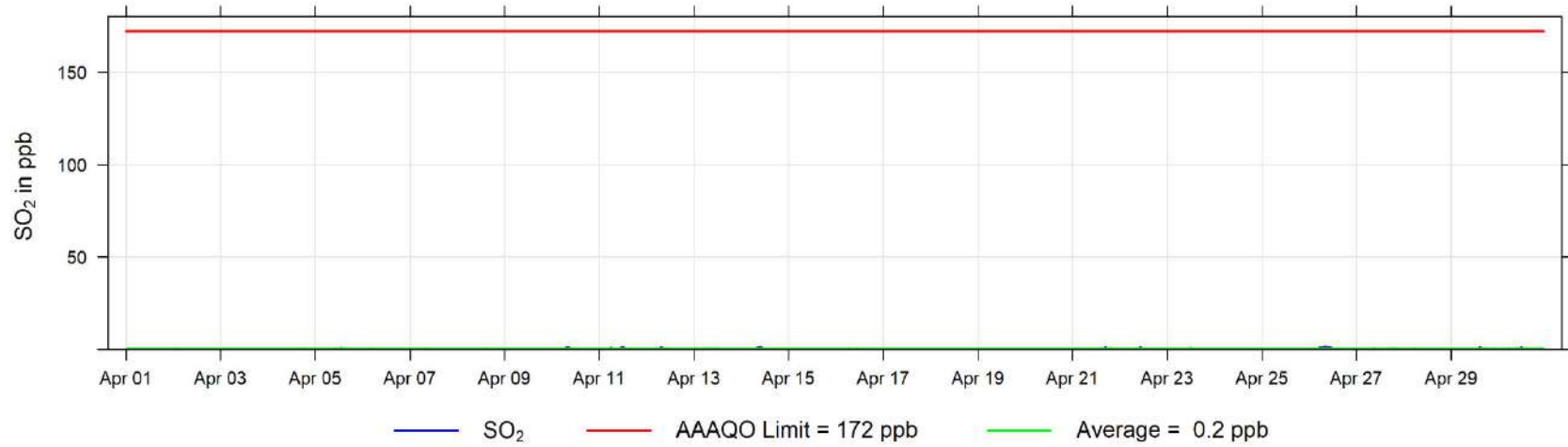
Donnelly April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

8 Poplar (Portable) Charts

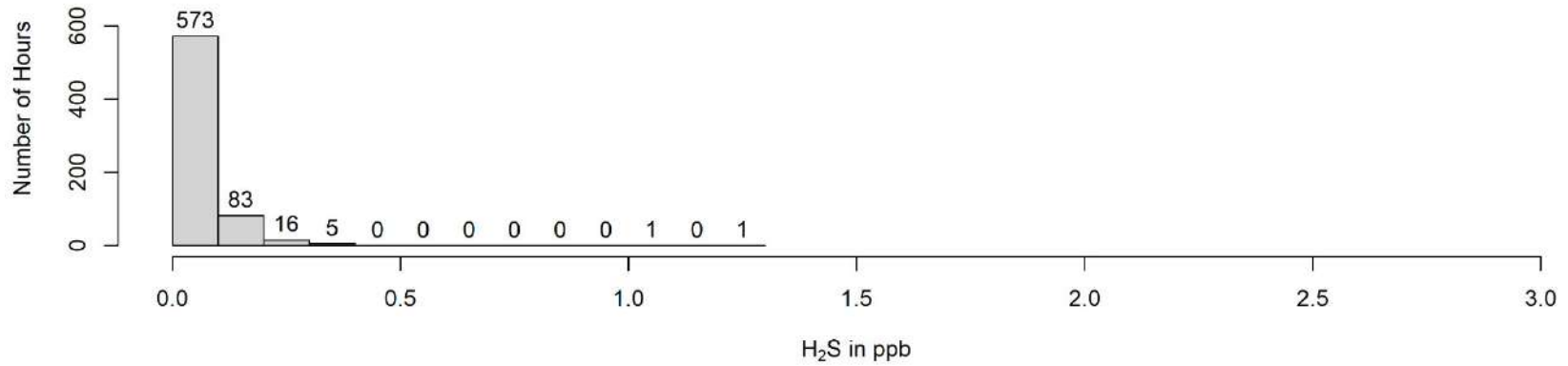
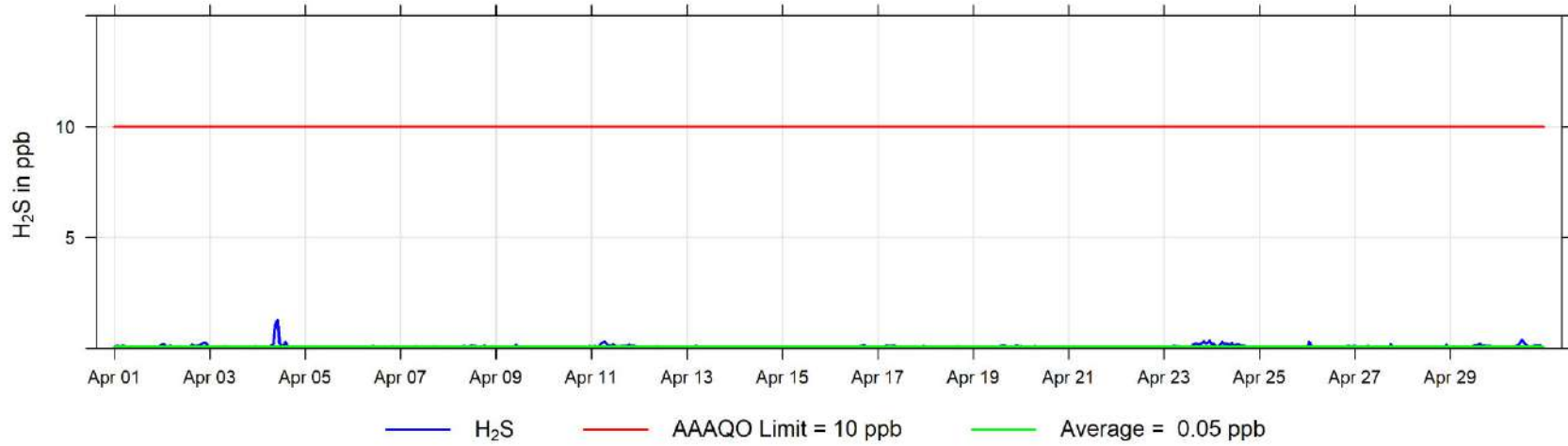
The following pages include the charts and histograms for Poplar Portable Station



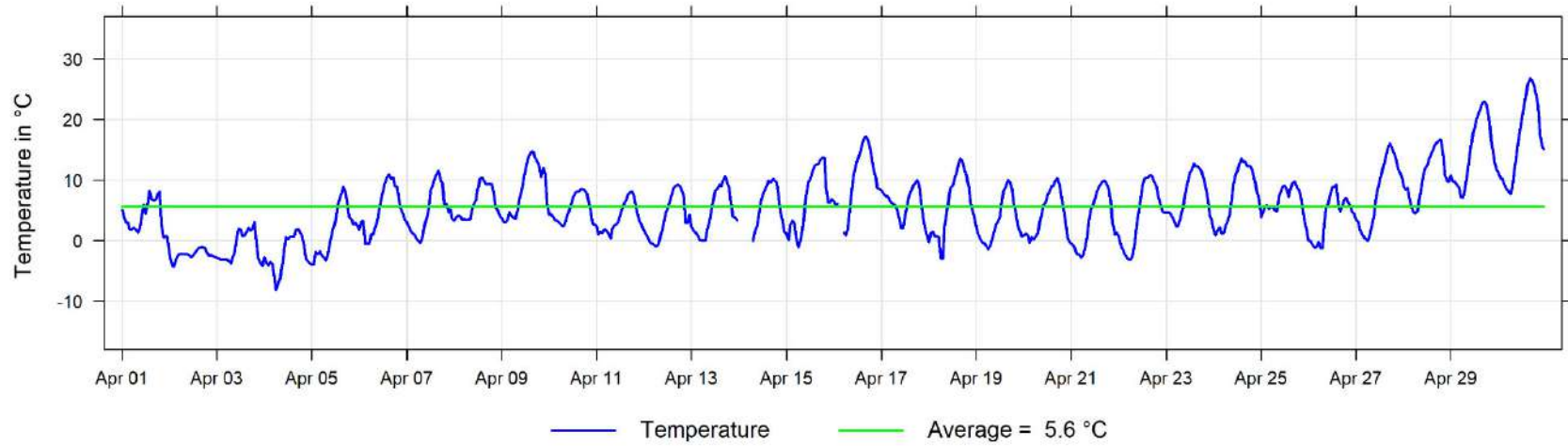
April 2023 Hourly Concentration Readings of SO₂ (in ppb) at Donnelly



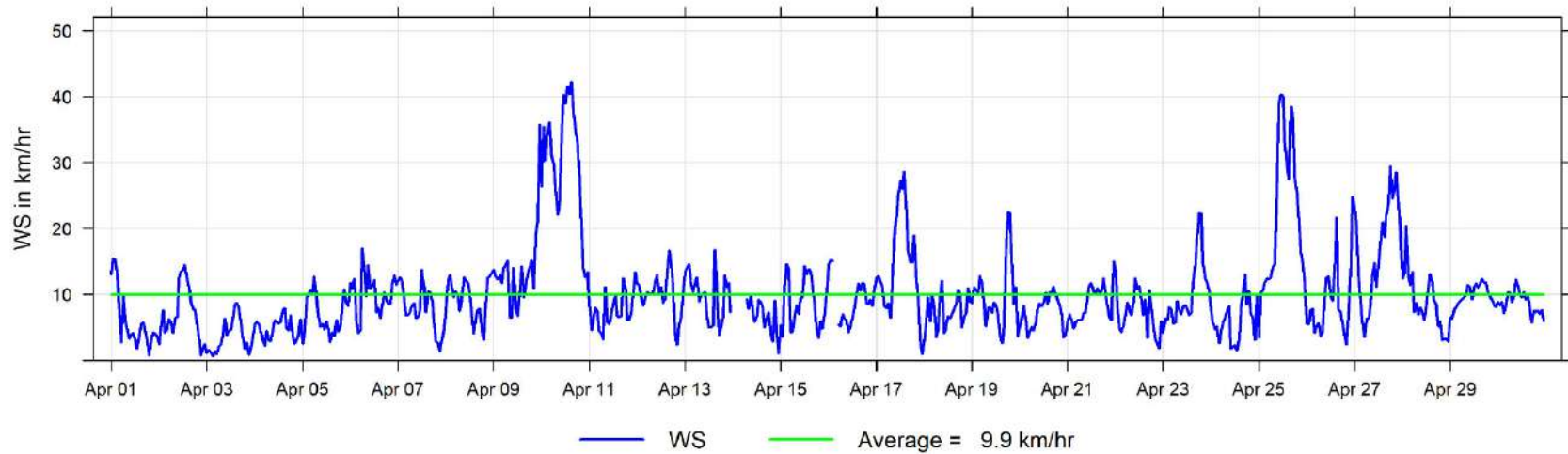
April 2023 Hourly Concentration Readings of H₂S (in ppb) at Donnelly



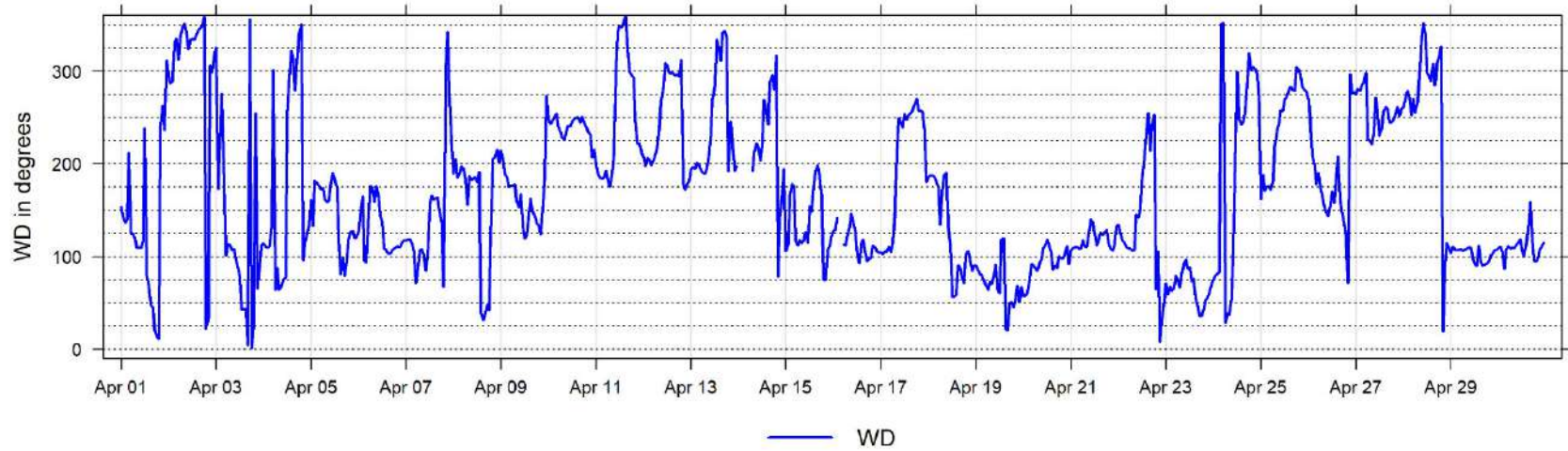
April 2023 Hourly Temperature Readings (in °C) at Donnelly



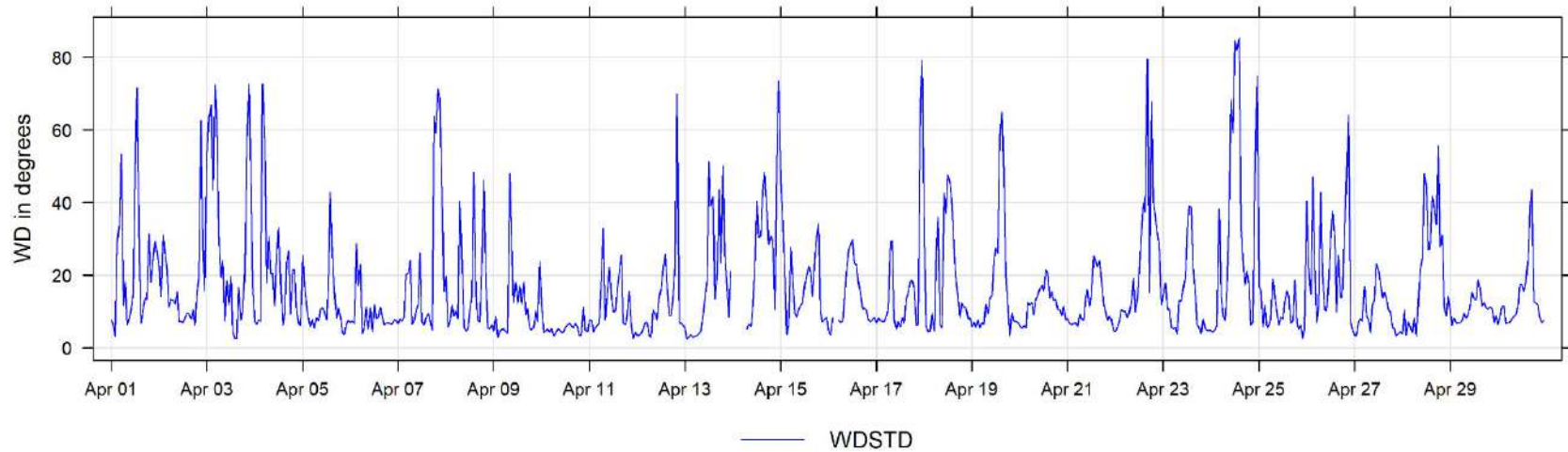
April 2023 Hourly Readings of Wind Speed (in km/hr) at Donnelly

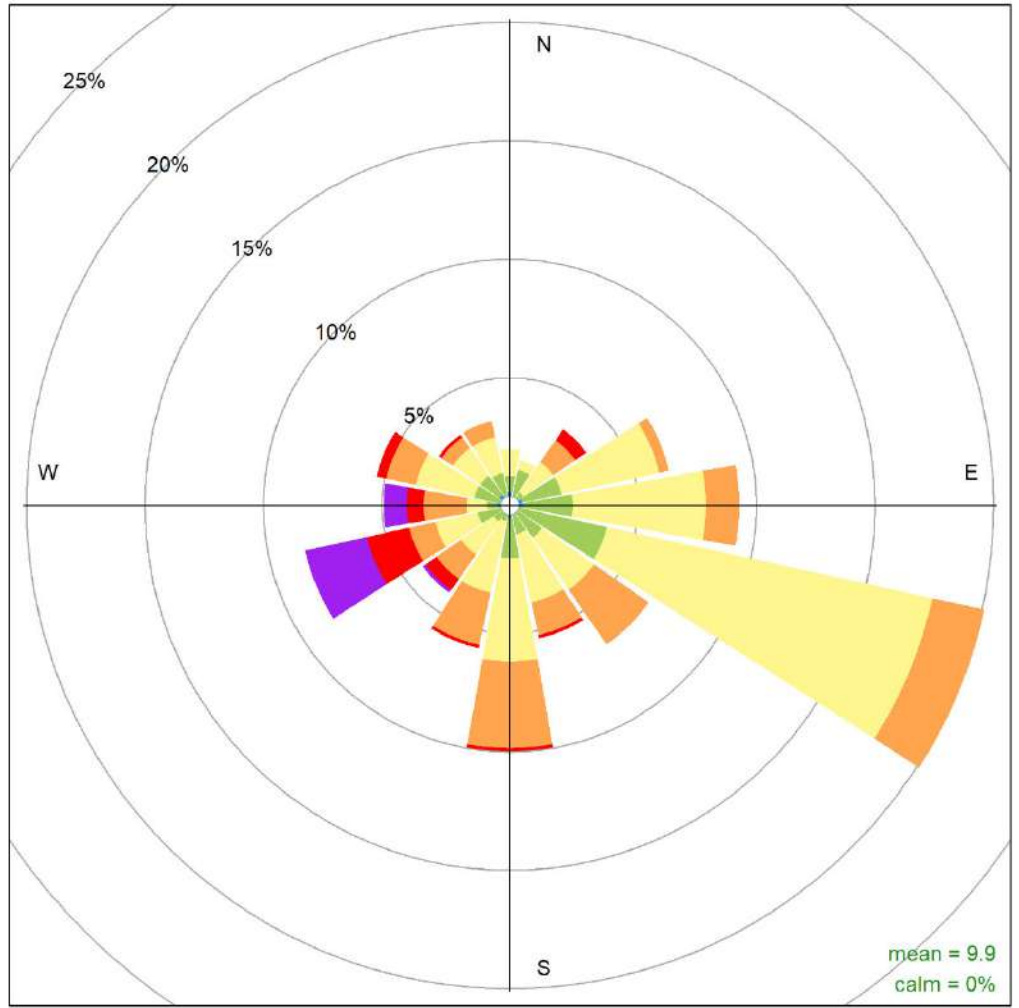


April 2023 Hourly Readings of Wind Direction (in degrees) at Donnelly



April 2023 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Donnelly

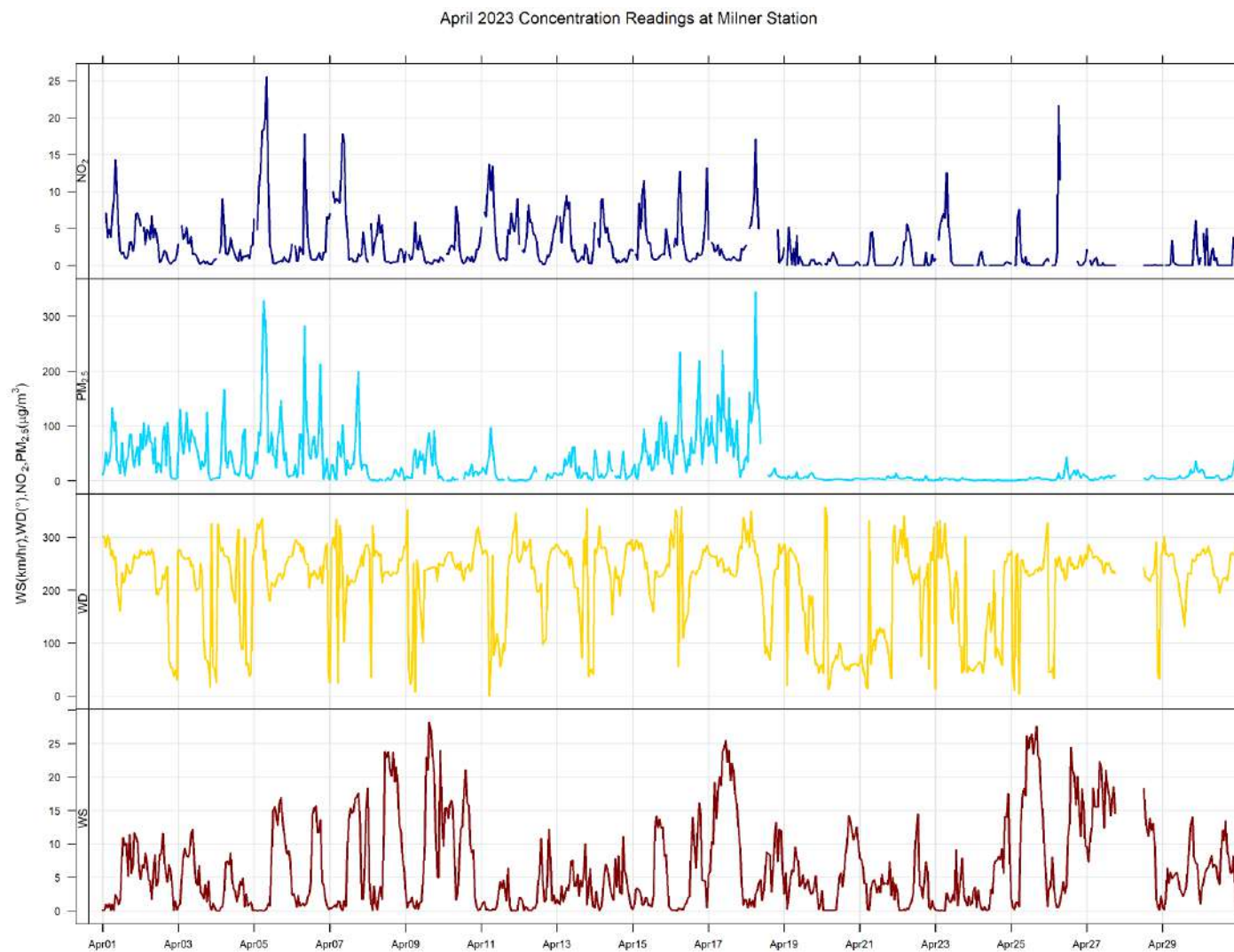




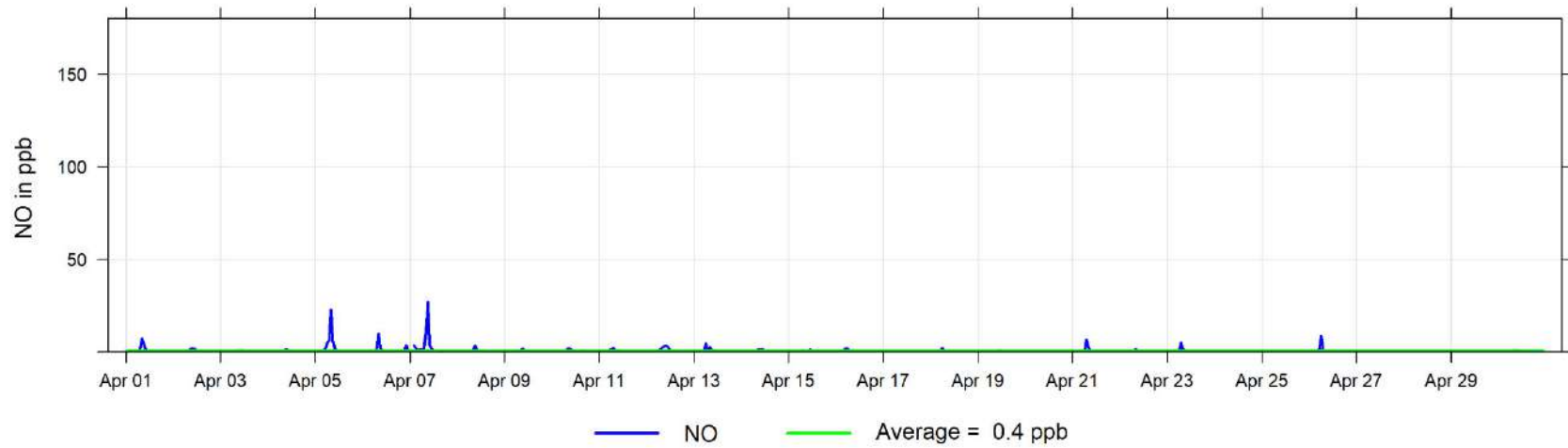
Donnelly April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

9 Milner Charts

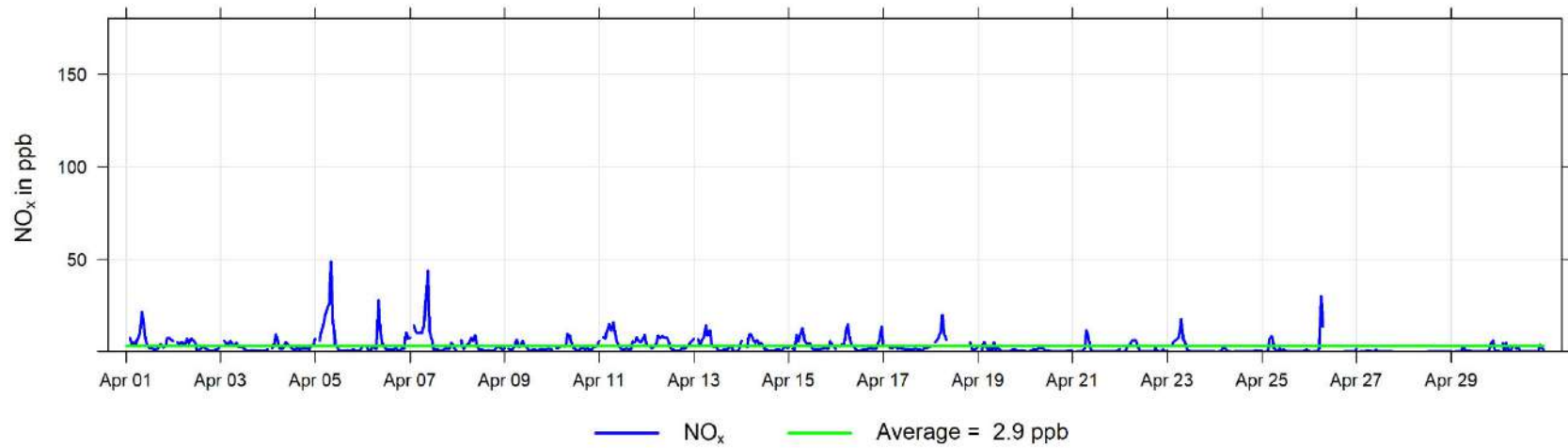
The following pages include the charts and histograms for Milner Station



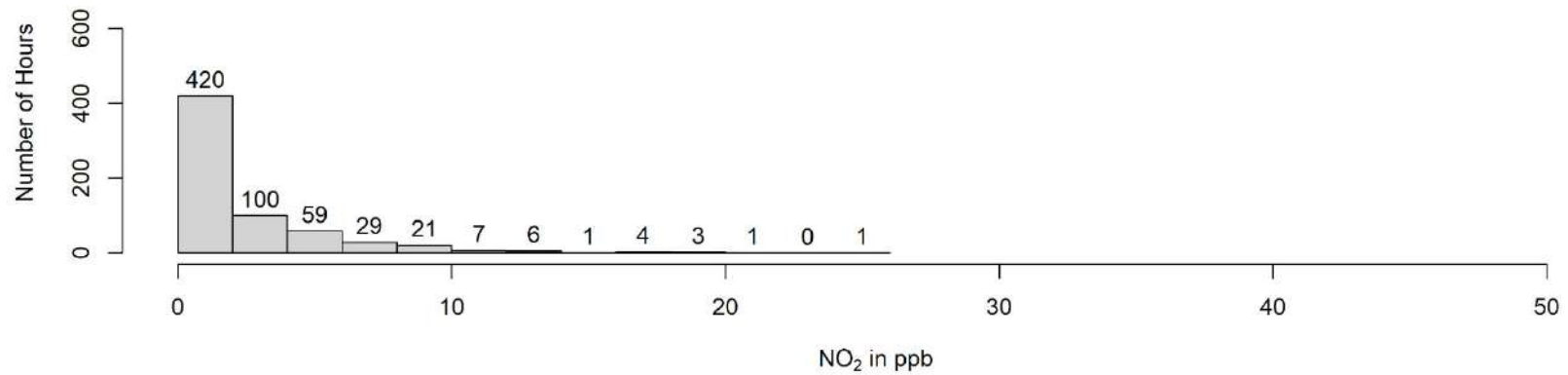
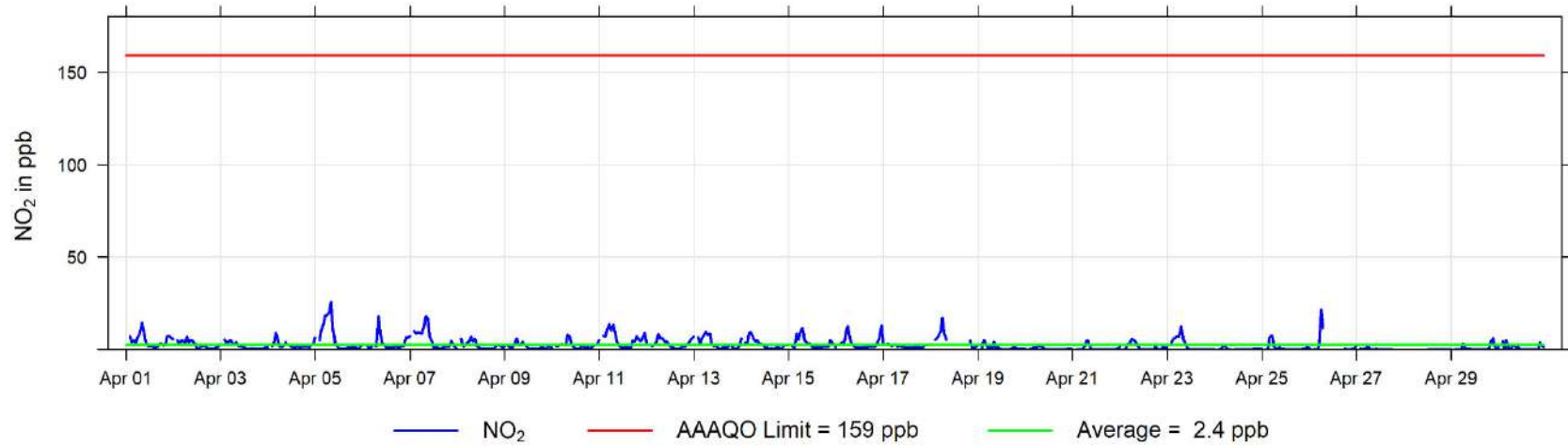
April 2023 Hourly Concentration Readings of NO (in ppb) at Milner



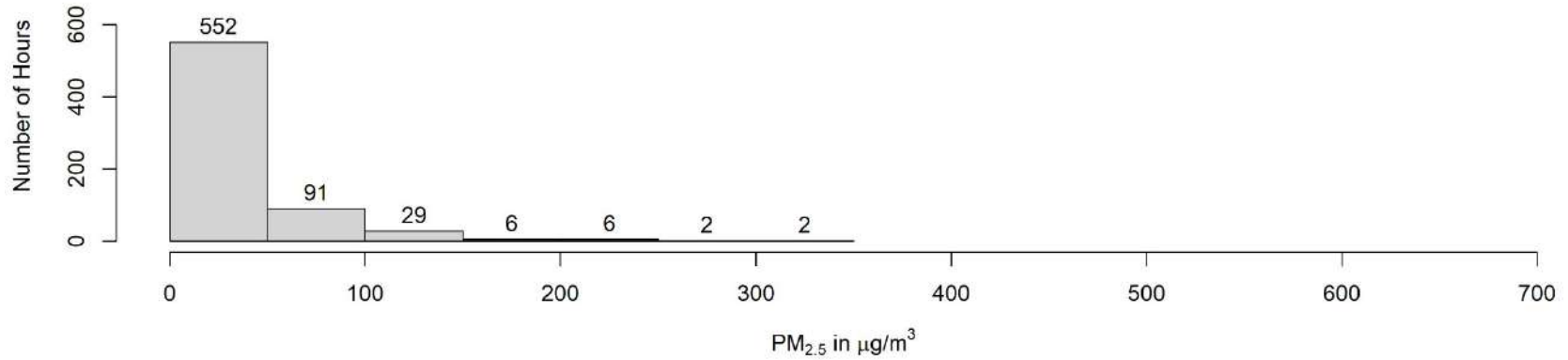
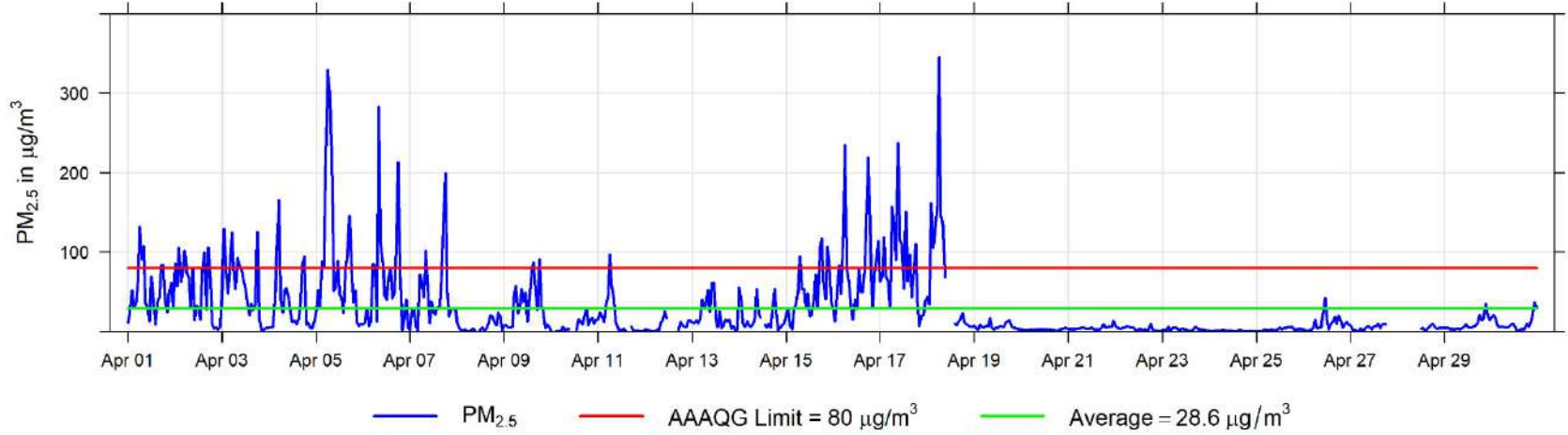
April 2023 Hourly Concentration Readings of NO_x (in ppb) at Milner



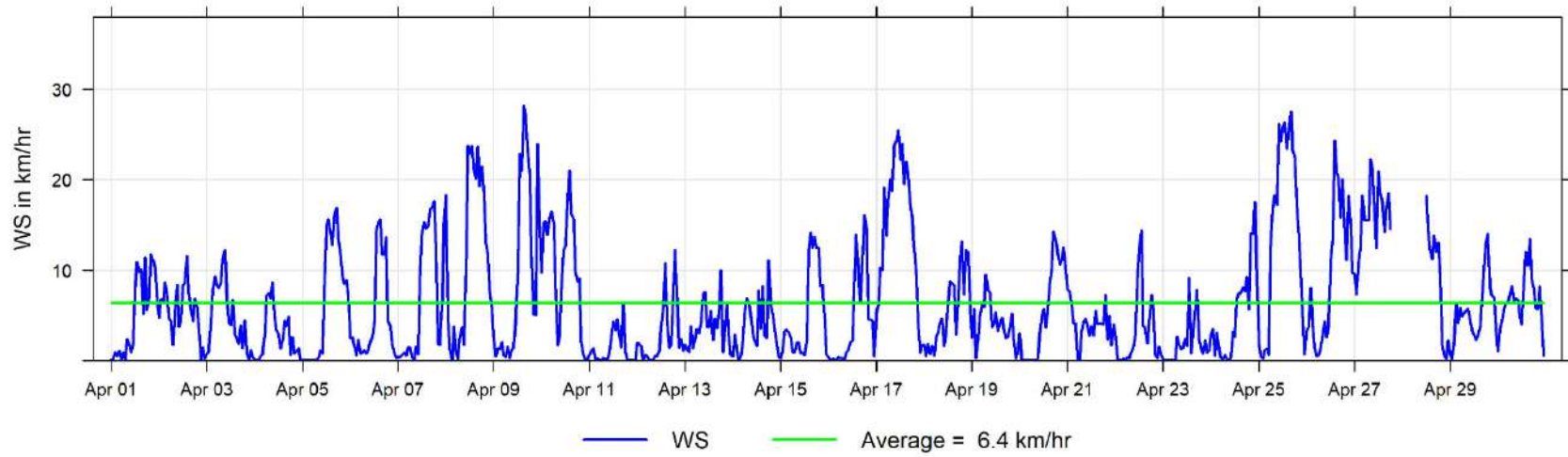
April 2023 Hourly Concentration Readings of NO₂ (in ppb) at Milner



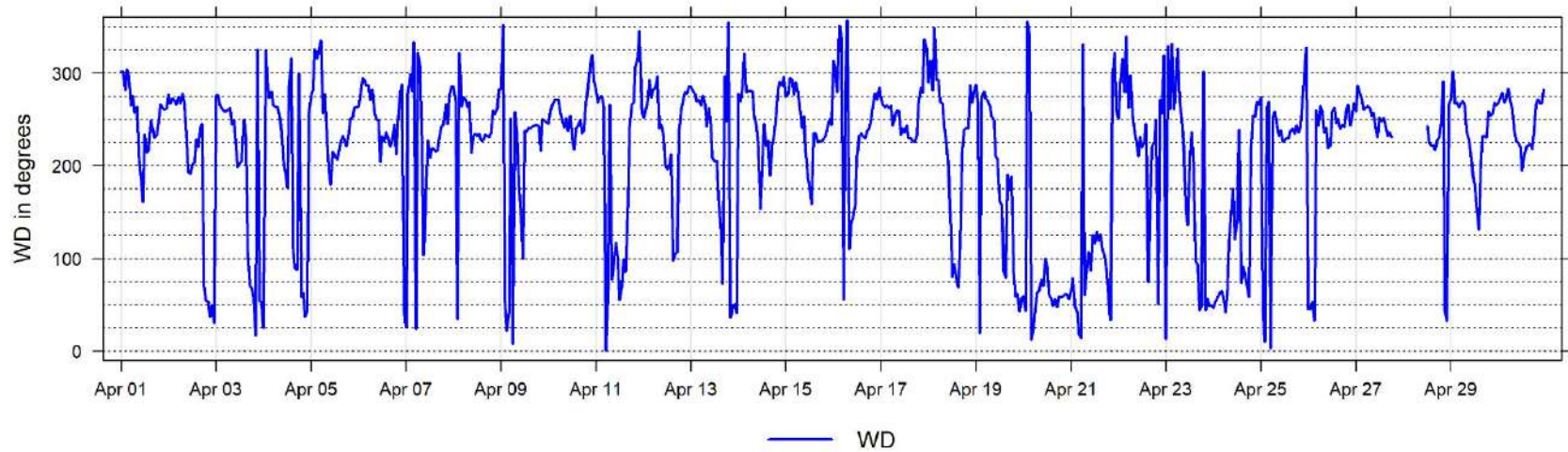
April 2023 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner

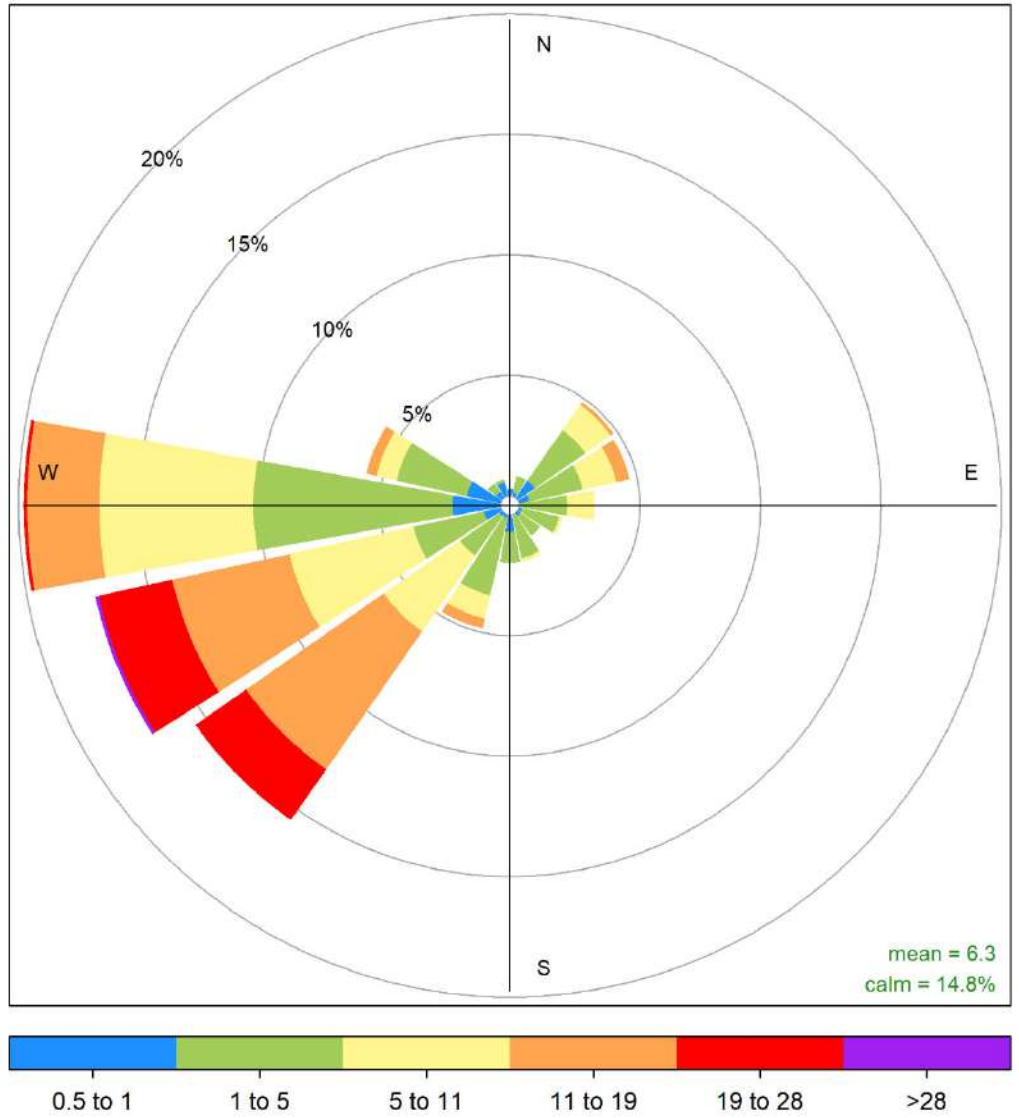


April 2023 Hourly Readings of Wind Speed (in km/hr) at Milner



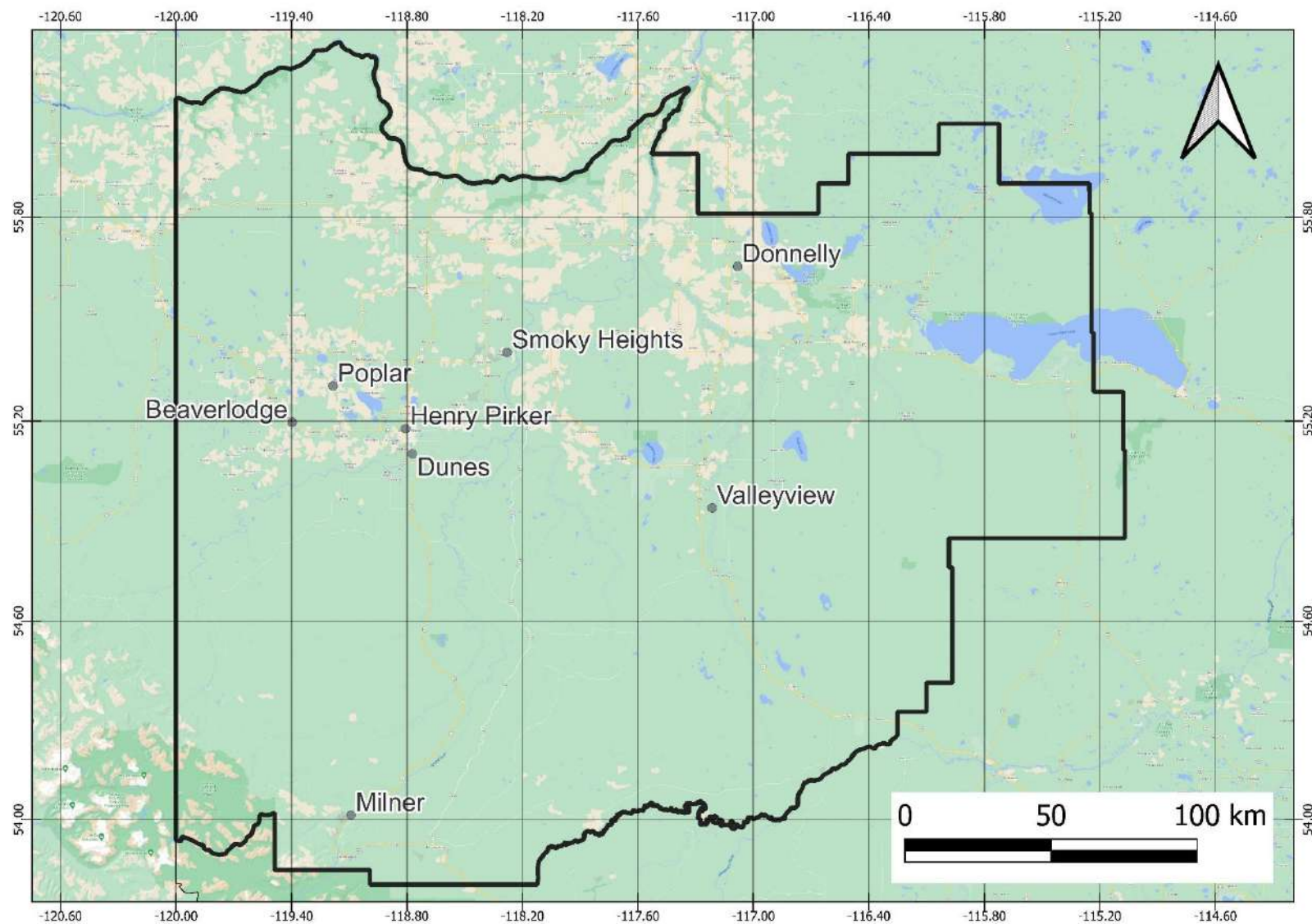
April 2023 Hourly Readings of Wind Direction (in degrees) at Milner



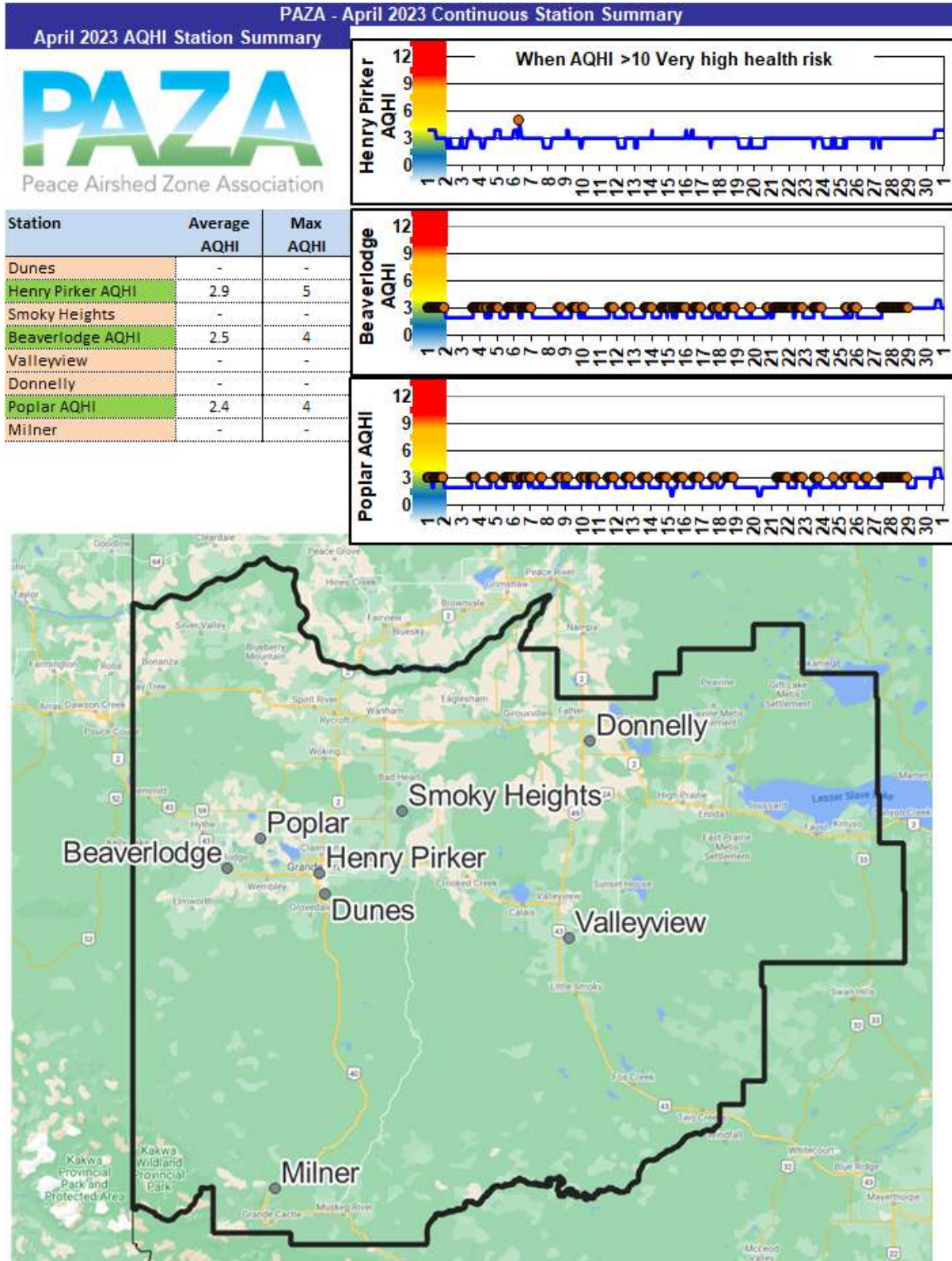


Milner April 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

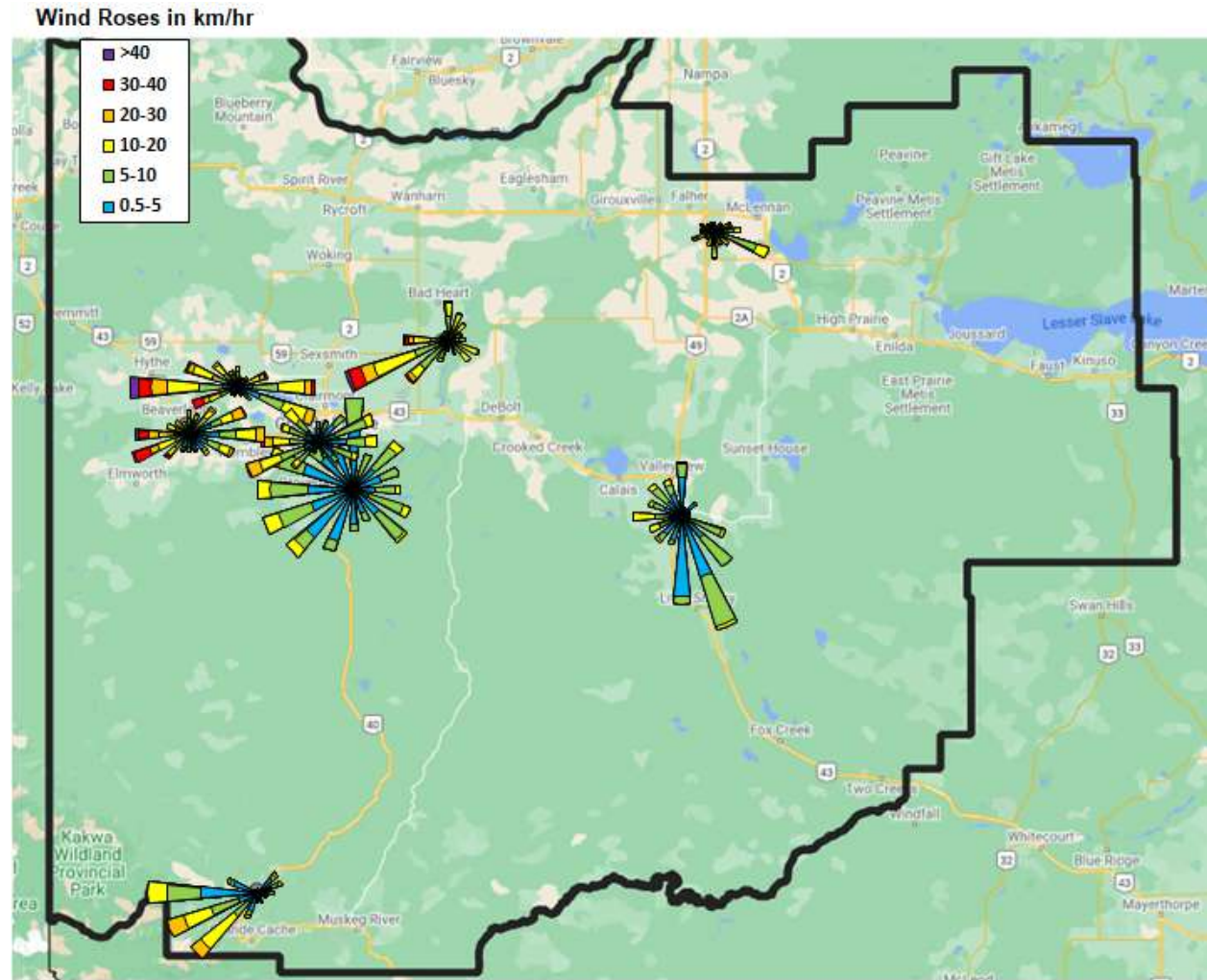
10 Concentration Summaries and Roses for PAZA



10.1 Air Quality Health Index (AQHI) Plots



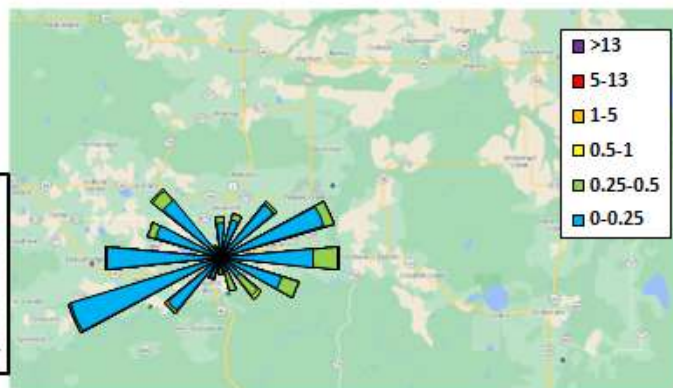
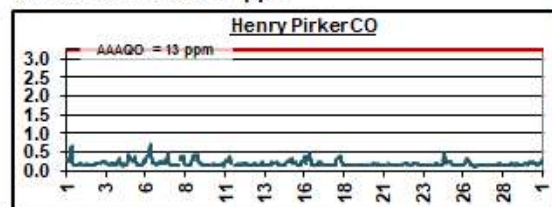
10.2 Wind Roses



10.3 Carbon Monoxide (CO) Plots

April 2023 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.20	0.74

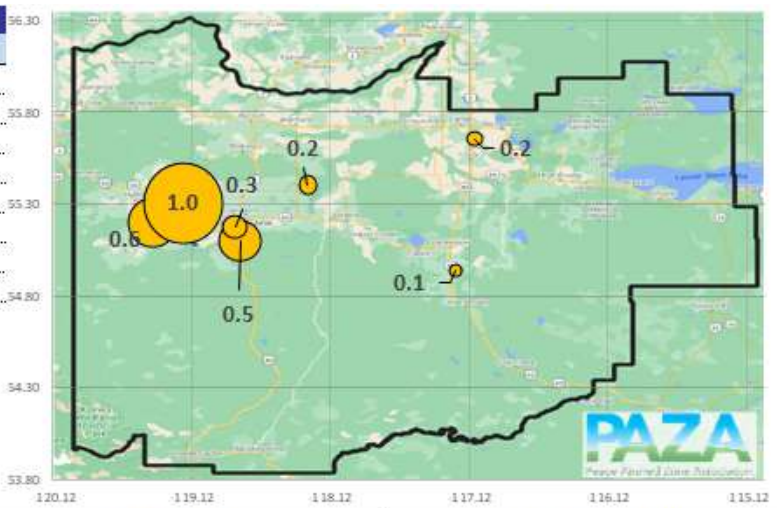
Carbon Monoxide in ppm



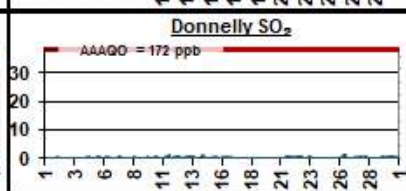
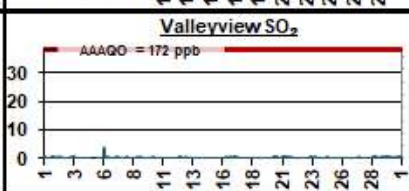
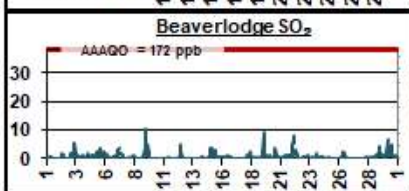
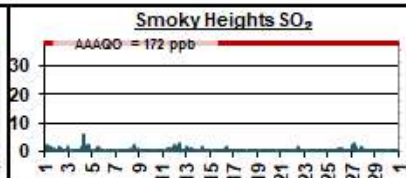
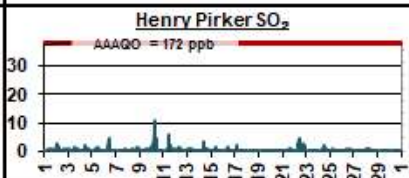
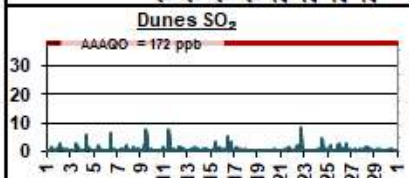
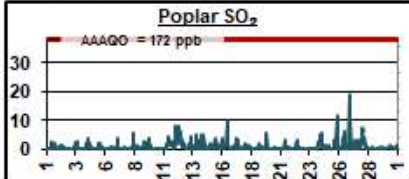
10.4 Sulphur Dioxide (SO₂) Plots

April 2023 SO₂ Station Summary

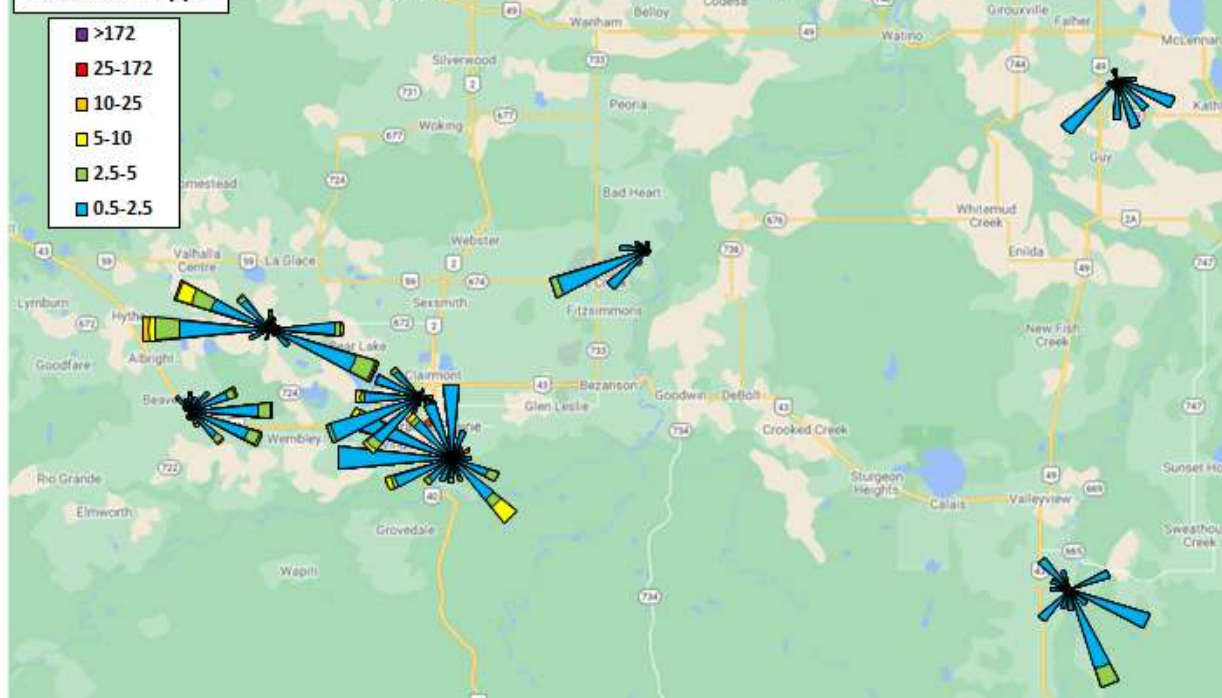
Station	Avg (ppb)	Max (ppb)
Dunes SO ₂	0.5	8.3
Henry Pirker SO ₂	0.3	10.8
Smoky Heights SO ₂	0.2	5.7
Beaverlodge SO ₂	0.6	10.3
Valleyview SO ₂	0.1	3.8
Donnelly SO ₂	0.2	1.3
Poplar SO ₂	1.0	19.3
Milner SO ₂	-	-



Sulphur Dioxide in ppb

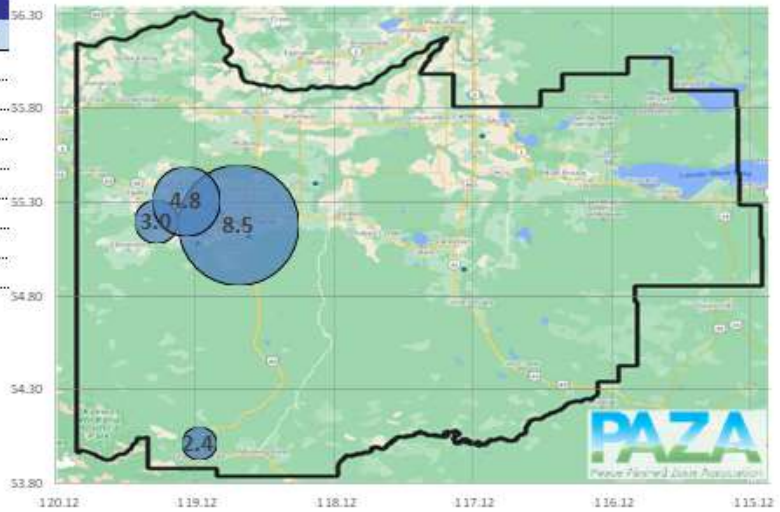


SO₂ Roses in ppb

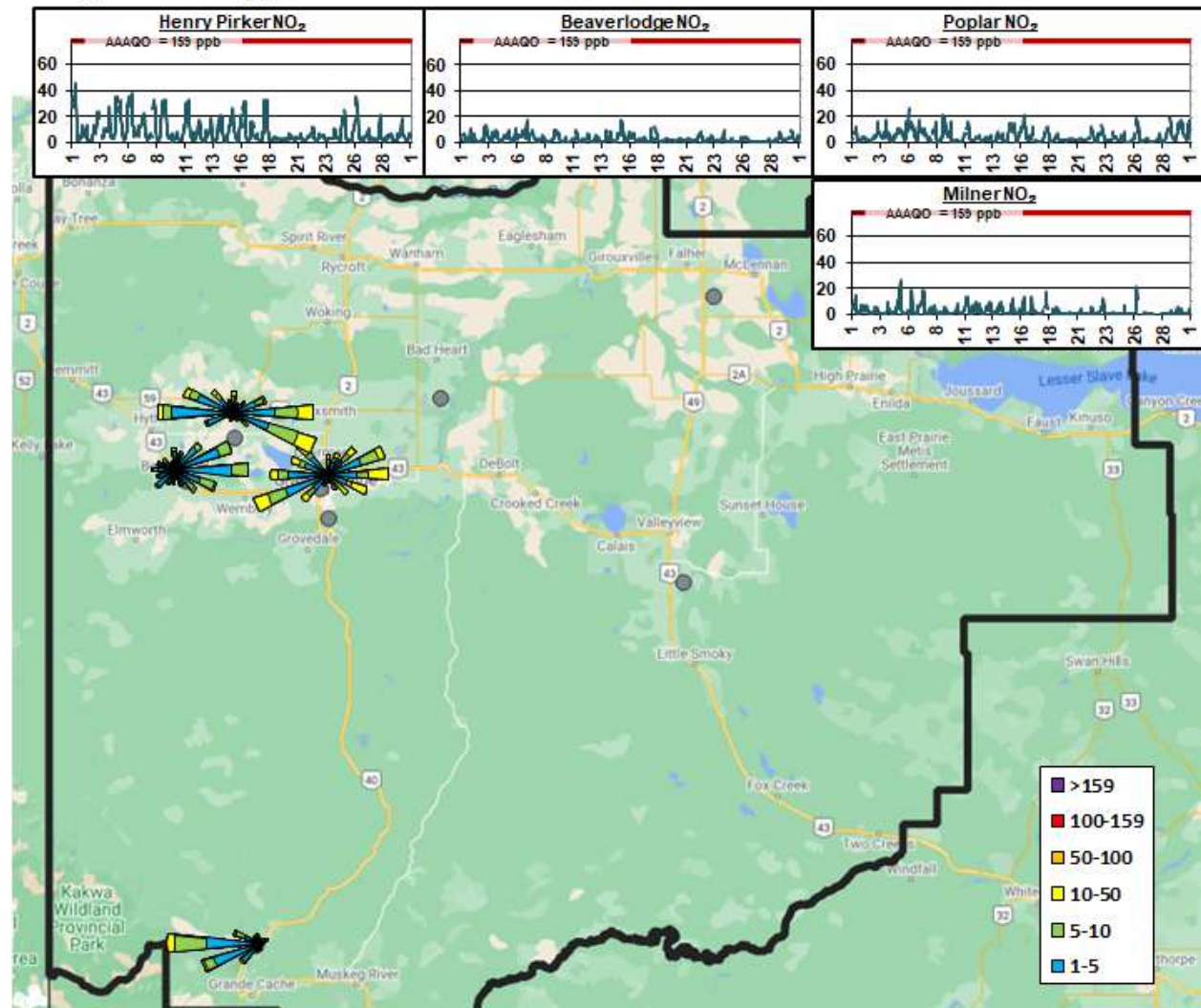


10.5 Nitrogen Dioxide (NO₂) Plots

April 2023 NO ₂ Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes NO ₂	-	-
Henry Pirker NO ₂	8.5	45.0
Smoky Heights NO ₂	-	-
Beaverlodge NO ₂	3.0	17.7
Valleyview NO ₂	-	-
Donnelly NO ₂	-	-
Poplar NO ₂	4.8	26.5
Milner NO ₂	2.4	25.5

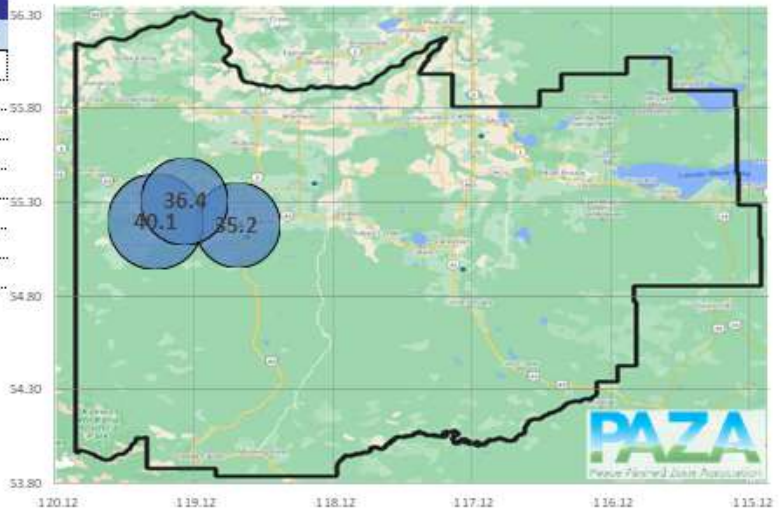


Nitrogen Dioxide in ppb

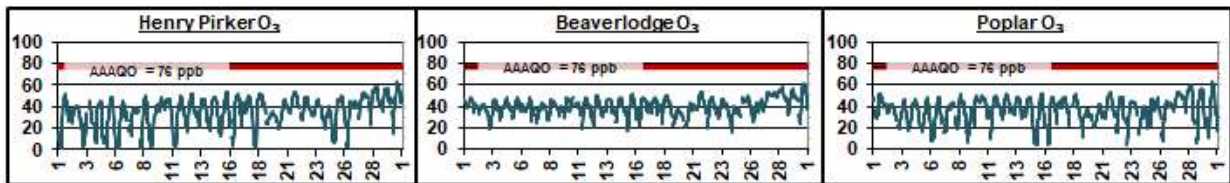


10.6 Ozone (O₃) Plots

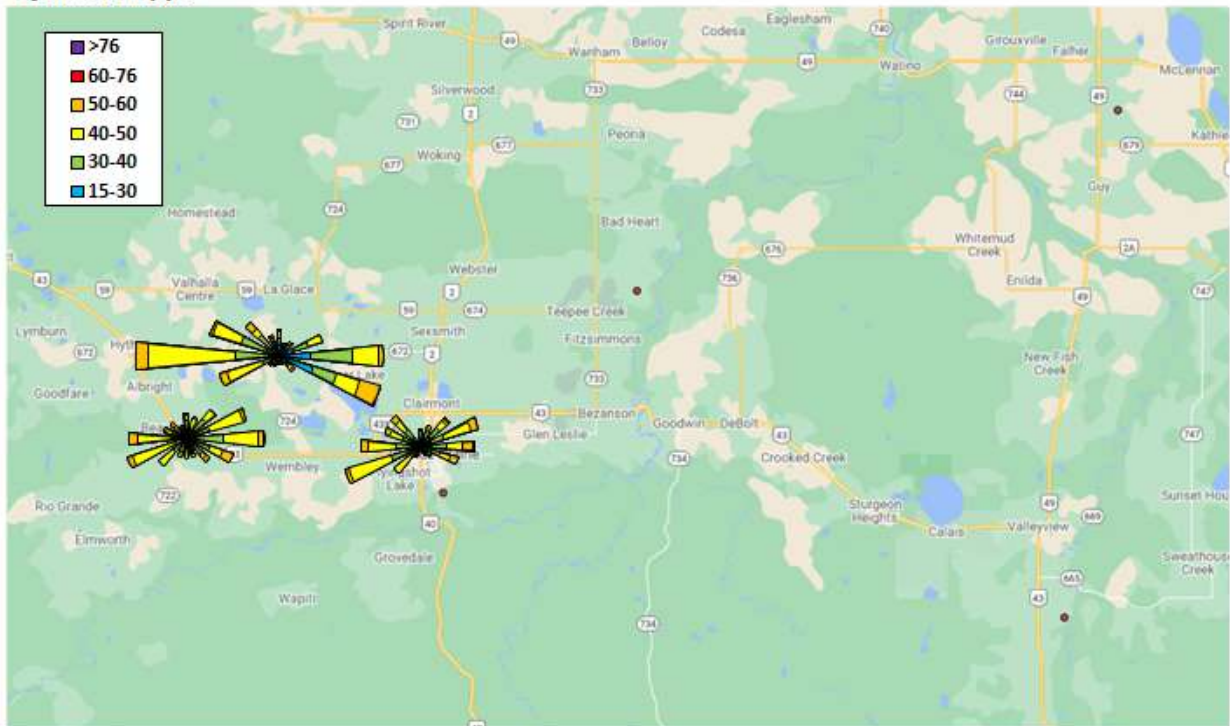
April 2023 O ₃ Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes O ₃	-	-
Henry Pirker O ₃	35.2	62.7
Smoky Heights O ₃	-	-
Beaverlodge O ₃	40.1	60.4
Valleyview O ₃	-	-
Donnelly O ₃	-	-
Poplar O ₃	36.4	62.2
Milner O ₃	-	-



Ozone in ppb

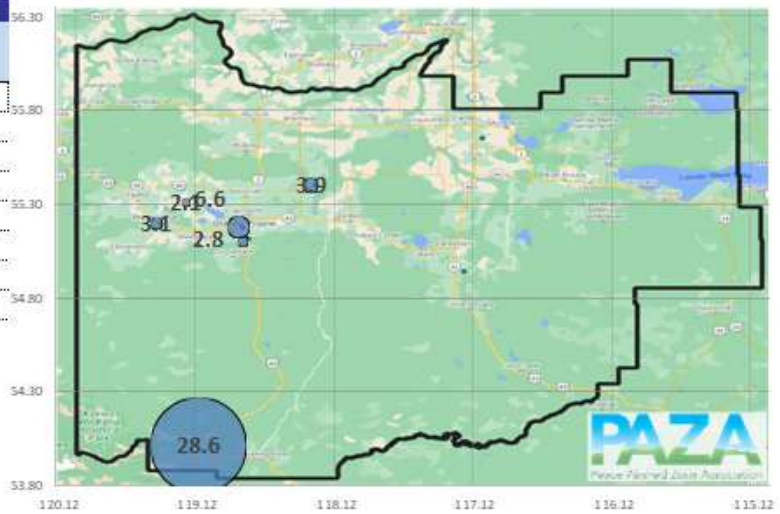


O₃ Roses in ppb

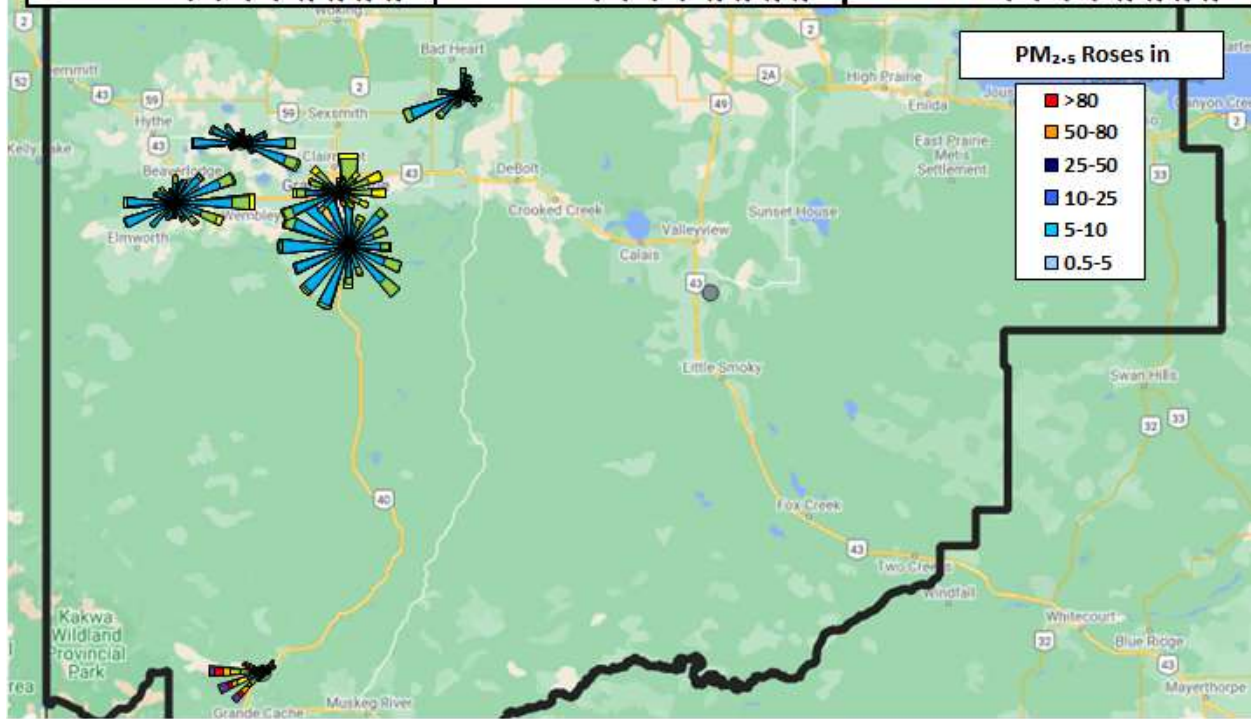
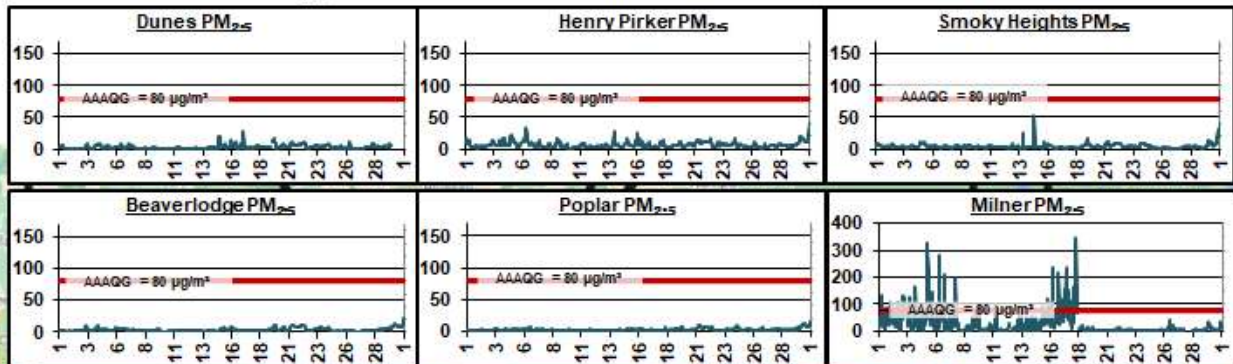


10.7 Fine Particulate Matter (PM_{2.5}) Plots

April 2023 PM _{2.5} Station Summary		
Station	Avg µg/m ³	Max µg/m ³
Dunes PM _{2.5}	2.8	26.3
Henry Pirker PM _{2.5}	6.6	41.3
Smoky Heights PM _{2.5}	3.9	52.7
Beaverlodge PM _{2.5}	3.1	22.5
Valleyview PM _{2.5}	-	-
Donnelly PM _{2.5}	-	-
Poplar PM _{2.5}	2.1	14.0
Milner PM _{2.5}	28.6	344.8

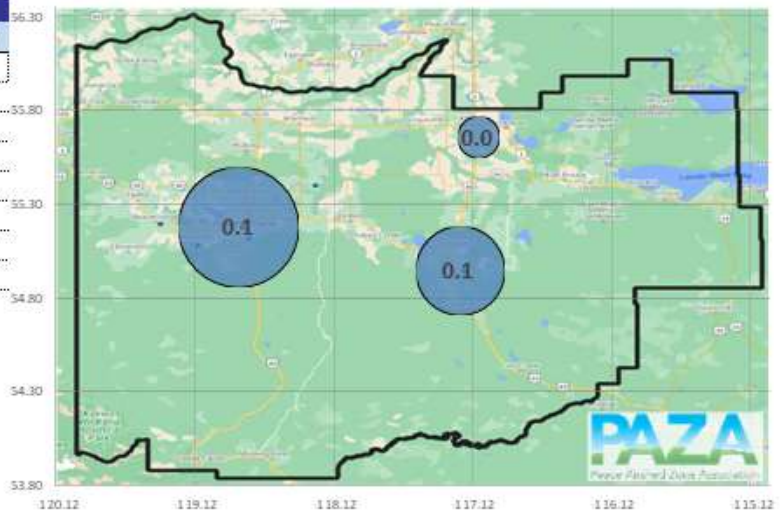


Fine Particulate Matter in µg/m³

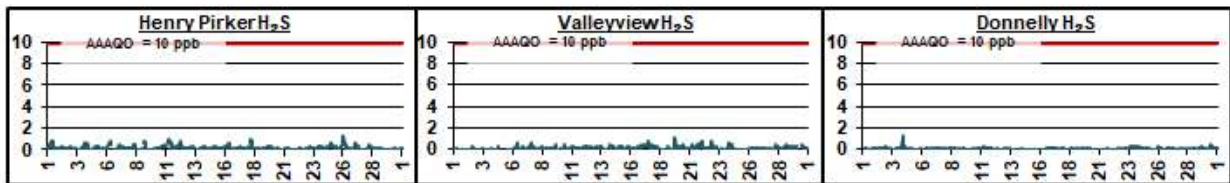


10.8 Hydrogen Sulphide (H₂S) Plots

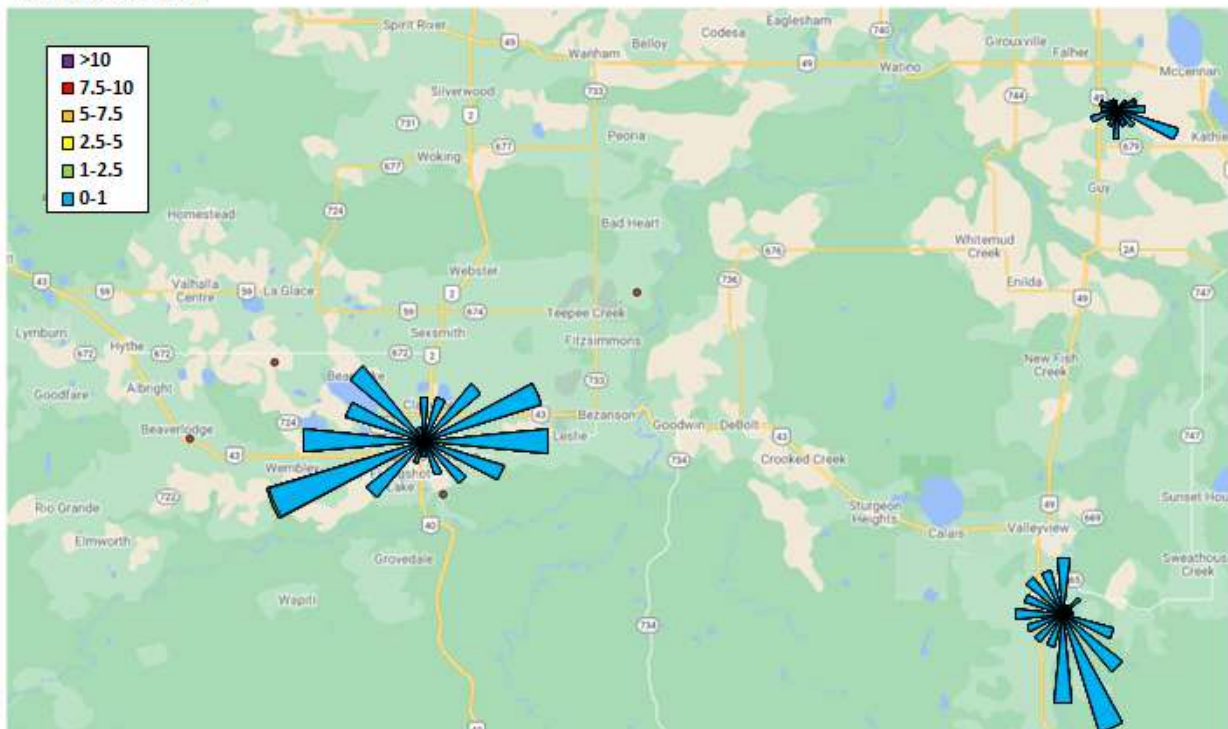
April 2023 H ₂ S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H ₂ S	-	-
Henry Pirker H ₂ S	0.1	1.3
Smoky Heights H ₂ S	-	-
Beaverlodge H ₂ S	-	-
Valleyview H ₂ S	0.1	1.2
Donnelly H ₂ S	0.0	1.3
Poplar H ₂ S	-	-
Milner H ₂ S	-	-



Hydrogen Sulphide in ppb

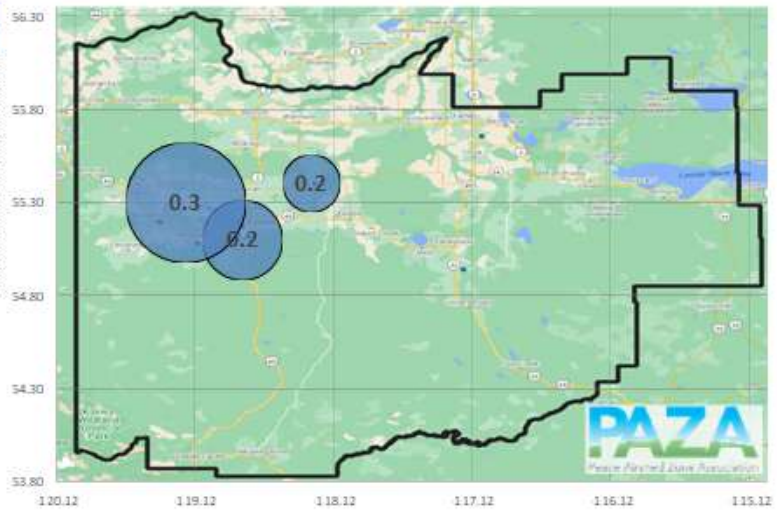


H₂S Roses in ppb

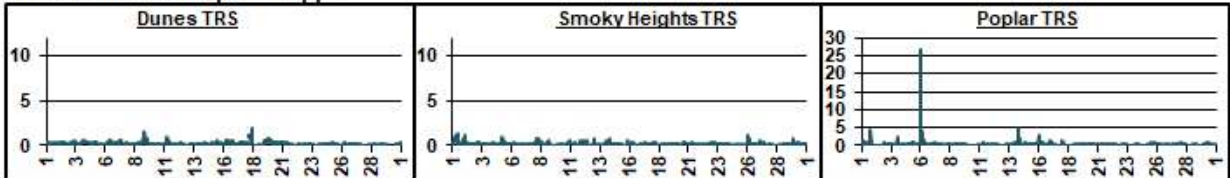


10.9 Total Reduced Sulphur (TRS) Plots

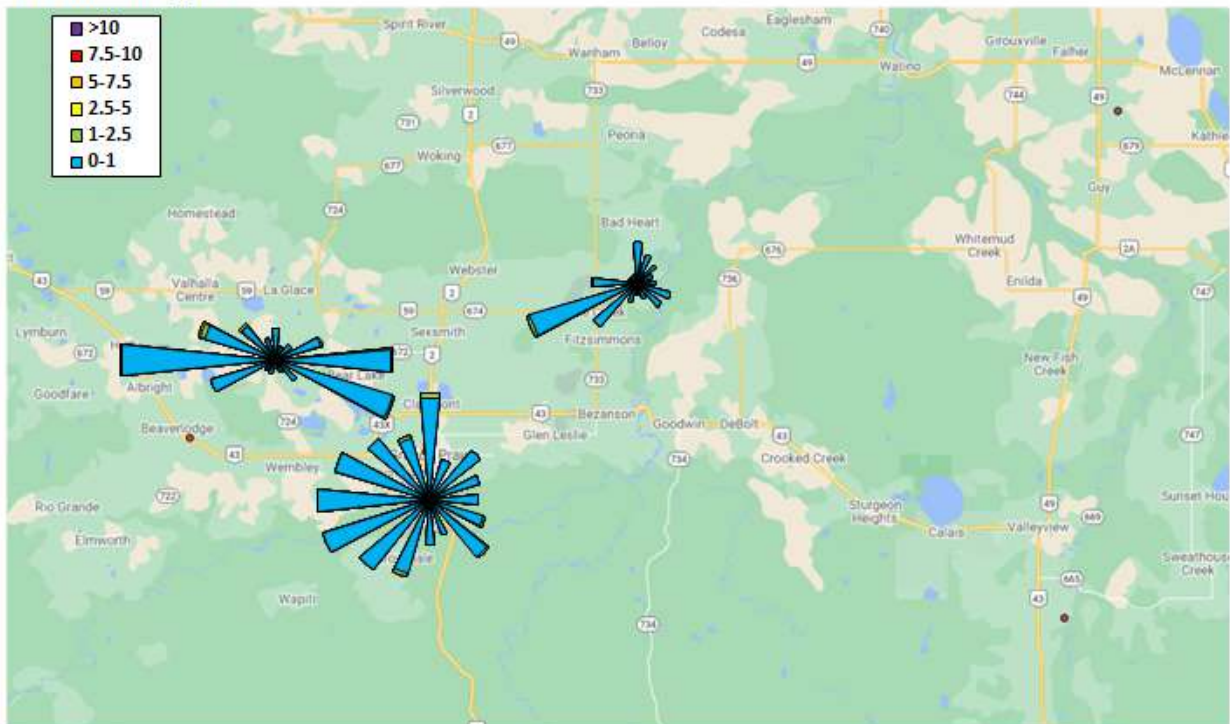
April 2023 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.2	1.8
Henry Pirker TRS	-	-
Smoky Heights TRS	0.2	1.3
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Donnelly TRS	-	-
Poplar TRS	0.3	26.6
Milner TRS	-	-



Total Reduced Sulphur in ppb



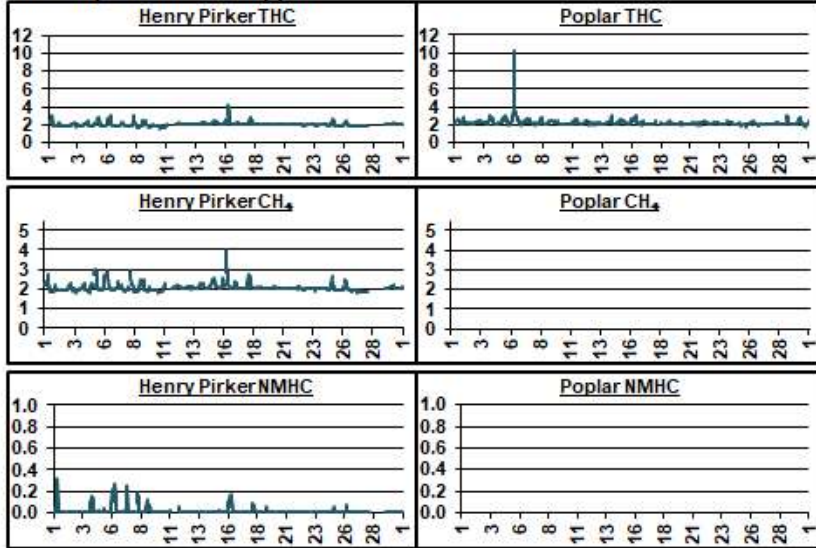
TRS Roses in ppb



10.10 Total Hydrocarbon (THC) Plots

April 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	4.2	2.1	4.0	0.0	0.3
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Donnelly THC	-	-	-	-	-	-
Poplar THC	2.2	10.2	-	-	-	-

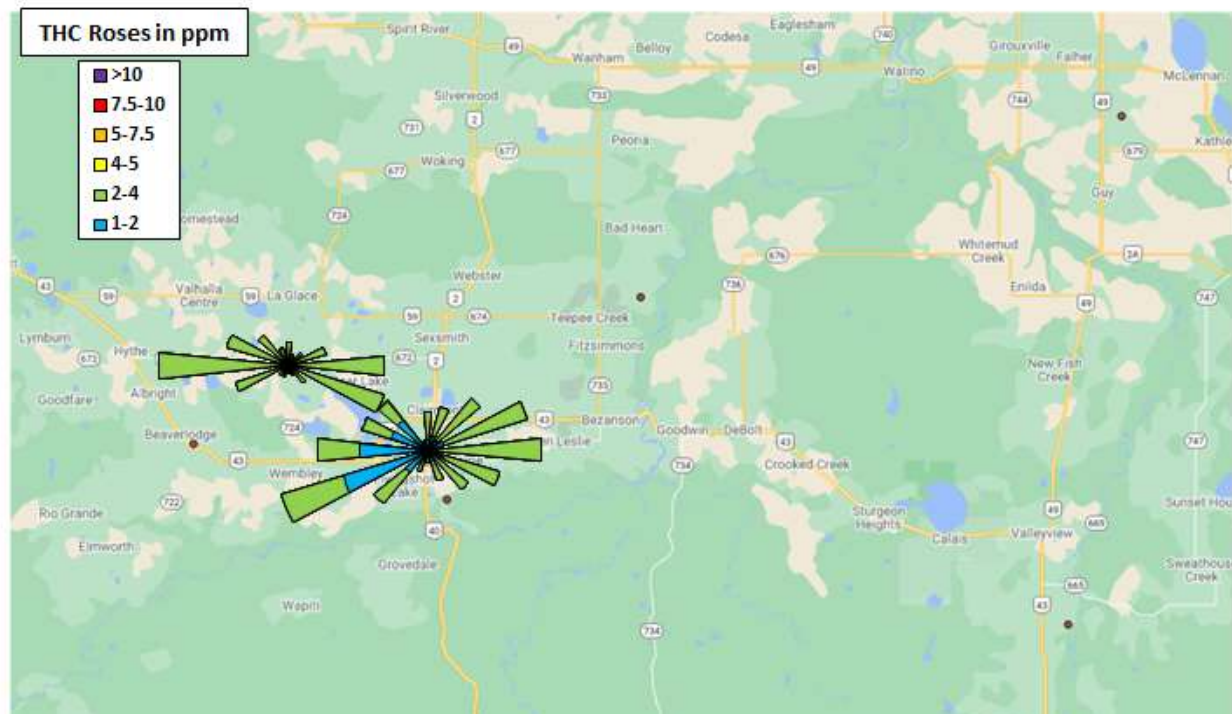
Total Hydrocarbons in ppm



Total Hydrocarbons (THC)

Methane (CH₄)

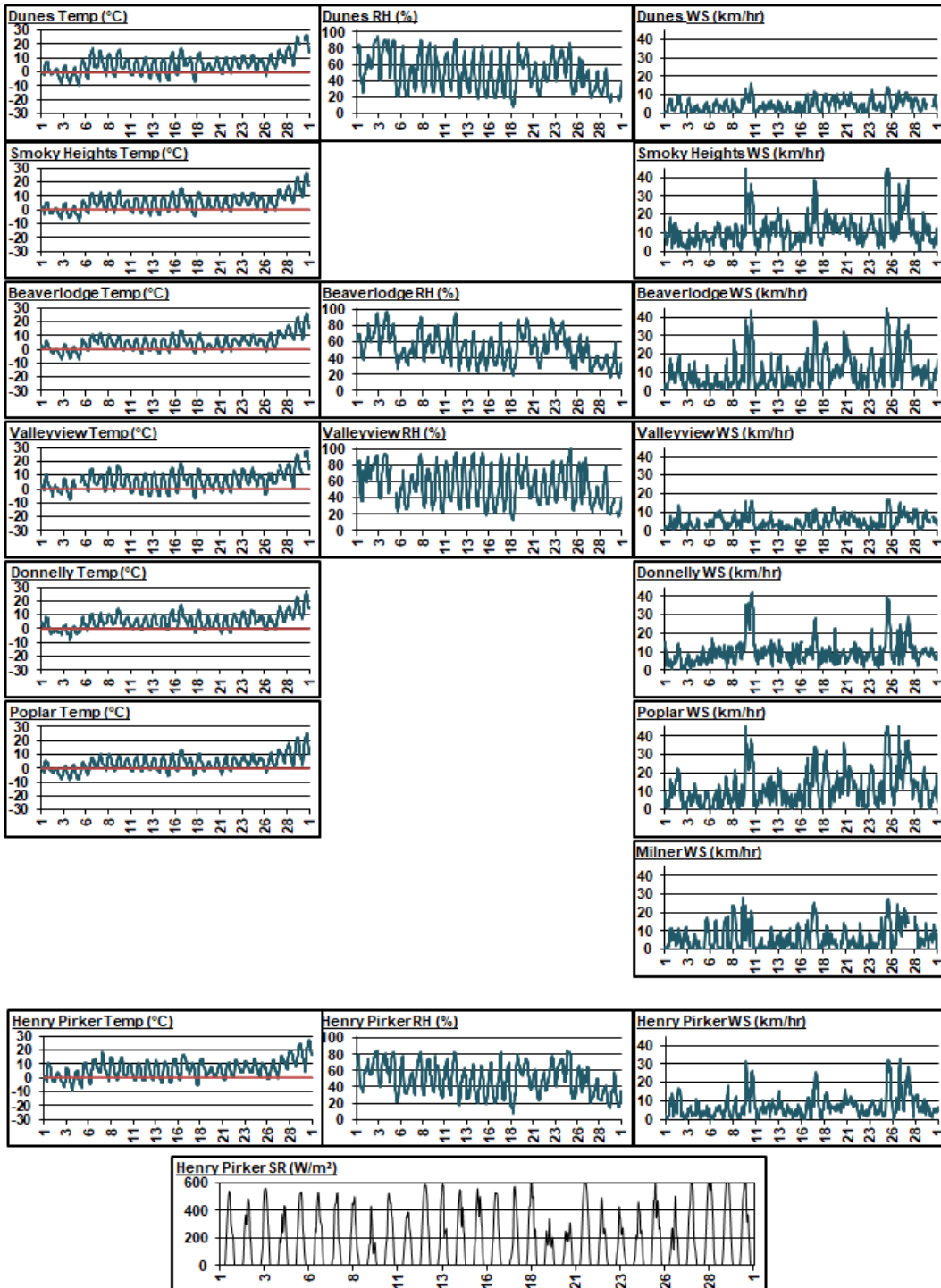
Non-Methane Hydrocarbons (NMHC)



10.11 Meteorology Summary

April 2023 Meteorological Summary						
Station	Temp (°C)	RH (%)	SR (W/m ²)	WS (km/hr)	WD (deg)	WD
Dunes	5.3	50.0	-	4.5	285	WNW
Henry Pirker	6.5	49.0	156.2	7.3	266	W
Smoky Heights	5.2	-	-	11.6	244	WSW
Beaverlodge	5.1	52.9	-	10.8	266	W
Valleyview	6.2	55.6	-	4.9	210	SSW
Donnelly	5.6	-	-	9.9	186	S
Poplar	3.8	-	-	12.1	281	W
Milner	-	-	-	6.4	242	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

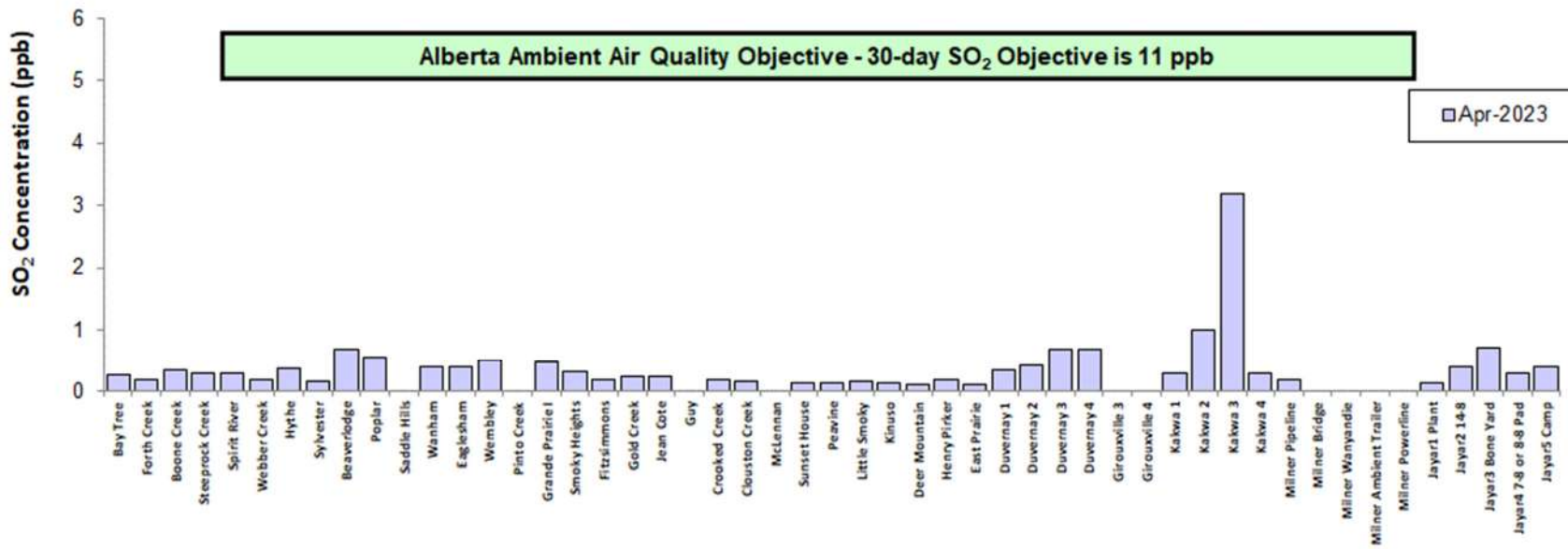
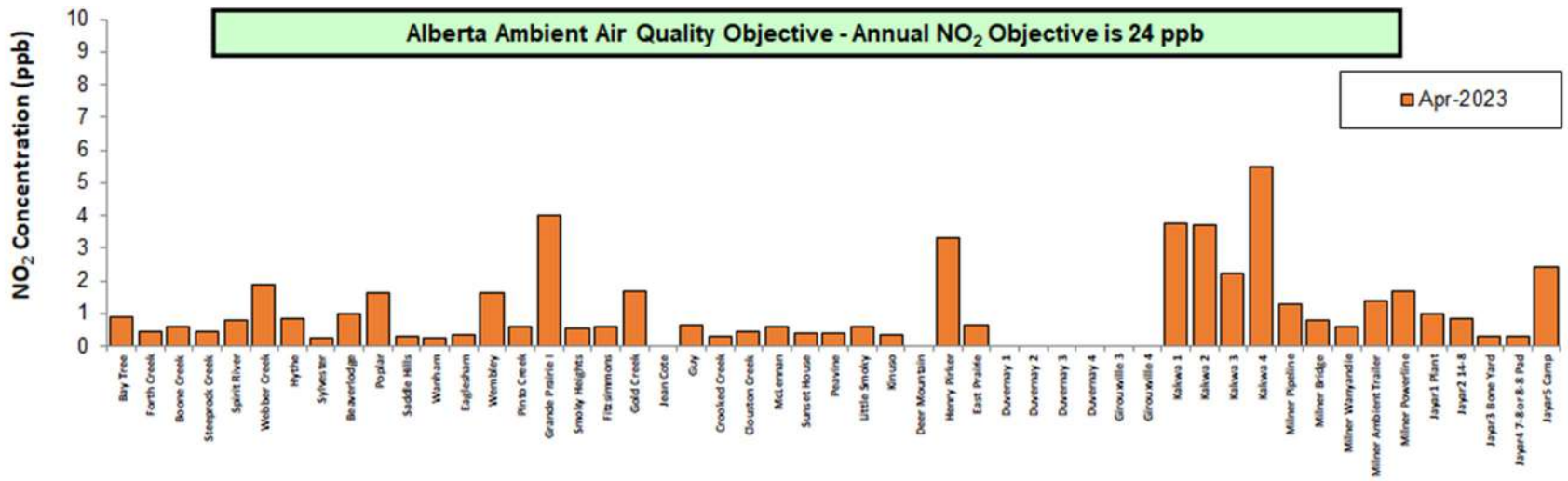
Peace Airshed Zone Association - PAZA Passive Stations for April 2023

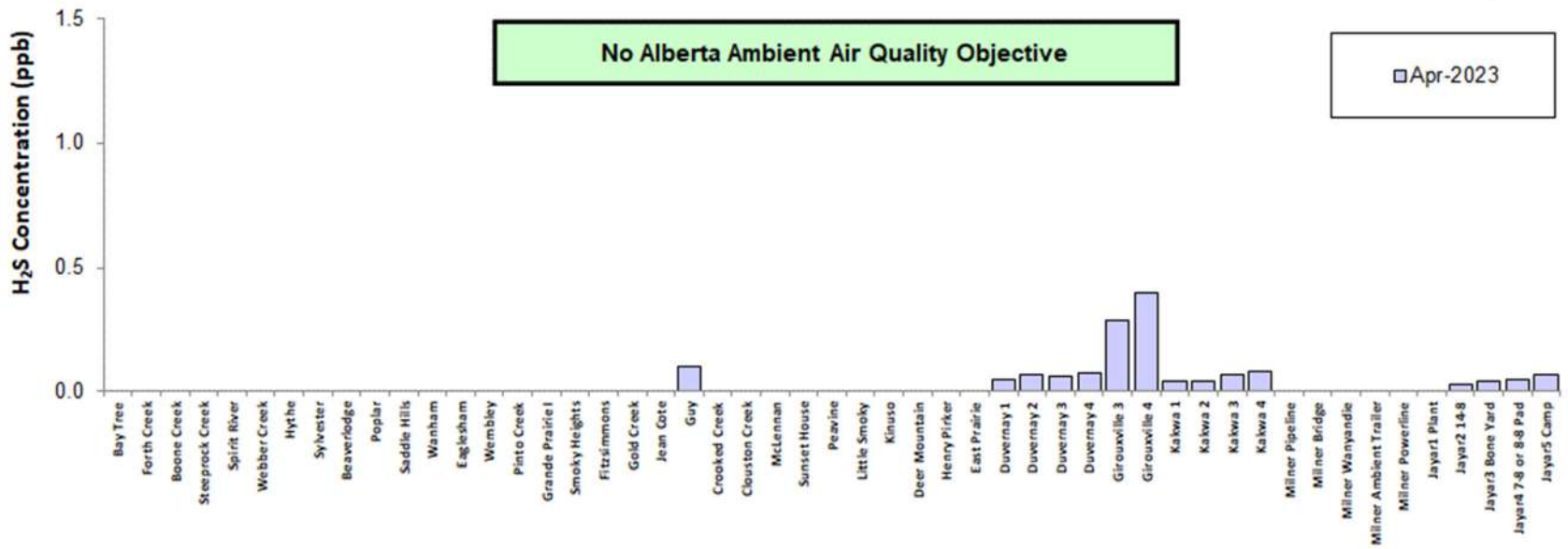
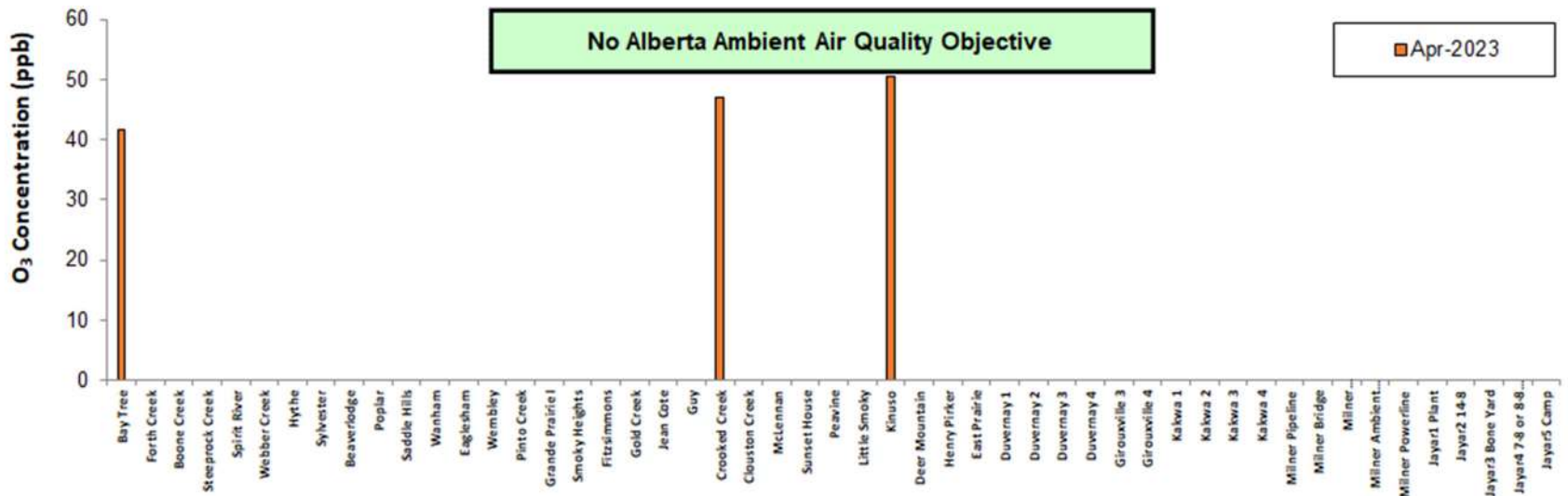
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
2a	Bay Tree		39.8			13-16-078-13 W6M
2b	Bay Tree		43.3			
5a	Boone Creek	0.4				01-23-076-11 W6M
5b	Boone Creek	0.3				
7a	Steepprock Creek	0.3				09-35-072-13 W6M
7b	Steepprock Creek	0.3				
11a	Webber Creek			1.88		09-36-074-09 W6M
11b	Webber Creek			1.85		
12a	Hythe			0.9		14-36-072-11 W6M
12b	Hythe			0.8		
37a	Crooked Creek					16-01-071-26 W5M
37b	Crooked Creek					
39a	Clouston Creek	0.2				12-01-073-22 W5M
39b	Clouston Creek	0.2				
47a	Kinuso			0.32		12-10-073-10 W5M
47b	Kinuso			0.36		
48a	Deer Mountain	0.1				15-22-068-09 W5M
48b	Deer Mountain	0.1				
D1a	Duvernay 1	0.3			0.05	04-33-062-20 W5M
D1b	Duvernay 1	0.4			0.05	
K1a	Kakwa 1			3.7		01-13-063-05 W6M
K1b	Kakwa 1			3.8		
K2a	Kakwa 3				0.08	12-18-063-04 W6M
K2b	Kakwa 3				0.05	
K4a	Kakwa 4	0.3				06-18-063-04 W6M
K4b	Kakwa 4	0.3				
M7a	Milner Pipeline	<0.1				12-14-058-08 W6M
M7b	Milner Pipeline	0.2				
M10a	Milner Bridge			0.6		08-06-057-08 W6M
M10b	Milner Bridge			1.0		
J1a	Jayar1 Plant	0.2				06-08-062-03 W6M
J1b	Jayar1 Plant	0.1				
J2a	Jayar2 14-8			0.9		07-08-062-03 W6M
J2b	Jayar2 14-8			0.8		
J4a	Jayar4 7-8 or 8-8 Pad				0.0	10-08-062-03 W6M
J4b	Jayar4 7-8 or 8-8 Pad				0.1	

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.3	41.6	0.9	-	13-16-078-13 W6M
3	Forth Creek	0.2	-	0.4	-	04-13-082-07 W6M
5	Boone Creek	0.3	-	0.6	-	01-23-076-11 W6M
7	Steepprock Creek	0.3	-	0.5	-	09-35-072-13 W6M
9	Spirit River	0.3	-	0.8	-	08-12-079-07 W6M
11	Webber Creek	0.2	-	1.9	-	09-36-074-09 W6M
12	Hythe	0.4	-	0.8	-	14-36-072-11 W6M
14	Sylvester	0.2	-	0.2	-	08-06-069-12 W6M
16	Beaverlodge	0.7	-	1.0	-	15-36-071-10 W6M
17	Poplar	0.6	-	1.6	-	13-06-073-08 W6M
18	Saddle Hills	-	-	0.3	-	04-25-074-07 W6M
19	Wanham	0.4	-	0.3	-	16-22-077-03 W6M
21	Eaglesham	0.4	-	0.3	-	16-21-079-25 W5M
24	Wembley	0.5	-	1.6	-	12-31-070-08 W6M
25	Pinto Creek	-	-	0.6	-	04-24-069-11 W6M
27	Grande Prairie I	0.5	-	4.0	-	08-15-071-06 W6M
29	Smoky Heights	0.3	-	0.5	-	04-06-075-02 W6M
30	Fitzsimmons	0.2	-	0.6	-	15-36-072-03 W6M
32	Gold Creek	0.2	-	1.7	-	06-33-067-05 W6M
35	Jean Cote	0.2	-	-	-	12-35-079-21 W5M
36	Guy	-	-	0.6	0.1	03-04-076-22 W5M
37	Crooked Creek	0.2	47.1	0.3	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	0.4	-	12-01-073-22 W5M
40	McLennan	-	-	0.6	-	03-29-077-19 W5M
42	Sunset House	0.2	-	0.4	-	05-32-070-19 W5M
44	Peavine	0.1	-	0.4	-	03-05-079-15 W5M
46	Little Smoky	0.2	-	0.6	-	12-01-065-21 W5M
47	Kinuso	0.1	50.6	0.3	-	12-10-073-10 W5M
48	Deer Mountain	0.1	-	-	-	15-22-068-09 W5M
49	Henry Pirker	0.2	-	3.3	-	17-26-071-06 W6M
50	East Prairie	0.1	-	0.6	-	11-13-079-08 W6M
D1	Duvernay 1	0.4	-	-	0.05	04-33-062-20 W5M
D2	Duvernay 2	0.4	-	-	0.07	04-33-062-20 W5M
D3	Duvernay 3	0.7	-	-	0.06	04-33-062-20 W5M
D4	Duvernay 4	0.7	-	-	0.07	04-33-062-20 W5M
G3	Girouxville 3	-	-	-	0.29	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.40	04-08-077-22 W5M
K1	Kakwa 1	0.3	-	3.8	0.04	01-13-063-05 W6M
K2	Kakwa 2	1.0	-	3.7	0.04	08-13-063-05 W6M
K3	Kakwa 3	3.2	-	2.2	0.07	12-18-063-04 W6M
K4	Kakwa 4	0.3	-	5.5	0.08	06-18-063-04 W6M
M1	Milner Pipeline	0.2	-	1.3	-	12-14-058-08 W6M
M2	Milner Bridge	<0.1	-	0.8	-	08-06-057-08 W6M
M3	Milner Wanyandie	<0.1	-	0.6	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	<0.1	-	1.4	-	09-15-058-08 W6M
M5	Milner Powerline	<0.1	-	1.7	-	06-14-058-08 W6M
J1	Jayar1 Plant	0.2	-	1.0	<0.02	06-08-062-03 W6M
J2	Jayar2 14-8	0.4	-	0.9	0.03	07-08-062-03 W6M
J3	Jayar3 Bone Yard	0.7	-	0.3	0.04	14-08-062-03 W6M
J4	Jayar4 7-8 or 8-8 Pad	0.3	-	0.3	0.05	10-08-062-03 W6M
J5	Jayar5 Camp	0.4	-	2.4	0.07	11-08-062-03 W6M

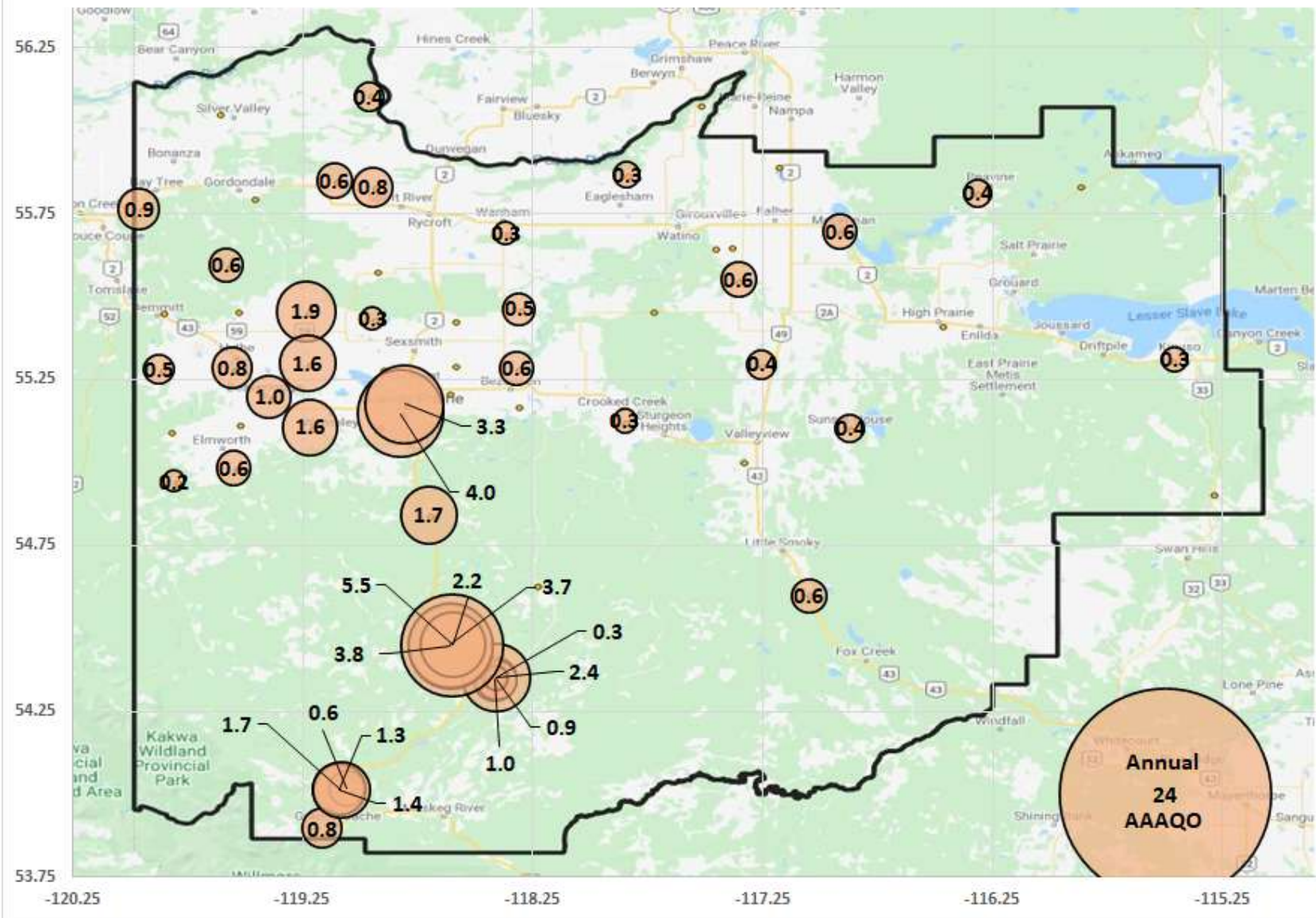
Passive Summary for April 2023

Stats	Sulphur Dioxide SO ₂	Ozone O ₃	Nitrogen Dioxide NO ₂	Hydrogen Sulphide H ₂ S
	ppb	ppb	ppb	ppb
Passive Summary for April 2023 (PAZA)				
Mean	0.4	46.4	1.2	0.1
Standard Deviation	0.5	4.5	1.2	0.1
Minimum	0.1	41.6	0.2	0.0
Maximum	East Prairie (#50)	Bay Tree (#2)	Sylvester (#14)	Jayar2 14-8 (#J2)
	3.2 Kakwa 3 (#K3)	50.6 Kinuso (#47)	5.5 Kakwa 4 (#K4)	0.4 Girouxville 4 (#G4)
Continuous and Passive Monitoring Comparision				
PAZA Beaverlodge Station	0.6	40.1	3.0	-
Beaverlodge Passive (#16)	0.7	-	1.0	-
PAZA Henry Pirker Station	0.3	35.2	8.5	0.1
Henry Pirker passive (#49)	0.2	-	3.3	-
Milner Station	-	-	2.4	-
Milner passive (M4)	<0.1	-	1.4	-

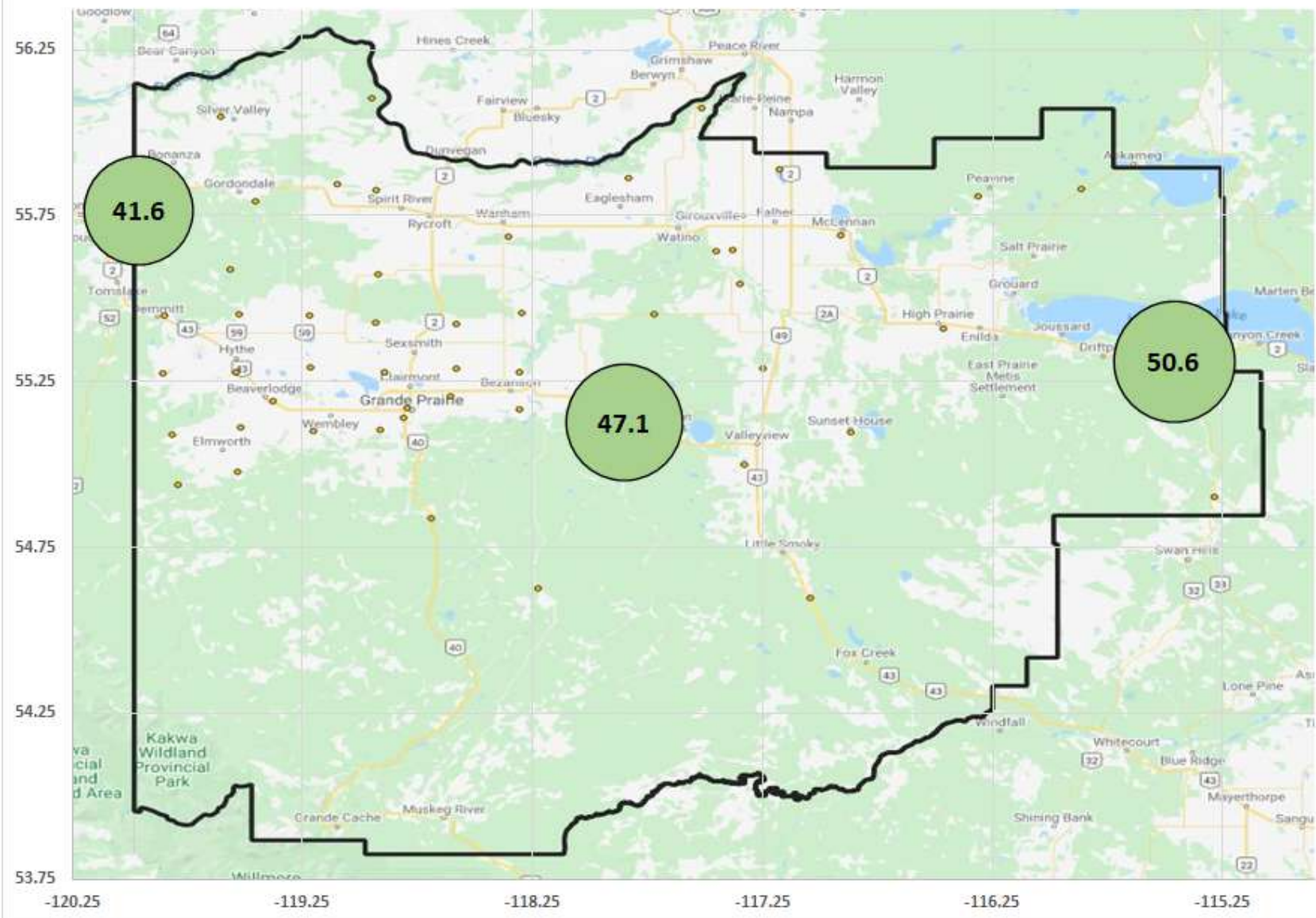




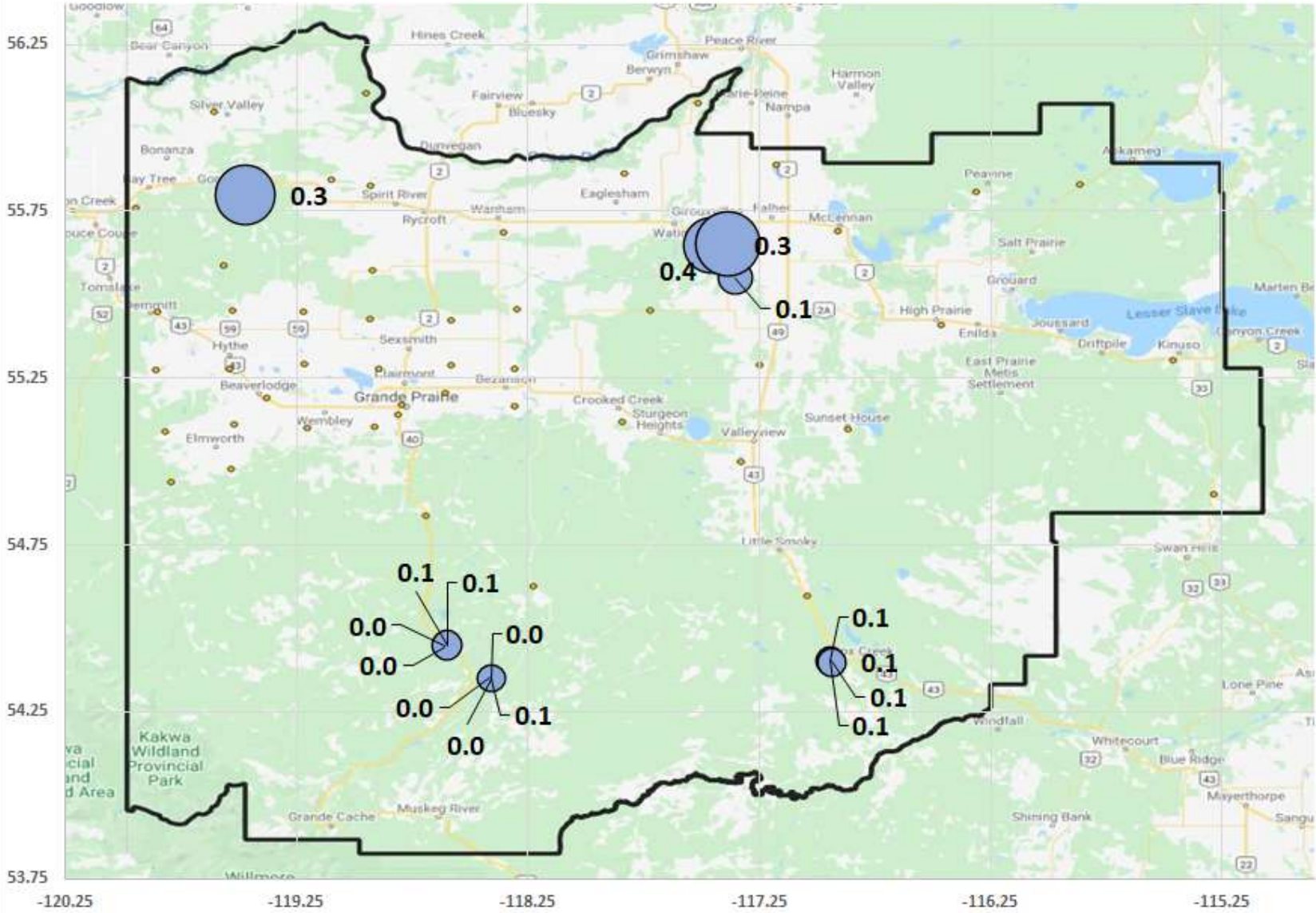
NO₂ Monthly Average (units in ppb)



O₃ Monthly Average (units in ppb)



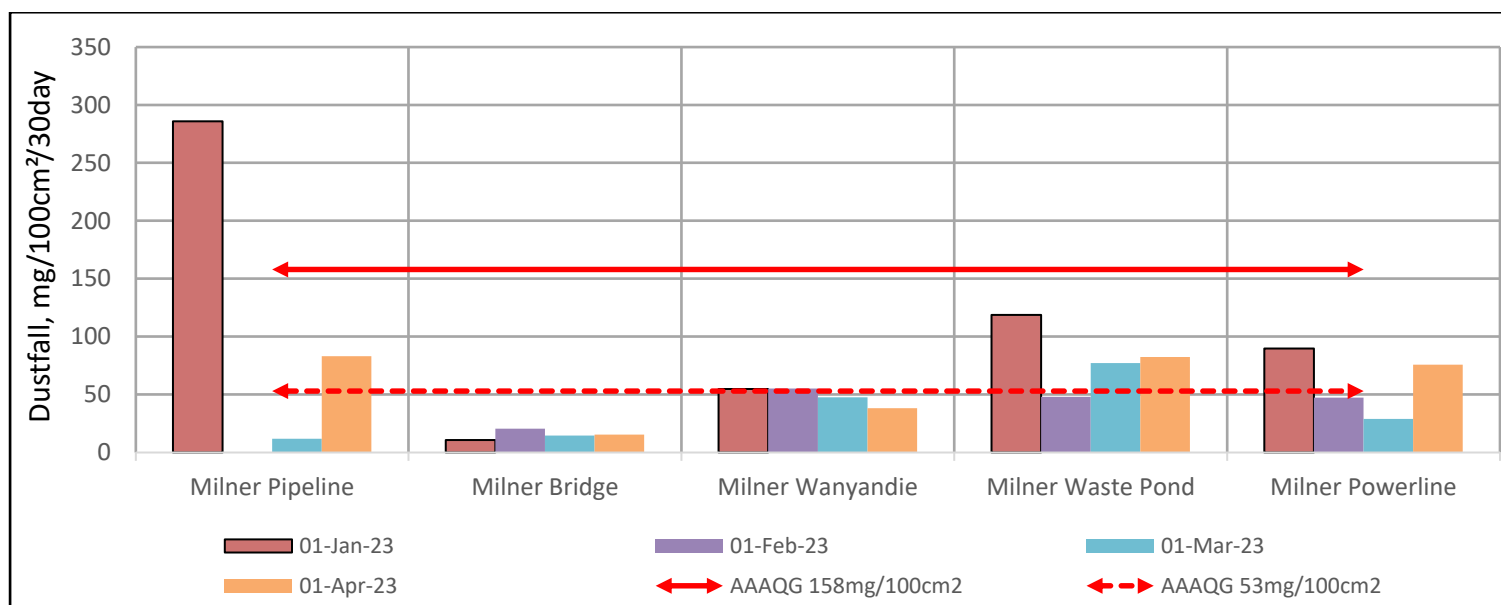
H₂S Monthly Average (units in ppb)



12 Dustfall Monitoring Data

Milner Dustfall Samples April 2023

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm ² /30day	Fixed Dustfall (30 day) mg/100cm ² /30day	Exposure days	Field Notes
April	2023	Milner Pipeline	83.0	33.8	30	
April	2023	Milner Bridge	15.4	11.0	30	
April	2023	Milner Wanyandie	38.2	18.4	30	
April	2023	Milner Waste Pond	82.3	33.8	30	
April	2023	Milner Powerline	75.7	32.3	30	
April	2023	Milner Powerline Dup	77.1	36.7	30	RPD= 2% / 13%



End of Report



Peace Airshed Zone Association **Ambient Air Monitoring Report**

April 2023