



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

November 2022

December 31, 2022

Alberta Environment and Parks

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

Subject: **Peace Airshed Zone Association (PAZA)**
November 2022 Ambient Air Quality Monitoring Report

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of November 2022.

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

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This report was prepared by Dr. Kevin McCullum, P.Eng., and reviewed by Mandeep Dhaliwal.

PAZA has retained the services of WSP Canada Inc. to conduct continuous ambient monitoring and Dr. Kevin McCullum, P.Eng. to provide data validation and reporting.

This report is submitted by PAZA on behalf of the industrial member companies to satisfy the requirements of the facility Operating Approvals listed in Table A

The monthly summary report includes the operational summaries and hourly continuous monitoring and monthly passive results. The Milner station is being reported under the PAZA Monthly report.

Continuous Monitoring:

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

Calibration and Data Submission:

Monthly report, hourly data and calibration reports for November 2022 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:

The follow is a summary of the concentrations in exceedance of AAAQG and AAAQO:

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
406754	Milner	2022-11-13	10:00	11:00	98.4	10.5	251
406763	Milner	2022-11-14	24:00	01:00	90.6	4.0	274
406763	Milner	2022-11-14	02:00	03:00	120.4	3.1	277
406763	Milner	2022-11-14	04:00	05:00	128.0	5.7	259
406763	Milner	2022-11-14	05:00	06:00	142.3	5.9	265
406763	Milner	2022-11-14	11:00	12:00	100.5	3.1	260
406496	Smoky Heights	2022-11-04	24:00	01:00	356.4	2.0	43
406834	Smoky Heights	2022-11-16	21:00	22:00	115.5	7.0	257

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
406668	Henry Pirker	2022-11-10	33.4	2.3	274
406763	Milner	2022-11-14	63.8	4.8	250

Operational times less than 90 percent:

All stations reported above 90% operational times, at Poplar station the CH₄ and NMHC was added back into operation, valid data was below 75% for the month.

Air Incidents

None were reported

Deviations from Authorized Monitoring Methods

None were reported


Passive Monitoring

- 49 Stations throughout the PAZA zone
 - Passive sample analyses were performed by Bureau Veritas Laboratories
- There were 17 duplicates sampled in the month of November.
 - One of the SO₂ duplicates were noted as missing from the laboratory results
- Seven SO₂ duplicates located at Wanham, Poplar, Gordondale, Duvernay 2, Sunset House, Jayar5 Camp, Pipeline; RPD ranging from 1% to 64% (one fail at Gordondale: 0.3, 0.7)
 - One of the SO₂ duplicates at Poplar was noted as missing from the laboratory results
- One O₃ duplicate located at Crooked Creek; RPD 18% (no fails)
- Six NO₂ duplicates at Steeprock Creek, McLennan, Boone Creek, Eaglesham, Jayar4 7-8 or 8-8 Pad, Ambient Trailer; RPD ranging from 0% to 86% (one fail at McLennan: 3.4, 1.3)
- Three H₂S duplicates, Guy, Duvernay 2, Jayar3 Bone Yard; RPD 0% to 24% (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 November
 - RPD ranged from 40% to 45%
- Total dustfall ranged from 20.0 to 125.6 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.

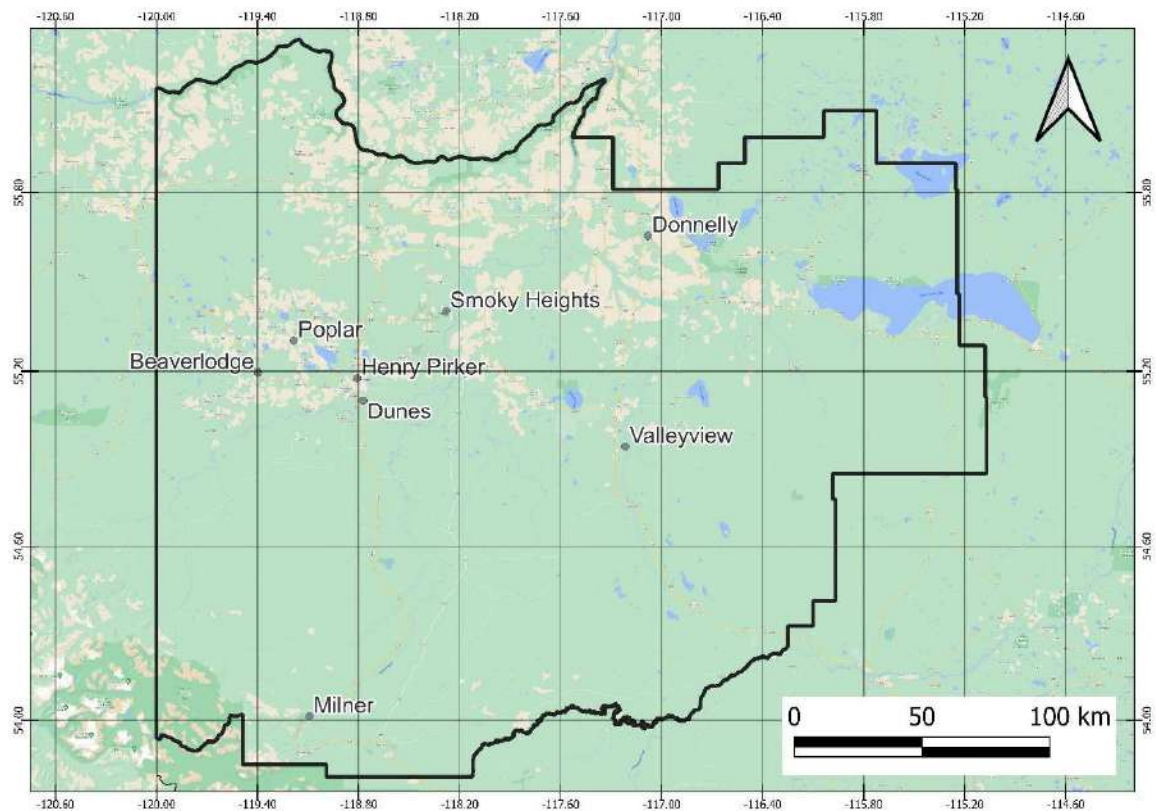


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Program Manager

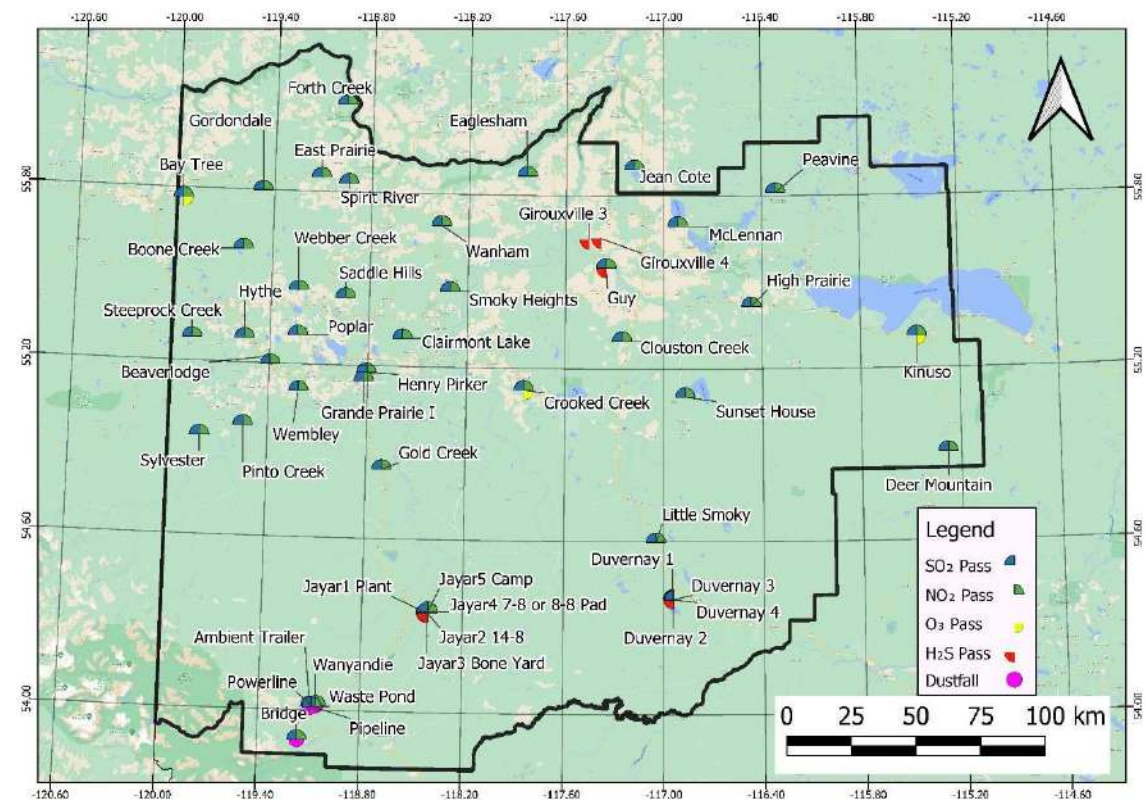
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PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 November 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 - November 2022 Beaverlodge Station Report

PART 1: November 2022 Deverage Station Report																
Parameter	November				1-hour			24-hour			Exceedance				Calibration	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date	
NO (ppb)	0.6	0.0	95.1%	100.0%	20.0	-	Nov-09 15:00	4.6	-	Nov-09	-	-	-	-	Nov 02, 2022	
NO ₂ (ppb)	3.8	0.2	95.1%	100.0%	30.7	159	Nov-09 20:00	13.9	-	Nov-09	0	-	-	-	Nov 02, 2022	
NO _x (ppb)	4.4	0.2	95.1%	100.0%	40.7	-	Nov-09 20:00	18.5	-	Nov-09	-	-	-	-	Nov 02, 2022	
O ₃ (ppb)	29.7	0.7	95.3%	100.0%	47.0	76	Nov-19 23:00	43.1	-	Nov-20	0	-	-	-	Nov 02, 2022	
PM _{2.5} (µg/m³)	3.8	0.0	97.1%	97.6%	32.3	80	Nov-10 03:00	16.5	29	Nov-10	0	-	0	-	Nov 01, 2022	
SO ₂ (ppb)	0.7	0.0	95.3%	100.0%	9.0	172	Nov-14 17:00	2.5	48	Nov-10	0	-	0	0	Nov 01, 2022	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	-6.6	-26.0	100.0%	100.0%	7.3	Note: Valid hours must be greater than 75% Operational hours must be greater than 90%										
RH (%)	70.1	19.9	100.0%	100.0%	99.9											
WS (km/hr)	9.7	0.2	100.0%	100.0%	34.7											
WD (deg)	319	1.5	100.0%	100.0%	359.8											
Average Wind Direction										319		NW				

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	Periods of negative flatline data removed, two periods Nov 14 (9hrs) and Nov 30 (8hrs)
SO ₂	Thermo	43i-TLE	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

1.2 Dunes Air Monitoring Station

PAZA - November 2022 Dunes Station Report

PM _{2.5} - November 2022 Data Summary Report																
Parameter	November				1-hour			24-hour			Exceedance				Calibration	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date	
PM _{2.5} (µg/m³)	4.9	0.0	99.9%	100.0%	34.6	80	Nov-03 14:00	21.1	29	Nov-10	0	-	0	-	Nov-17-2022	
SO ₂ (ppb)	0.6	0.0	95.3%	100.0%	11.9	172	Nov-18 04:00	1.8	48	Nov-02	0	-	0	0	Nov-17-2022	
TRS (ppb)	0.3	0.0	95.1%	100.0%	2.8	-	Nov-20 23:00	1.0	-	Nov-20	-	-	-	-	Nov-17-2022	
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	-7.6	-27.6	100.0%	100.0%	8.1	<div>Note: Valid hours must be greater than 75%</div> <div>Operational hours must be greater than 90%</div>										
RH (%)	71.8	29.0	100.0%	100.0%	96.4											
WS (km/hr)	4.0	0.0	100.0%	100.0%	16.4											
WD (deg)	321	0.4	100.0%	100.0%	359.4											
Average Wind Direction									321 NW							

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Thermo	TEOM AB	No Operational issues noted
SO ₂	TECO	43i	No Operational issues noted
TRS	TECO	43C	No Operational issues noted
Met Equip	Gil/RMYoung	MetPak/RMY86004	No Operational issues noted

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - November 2022 Henry Pirker Station Report

November 2022 Daily Data Station Report															
Parameter	November			Operational	Max	1-hour		8-hour / 24-hour			Exceedance				Calibration
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
NO (ppb)	13.6	0.0	94.7%	100.0%	170.9	-	Nov-18 20:00	58.9	-	Nov-10	-	-	-	Nov 01, 2022	
NO _x (ppb)	15.9	1.2	94.7%	100.0%	58.7	159	Nov-18 20:00	34.4	-	Nov-18	0	-	-	Nov 01, 2022	
NO ₂ (ppb)	29.6	1.3	94.7%	100.0%	230.0	-	Nov-18 20:00	51.3	-	Nov-10	-	-	-	Nov 01, 2022	
O ₃ (ppb)	18.3	0.4	95.4%	100.0%	43.3	76	Nov-20 01:00	30.0	-	Nov-28	0	-	-	Nov 01, 2022	
PM _{2.5} (µg/m³)	8.4	0.3	99.9%	100.0%	47.7	80	Nov-10 15:00	33.4	29	Nov-10	0	-	1	Nov 03, 2022	
SO ₂ (ppb)	0.5	0.0	95.1%	100.0%	9.3	172	Nov-10 14:00	2.5	48	Nov-10	0	-	0	Nov 01, 2022	
H ₂ S (ppb)	0.4	0.0	95.3%	100.0%	1.8	10	Nov-18 20:00	1.0	3	Nov-10	0	-	0	Nov 03, 2022	
CH ₄ (ppm)	2.2	2.0	92.5%	97.1%	3.4	-	Nov-11 19:00	2.8	-	Nov-11	-	-	-	Nov 02, 2022	
THC (ppm)	2.3	2.0	92.5%	97.1%	3.9	-	Nov-11 19:00	3.1	-	Nov-11	-	-	-	Nov 02, 2022	
NMHC (ppm)	0.1	0.0	92.5%	97.1%	0.8	-	Nov-11 06:00	0.3	-	Nov-11	-	-	-	Nov 02, 2022	
CO (ppm)	0.3	0.1	95.3%	100.0%	1.9	13	Nov-18 20:00	0.5	5	Nov-18	0	0	-	Nov 02, 2022	
Note: Valid hours must be greater than 75% Operational hours must be greater than 90%															
</															

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	No Operational issues noted; one reading above the AAAQG, Nov 10
SO ₂	TEI	43I-TLE	No Operational issues noted
H ₂ S	TEI	450I	No Operational issues noted
THC/CH ₄ /NMHC	TEI	55I	Instrument stuck in "done mode" following calibration, data removed until manual span (21 hrs)
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 - November 2022 Smoky Heights Station Report

November 2022 Smoggy Weights Station Report															
Parameter	November			Operational	1-hour			24-hour			Exceedance				Calibration
	Average	Minimum	Valid		Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
PM _{2.5} (µg/m³)	6.0	0.0	99.7%	100.0%	356.4	80	Nov-04 17:00	21.3	29	Nov-10	2	-	0	-	Nov 16, 2022
SO ₂ (ppb)	0.6	0.0	95.3%	100.0%	7.8	172	Nov-10 00:00	1.9	48	Nov-13	0	-	0	0	Nov 16, 2022
TRS (ppb)	0.2	0.0	95.1%	100.0%	4.1	-	Nov-10 02:00	0.9	-	Nov-10	-	-	-	-	Nov 16, 2022
	Average	Minimum	Valid	Operational	Maximum	<div>Note: Valid hours must be greater than 75%</div> <div>Operational hours must be greater than 90%</div> <div>Average Wind Direction267WNW</div>									
Temp (°C)	-7.9	-27.4	100.0%	100.0%	8.2										
WS (km/hr)	12.6	0.9	100.0%	100.0%	31.6										
WD (deg)	267	3.7	100.0%	100.0%	358.6										

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Sharp	5030	There were two readings above the AAAQG; reading on Nov 4 was beyond top scale of instrument
SO ₂	TECO	43I	No Operational issues noted
TRS	TEI	43I APSAA	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

1.5 Valleyview Air Monitoring Station

PAZA - November 2022 Valleyview Station Report

AZR - November 2022 Valleyview Station Report																
November					1-hour			24-hour			Exceedance				Calibration	
Parameter	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date	
SO ₂ (ppb)	0.2	0.0	95.0%	99.7%	2.1	172	Nov-19 17:00	0.7	48	Nov-30	0	-	0	0	Nov 11, 2022	
H ₂ S (ppb)	0.1	0.0	94.9%	99.7%	0.5	10	Nov-08 10:00	0.3	3	Nov-08	0	-	0	-	Nov 08, 2022	
Average		Minimum	Valid	Operational	Maximum											
Temp (°C)	-7.6	-28.2	100.0%	100.0%	12.1											
RH (%)	77.4	28.2	100.0%	100.0%	100.2											
WS (km/hr)	4.4	0.1	100.0%	100.0%	15.9											
WD (deg)	304	1.7	100.0%	100.0%	359.5											
<div>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</div>																
Average Wind Direction									304 NW							

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	TEI	43I-APSCB	Started calibration Nov 8, calibrator issues, came back Nov 11 for calibration (2hrs maintenance)
H ₂ S	TEI	450I-APHAA	Replaced perm tube Nov 8, ran check on Nov 11 (2hrs maintenance)
Met Equip	RMYoung	RMY86004	No Operational issues noted

1.6 Donnelly Air Monitoring Station

PAZA - November 2022 Donnelly Station Report

A2A - November 2022 Dormitory Station Report																
November					1-hour				24-hour			Exceedance				Calibration
Parameter	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date	
SO ₂ (ppb)	0.3	0.0	95.1%	99.9%	3.0	172	Nov-09 06:00	0.7	48	Nov-19	0	-	0	0	Nov 17, 2022	
H ₂ S (ppb)	0.0	0.0	95.0%	99.9%	0.4	10	Nov-15 23:00	0.1	3	Nov-10	0	-	0	-	Nov 17, 2022	
Average		Minimum	Valid	Operational	Maximum											
Temp (°C)	-6.7	-25.1	99.9%	99.9%	9.0	<div>Note: Valid hours must be greater than 75%</div> <div>Operational hours must be greater than 90%</div>										
WS (km/hr)	12.2	0.0	99.9%	99.9%	31.3											
WD (deg)	234	0.3	99.9%	99.9%	359.7											
Average Wind Direction									234 SW							

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	Teco	43I	Nov 21 communication failure (1hr)
H ₂ S	Thermo	45C	Nov 21 communication failure (1hr)
Met Equip	RMYoung	5103	Nov 21 communication failure (1hr)

1.7 Poplar Air Monitoring Station

PAZA - November 2022 Poplar Station Report

AZA - November 2022 Spatial Station Report																
November					1-hour			24-hour			Exceedance				Calibration	
Parameter	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date	
NO (ppb)	1.6	0.0	95.1%	100.0%	41.0	-	Nov-10 21:00	14.0	-	Nov-10	-	-	-	-	Nov 08, 2022	
NO ₂ (ppb)	5.1	0.0	95.1%	100.0%	33.4	159	Nov-10 21:00	18.5	-	Nov-10	0	-	-	-	Nov 08, 2022	
NO _x (ppb)	6.7	0.0	95.1%	100.0%	74.6	-	Nov-10 21:00	32.8	-	Nov-10	-	-	-	-	Nov 08, 2022	
O ₃ (ppb)	26.6	0.3	95.3%	100.0%	46.6	76	Nov-19 23:00	40.9	-	Nov-20	0	-	-	-	Nov 08, 2022	
PM _{2.5} (µg/m³)	3.2	0.0	96.8%	97.5%	29.8	80	Nov-10 16:00	12.1	29	Nov-10	0	-	0	-	Nov 15, 2022	
SO ₂ (ppb)	1.1	0.0	95.3%	100.0%	20.8	172	Nov-28 15:00	3.4	48	Nov-10	0	-	0	0	Nov 08, 2022	
TRS (ppb)	0.7	0.1	95.1%	100.0%	11.4	-	Nov-19 13:00	2.0	-	Nov-09	-	-	-	-	Nov 15, 2022	
CH ₄ (ppm)	installed Nov 10															
THC (ppm)	2.2	1.7	90.8%	98.3%	8.9	-	Nov-10 20:00	2.8	-	Nov-11	-	-	-	-	Nov 10, 2022	
NMHC (ppm)	installed Nov 10															
	Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	-8.4	-28.5	100.0%	100.0%	5.9	<div>Note: Valid hours must be greater than 75%</div> <div>Operational hours must be greater than 90%</div>										
WS (km/hr)	12.8	0.1	100.0%	100.0%	36.3											
WD (deg)	301	1.3	100.0%	100.0%	359.4											
Average Wind Direction										301	WNW					

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	TEI	42I	No Operational issues noted
O ₃	TEI	49I	No Operational issues noted
PM _{2.5}	Thermo	TEOM AB	Negative drift (17hrs)
SO ₂	TEI	43I	No Operational issues noted
TRS	TEI	43I	No Operational issues noted
THC	TEI	55I	Nov 9 removed 55I, Nov 10 install 55I; THC (20hrs no service, 12hrs maint.); CH ₄ , NMHC = 64% uptime
Met Equip	MetOne	50.5	No Operational issues noted

1.8 Milner Air Monitoring Station

PAZA - November 2022 Milner Station Report

November 2022 Minor Station Report															
November					1-hour			24-hour			Exceedance				Calibration
Parameter	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
NO (ppb)	0.9	0.0	94.9%	100.0%	27.7	-	Nov-25 07:00	3.5	-	Nov-03	-	-	-	-	Nov 09, 2022
NO ₂ (ppb)	3.7	0.0	94.9%	100.0%	25.3	159	Nov-25 08:00	6.7	-	Nov-04	0	-	-	-	Nov 09, 2022
NO _x (ppb)	4.4	0.0	94.9%	100.0%	43.6	-	Nov-03 13:00	9.2	-	Nov-03	-	-	-	-	Nov 09, 2022
PM _{2.5} (µg/m³)	7.0	0.0	98.9%	99.6%	142.3	80	Nov-14 06:00	63.8	29	Nov-14	6	-	1	-	Nov 09, 2022
	Average	Minimum	Valid	Operational	Maximum										
WS (km/hr)	8.7	0.0	100.0%	100.0%	33.8										
WD (deg)	264	7.2	100.0%	100.0%	356.1										
<div>Note: Valid hours must be greater than 75%</div> <div>Operational hours must be greater than 90%</div>															
Average Wind Direction										264 W					

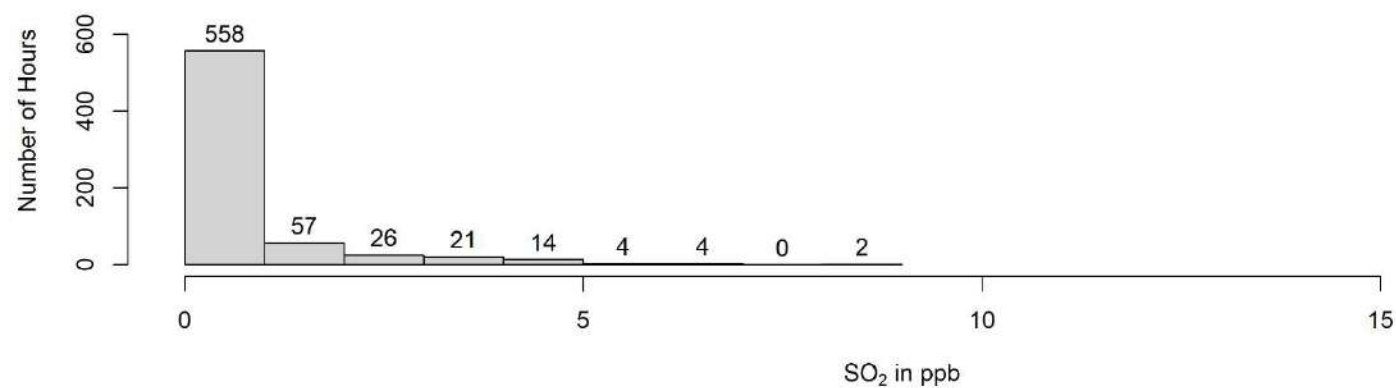
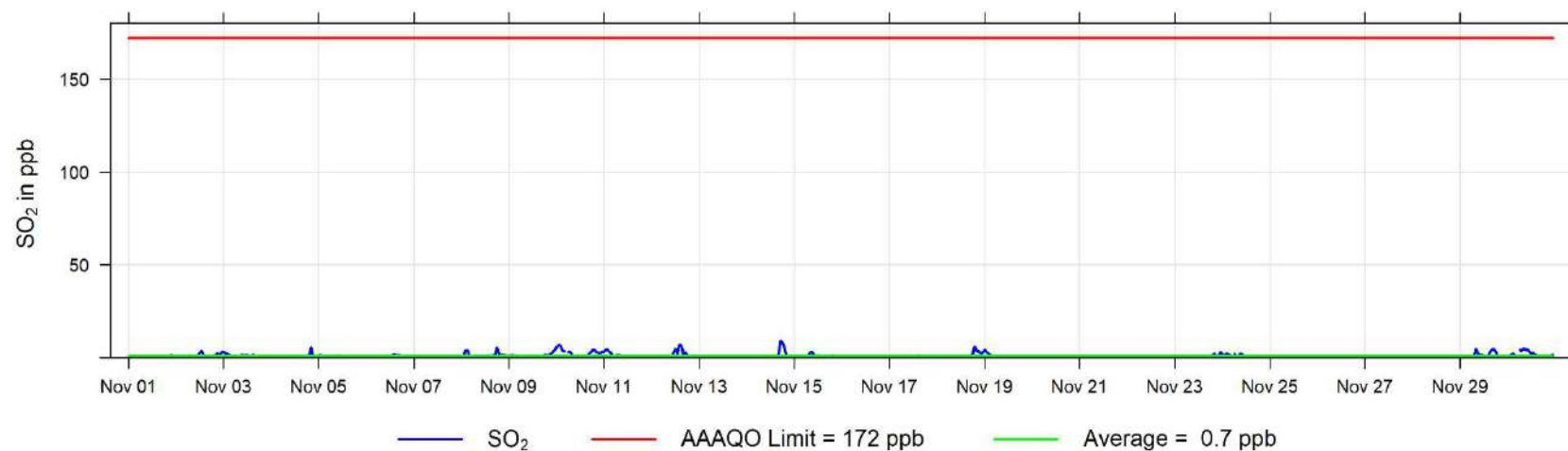
Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	No Operational issues noted
PM _{2.5}	TEOM	AB	Excessive drifting removed (3hrs); 6hrs >AAAQG; Nov 14 >AAAQO
Met Equip	MetOne	50.5	No Operational issues noted

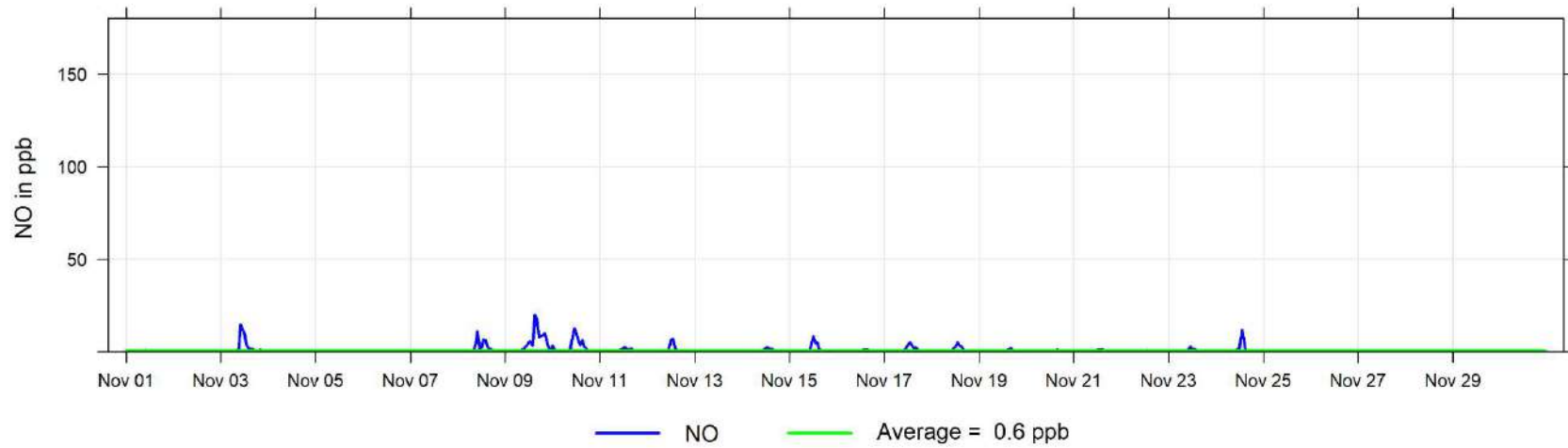
2 Beaverlodge Charts

The following pages include the charts and histograms for Beaverlodge Station

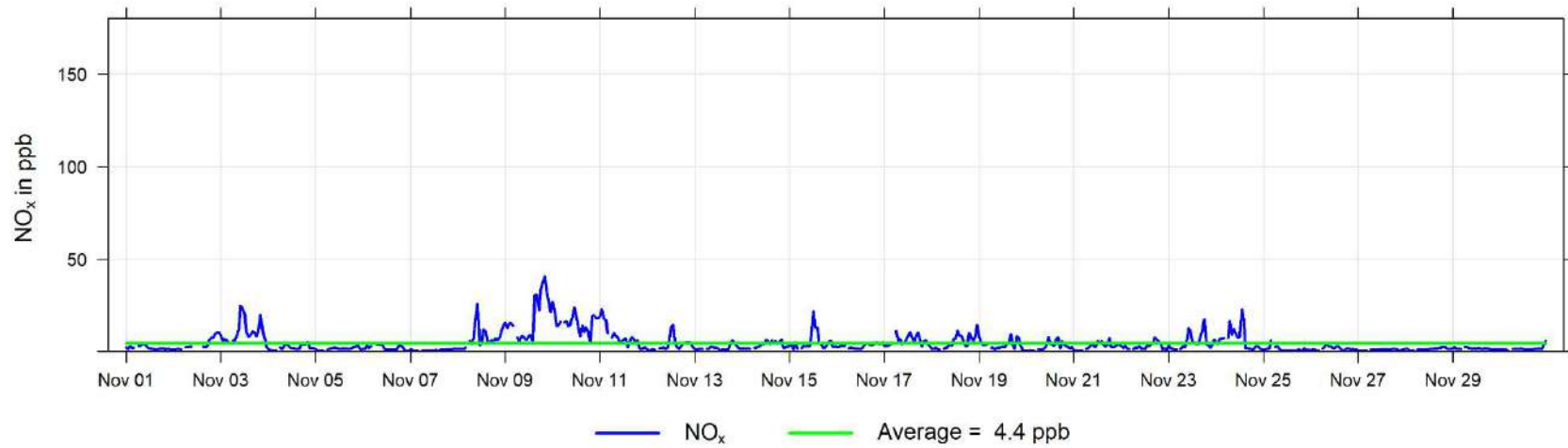
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Beaverlodge



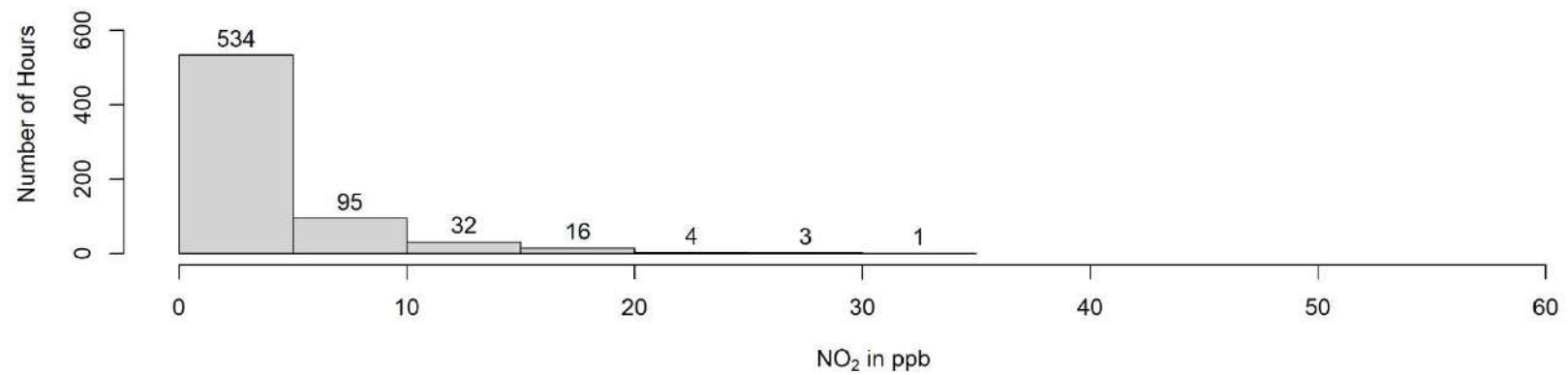
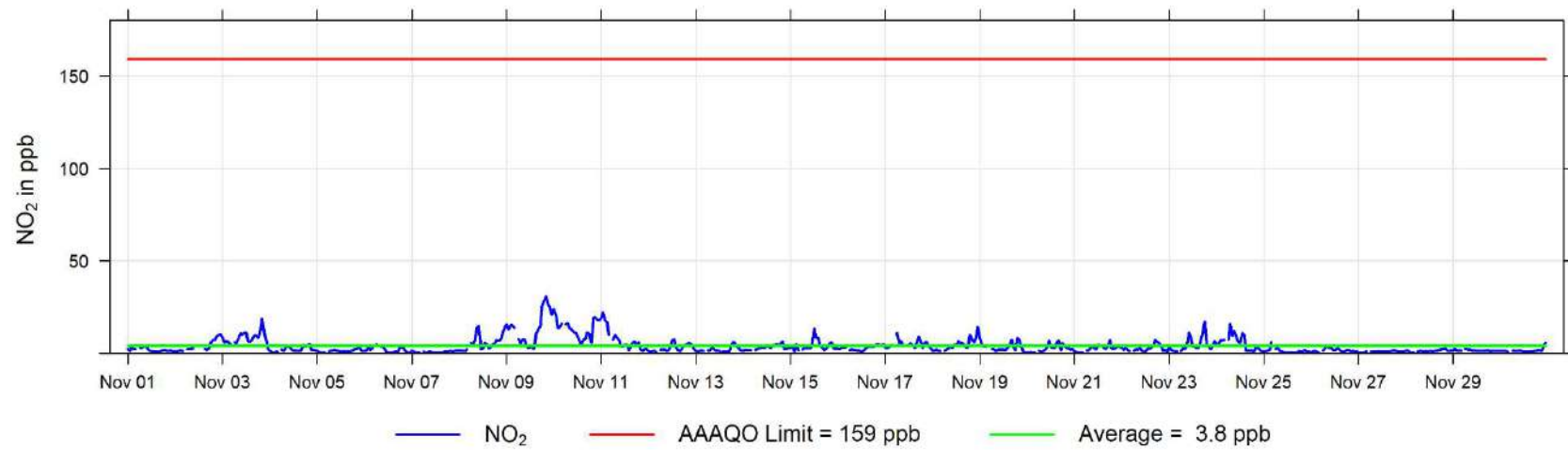
November 2022 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



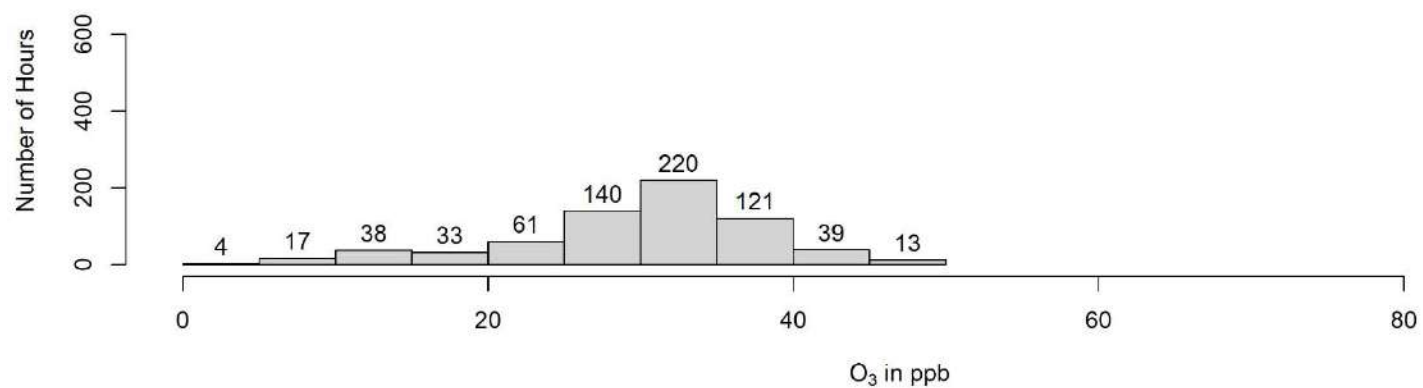
November 2022 Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge



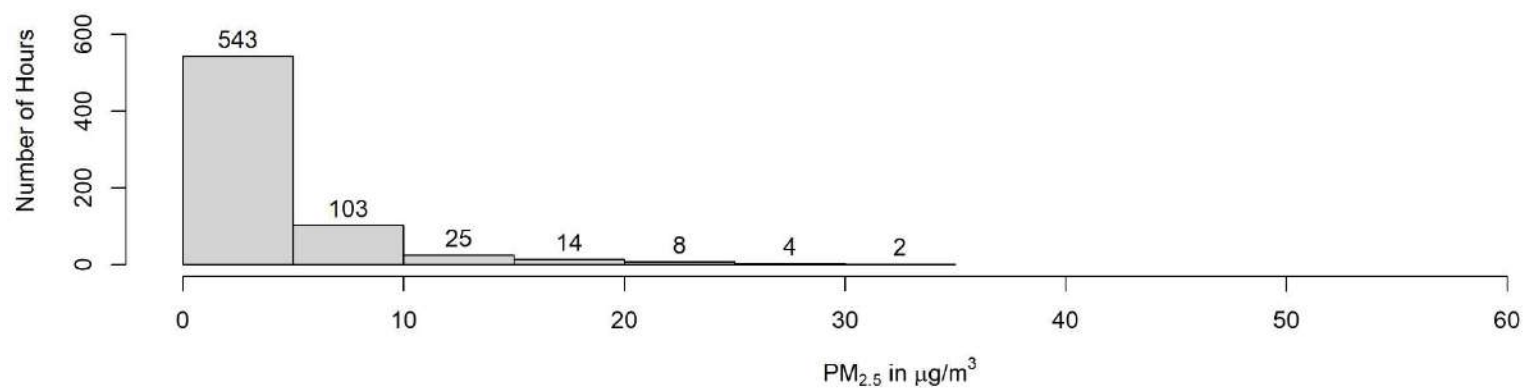
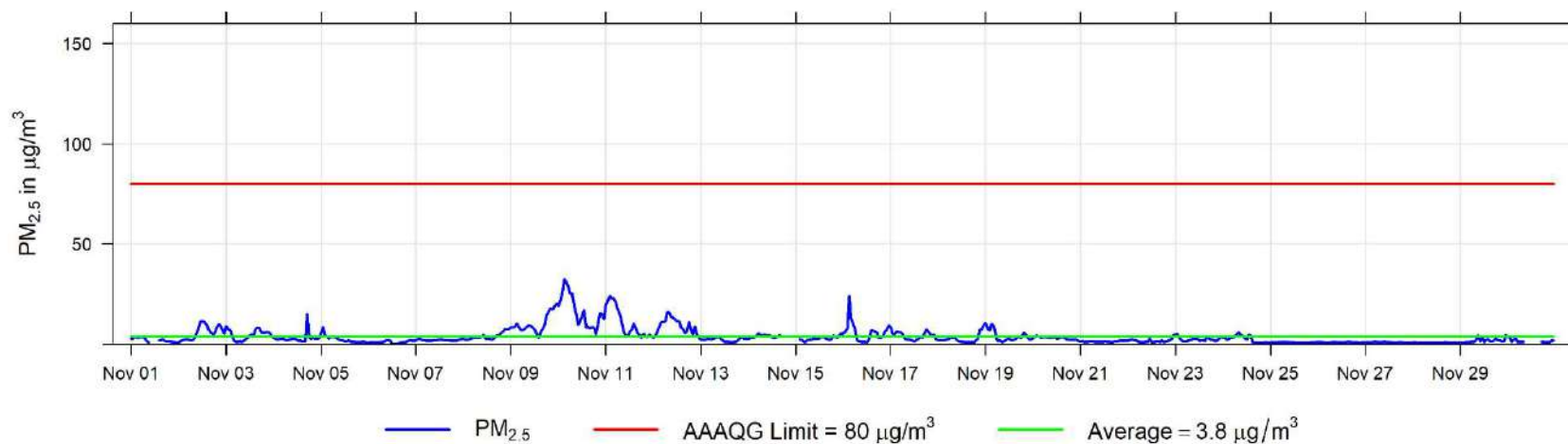
November 2022 Hourly Concentration Readings of NO₂ (in ppb) at Beaverlodge



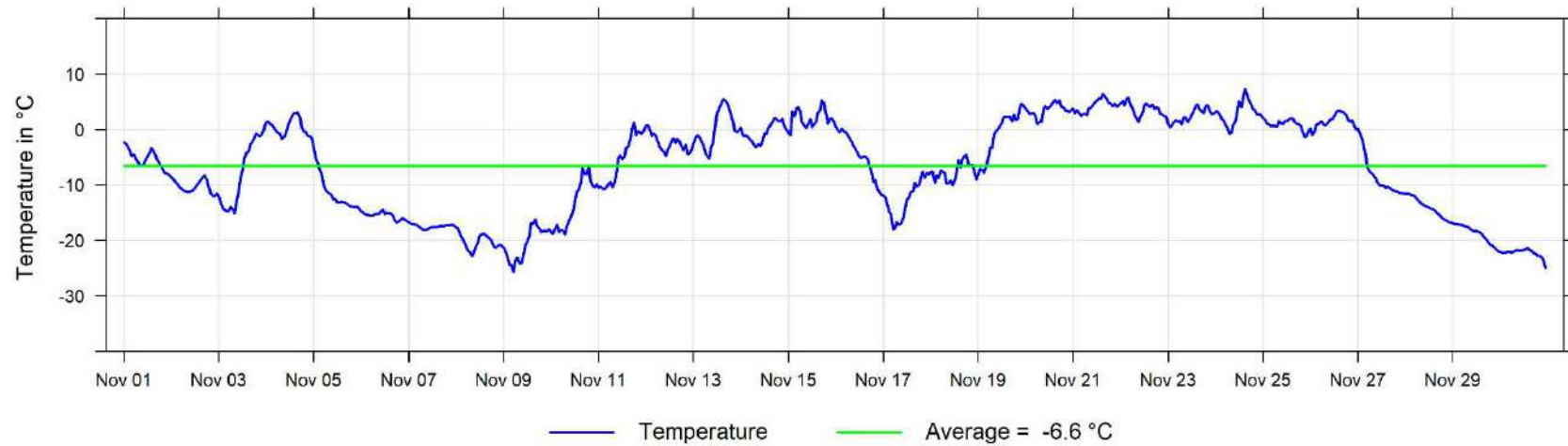
November 2022 Hourly Concentration Readings of O₃ (in ppb) at Beaverlodge



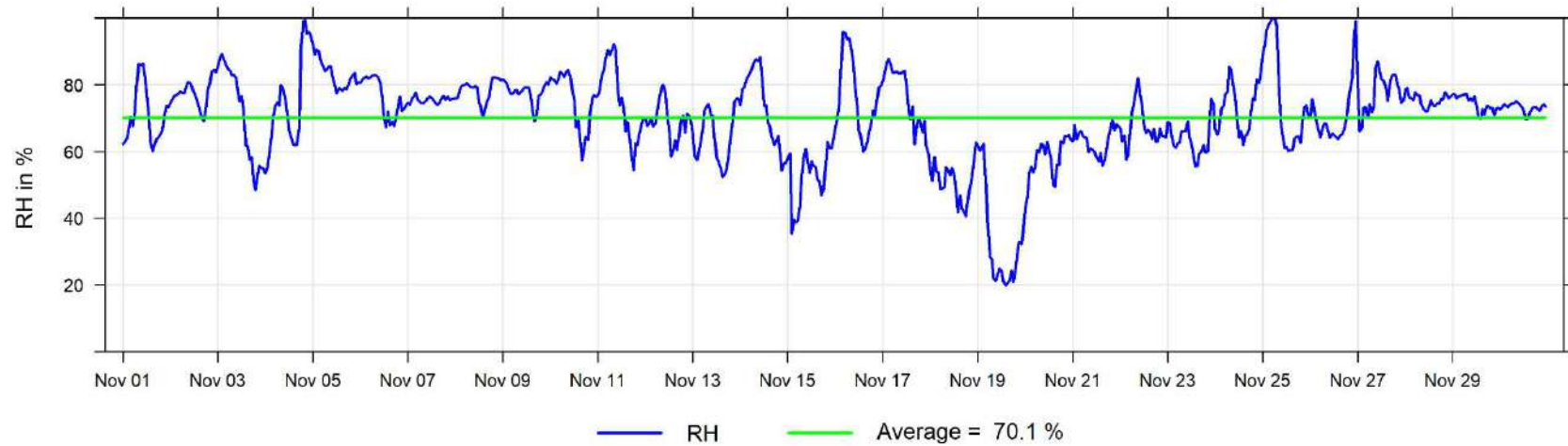
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Beaverlodge



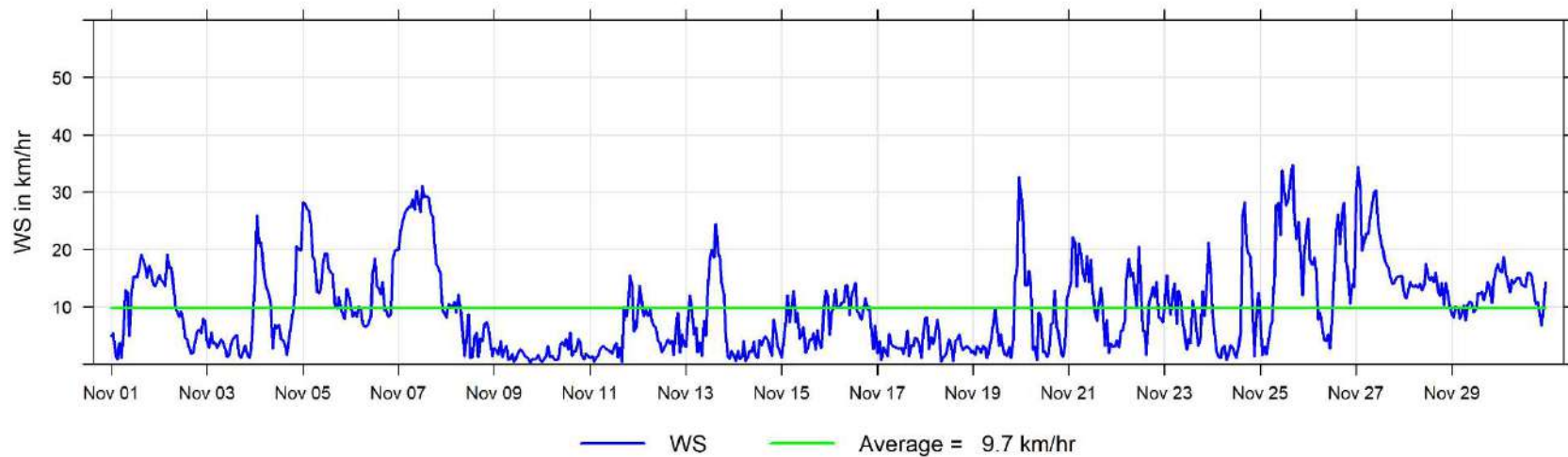
November 2022 Hourly Temperature Readings (in °C) at Beaverlodge



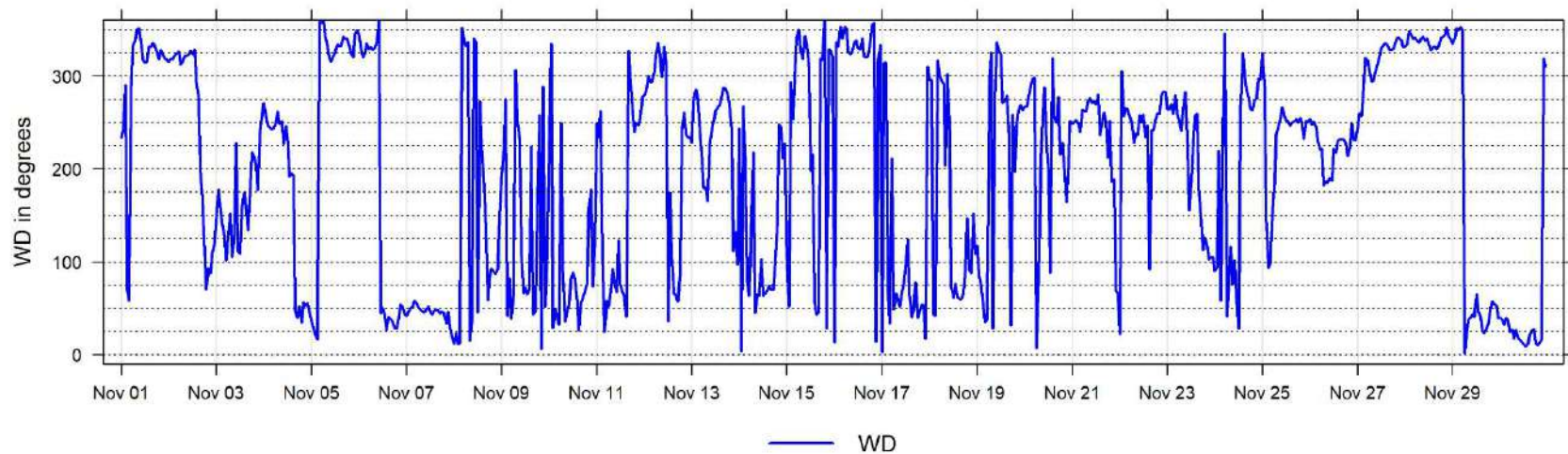
November 2022 Hourly Readings of Relative Humidity (in %) at Beaverlodge



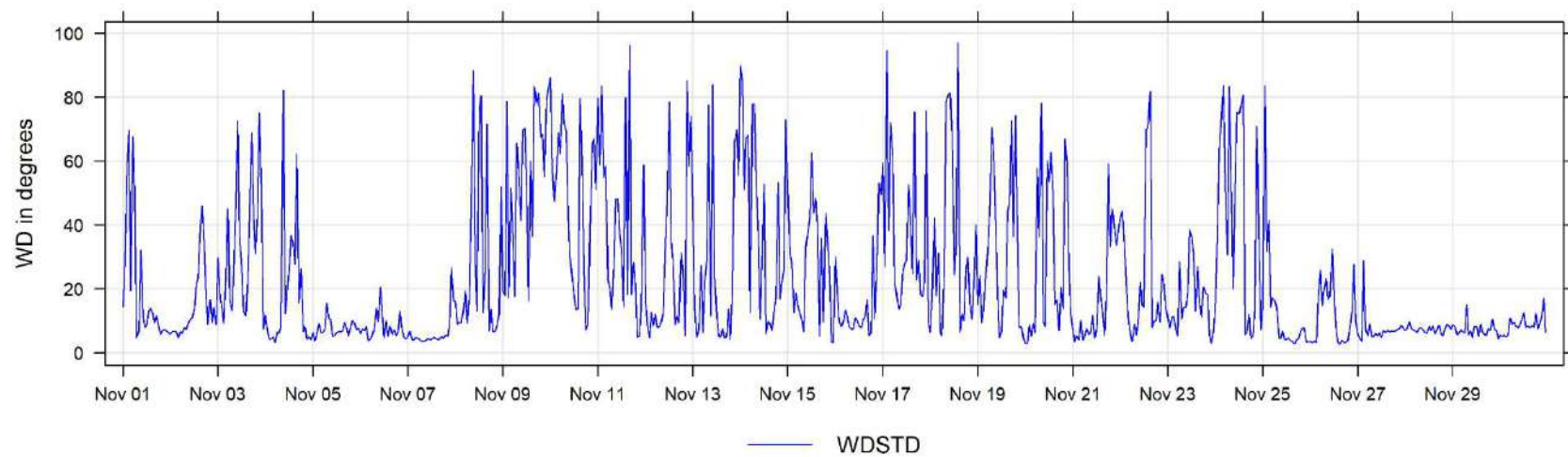
November 2022 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

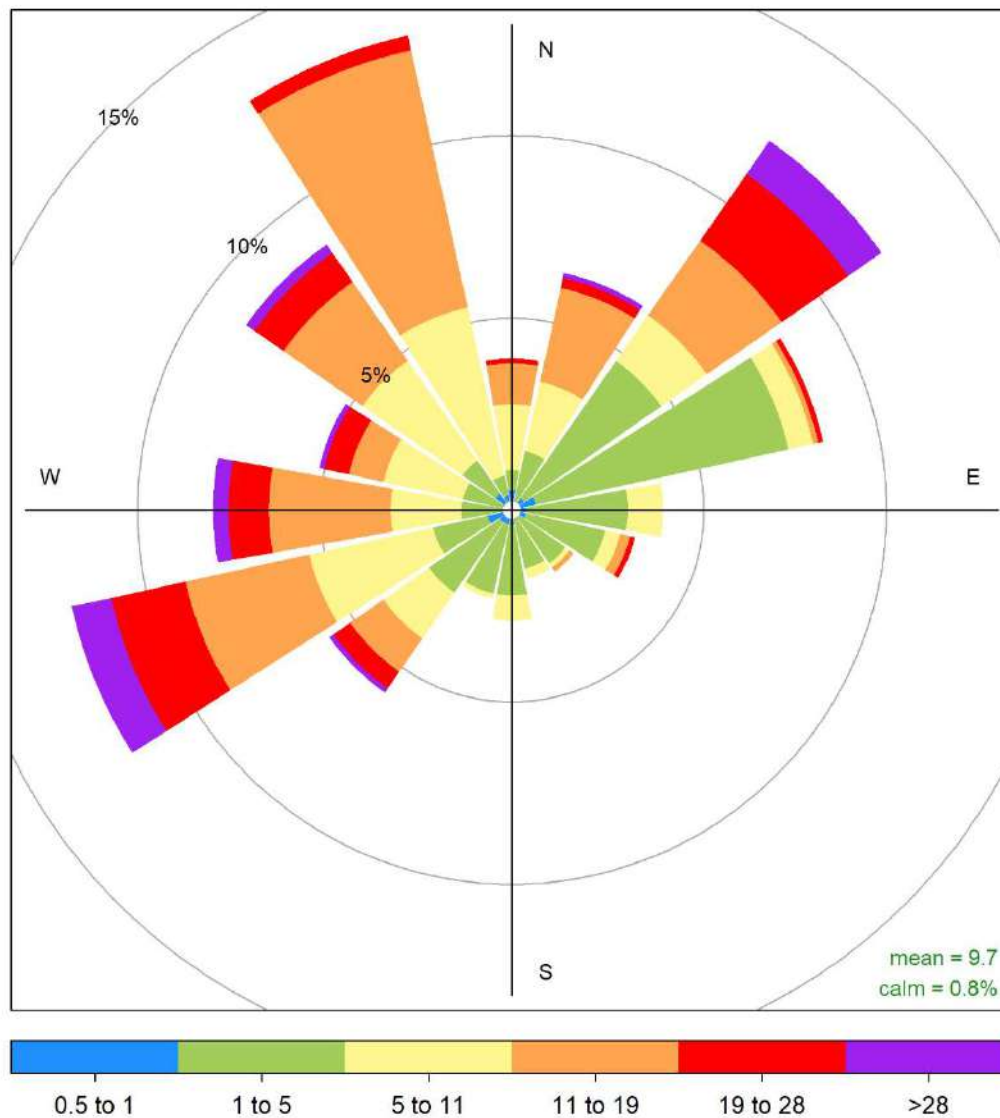


November 2022 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Beaverlodge



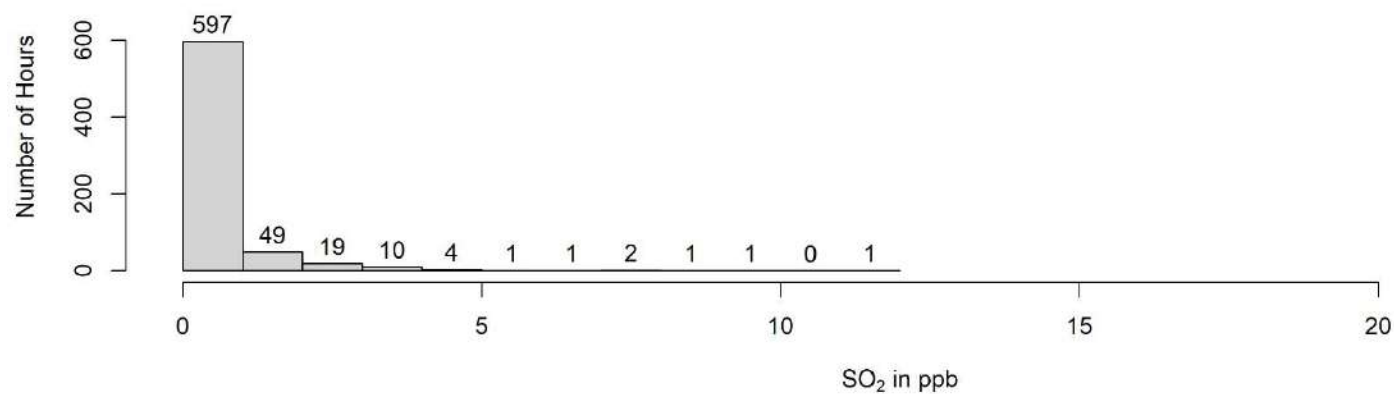
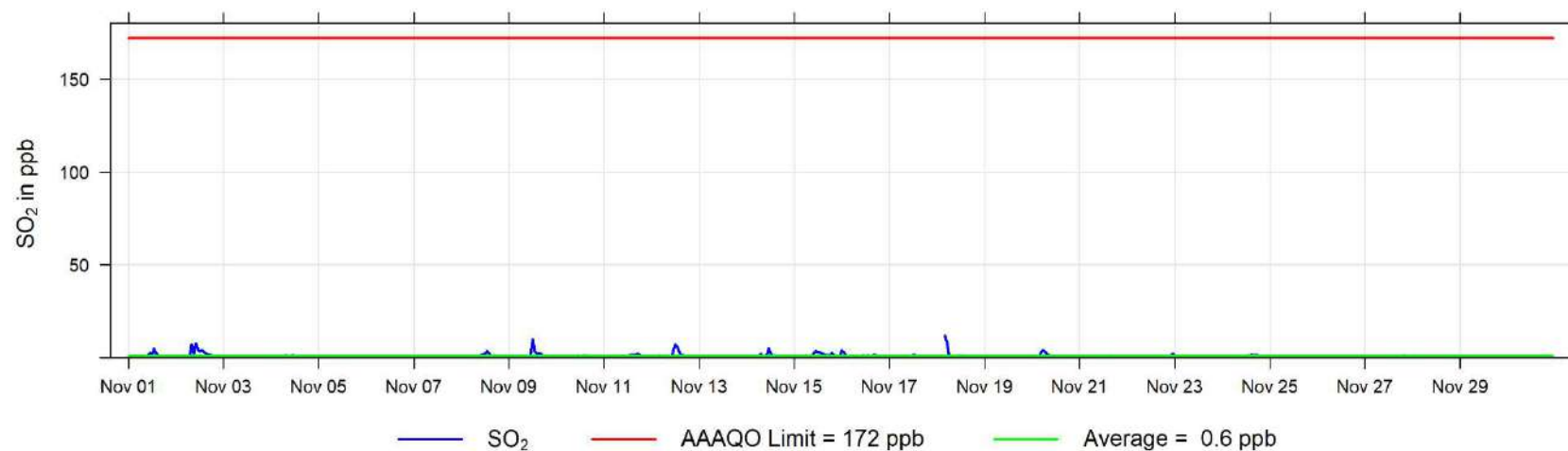


Beaverlodge November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

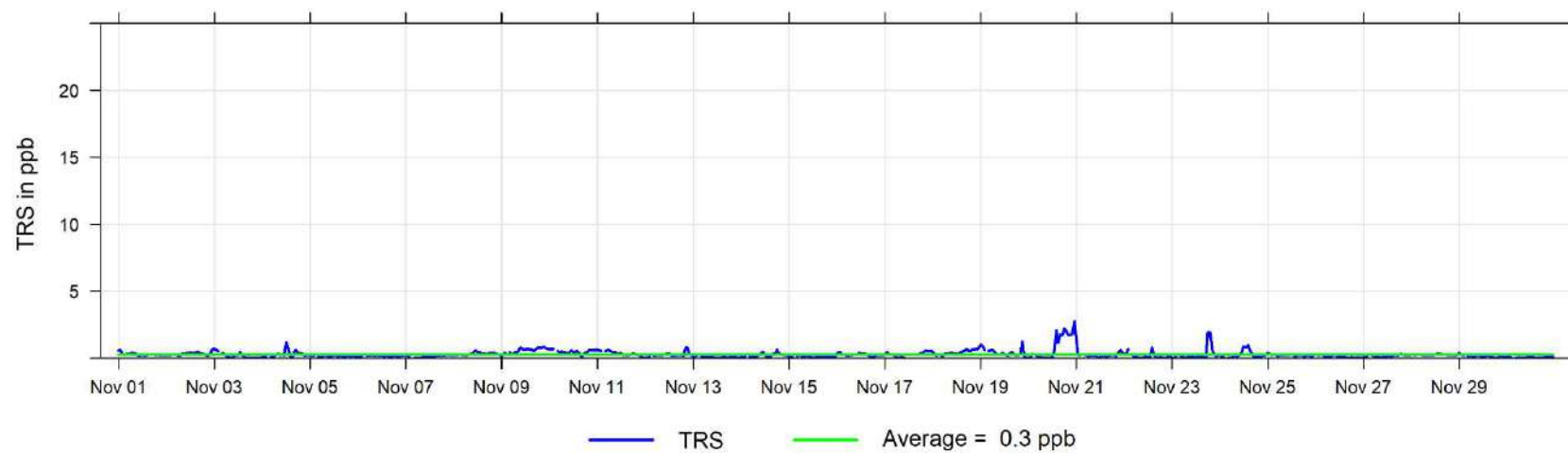
3 Dunes Charts

The following pages include the charts and histograms for Dunes Station

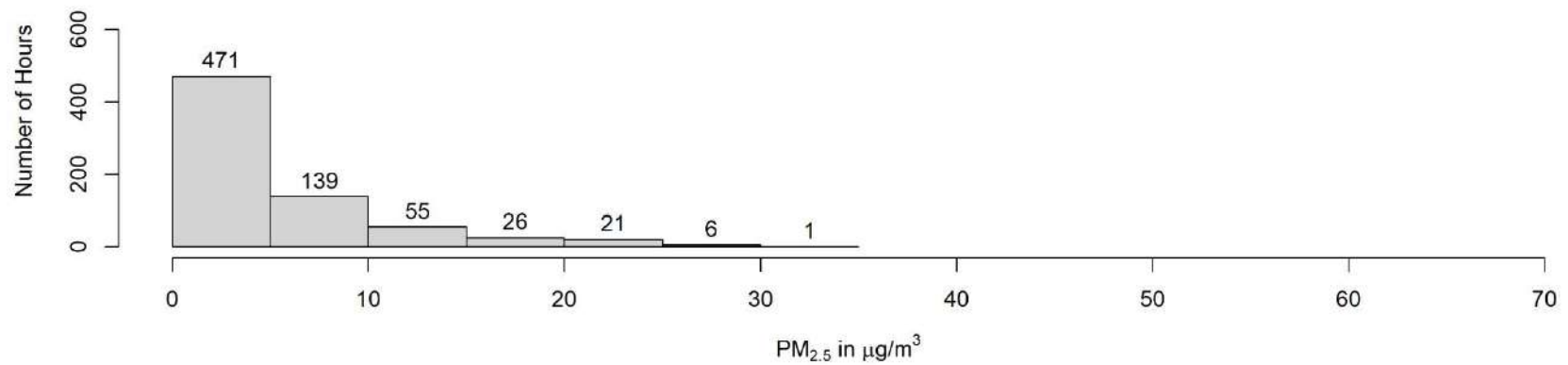
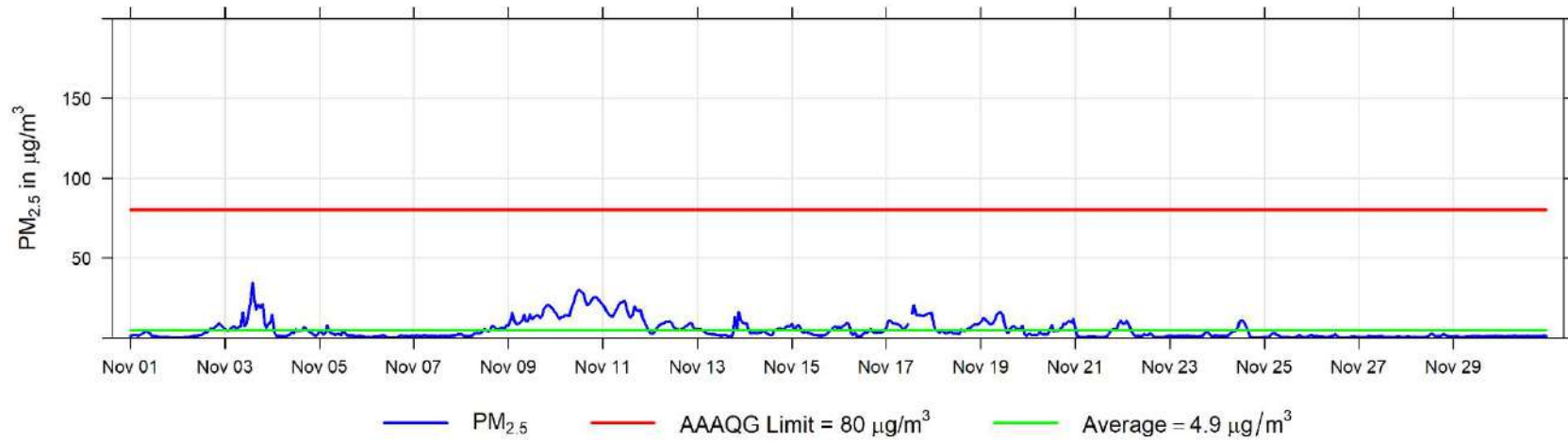
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Dunes



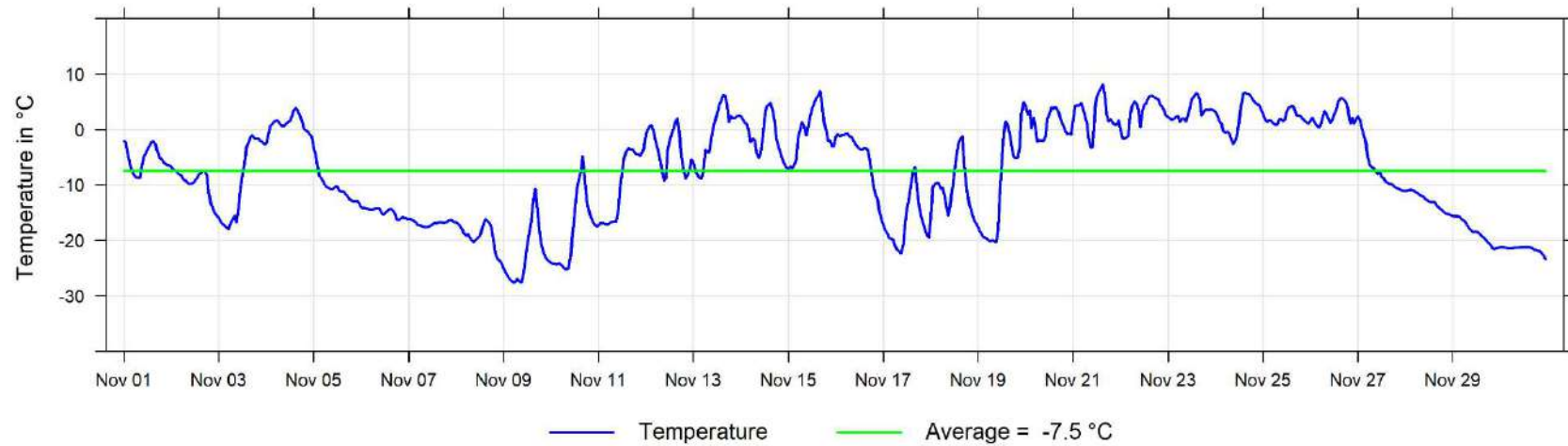
November 2022 Hourly Concentration Readings of TRS (in ppb) at Dunes



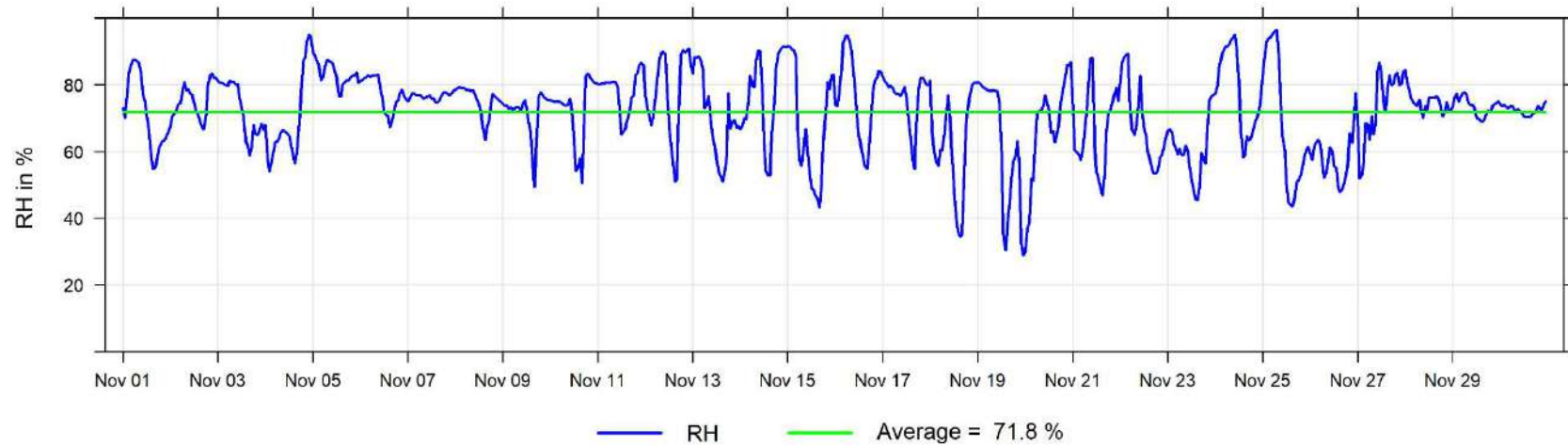
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Dunes



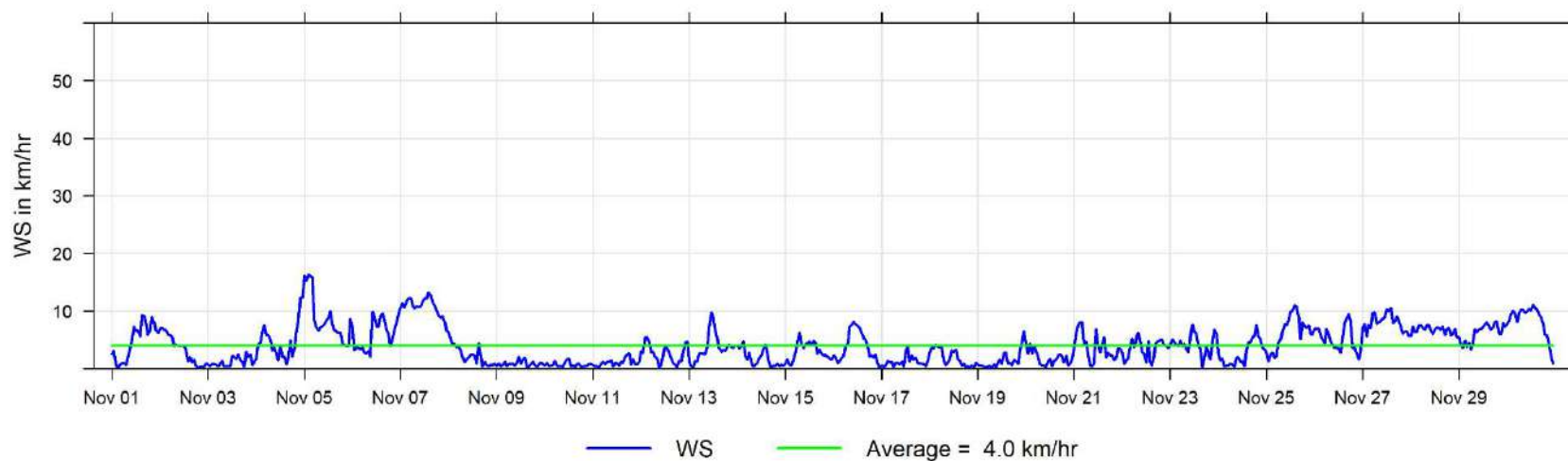
November 2022 Hourly Temperature Readings (in °C) at Dunes



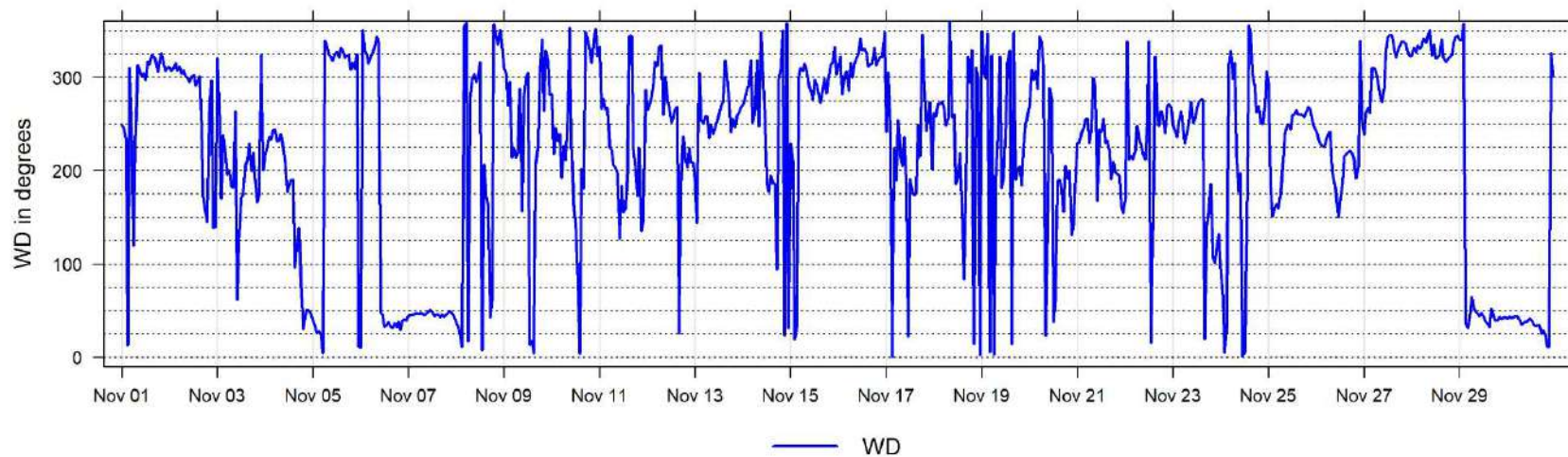
November 2022 Hourly Readings of Relative Humidity (in %) at Dunes



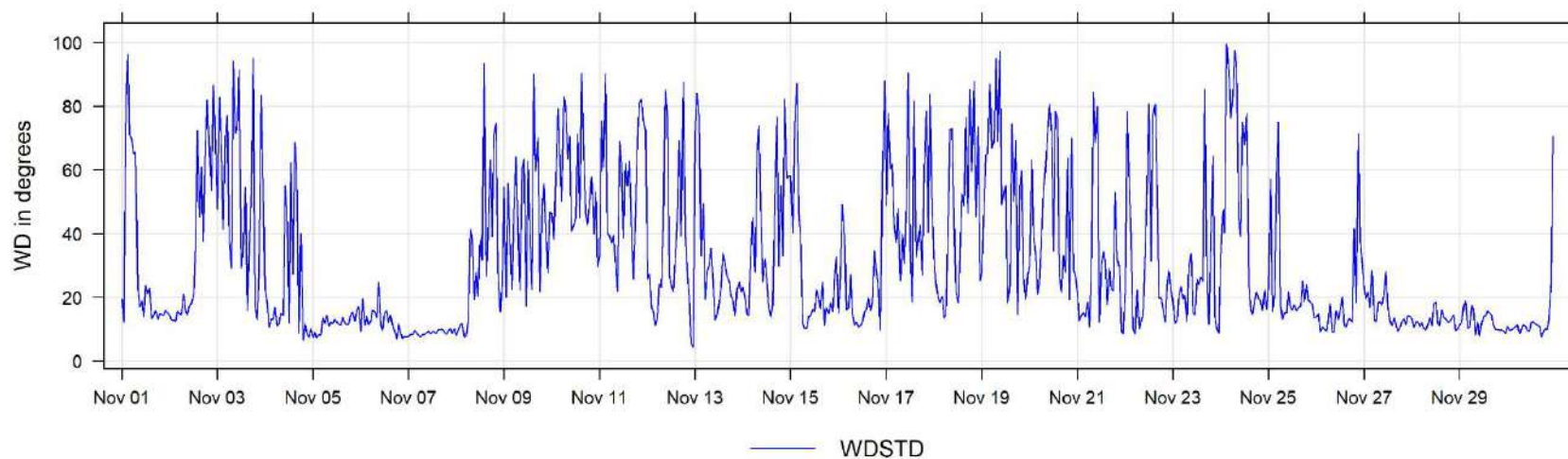
November 2022 Hourly Readings of Wind Speed (in km/hr) at Dunes

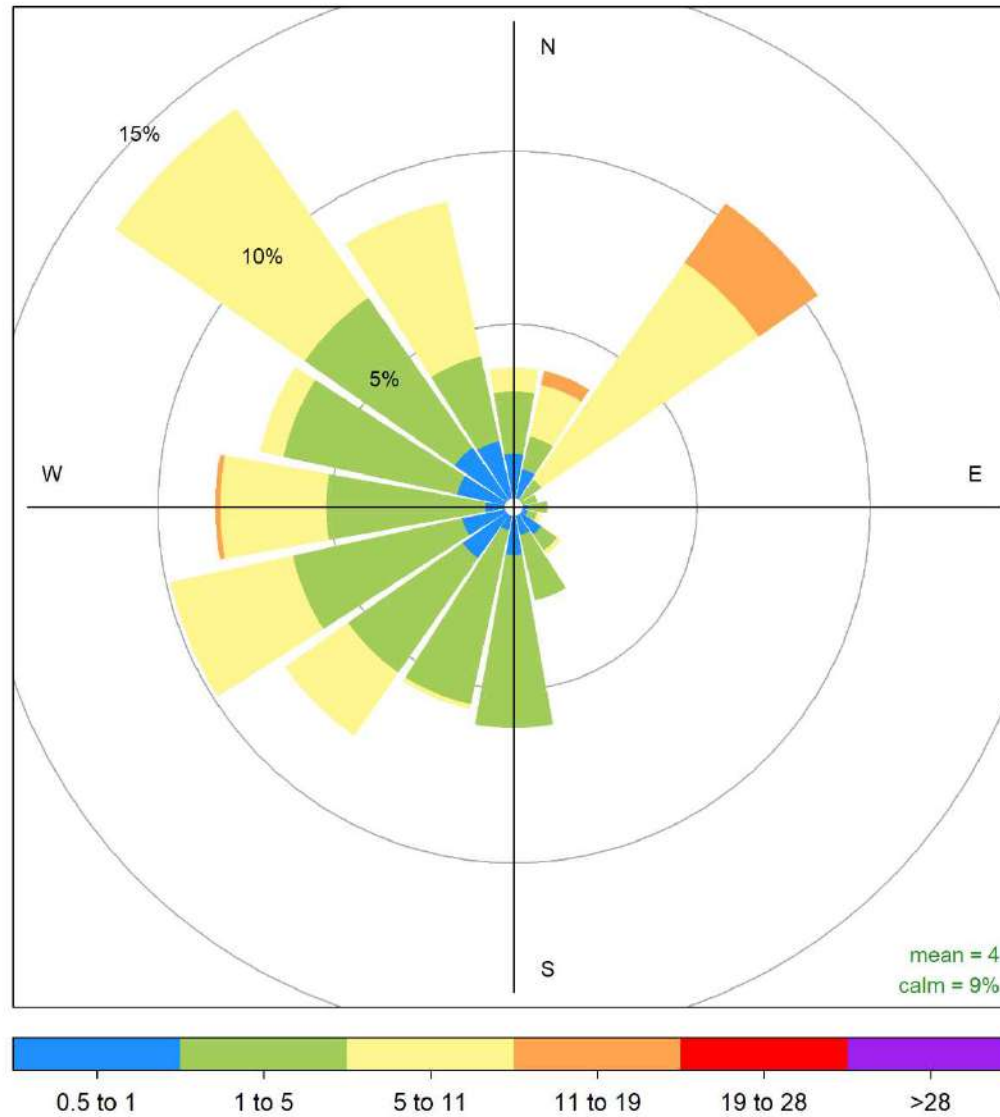


November 2022 Hourly Readings of Wind Direction (in degrees) at Dunes



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Dunes



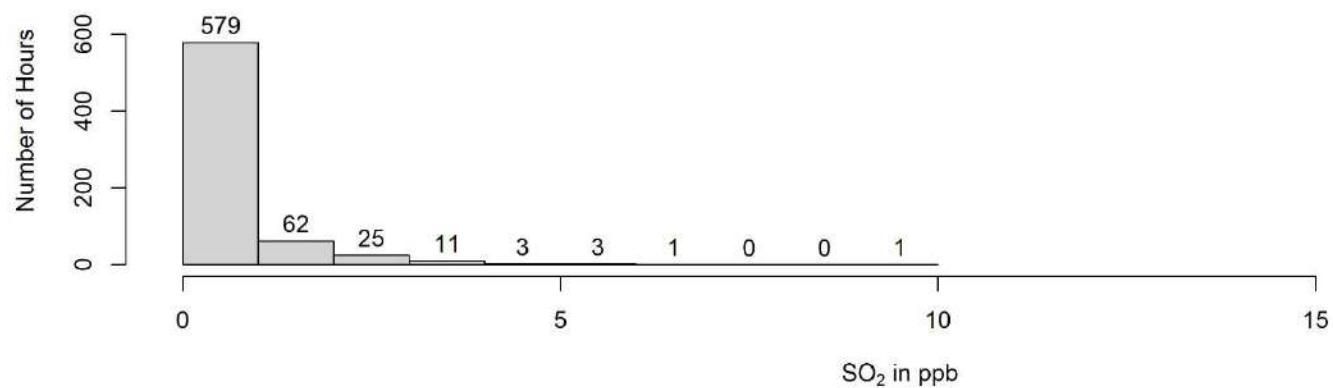
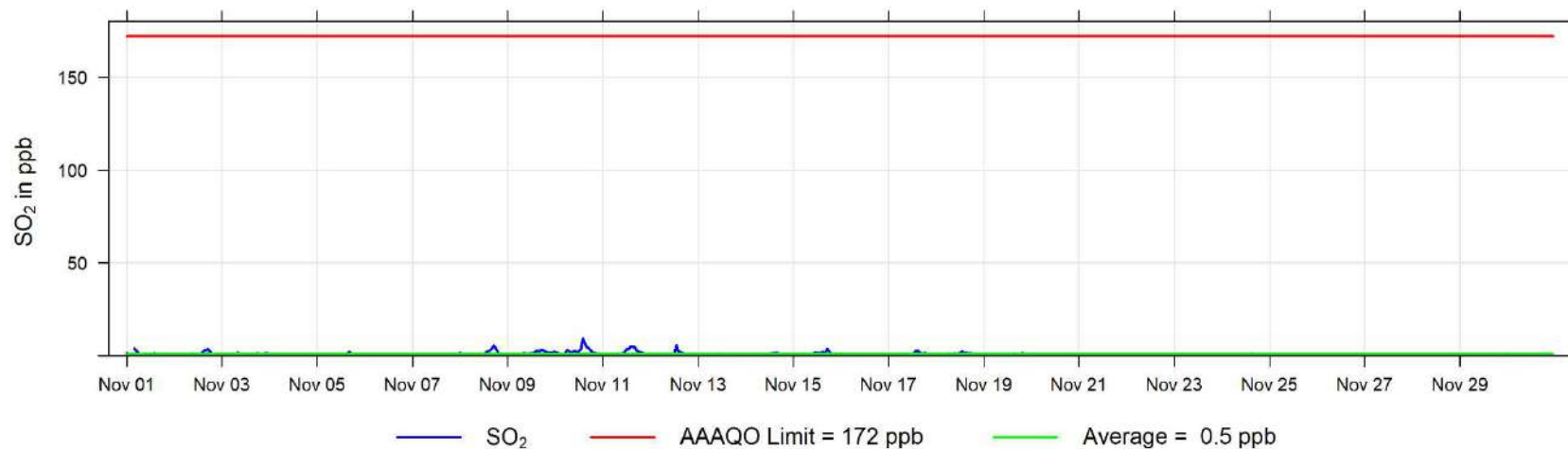


Dunes November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

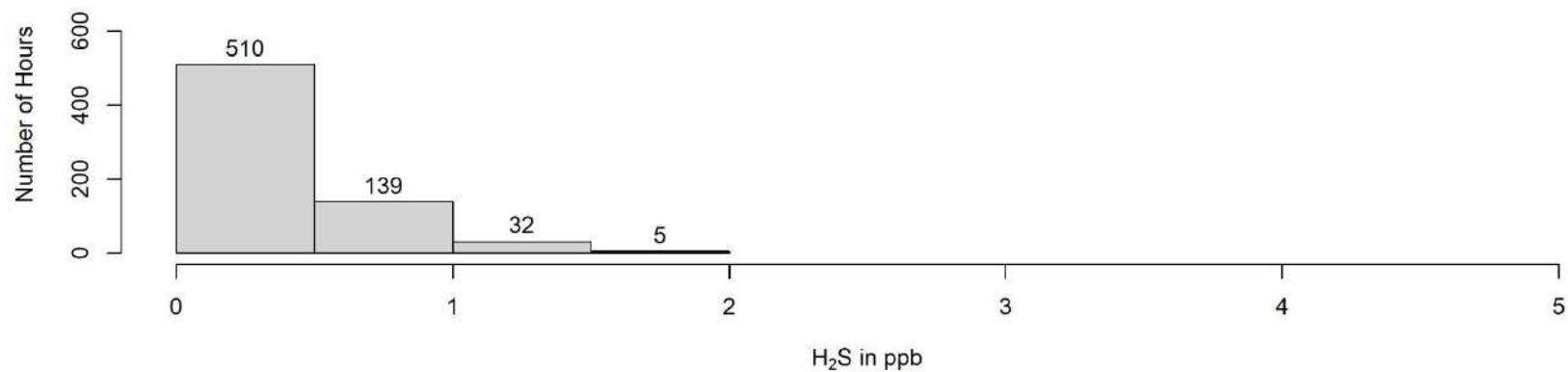
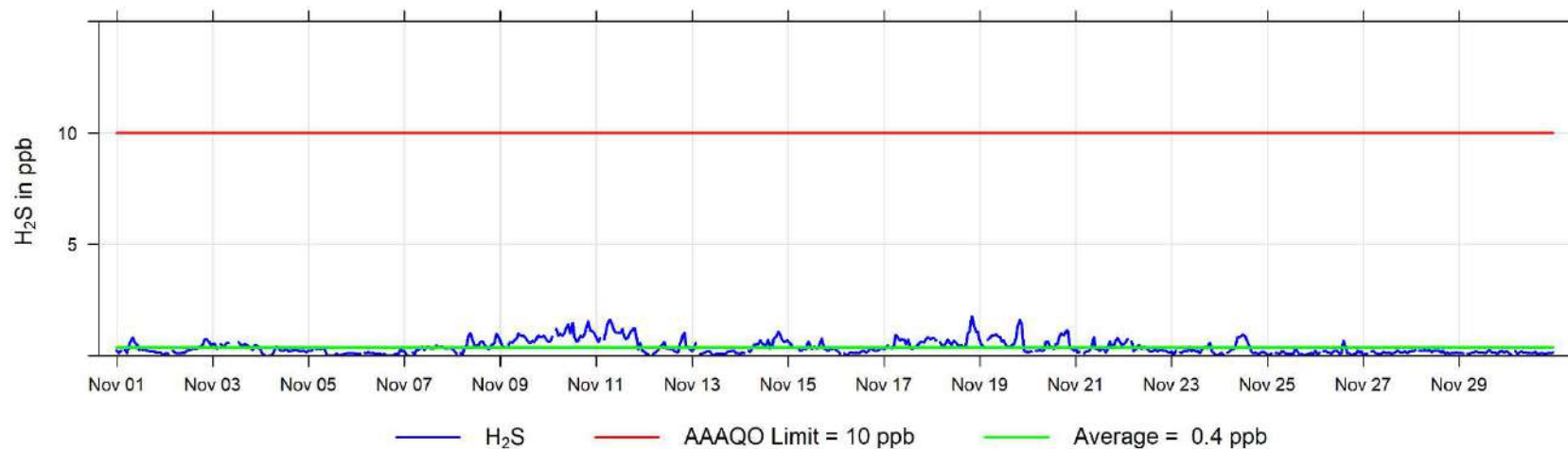
4 Grande Prairie - Henry Pirker Charts

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

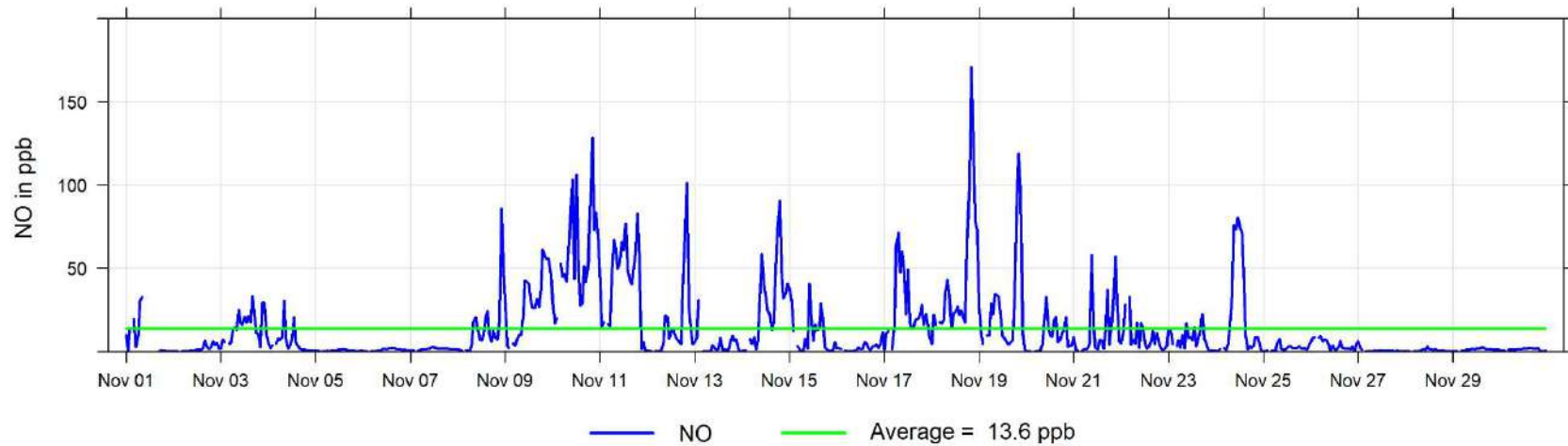
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Henry Pirker



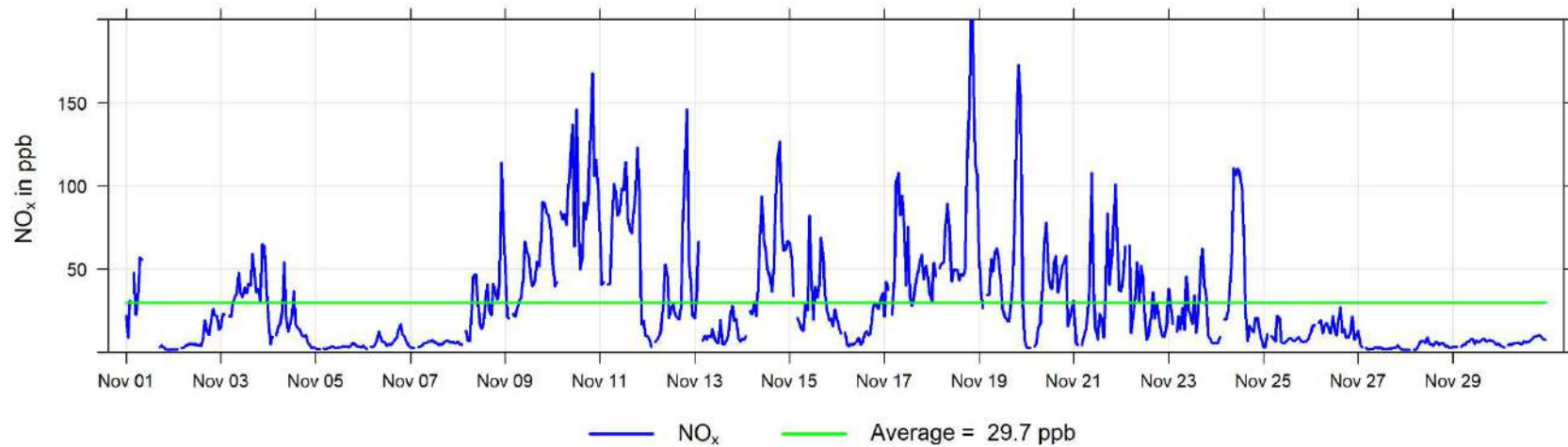
November 2022 Hourly Concentration Readings of H₂S (in ppb) at Henry Pirker



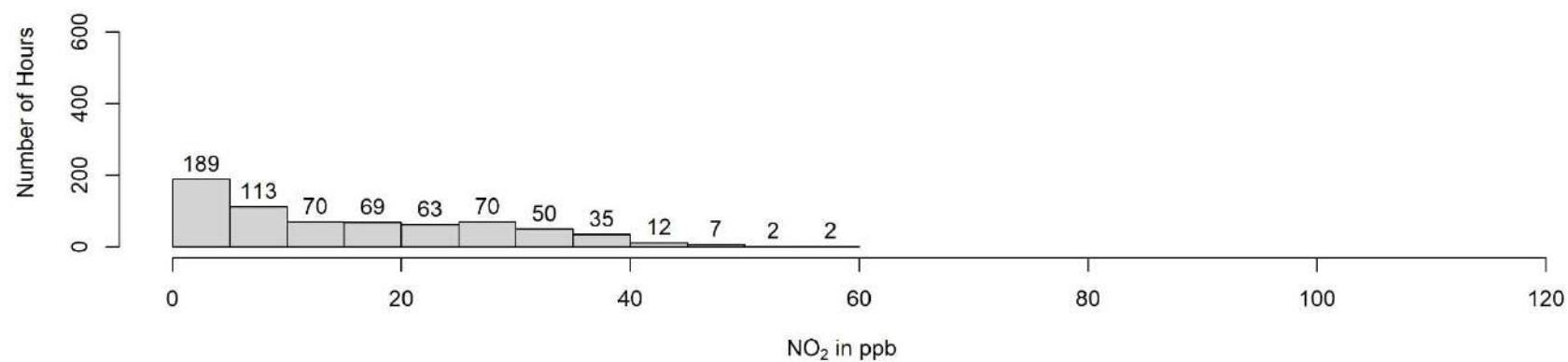
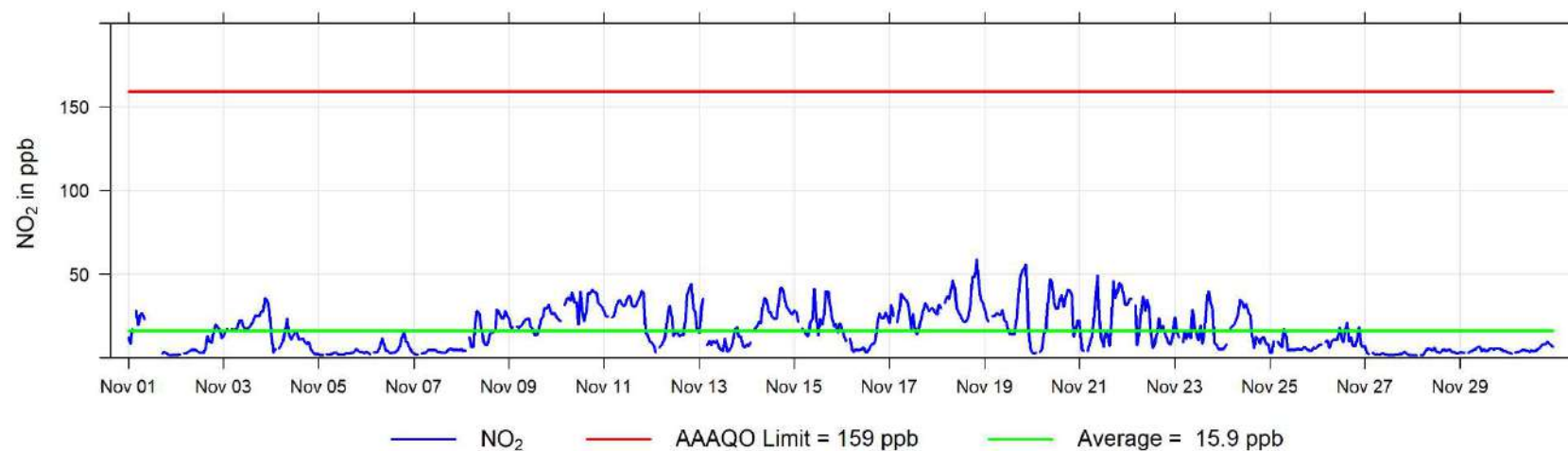
November 2022 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



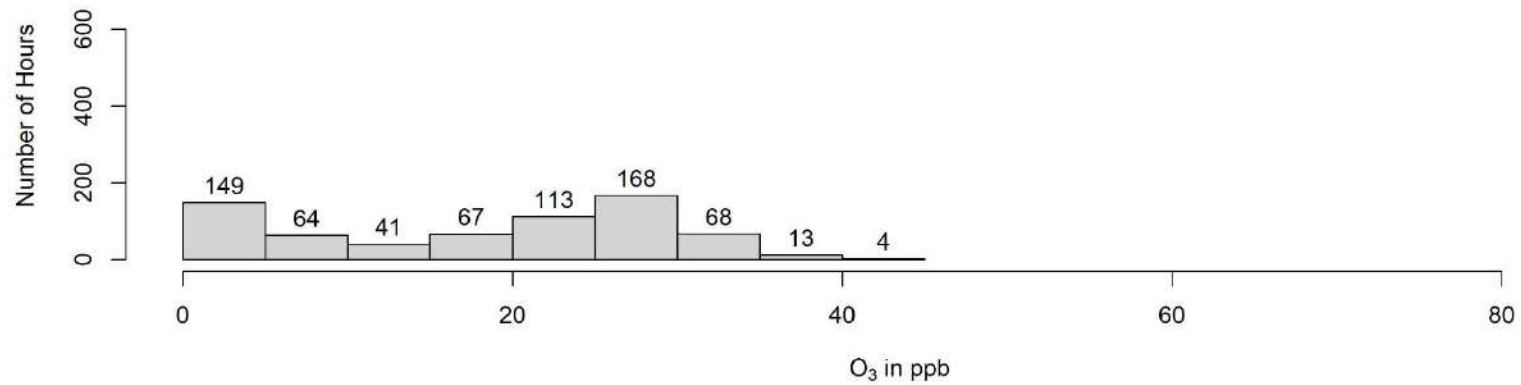
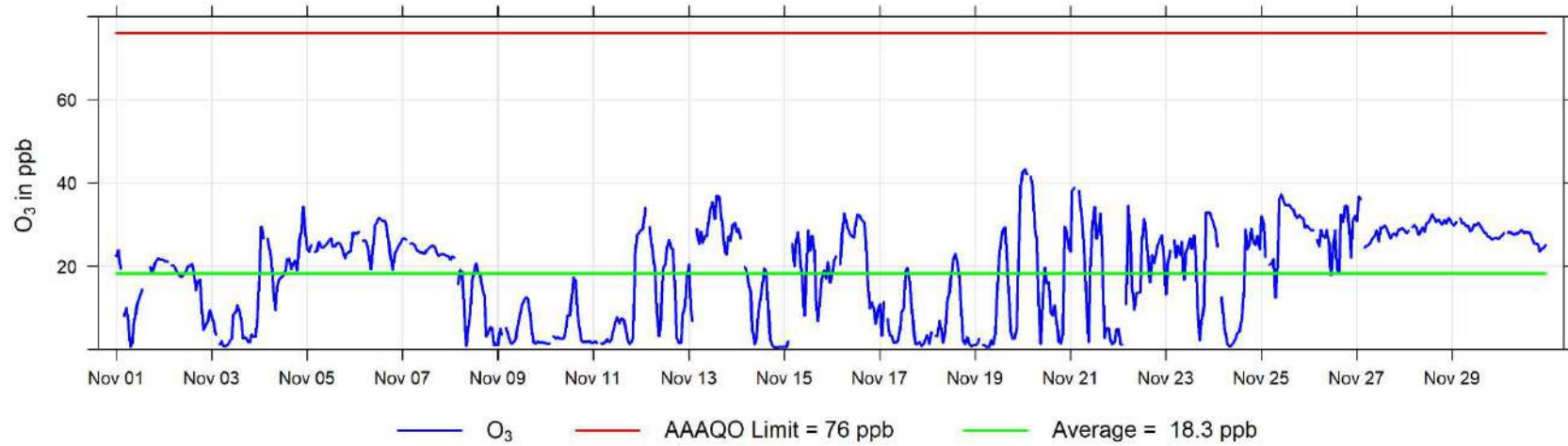
November 2022 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



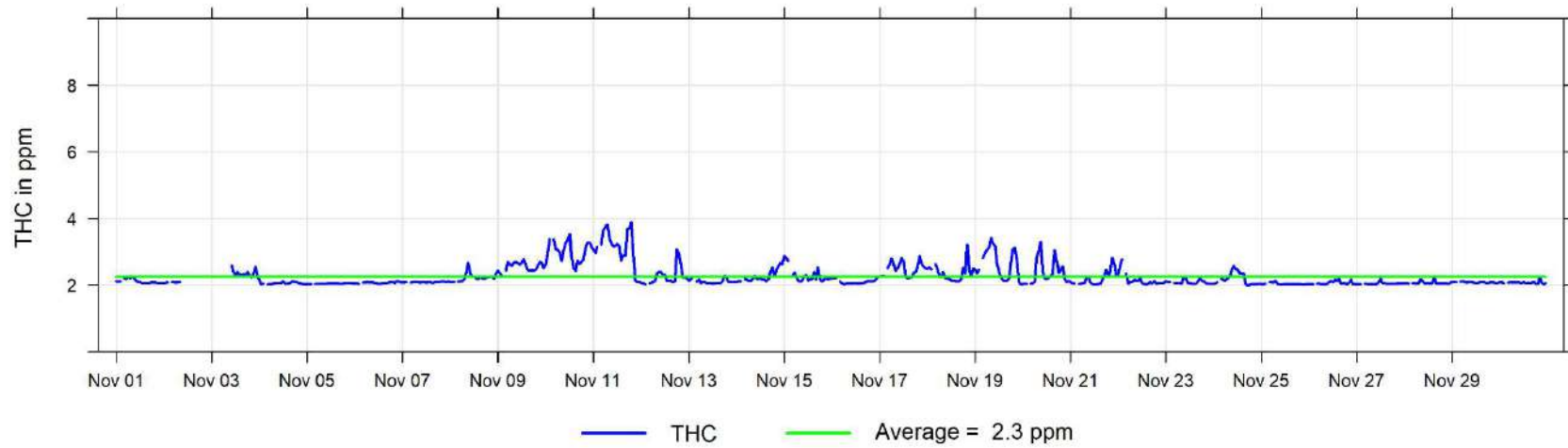
November 2022 Hourly Concentration Readings of NO₂ (in ppb) at Henry Pirker



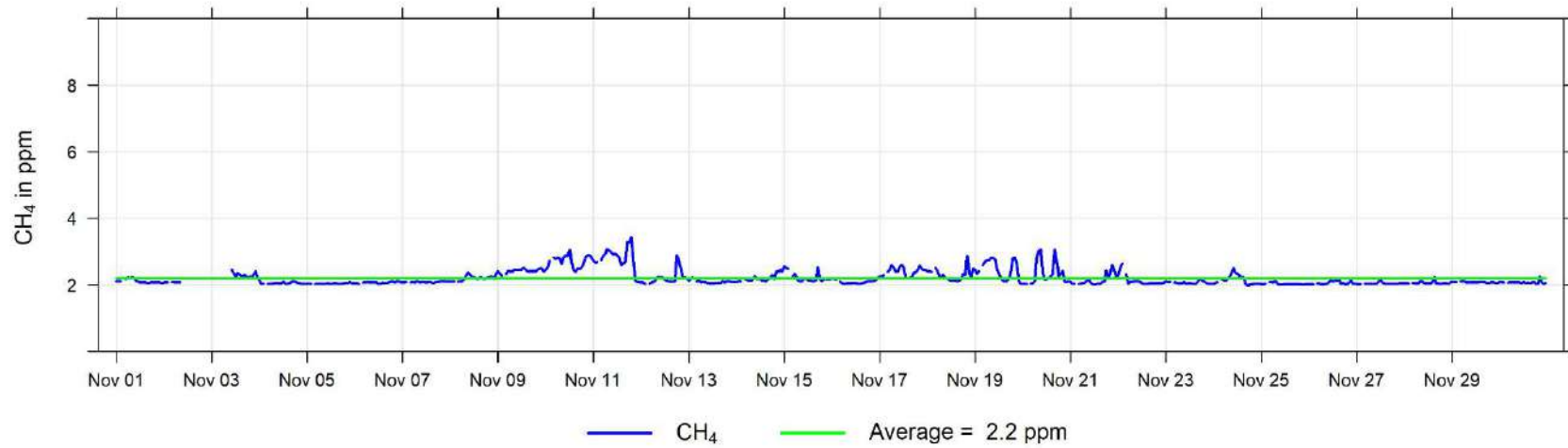
November 2022 Hourly Concentration Readings of O₃ (in ppb) at Henry Pirker



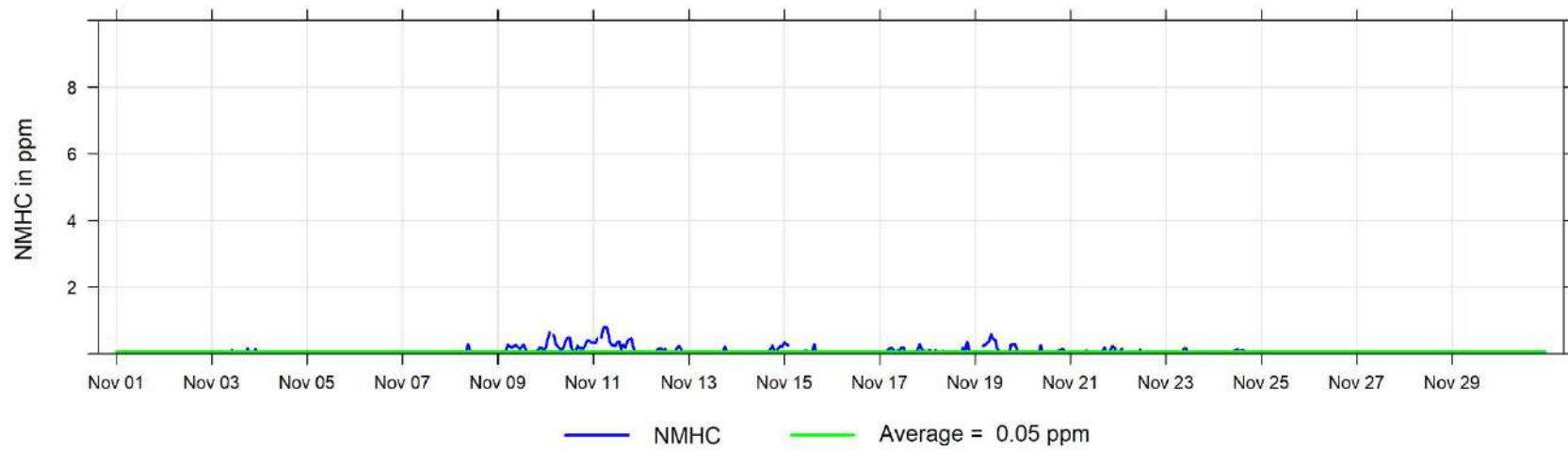
November 2022 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



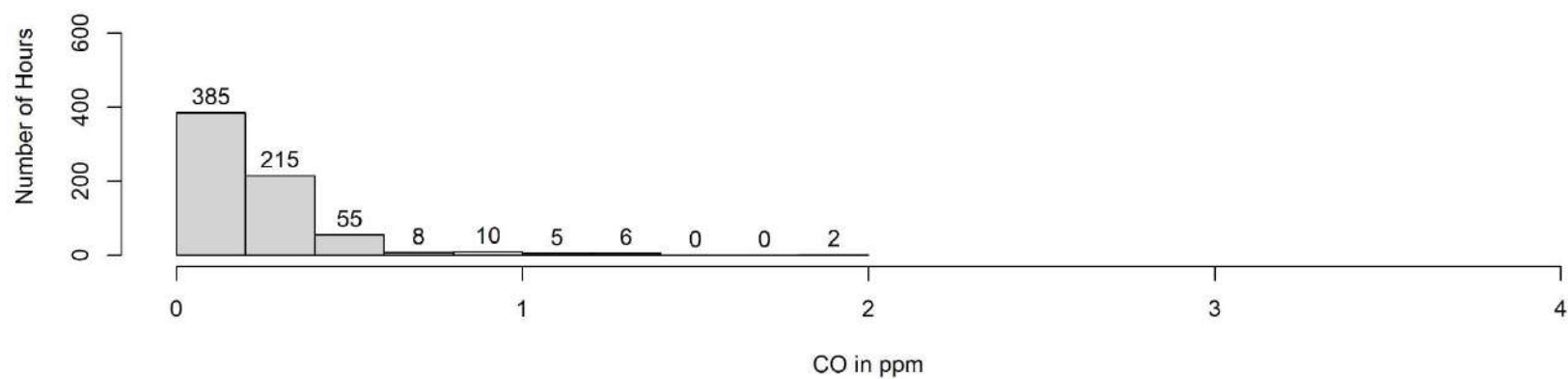
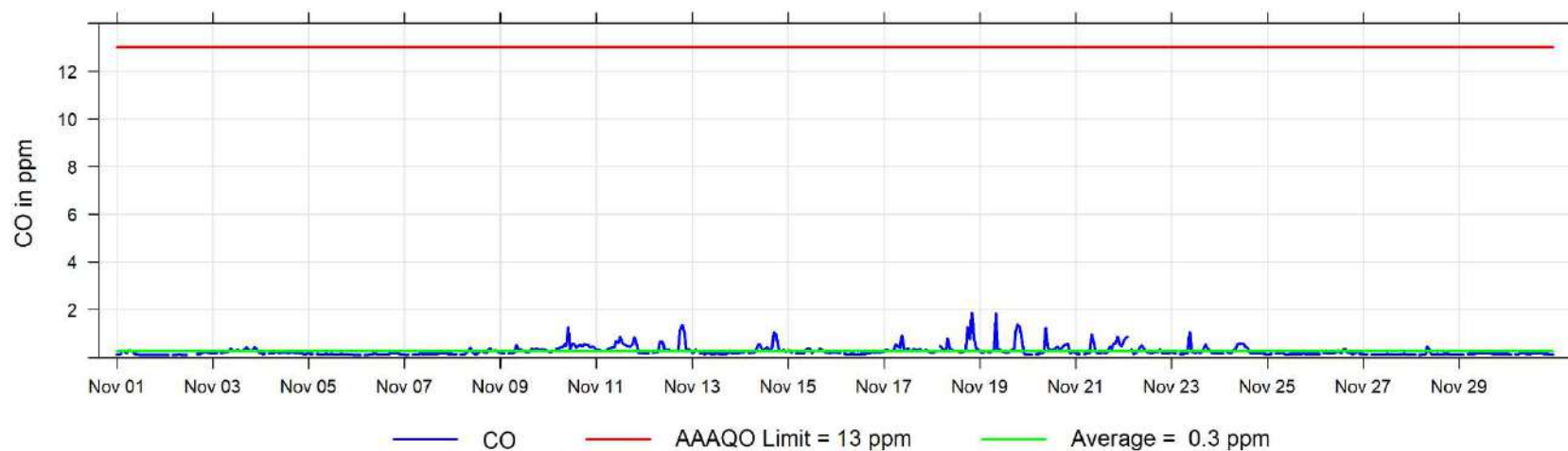
November 2022 Hourly Concentration Readings of CH₄ (in ppm) at Henry Pirker



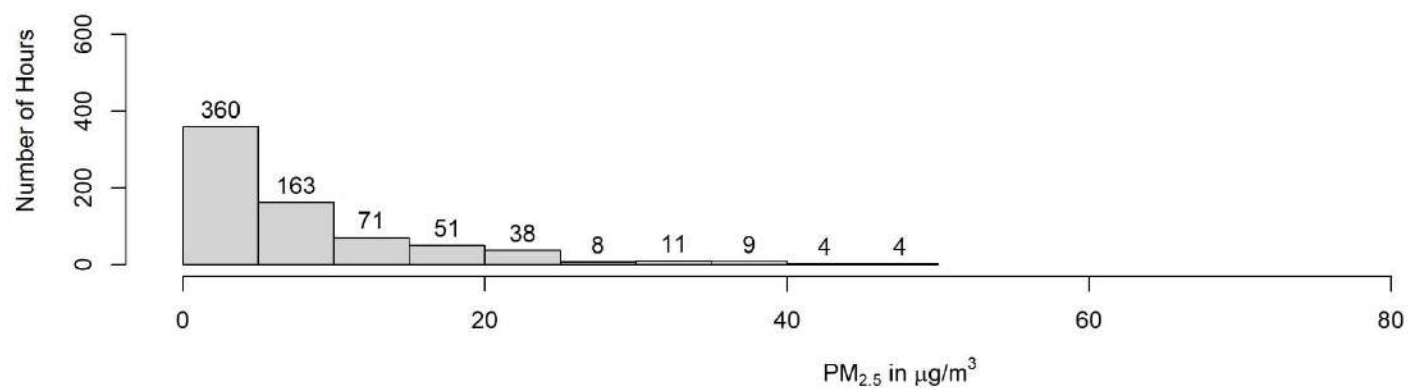
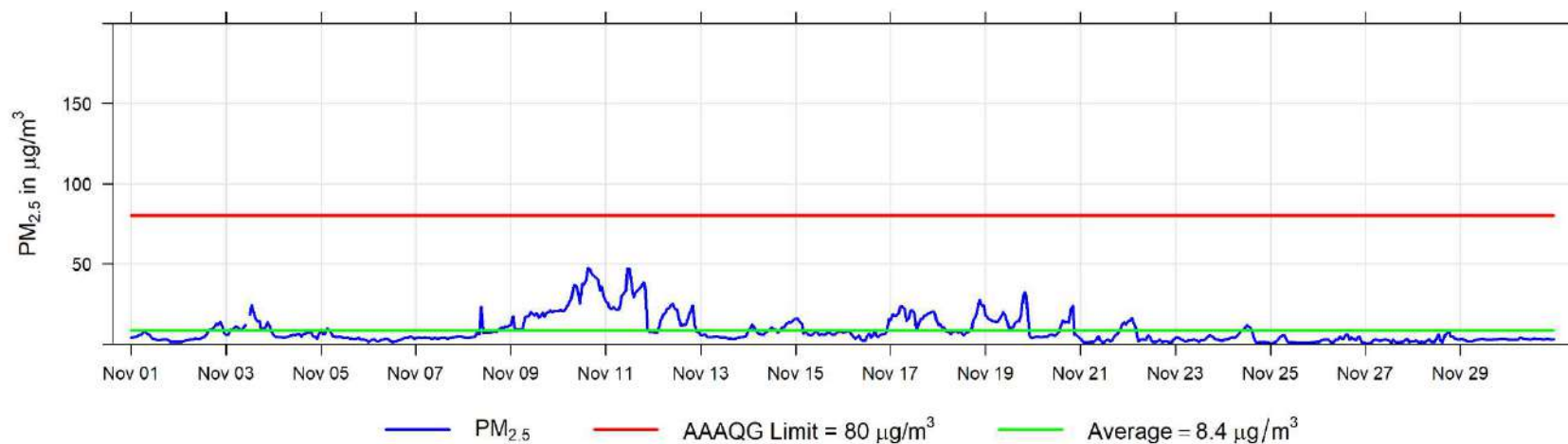
November 2022 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



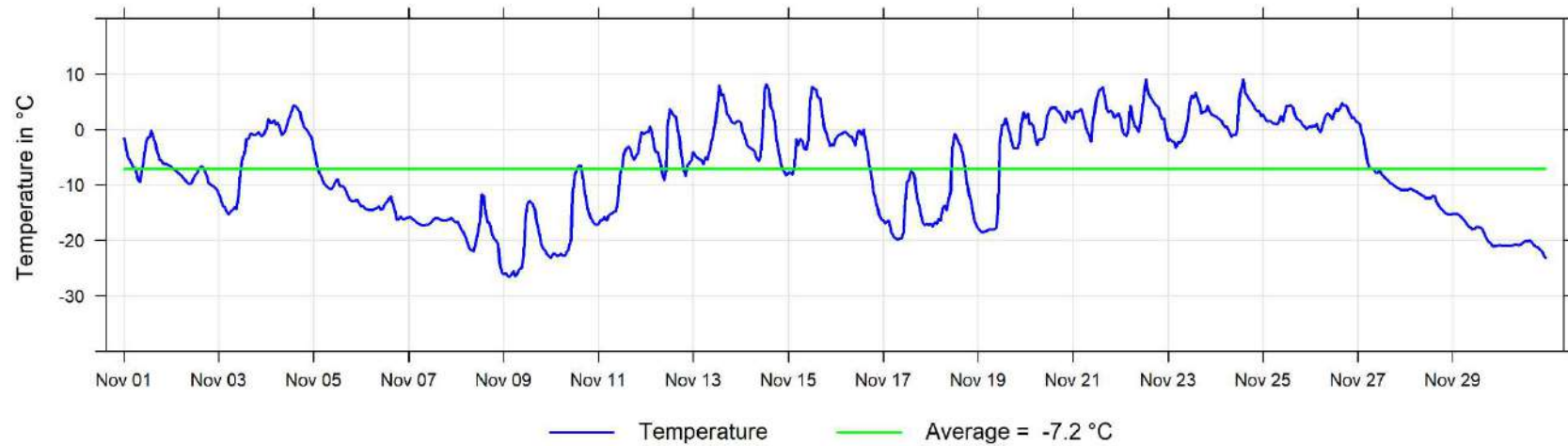
November 2022 Hourly Concentration Readings of CO (in ppm) at Henry Pirker



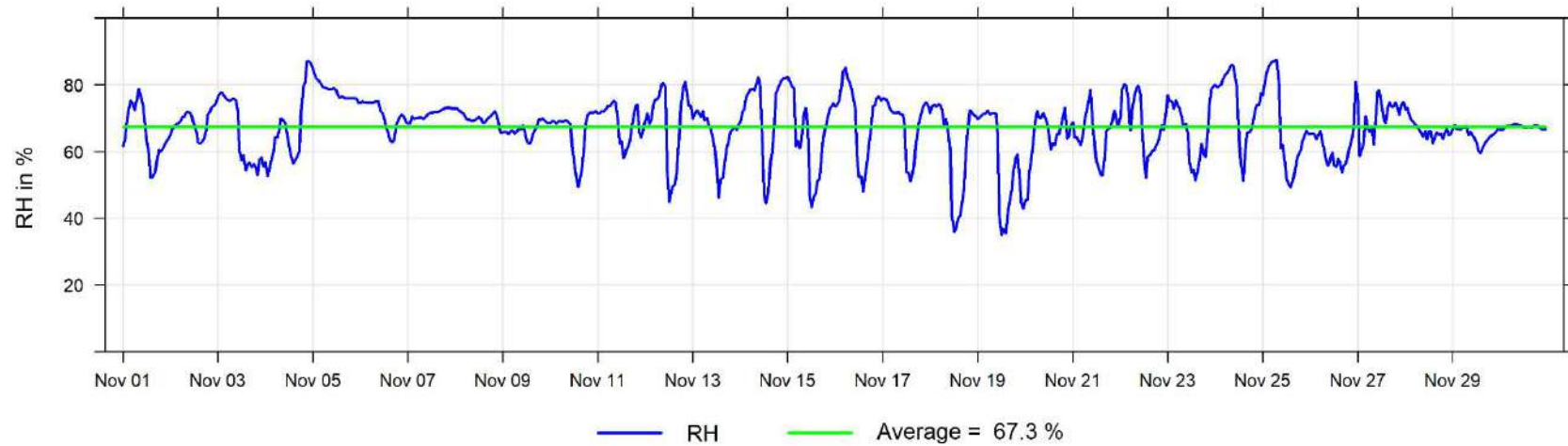
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Henry Pirker



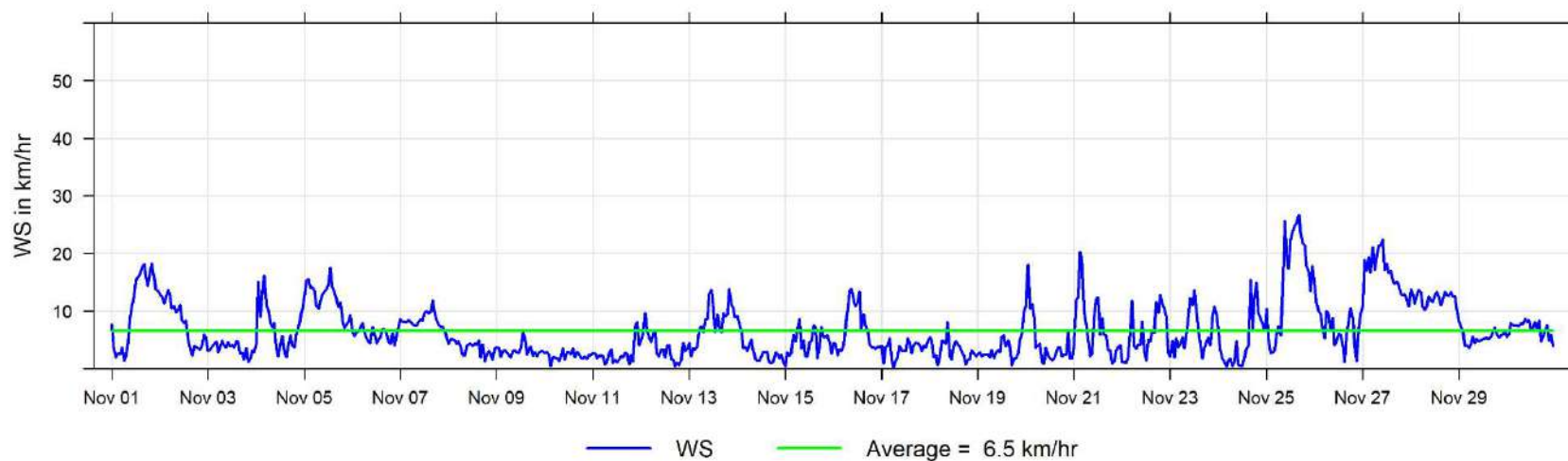
November 2022 Hourly Temperature Readings (in °C) at Henry Pirker



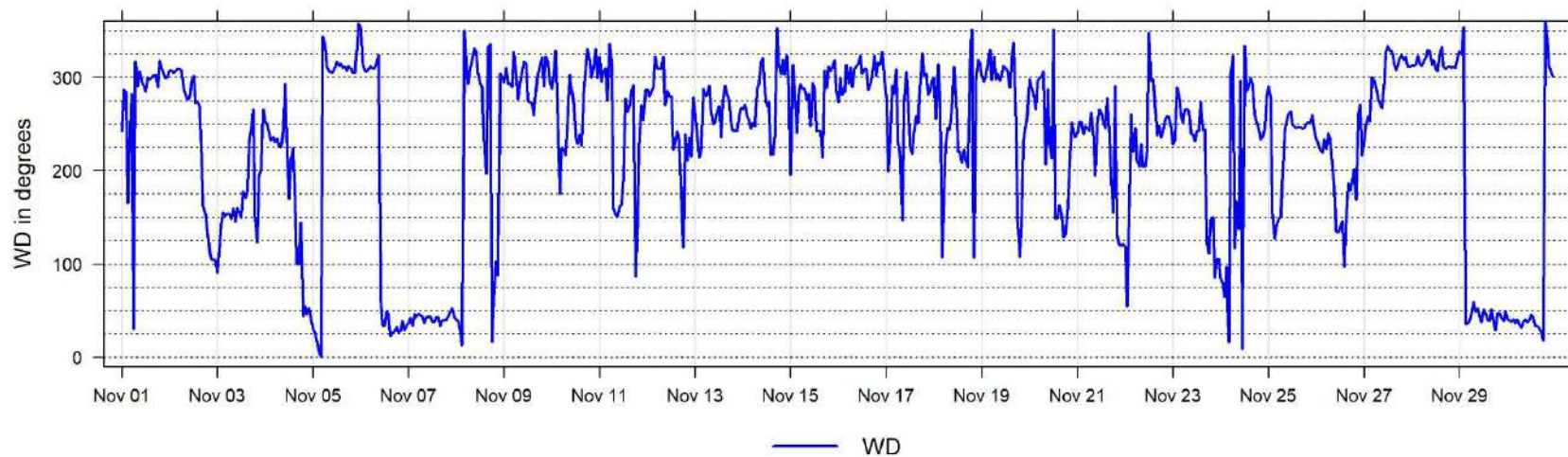
November 2022 Hourly Readings of Relative Humidity (in %) at Henry Pirker



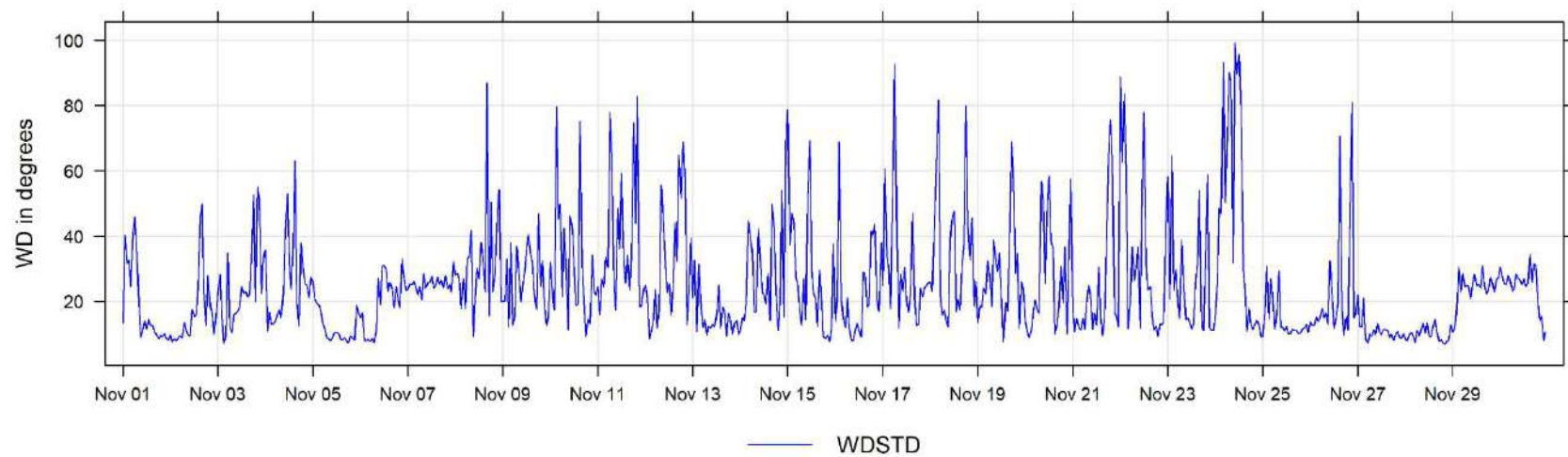
November 2022 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker

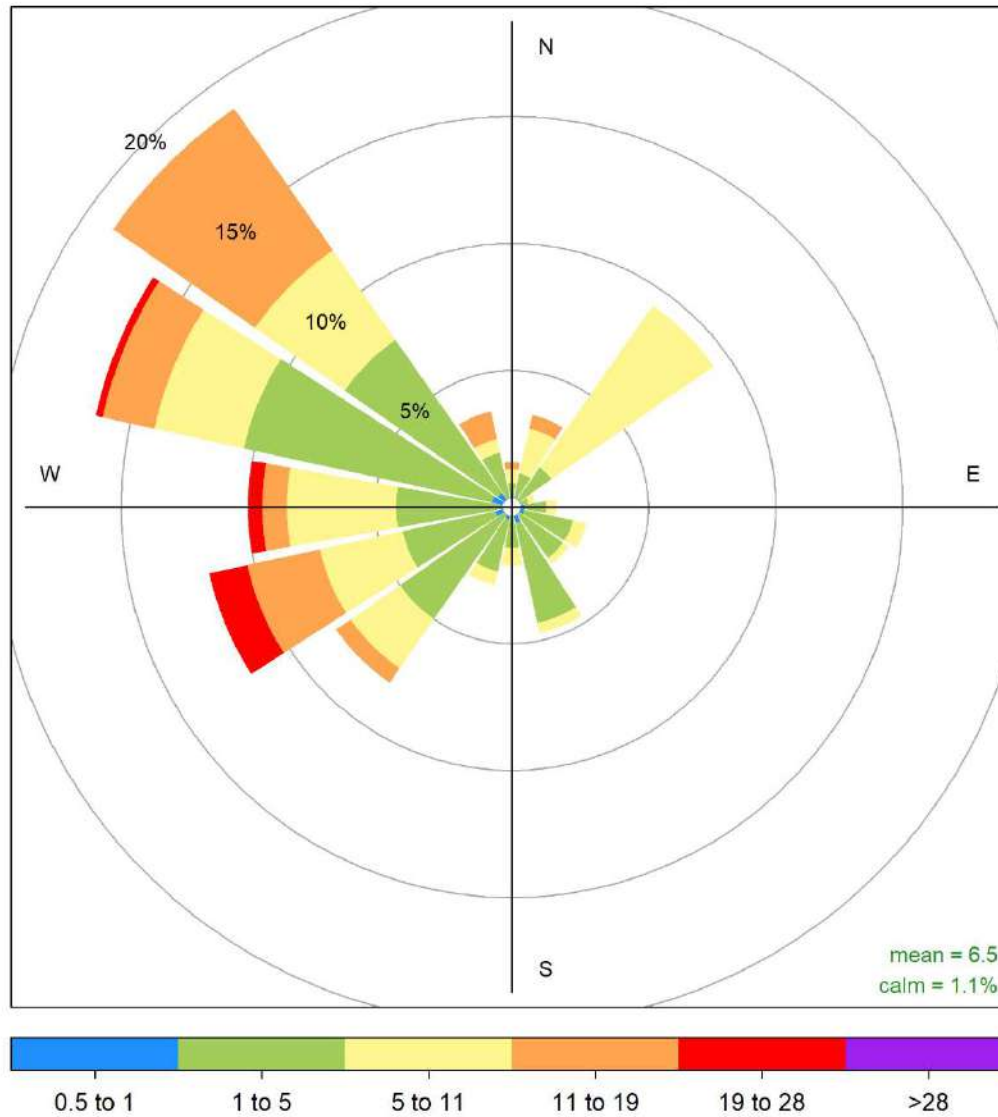


November 2022 Hourly Readings of Wind Direction (in degrees) at Henry Pirker



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Henry Pirker



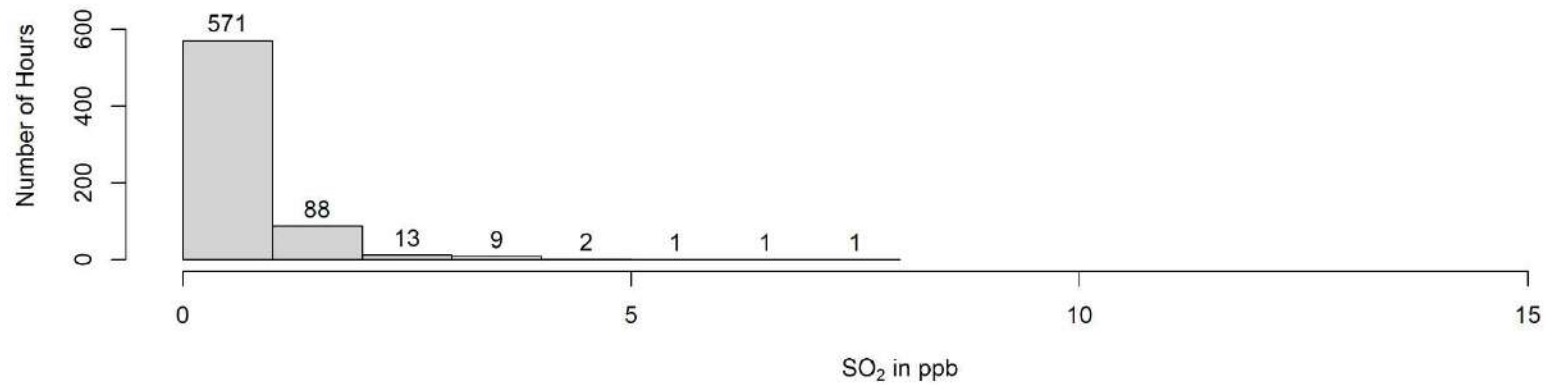
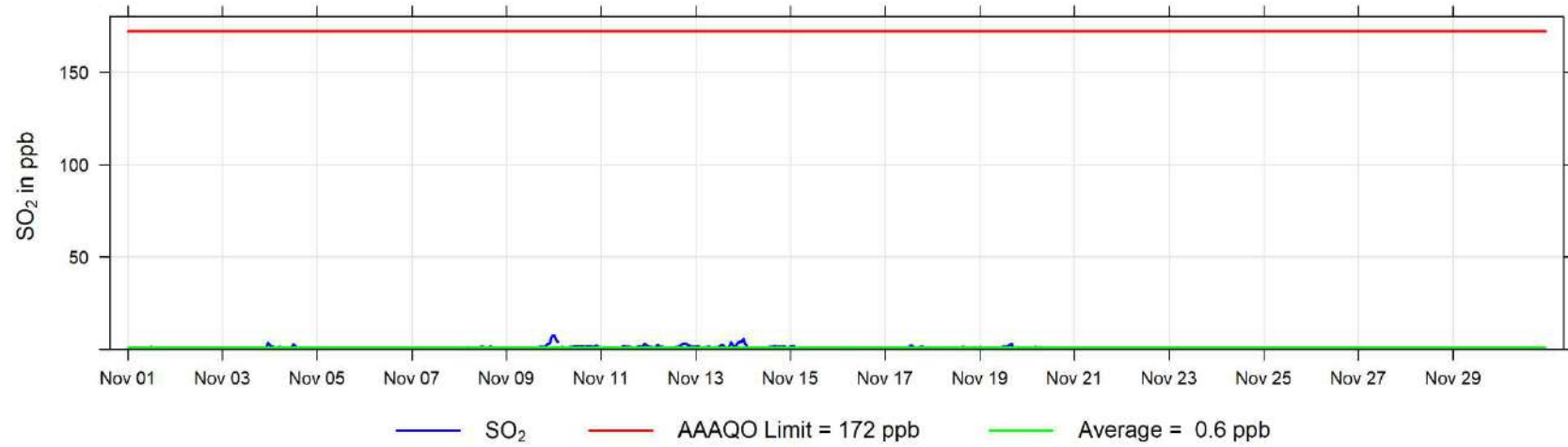


Henry Pirker November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

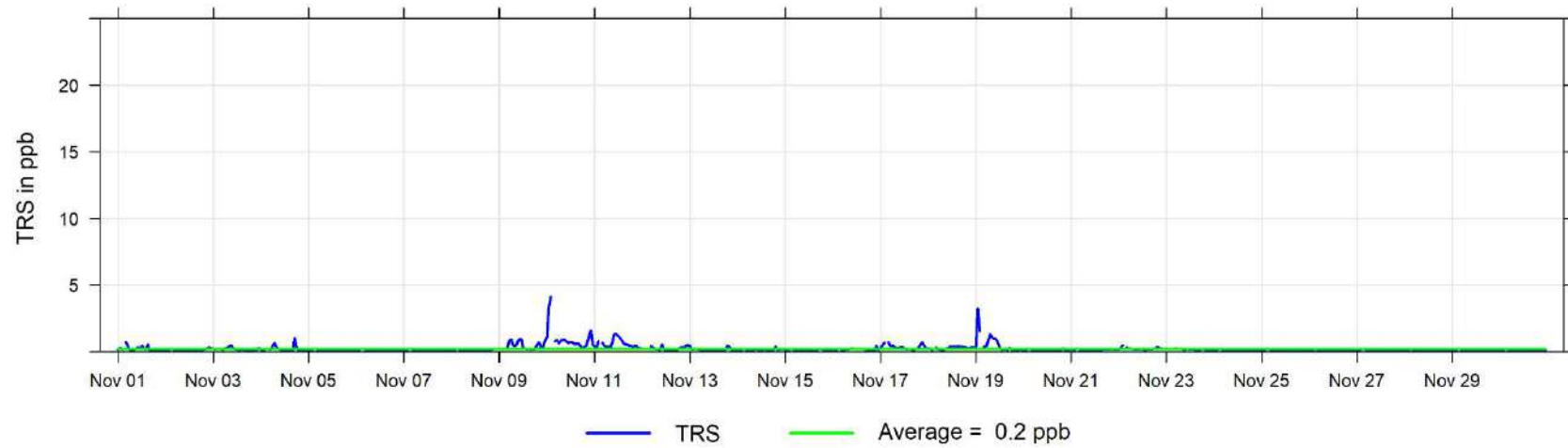
5 Smoky Heights Charts

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

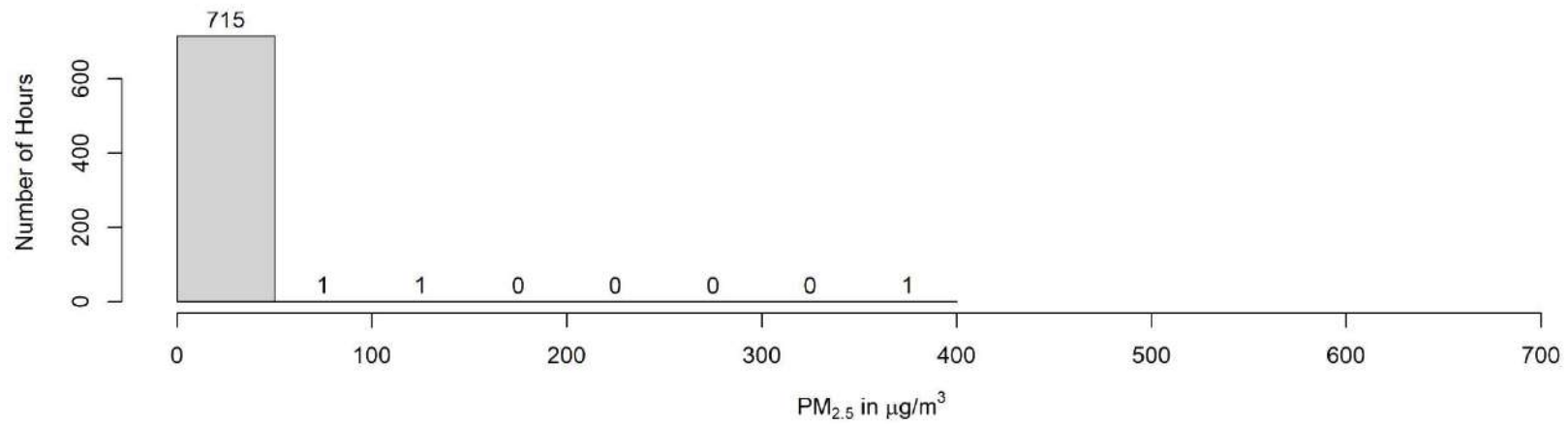
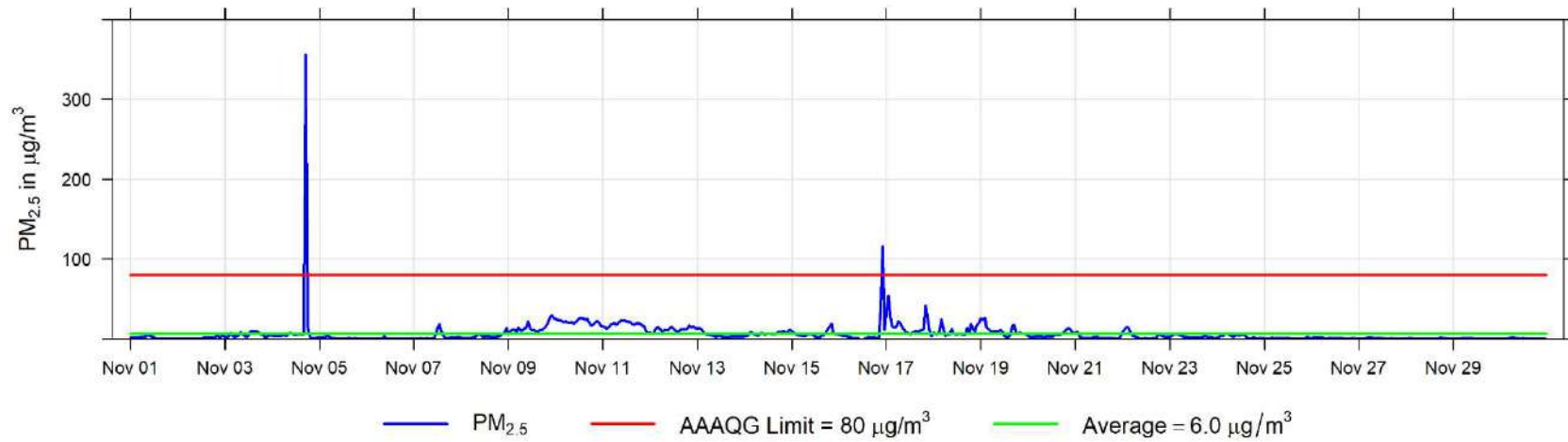
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights



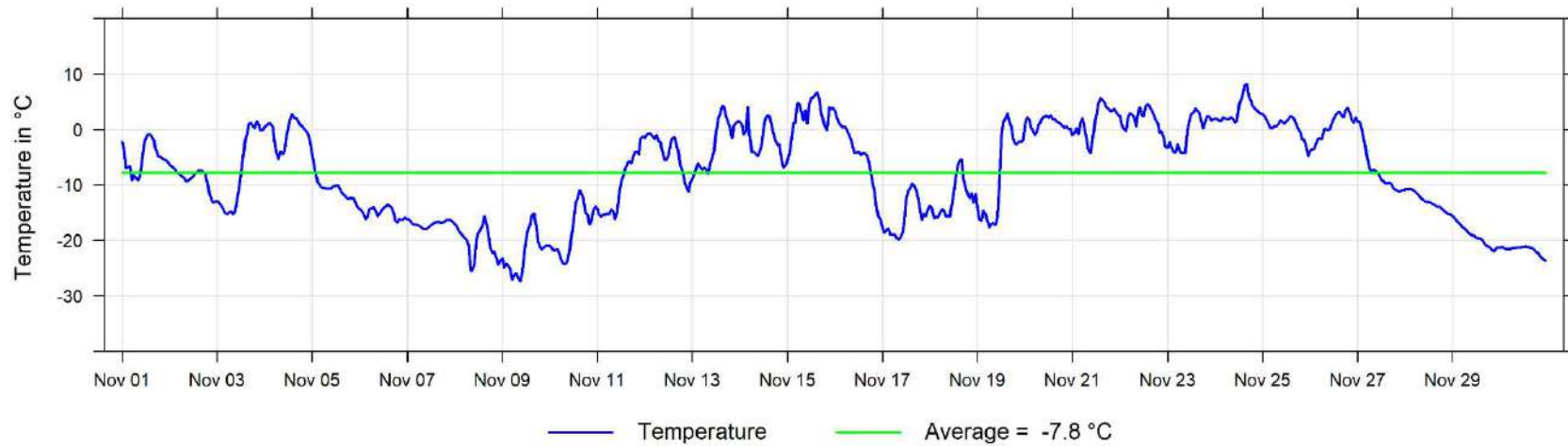
November 2022 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights



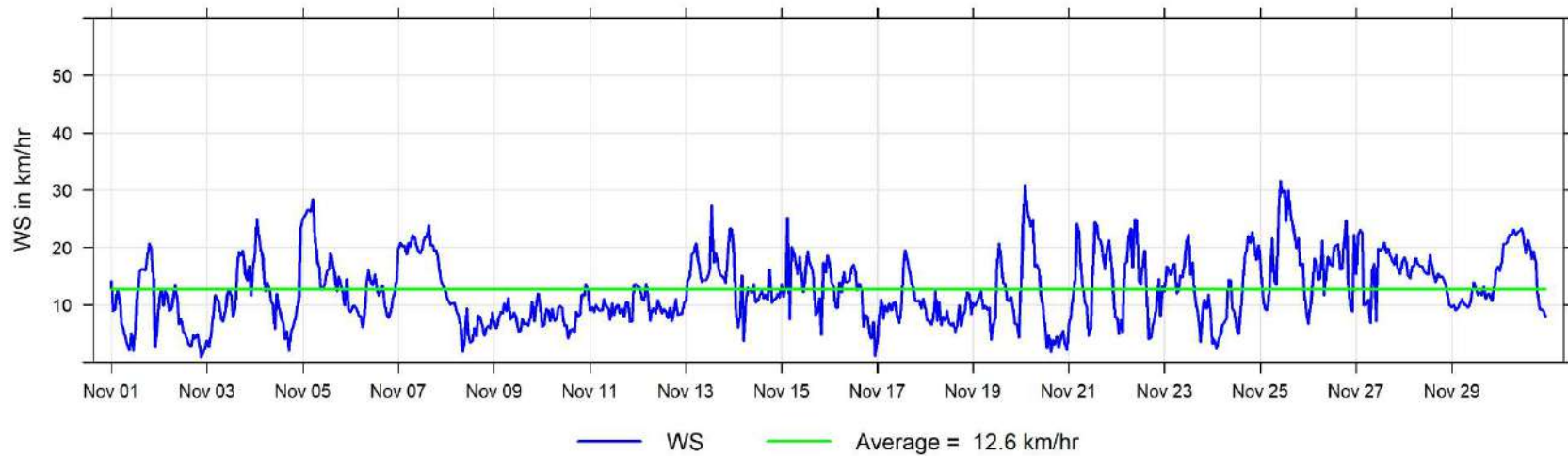
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



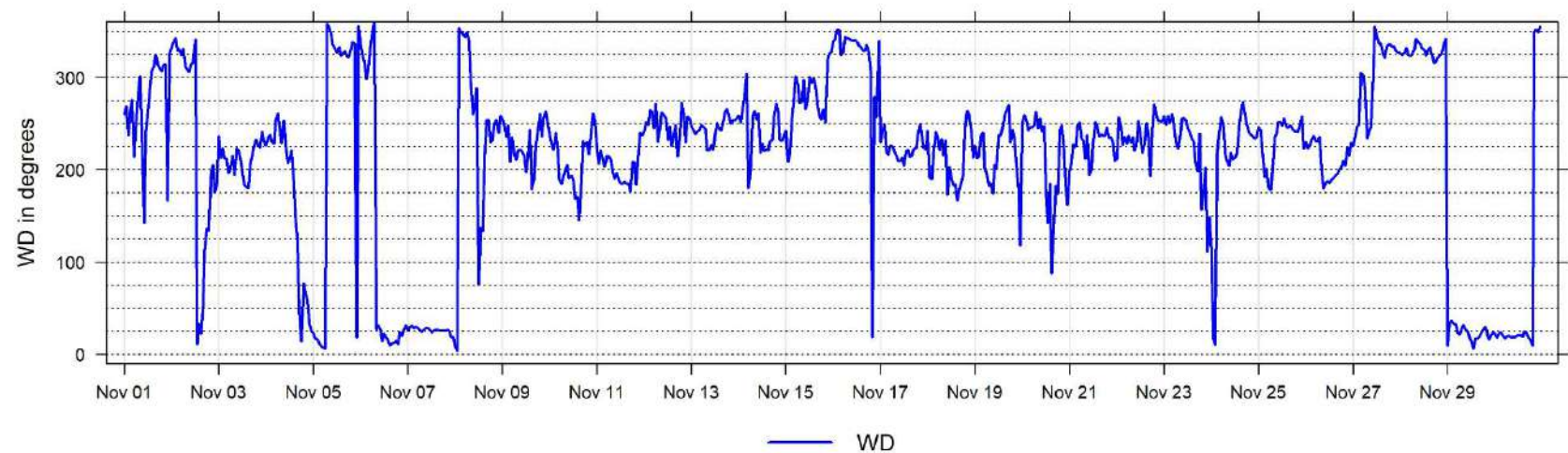
November 2022 Hourly Temperature Readings (in °C) at Smoky Heights



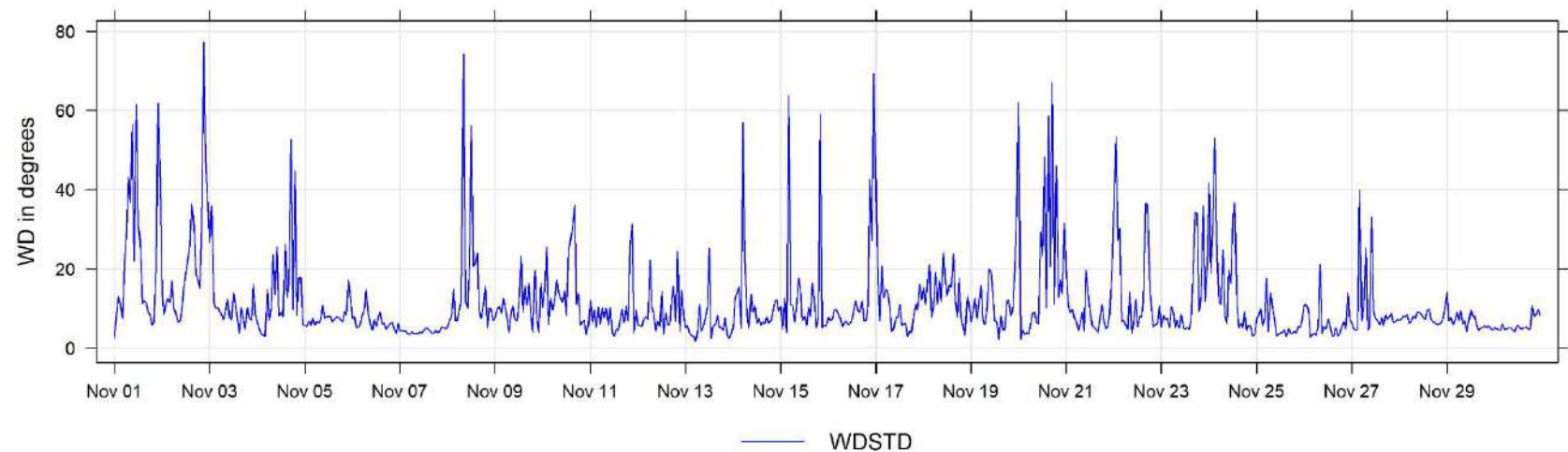
November 2022 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

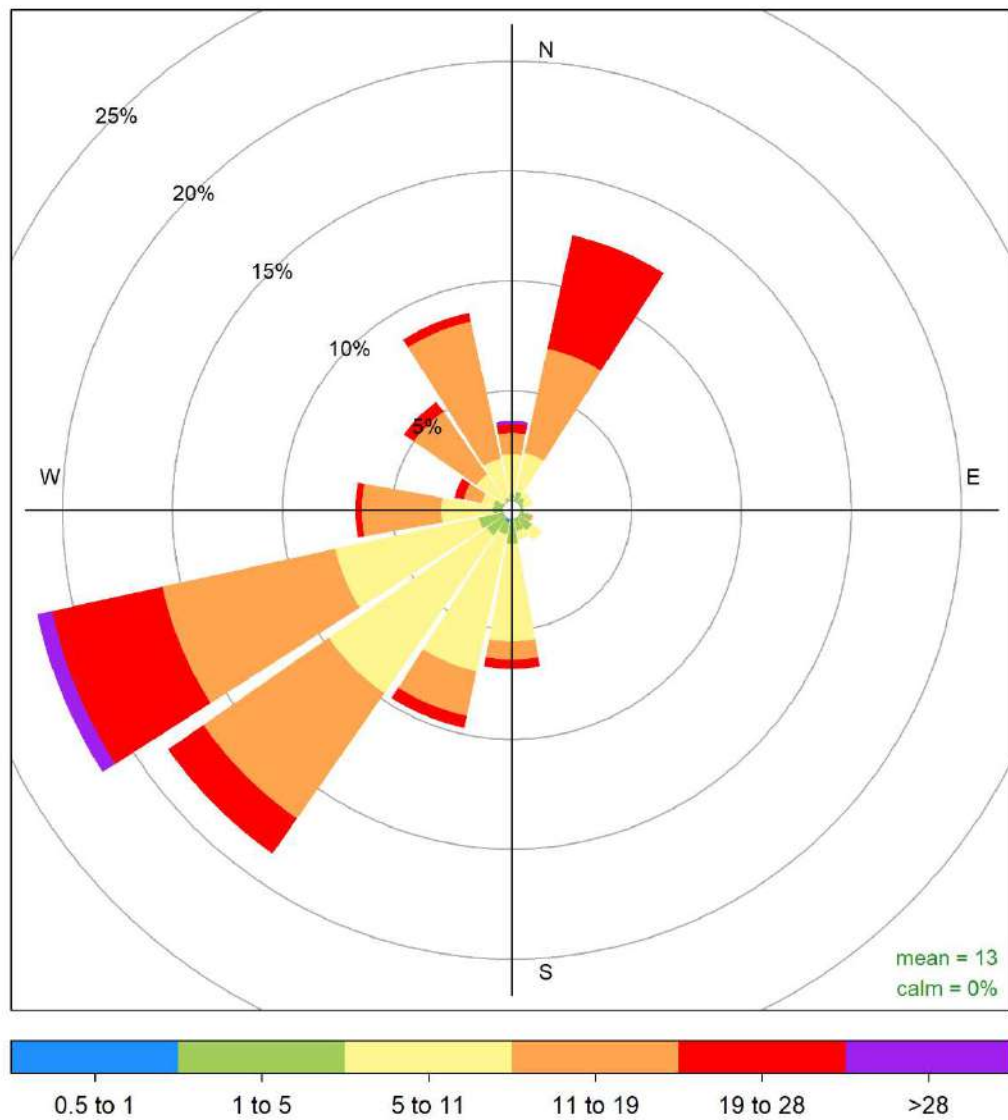


November 2022 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Smoky Heights



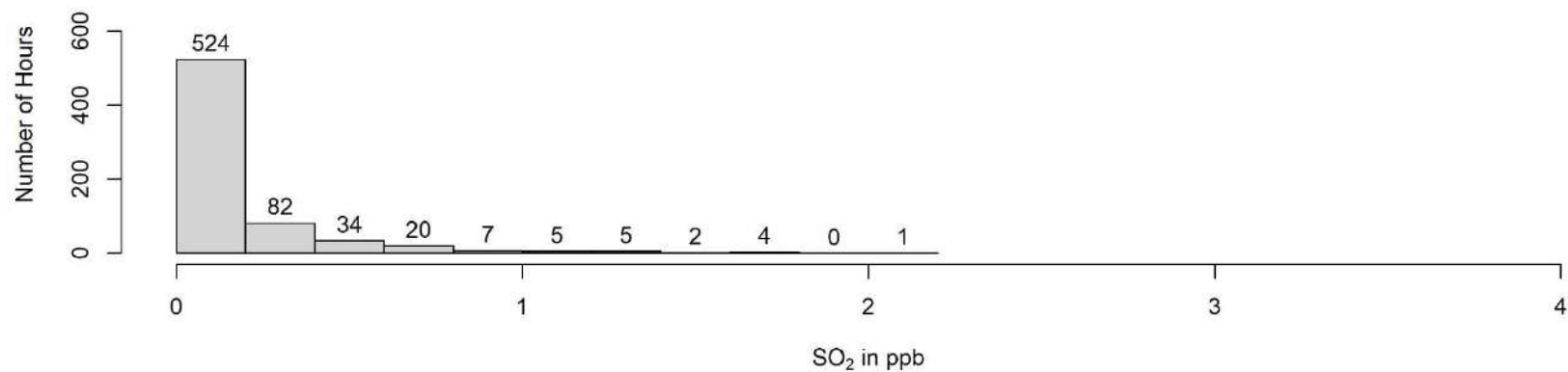
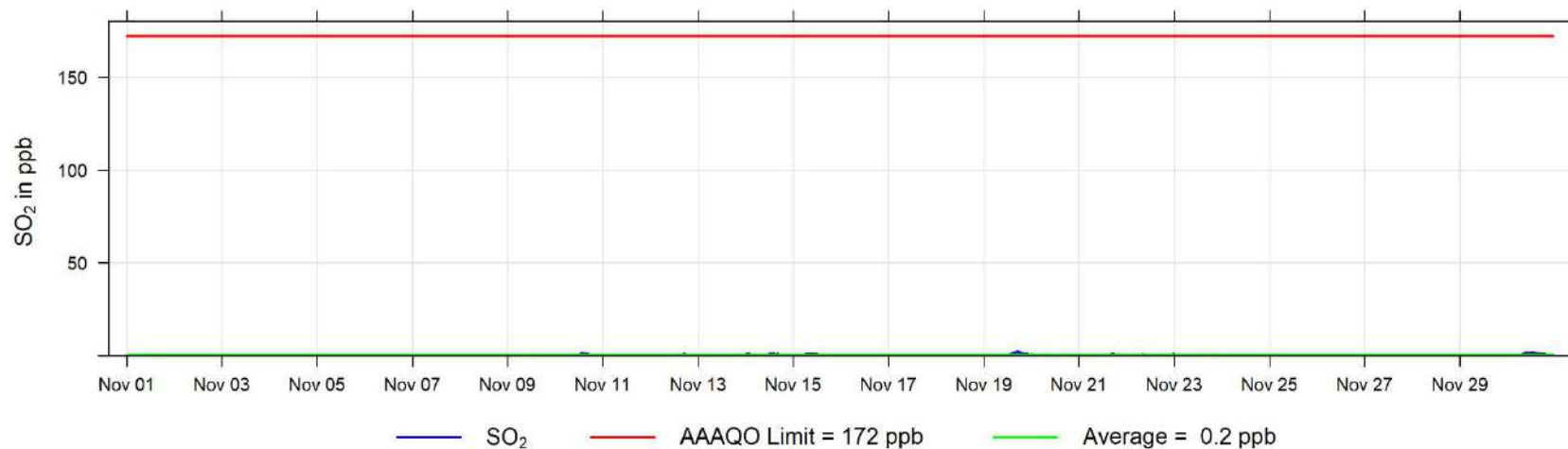


Smoky Heights November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

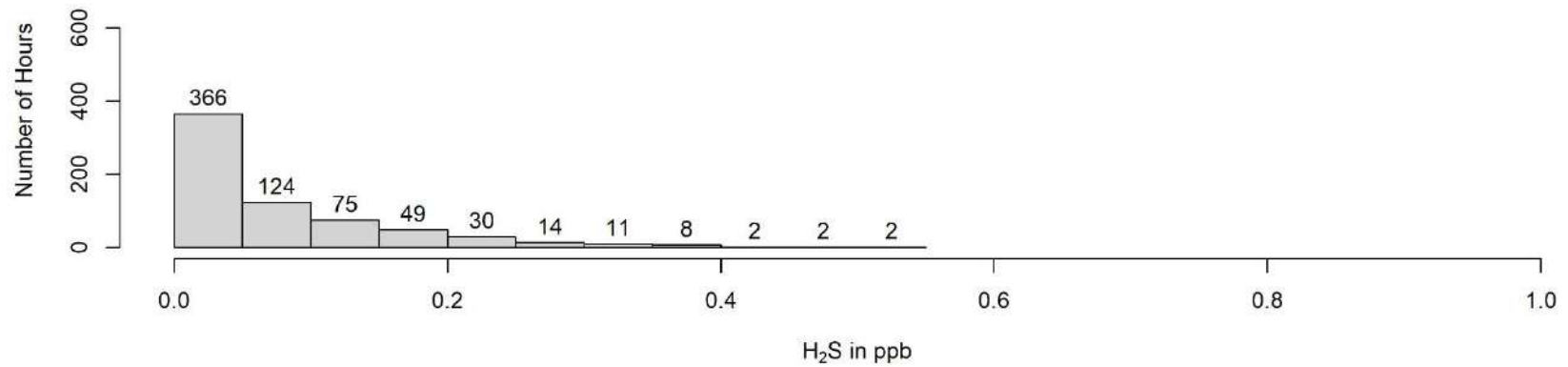
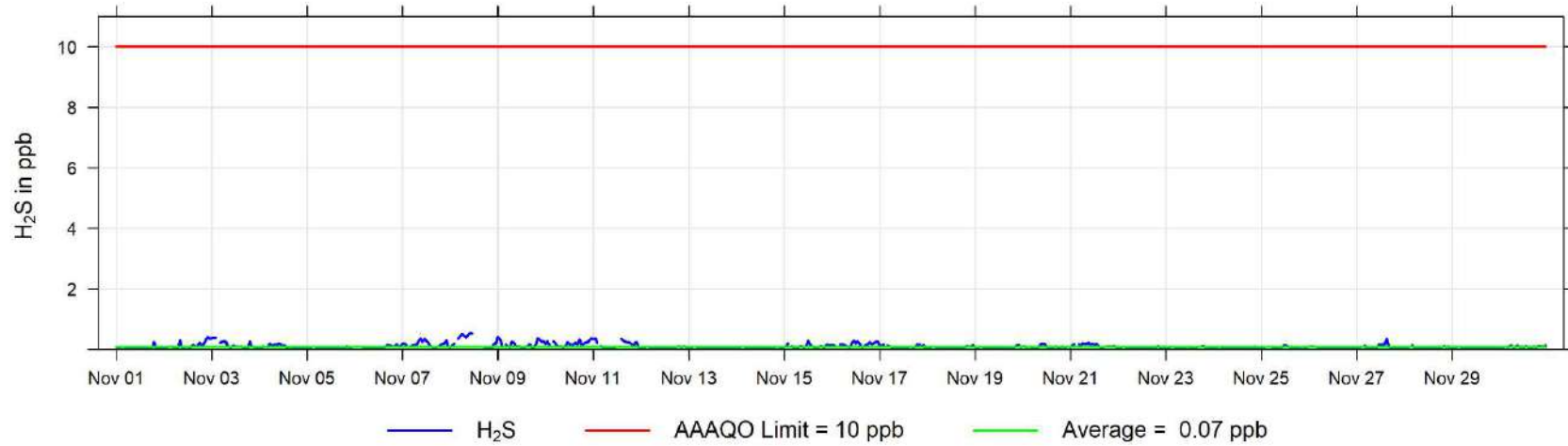
6 Valleyview Charts

The following pages include the charts and histograms for Valleyview Station

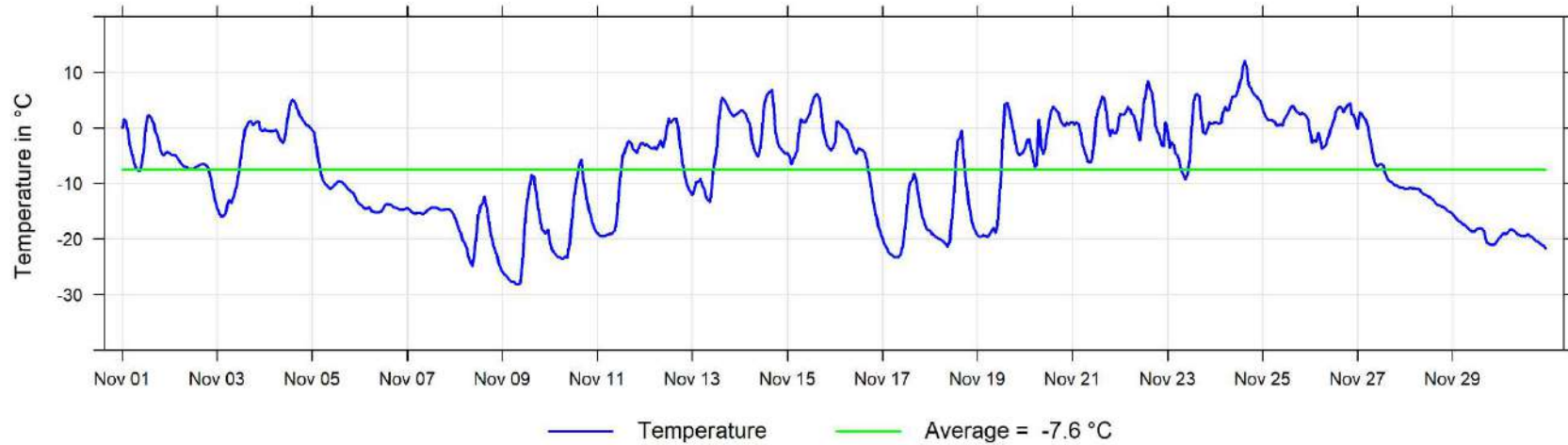
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview



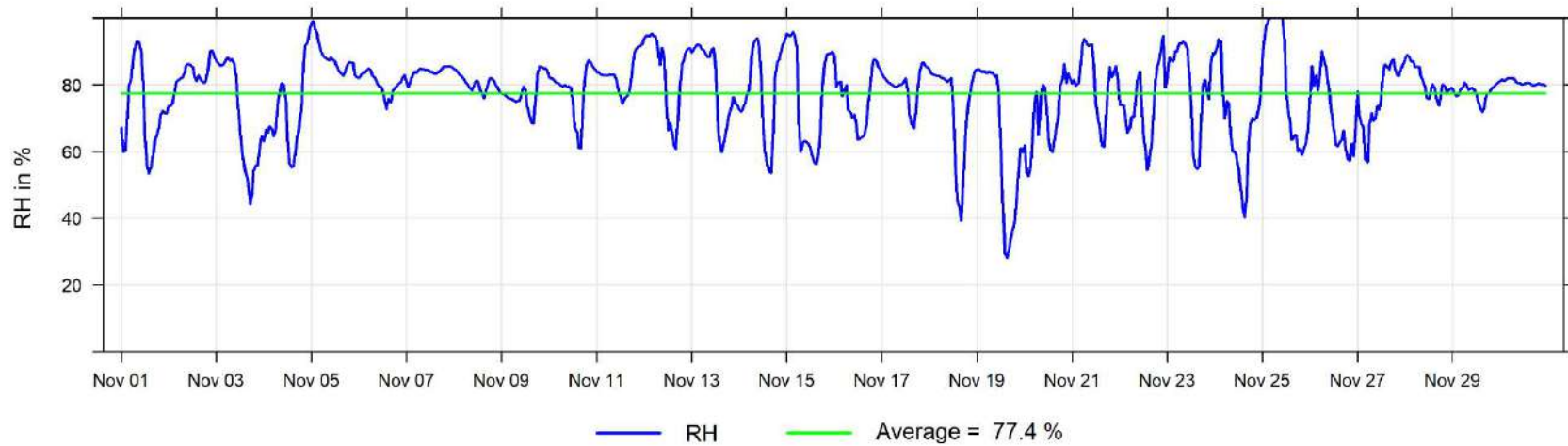
November 2022 Hourly Concentration Readings of H₂S (in ppb) at Valleyview



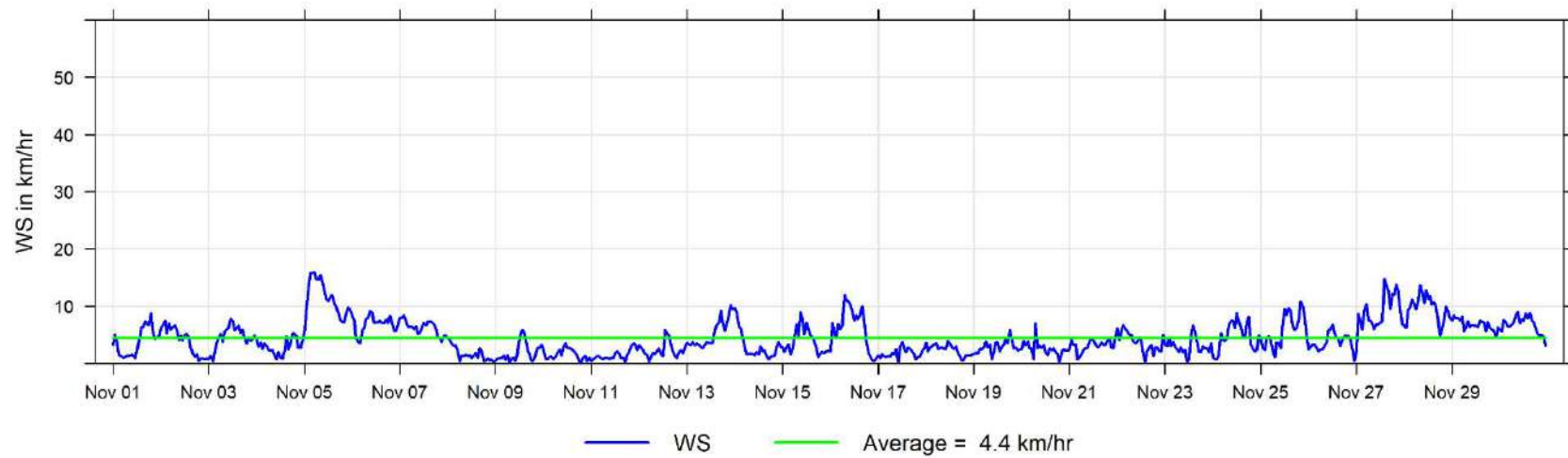
November 2022 Hourly Temperature Readings (in °C) at Valleyview



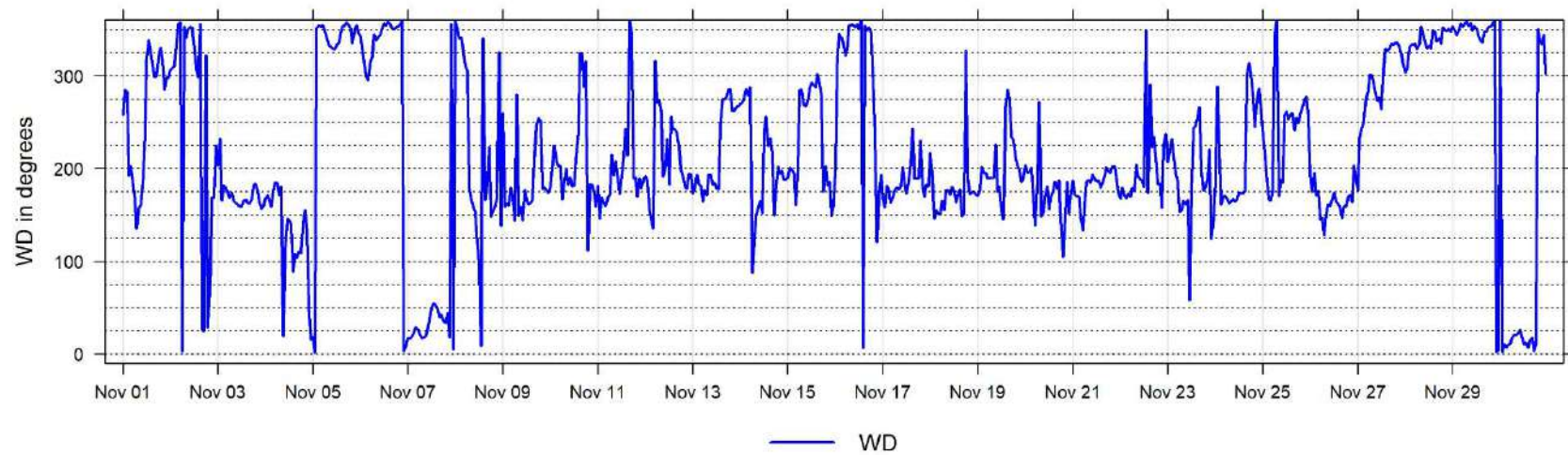
November 2022 Hourly Readings of Relative Humidity (in %) at Valleyview



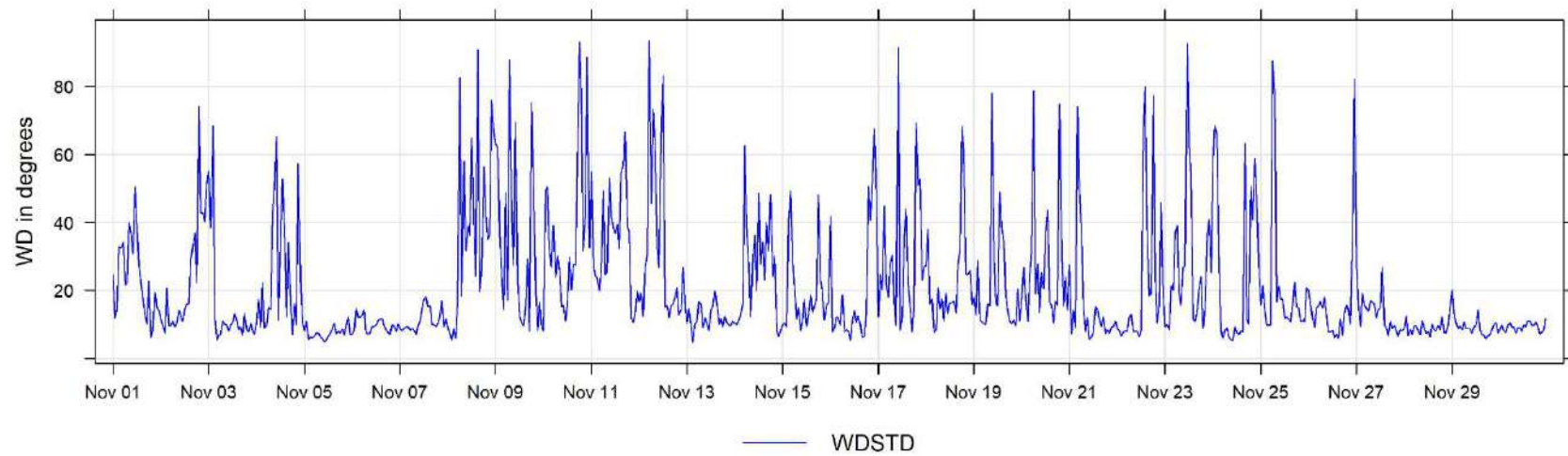
November 2022 Hourly Readings of Wind Speed (in km/hr) at Valleyview

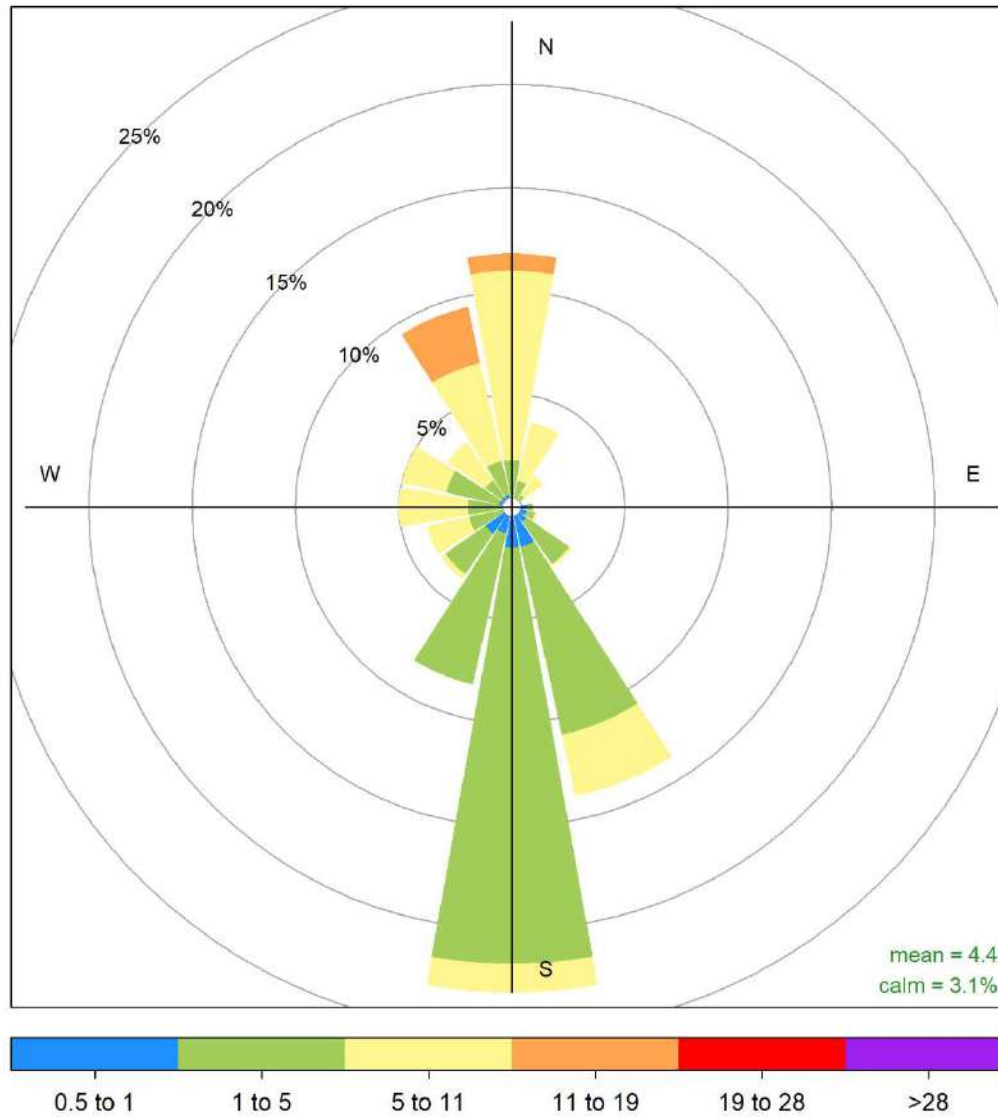


November 2022 Hourly Readings of Wind Direction (in degrees) at Valleyview



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Valleyview



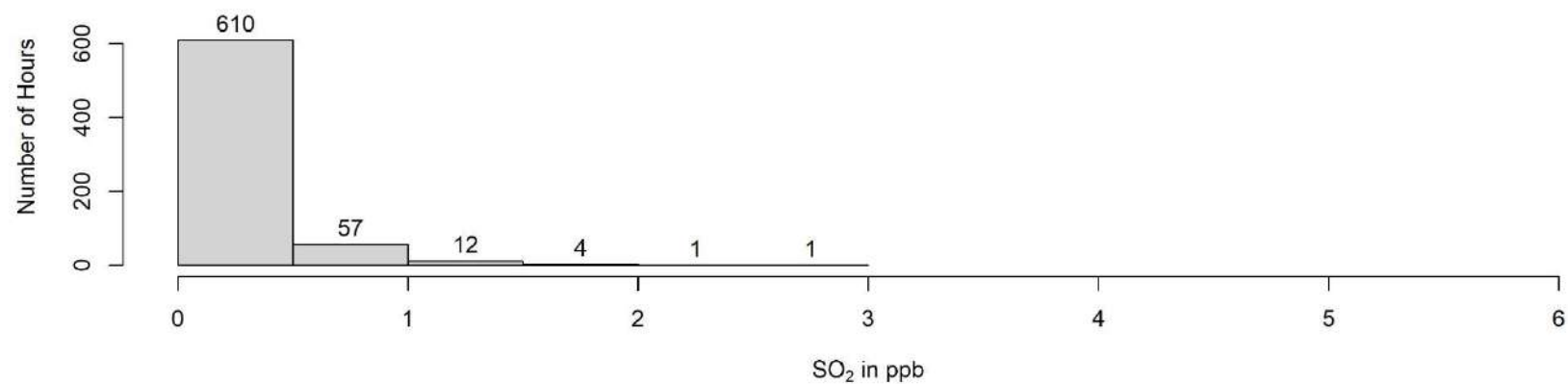
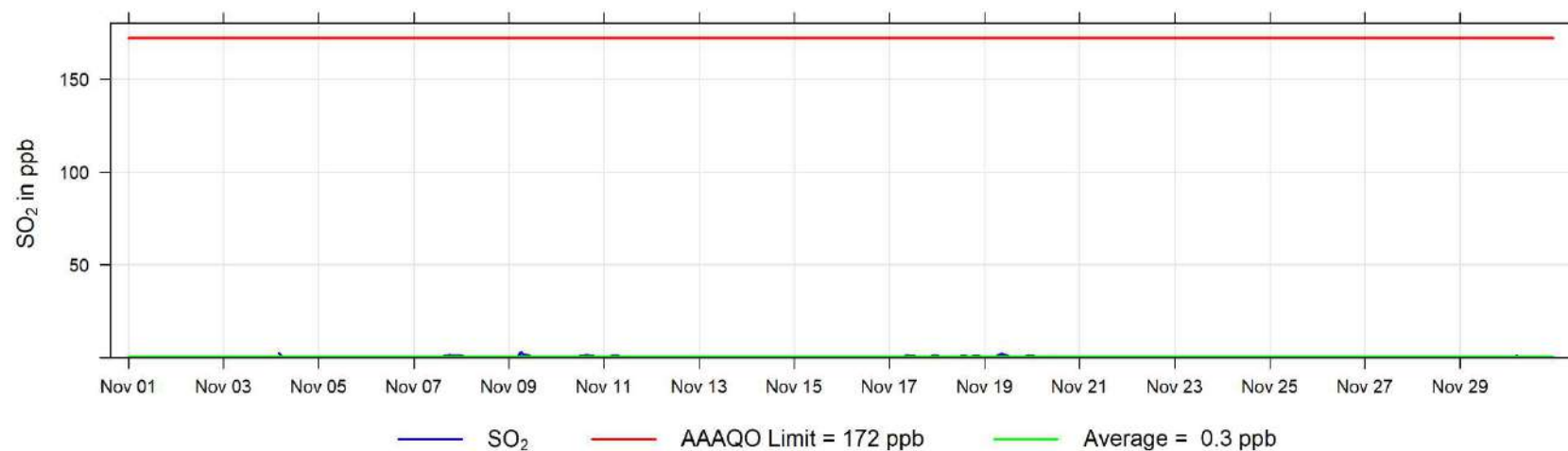


Valleyview November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

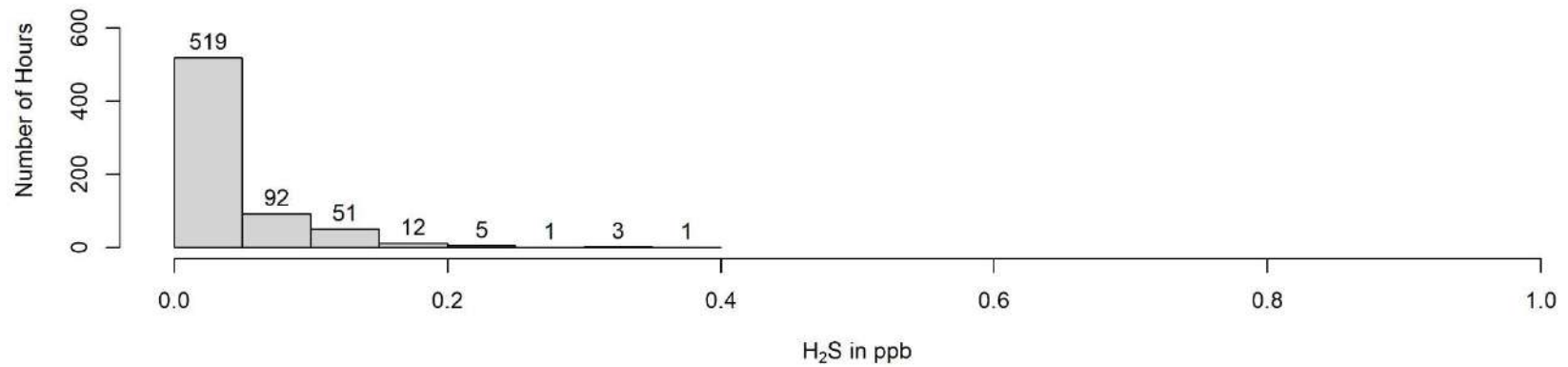
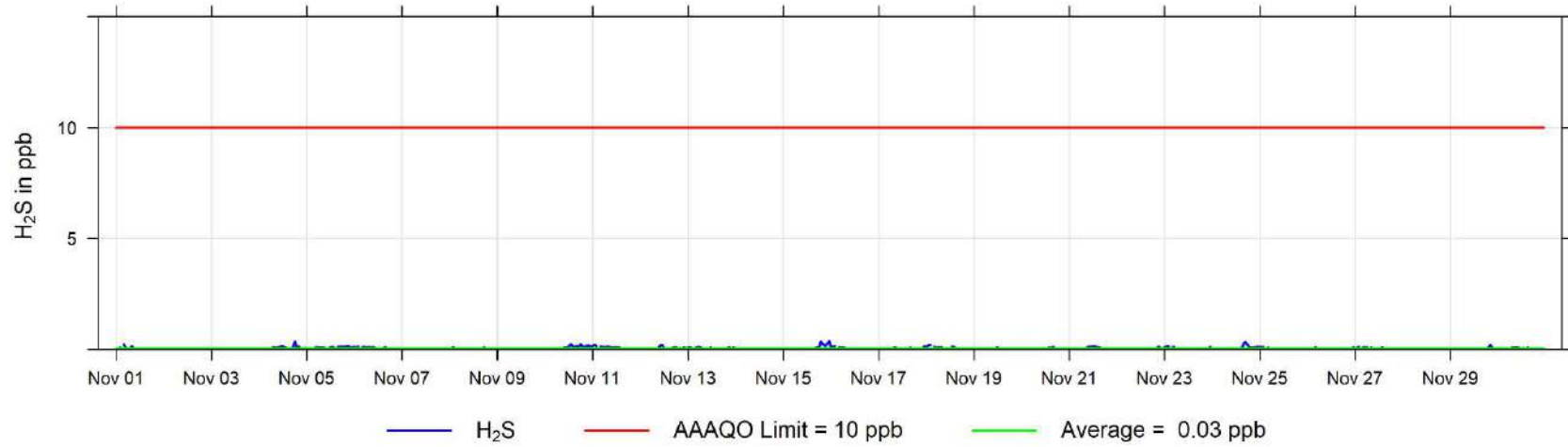
7 Donnelly Charts

The following pages include the charts and histograms for Donnelly Station

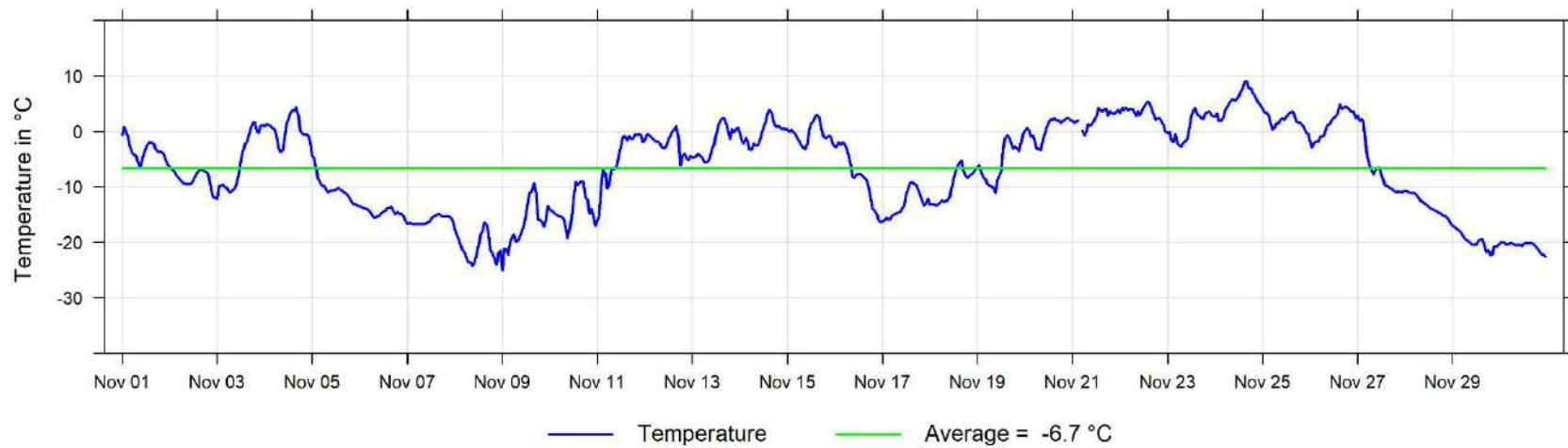
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Donnelly



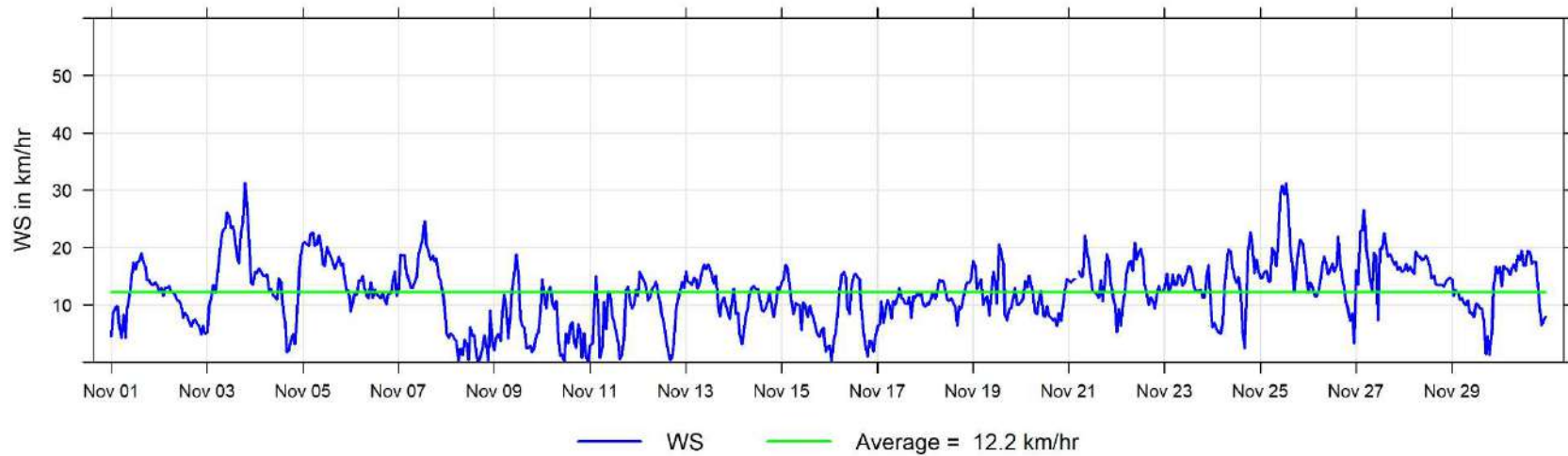
November 2022 Hourly Concentration Readings of H₂S (in ppb) at Donnelly



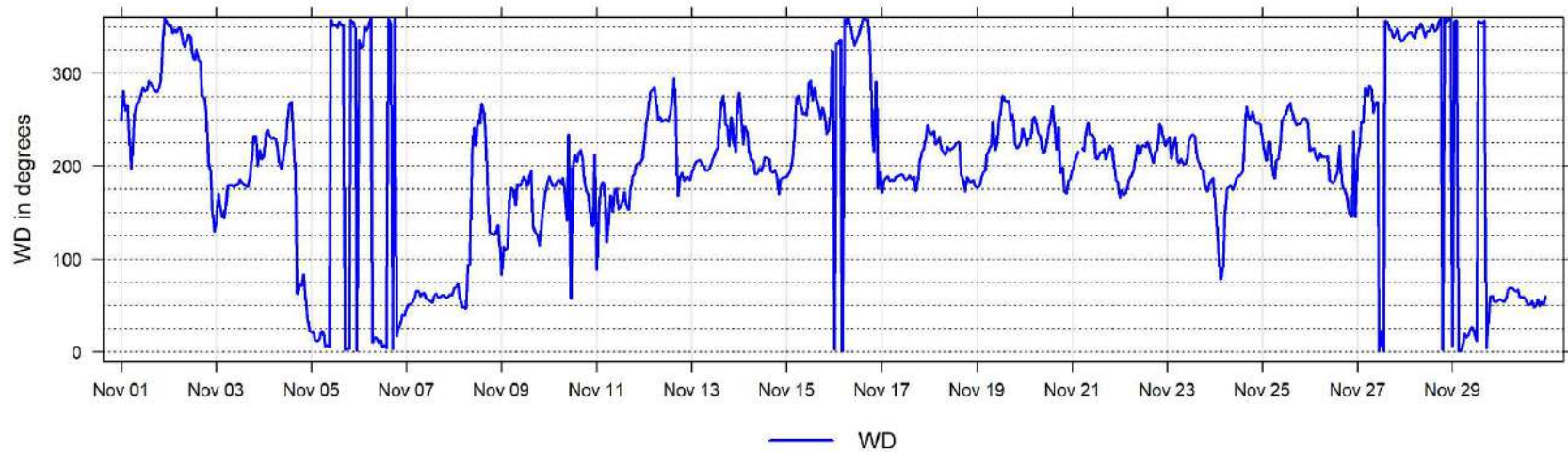
November 2022 Hourly Temperature Readings (in °C) at Donnelly



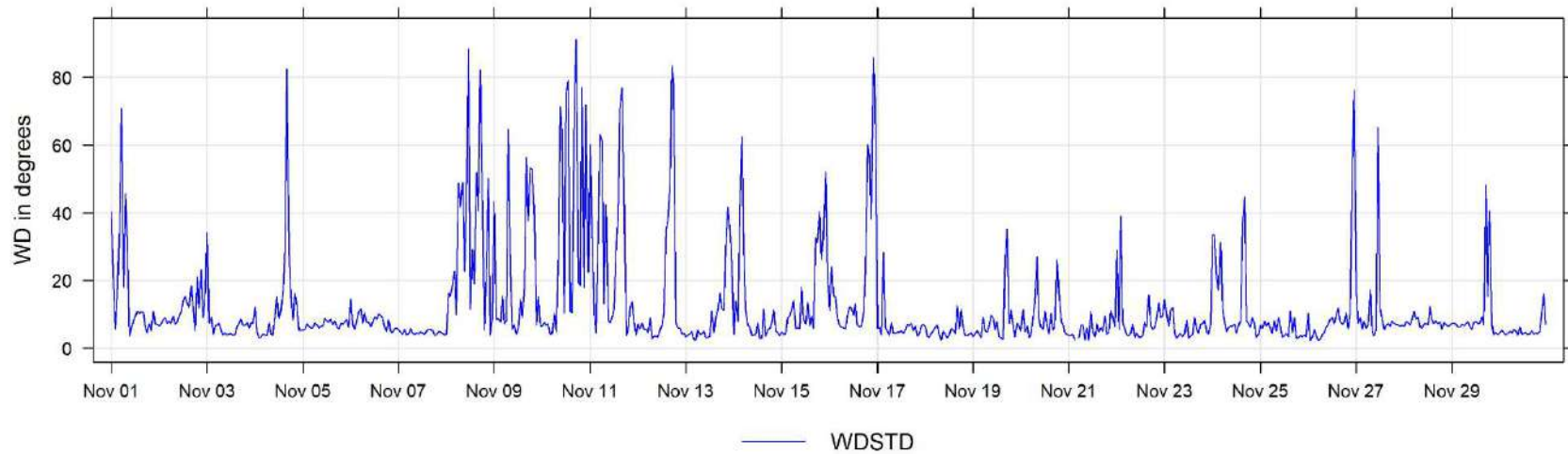
November 2022 Hourly Readings of Wind Speed (in km/hr) at Donnelly

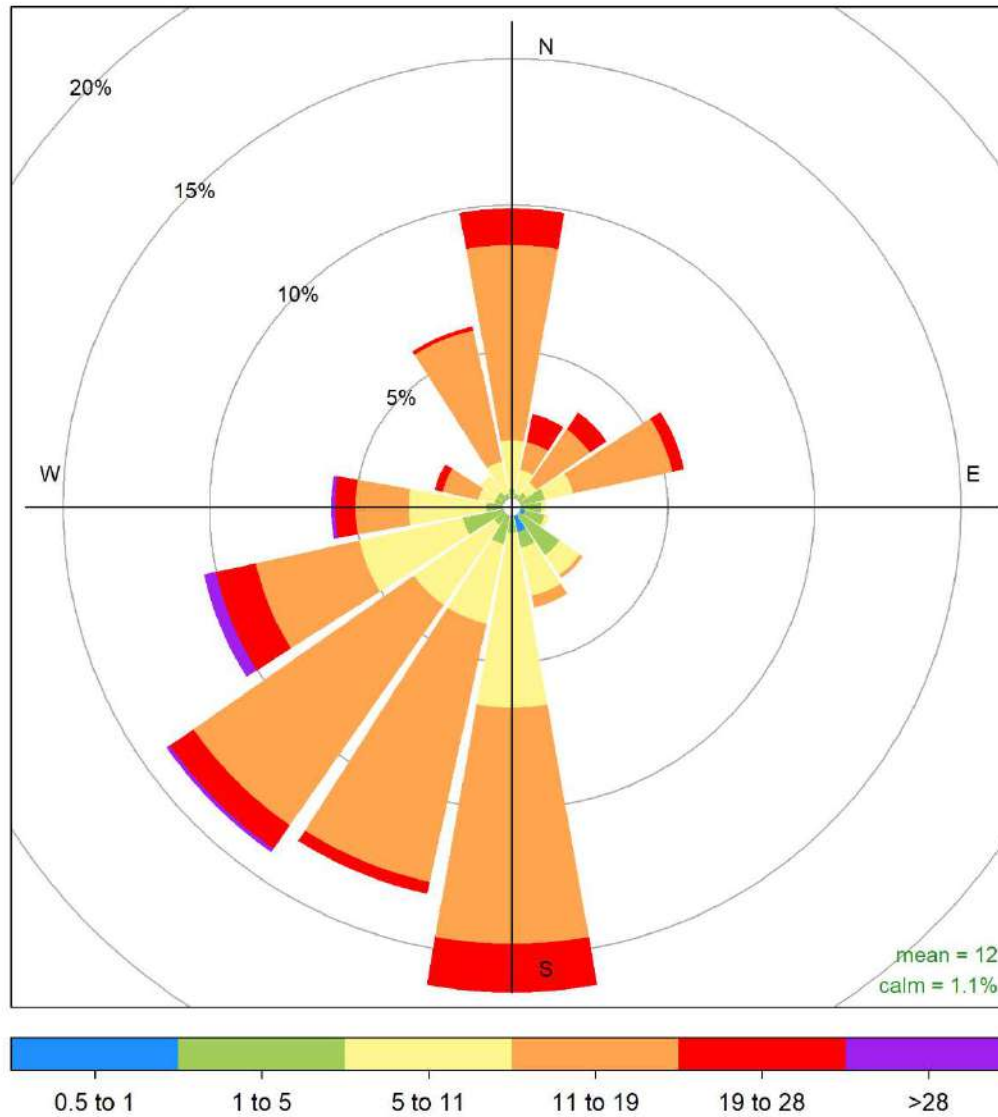


November 2022 Hourly Readings of Wind Direction (in degrees) at Donnelly



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Donnelly



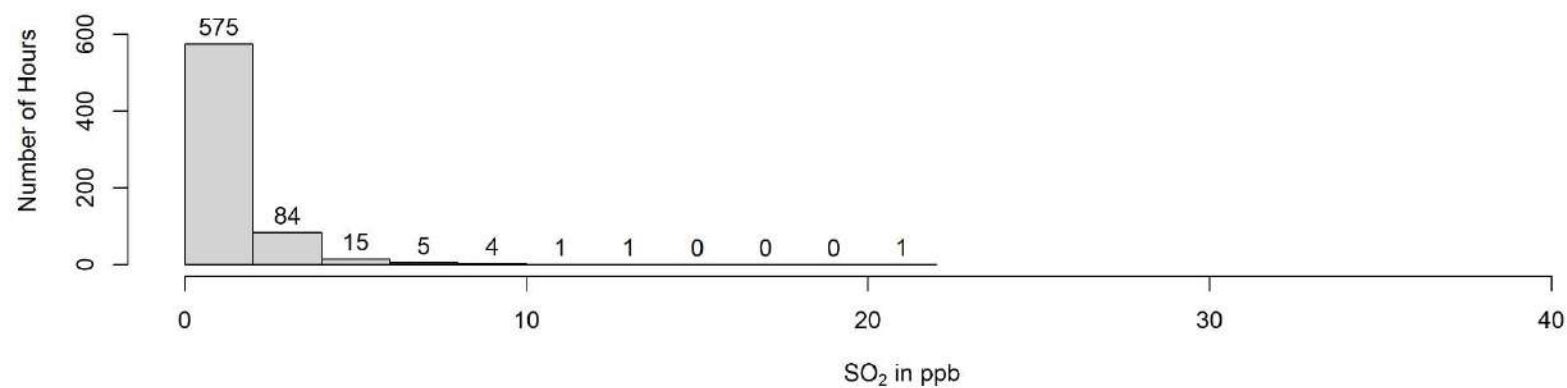
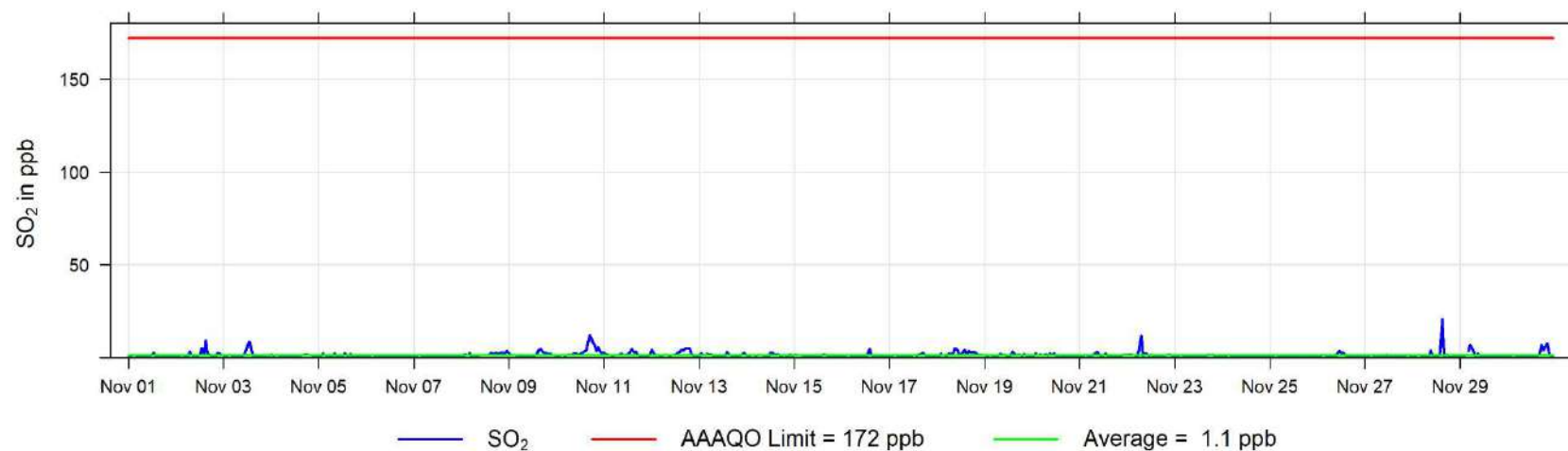


Donnelly November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

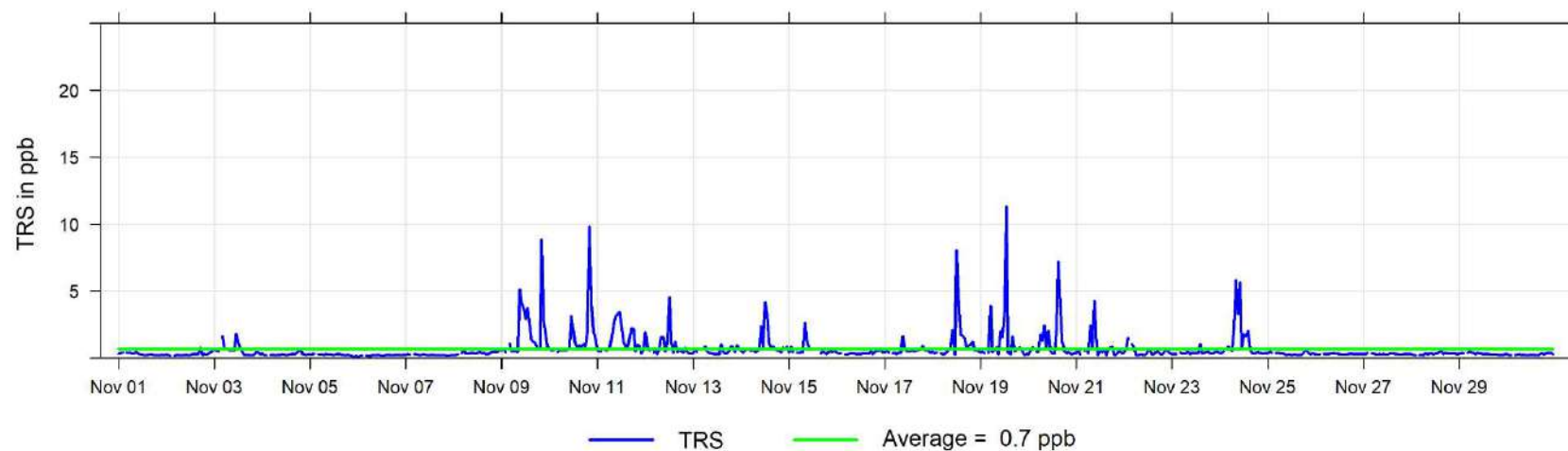
8 Poplar (Portable) Charts

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

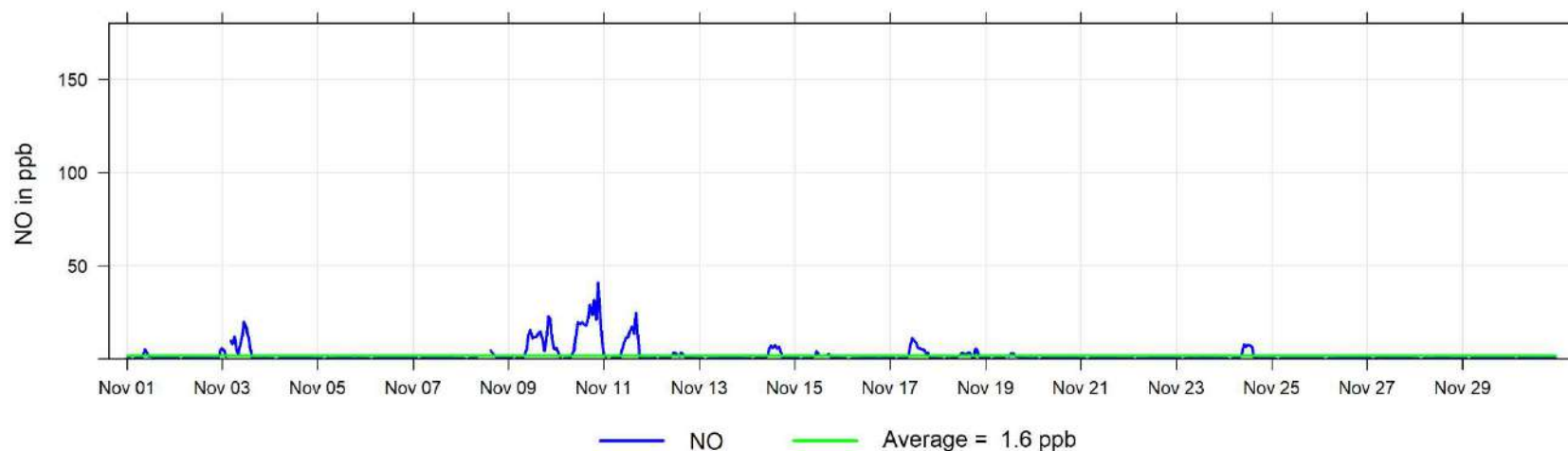
November 2022 Hourly Concentration Readings of SO₂ (in ppb) at Poplar



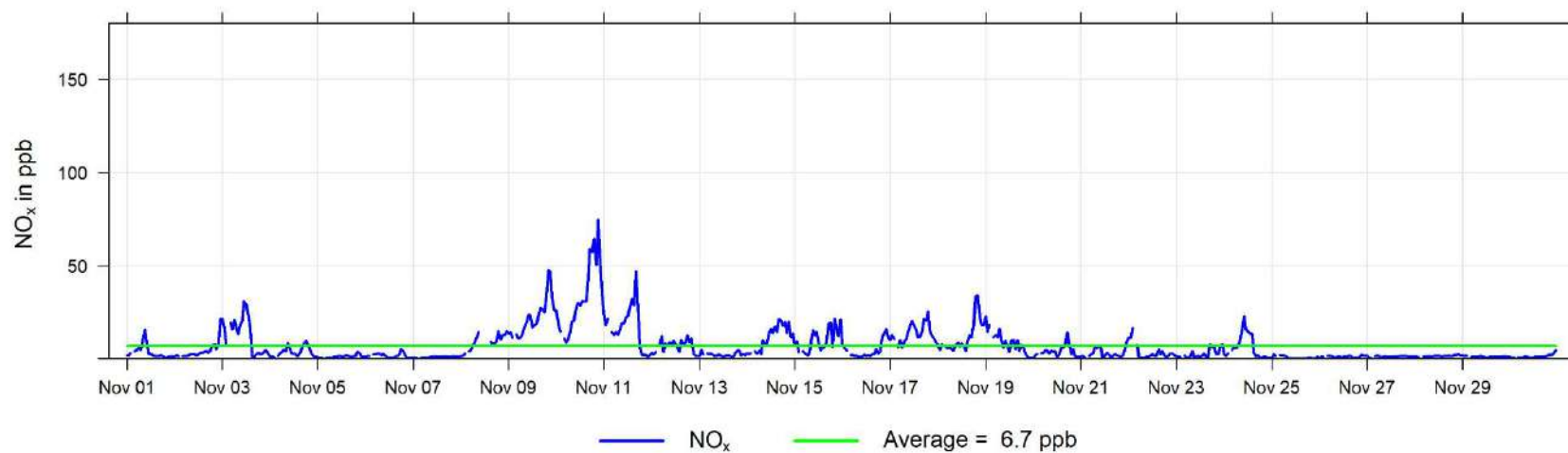
November 2022 Hourly Concentration Readings of TRS (in ppb) at Poplar



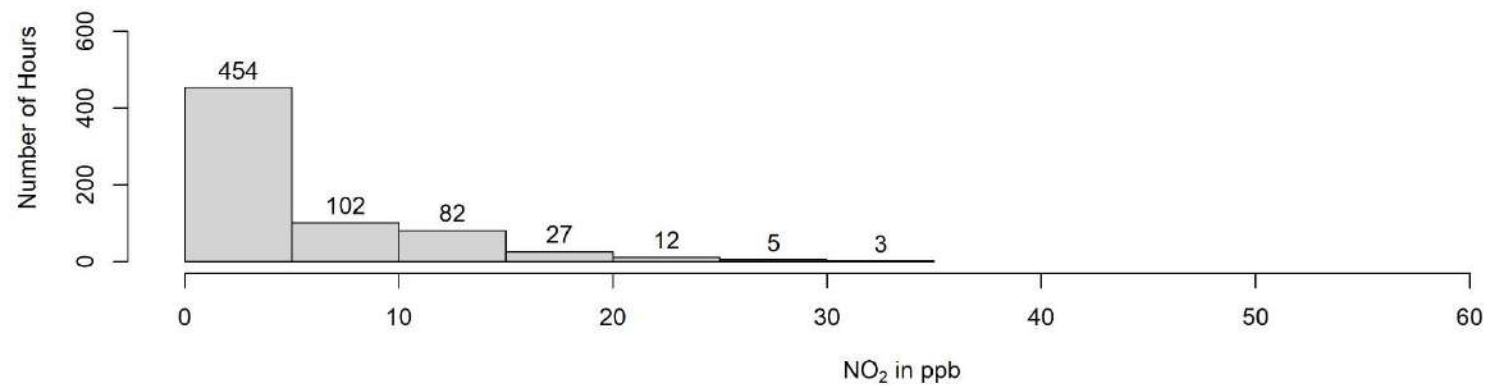
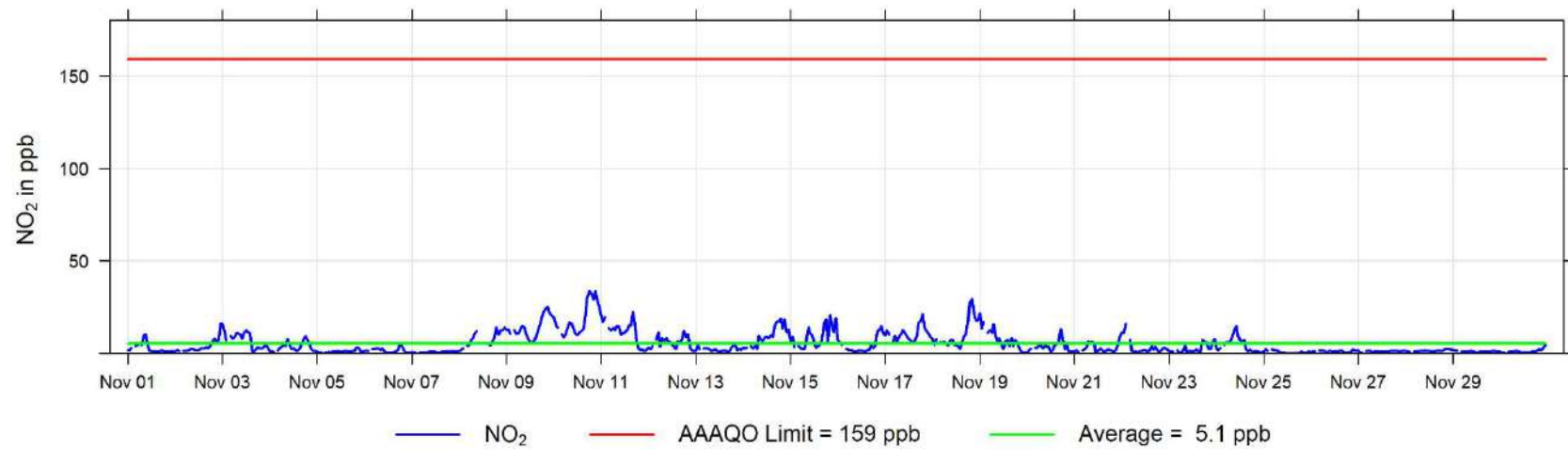
November 2022 Hourly Concentration Readings of NO (in ppb) at Poplar



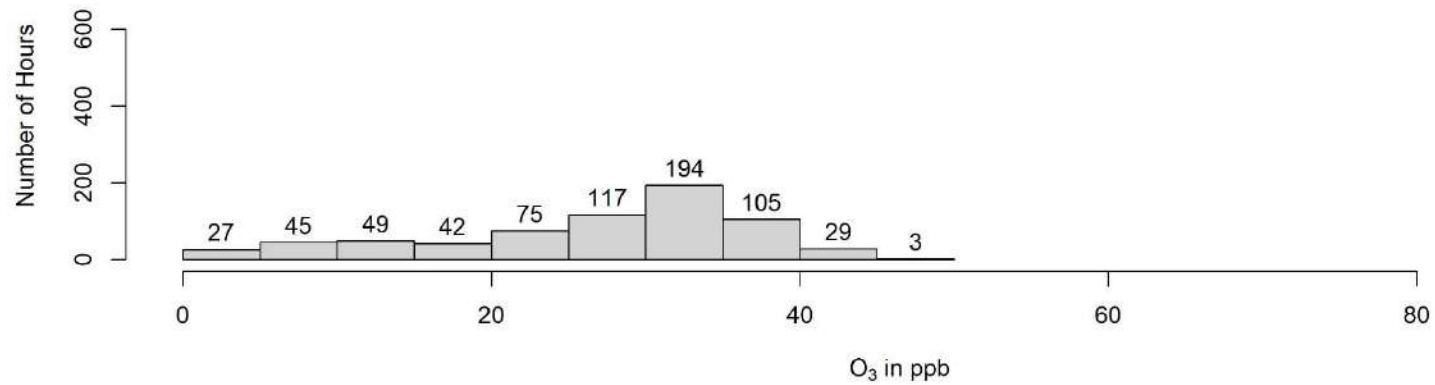
November 2022 Hourly Concentration Readings of NO_x (in ppb) at Poplar



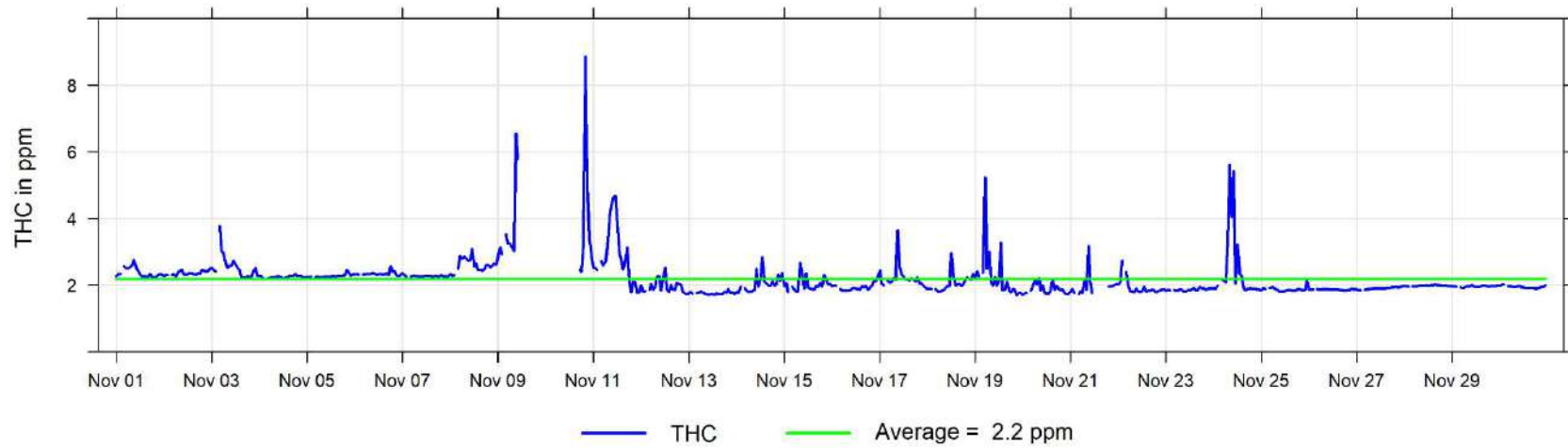
November 2022 Hourly Concentration Readings of NO₂ (in ppb) at Poplar



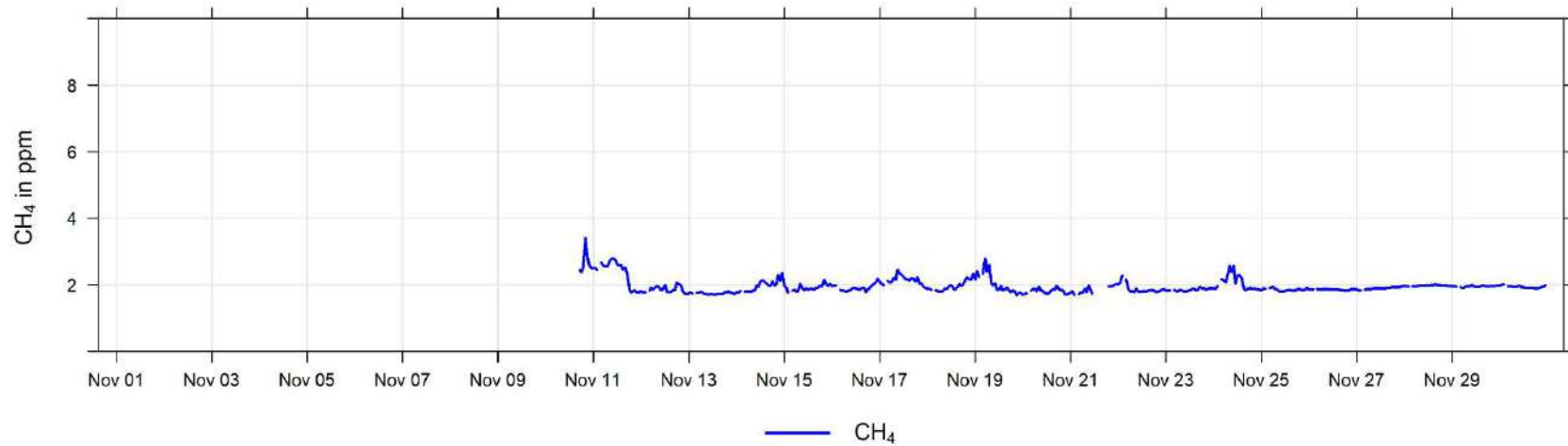
November 2022 Hourly Concentration Readings of O₃ (in ppb) at Poplar



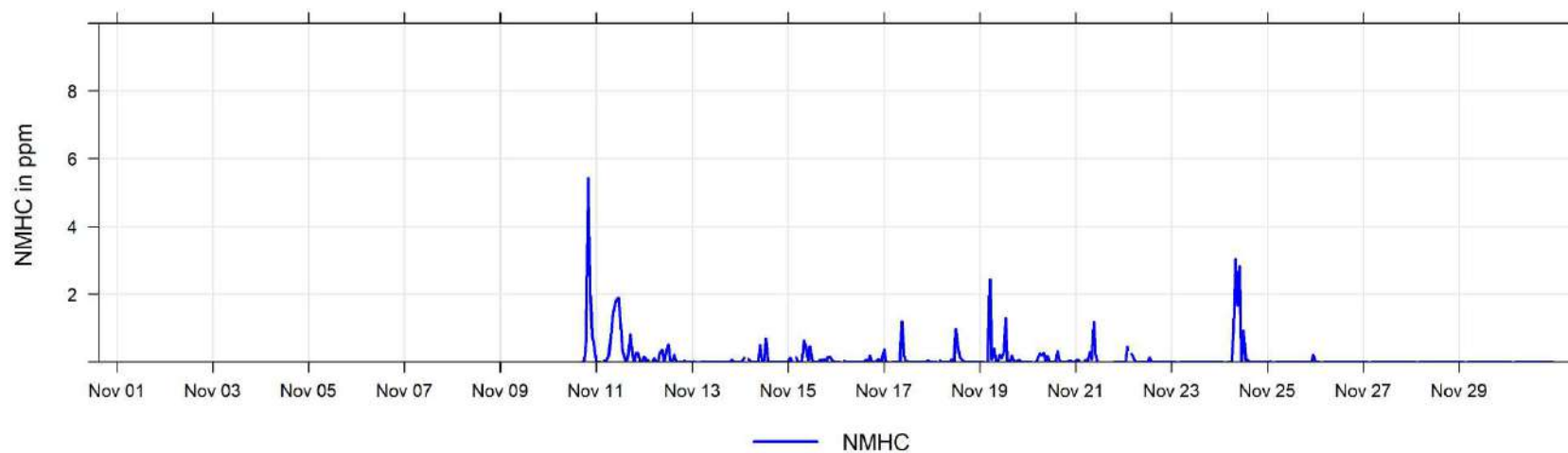
November 2022 Hourly Concentration Readings of THC (in ppm) at Poplar



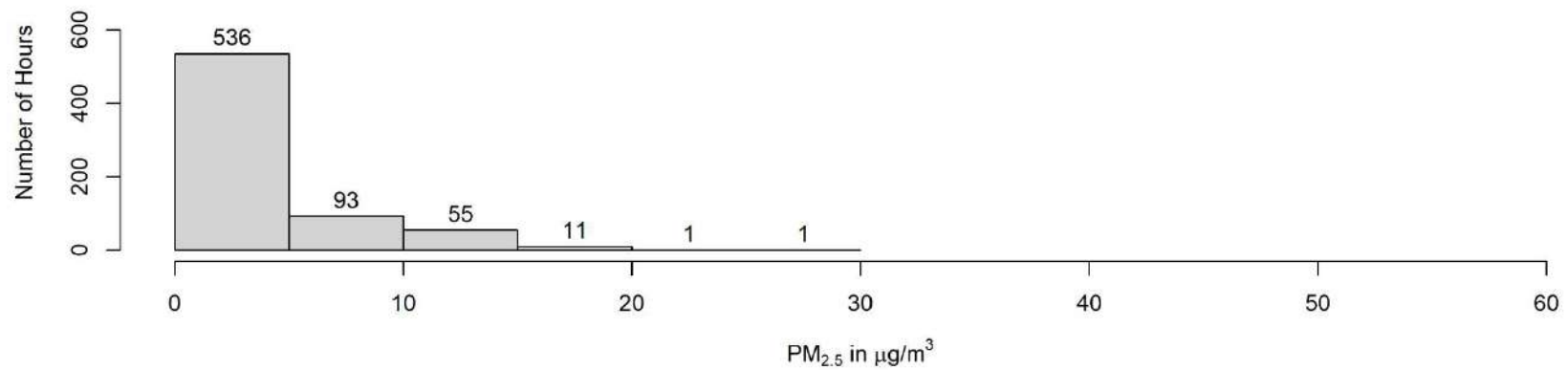
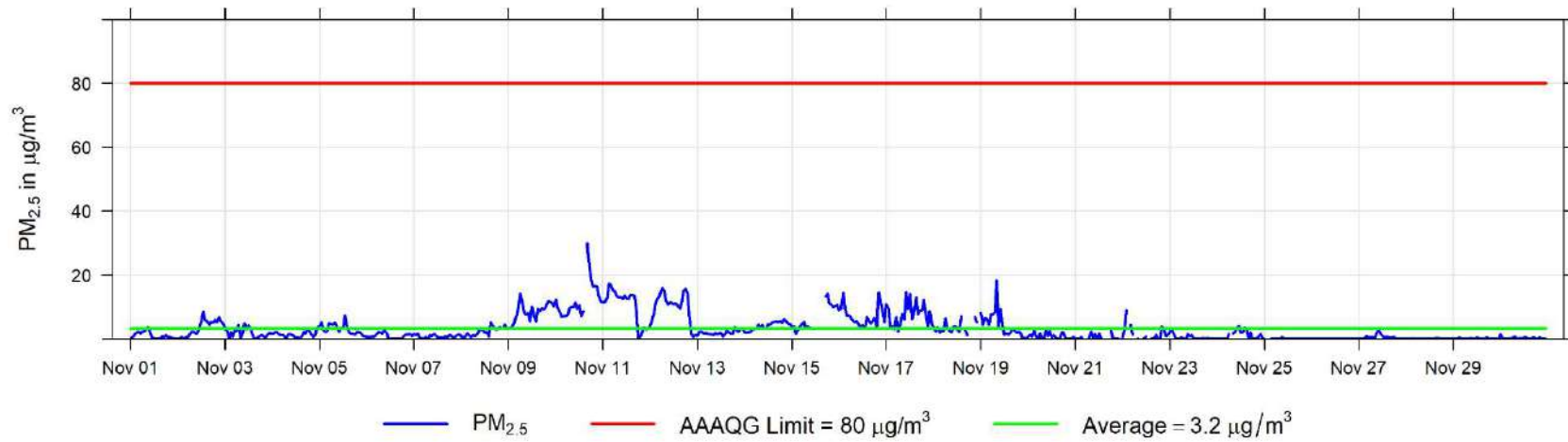
November 2022 Hourly Concentration Readings of CH₄ (in ppm) at Poplar



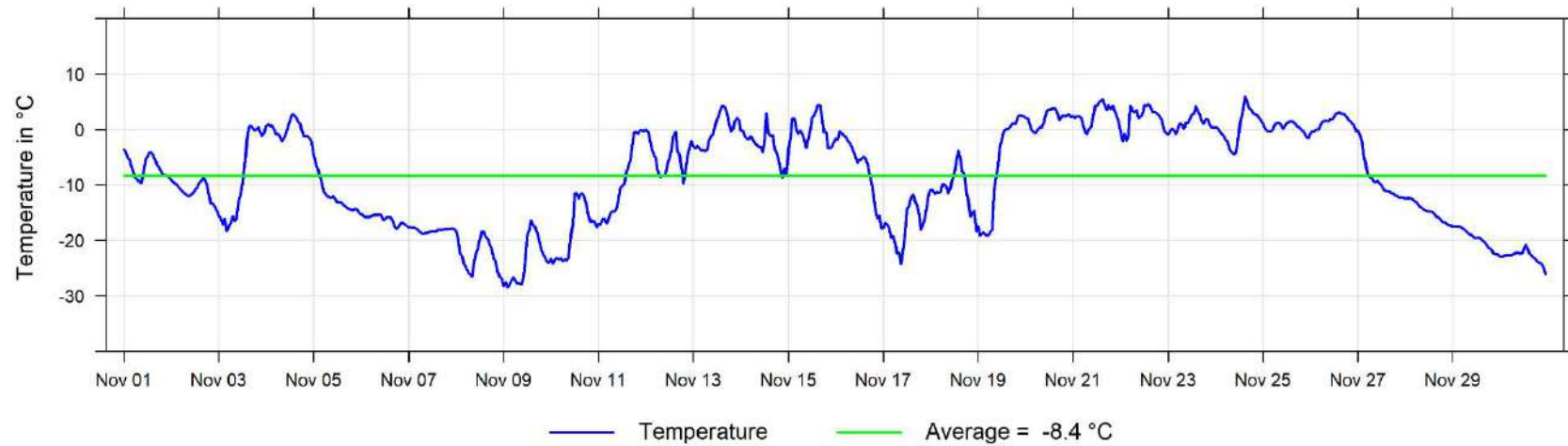
November 2022 Hourly Concentration Readings of NMHC (in ppm) at Poplar



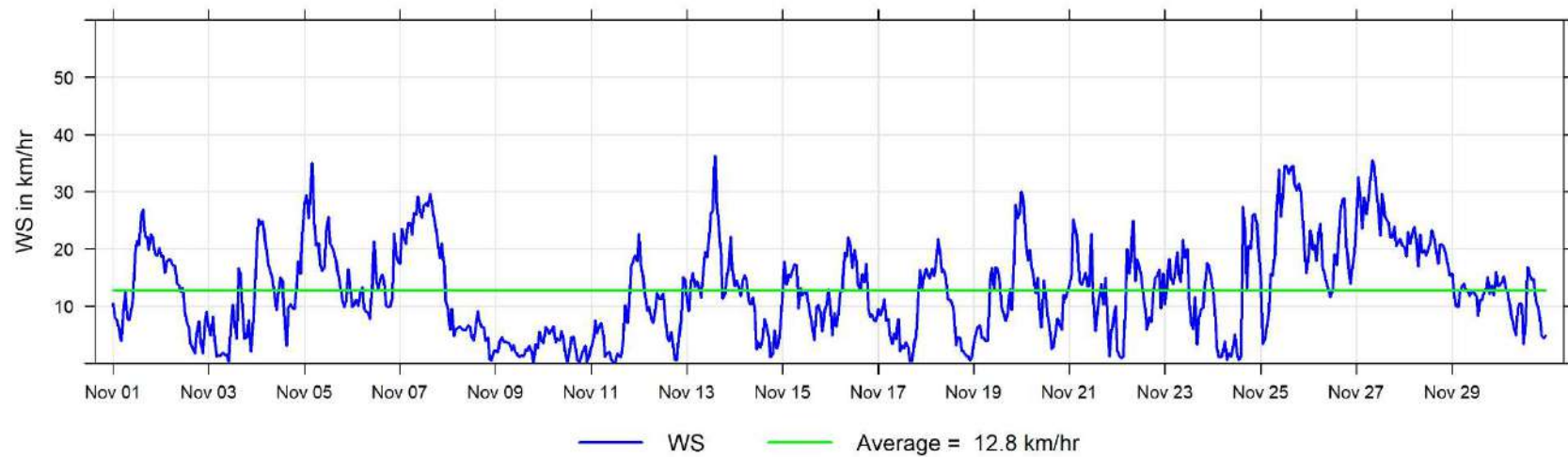
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Poplar



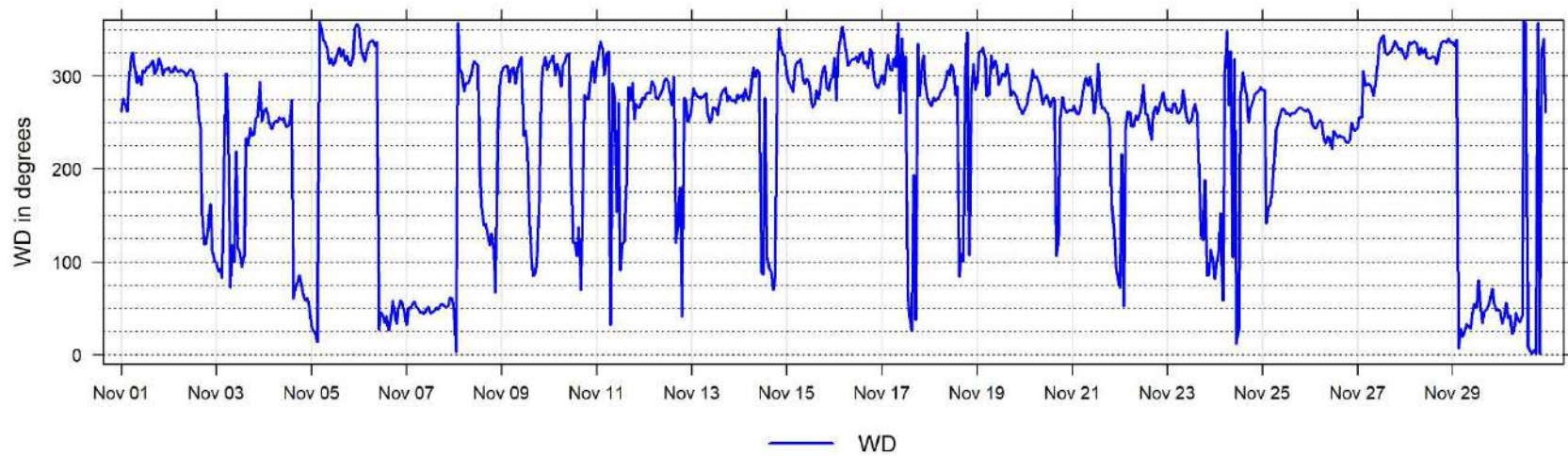
November 2022 Hourly Temperature Readings (in °C) at Poplar



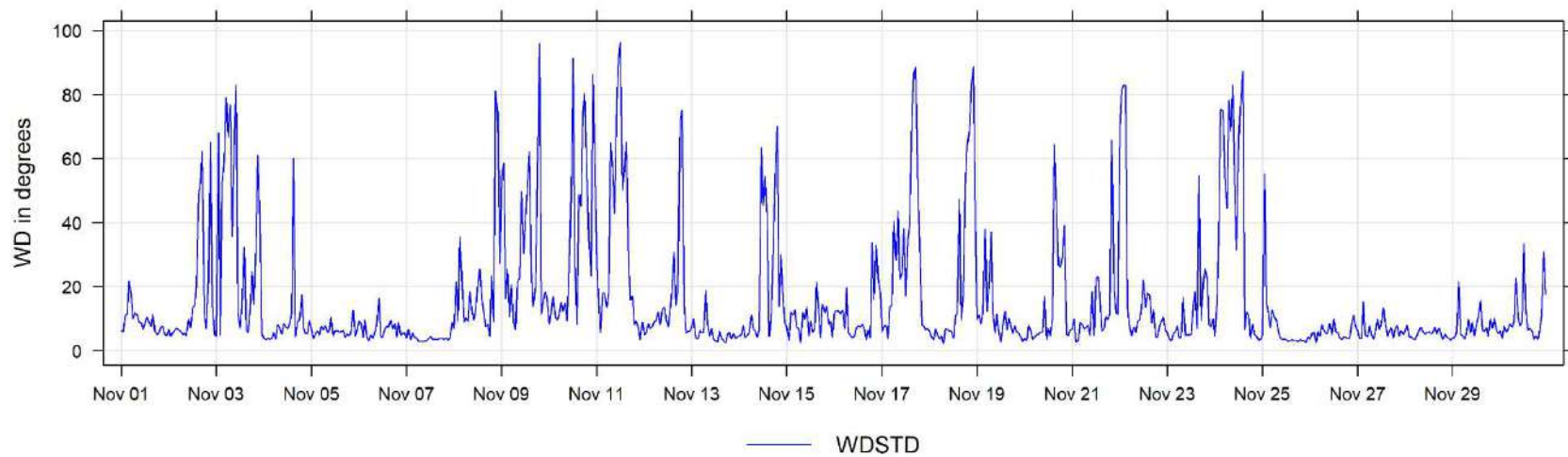
November 2022 Hourly Readings of Wind Speed (in km/hr) at Poplar

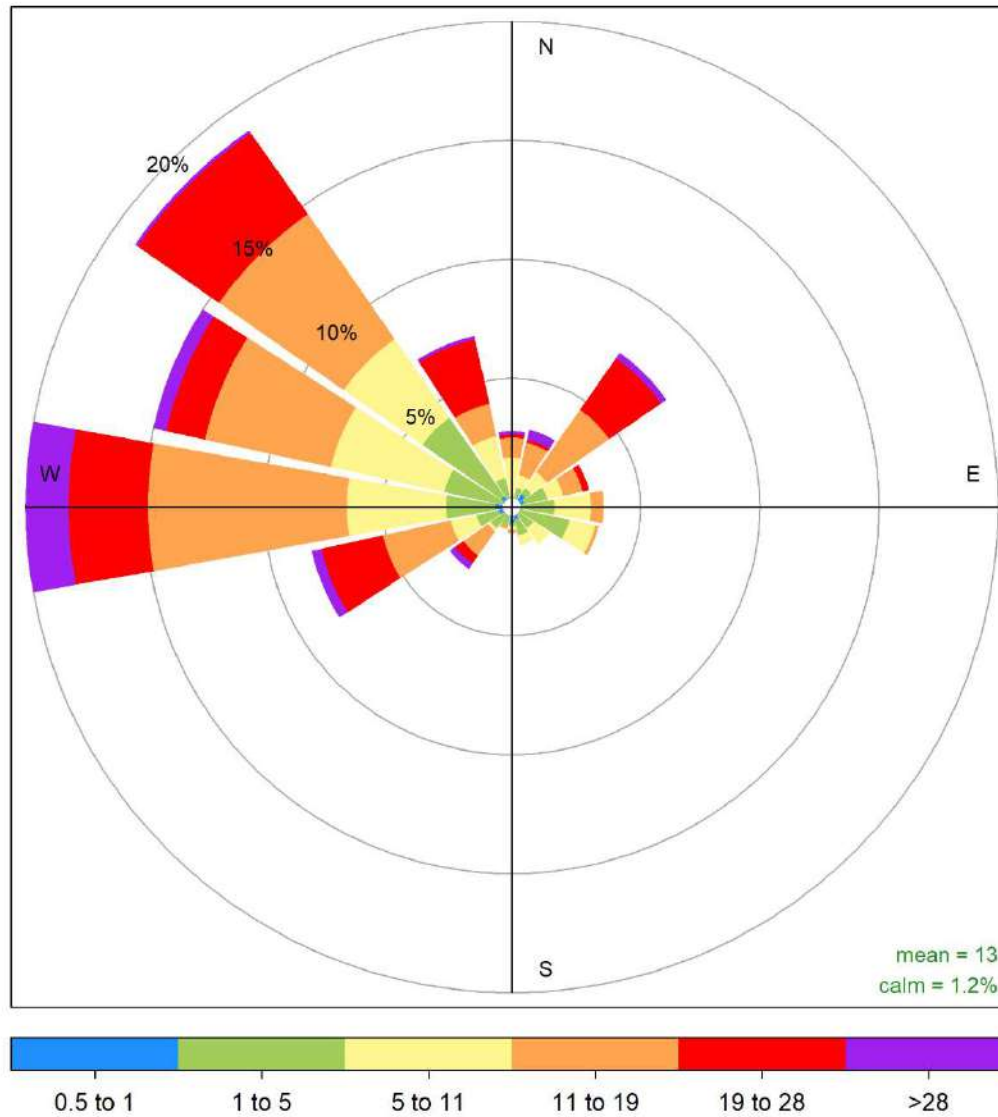


November 2022 Hourly Readings of Wind Direction (in degrees) at Poplar



November 2022 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Poplar



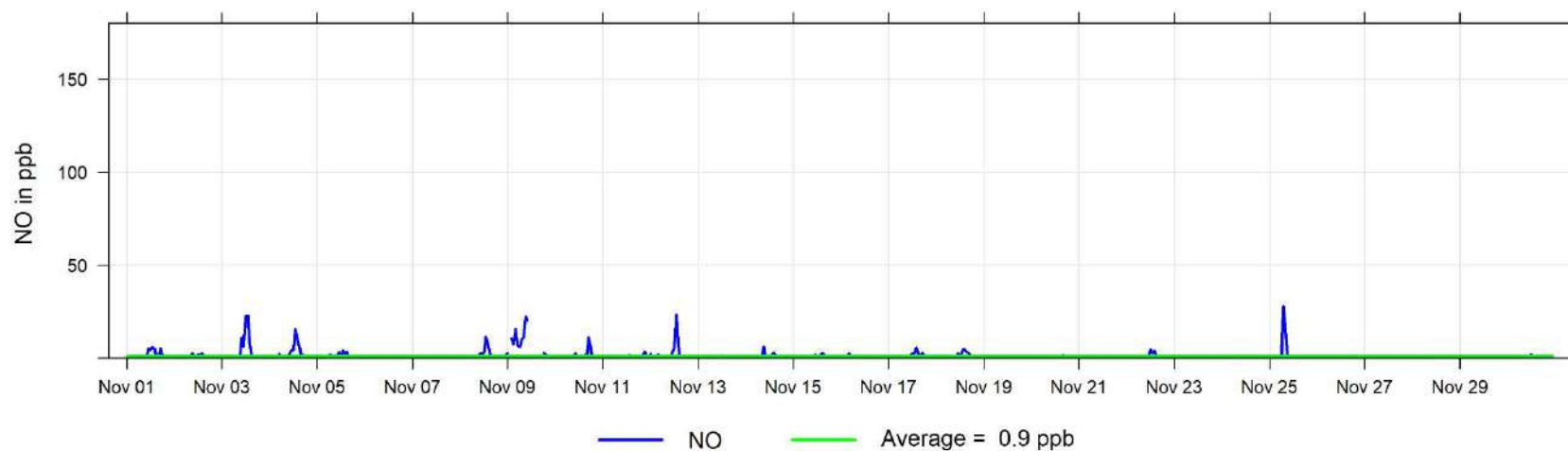


Poplar November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

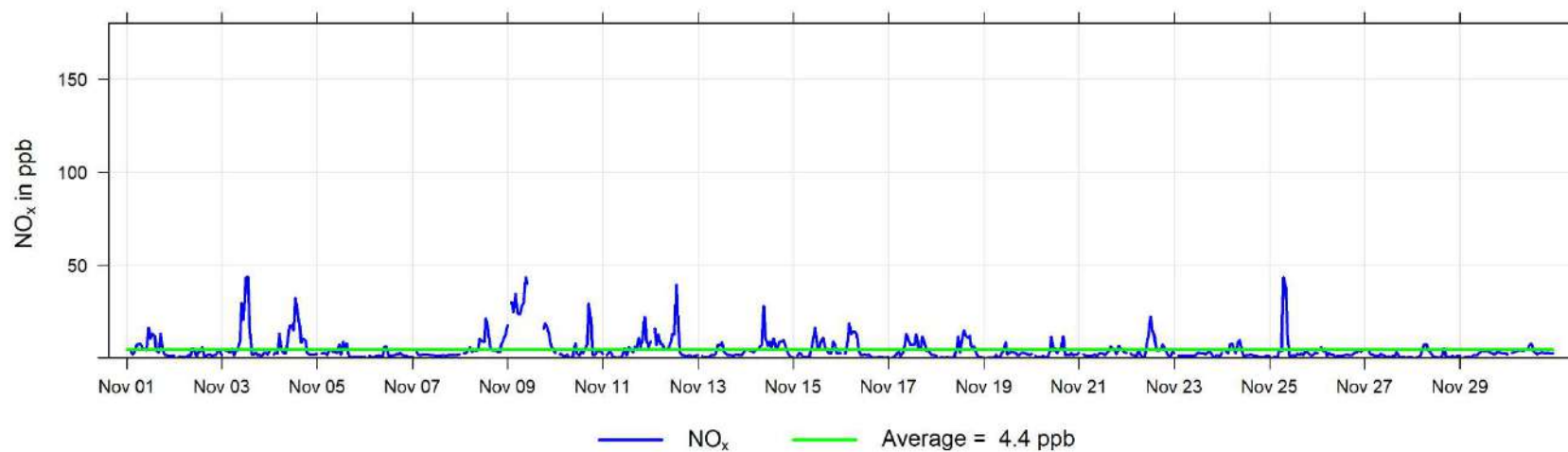
9 Milner Charts

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

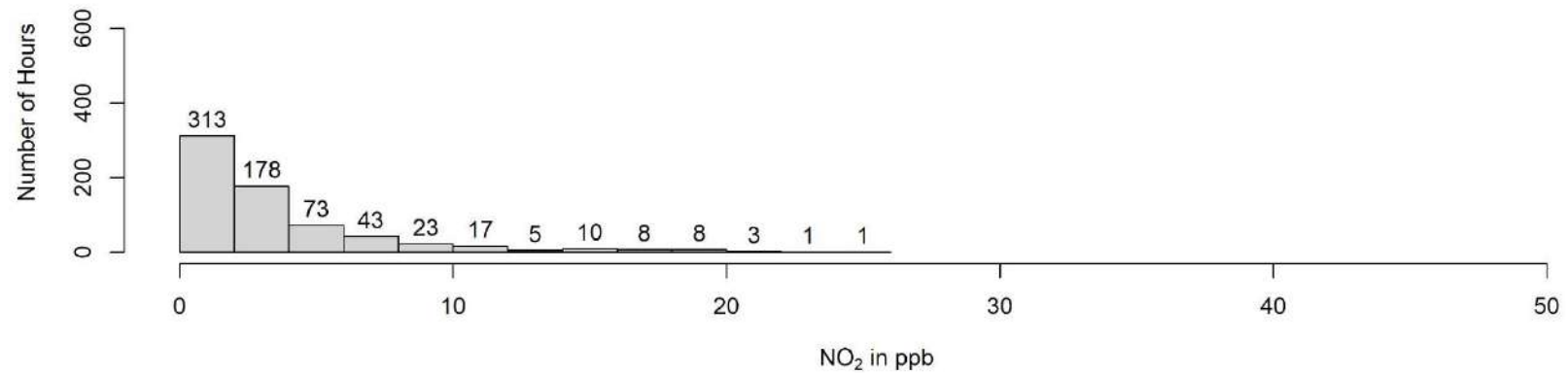
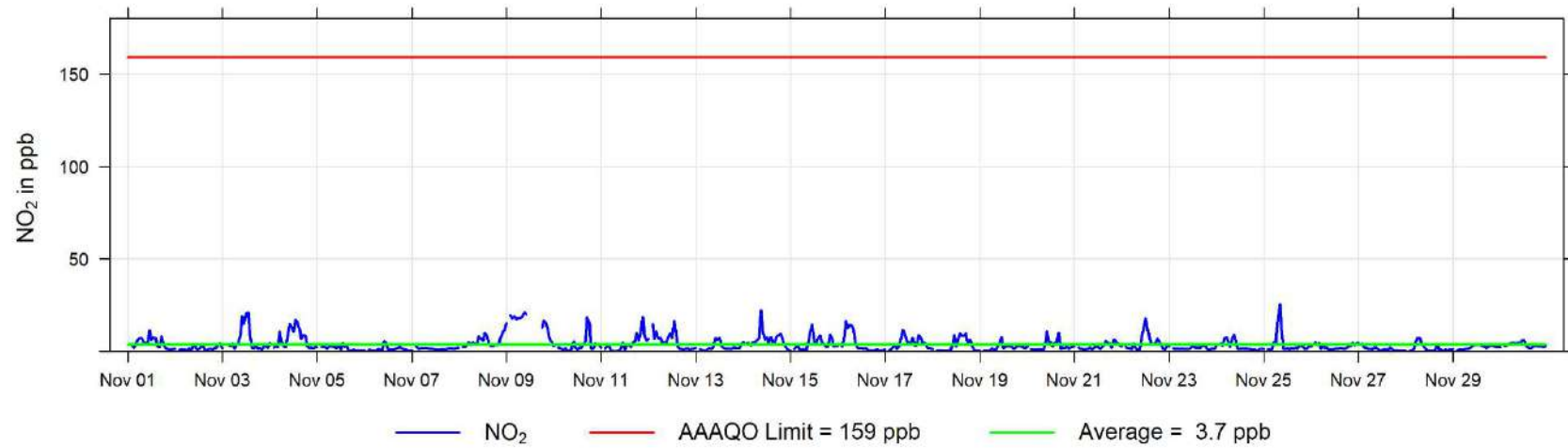
November 2022 Hourly Concentration Readings of NO (in ppb) at Milner



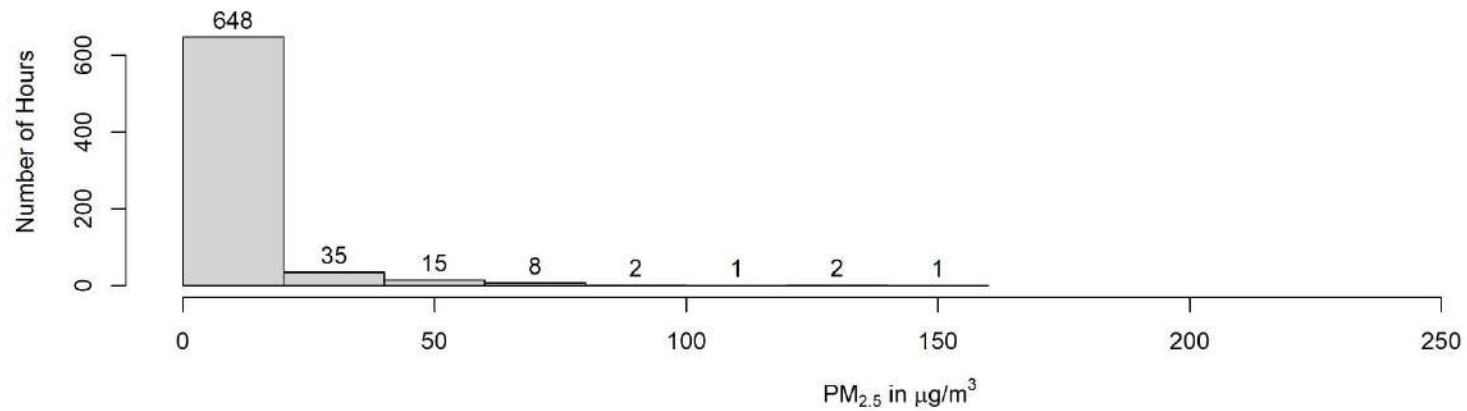
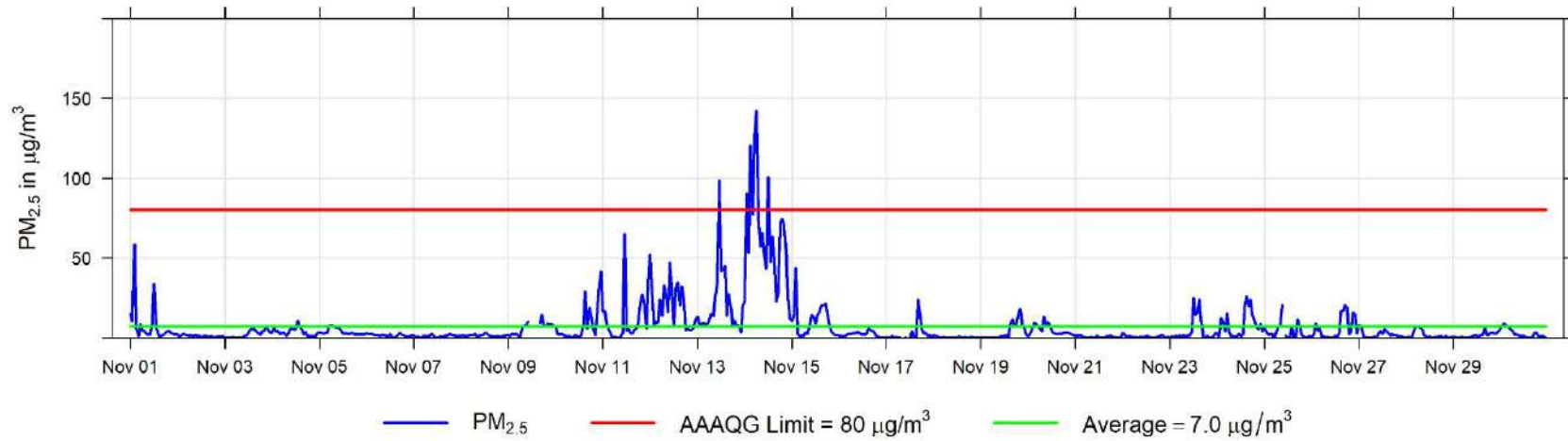
November 2022 Hourly Concentration Readings of NO_x (in ppb) at Milner



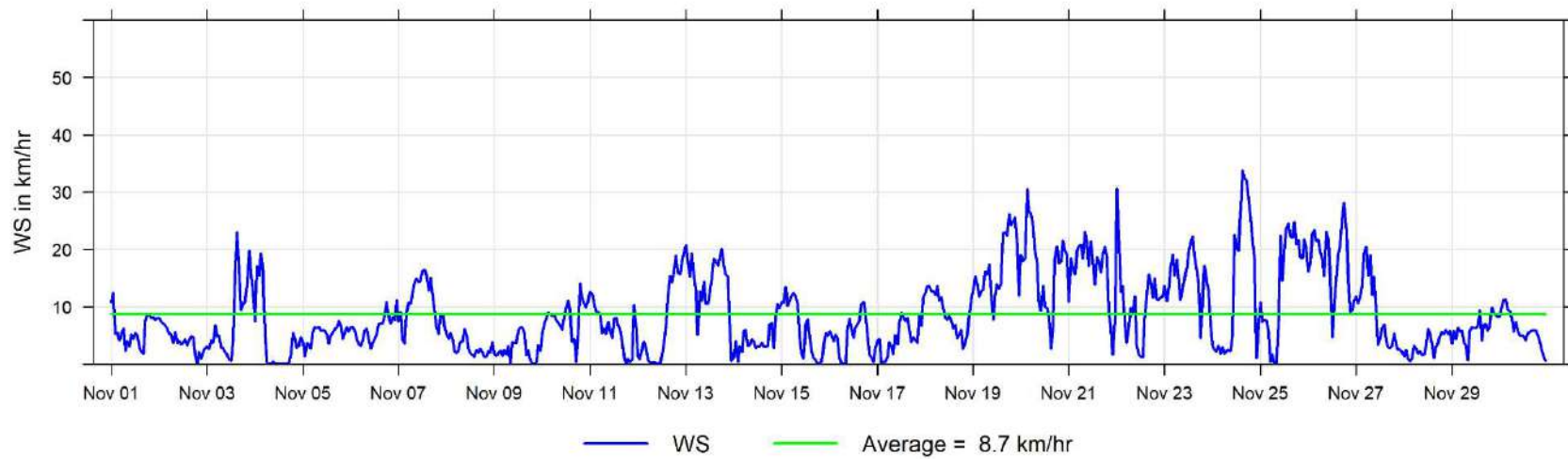
November 2022 Hourly Concentration Readings of NO₂ (in ppb) at Milner



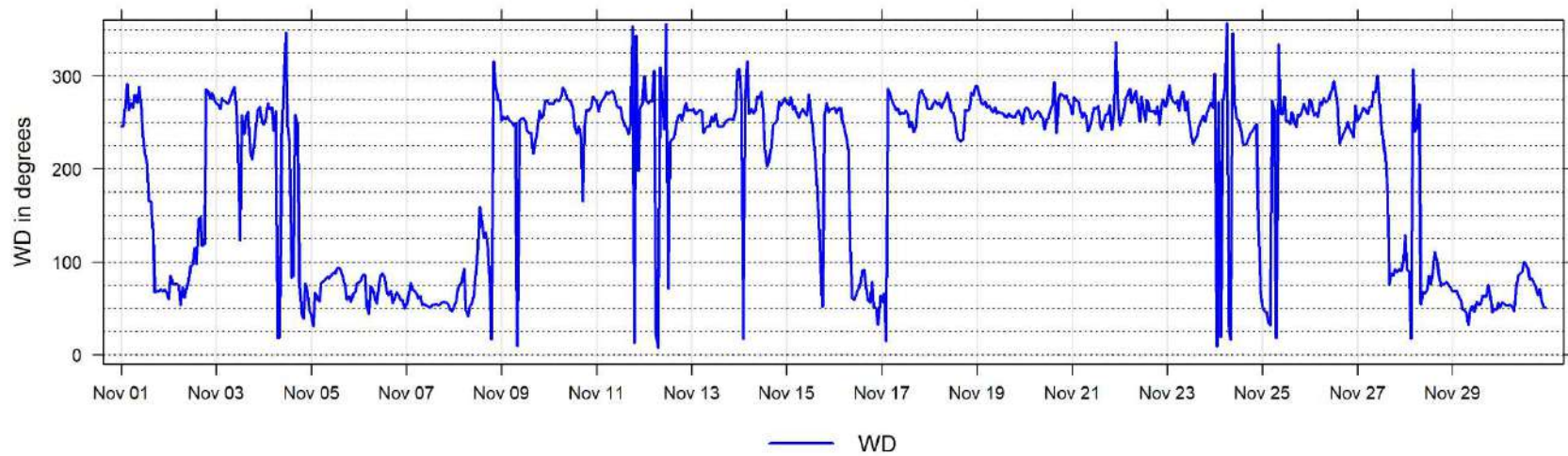
November 2022 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner

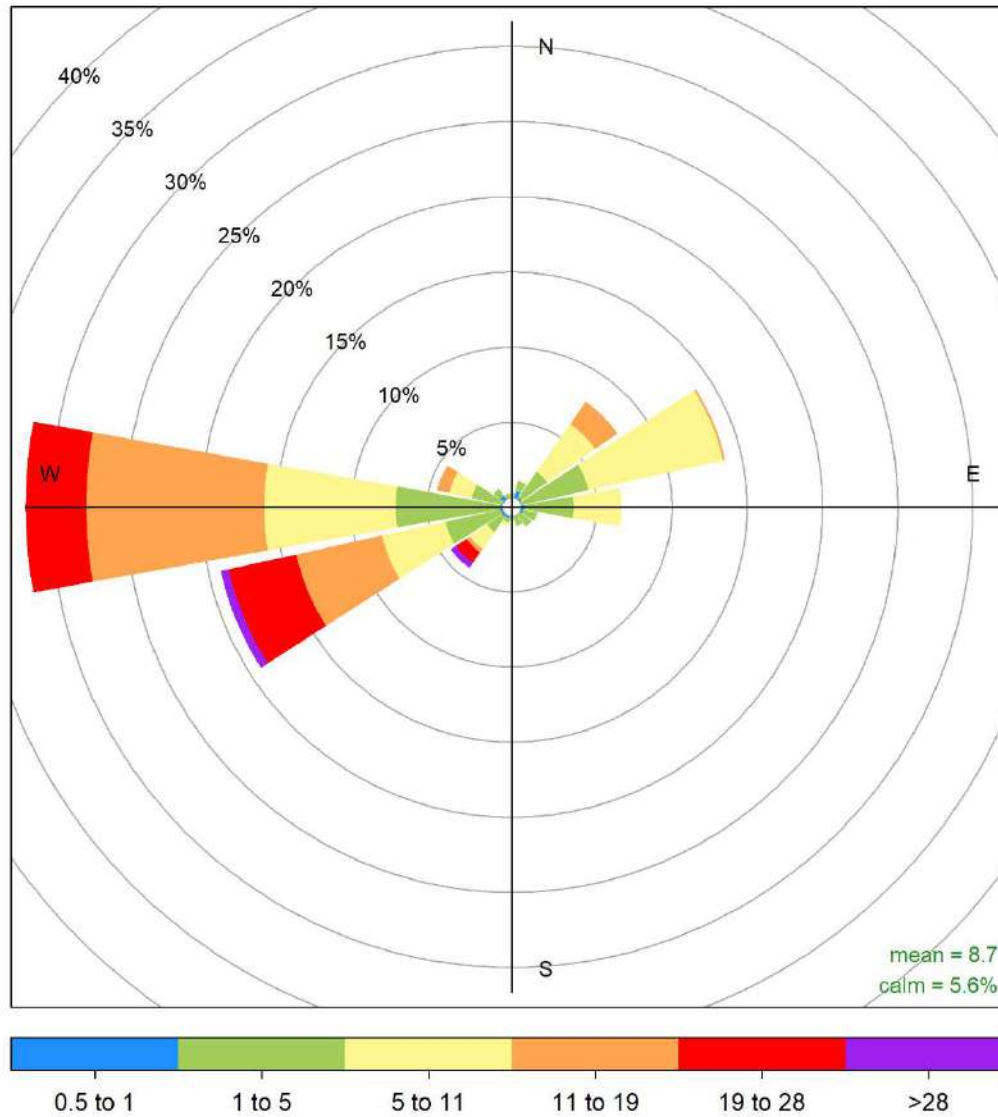


November 2022 Hourly Readings of Wind Speed (in km/hr) at Milner



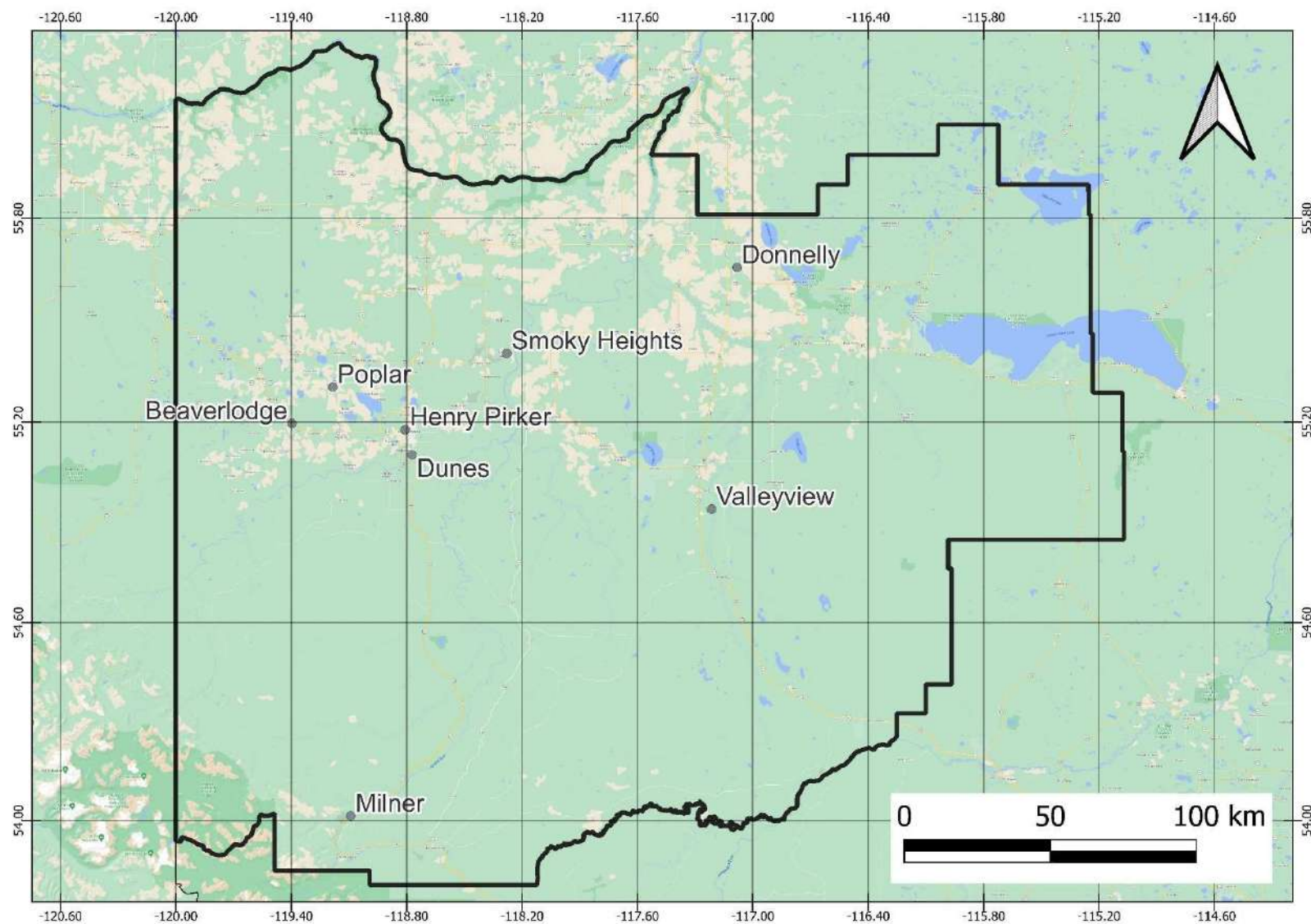
November 2022 Hourly Readings of Wind Direction (in degrees) at Milner



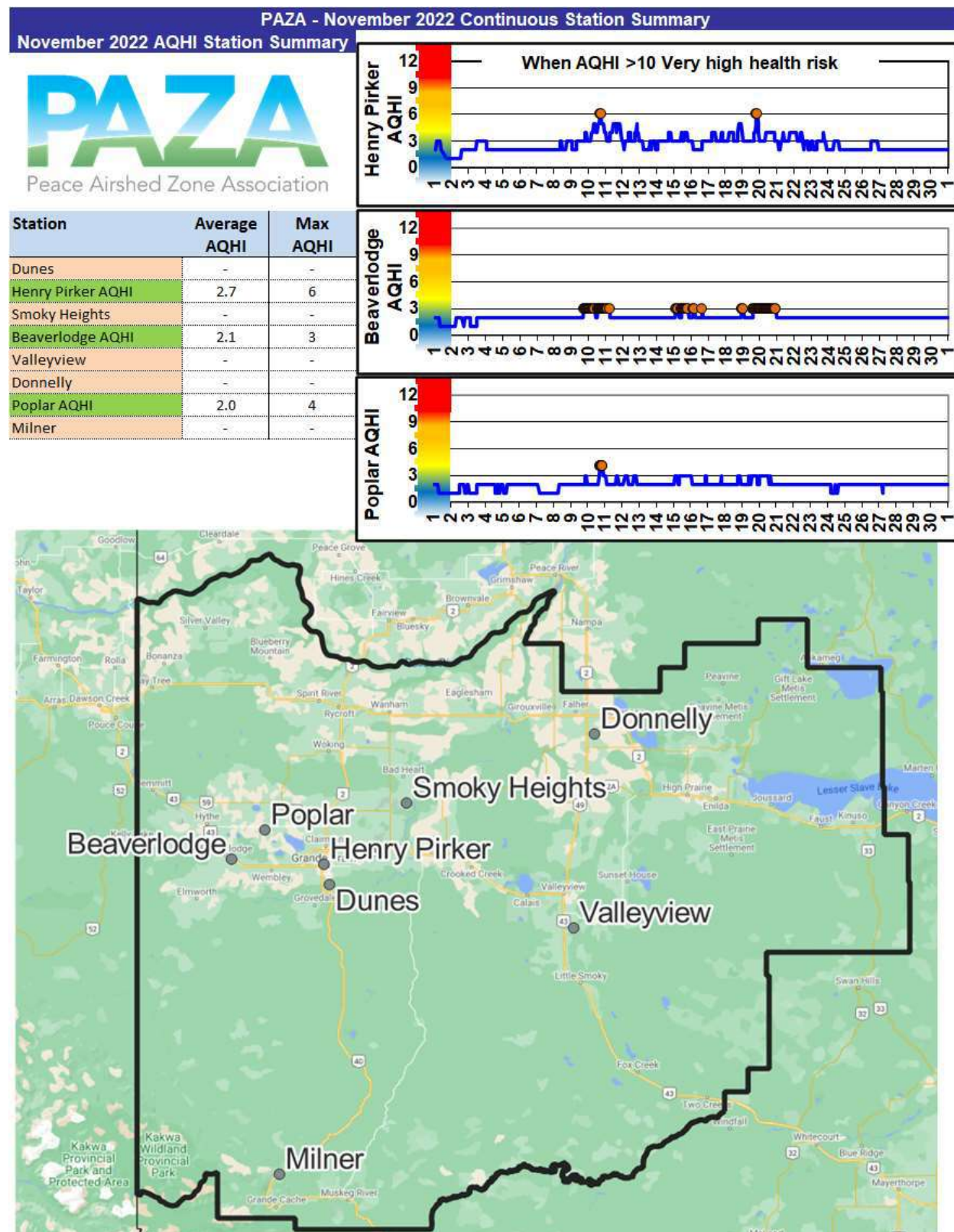


Milner November 2022 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

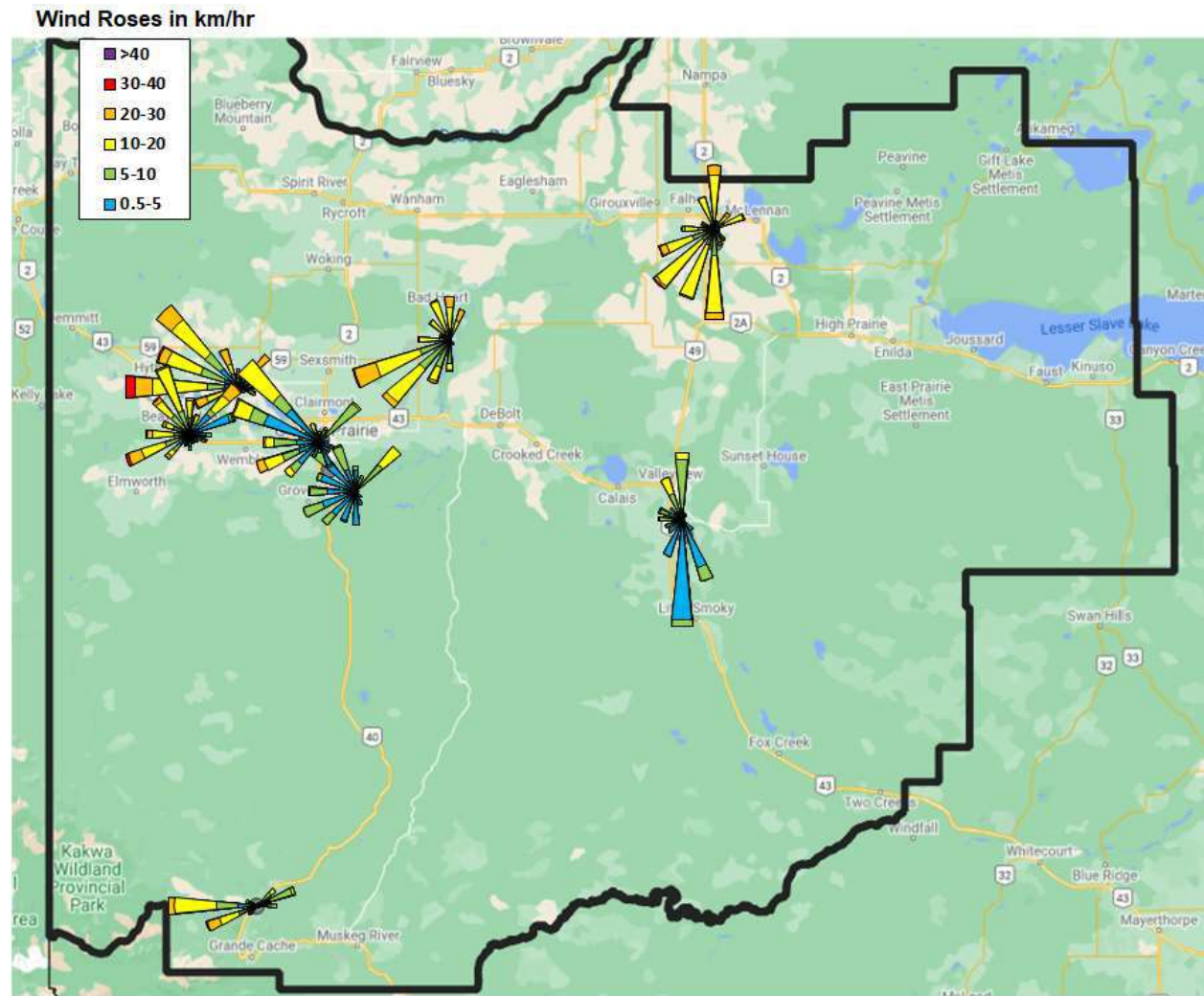
10 Concentration Summaries and Roses for PAZA



10.1 Air Quality Health Index (AQHI) Plots



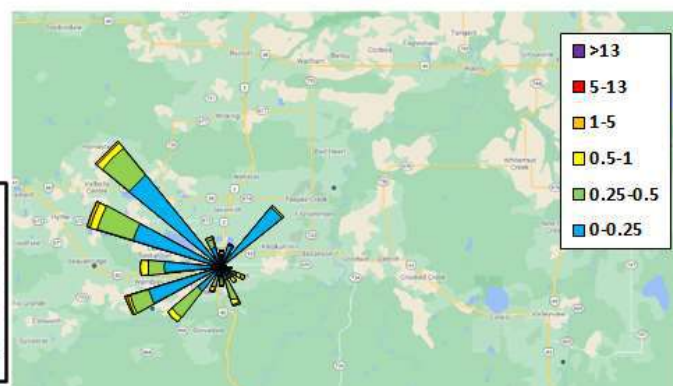
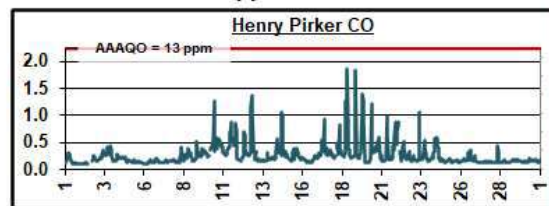
10.2 Wind Roses



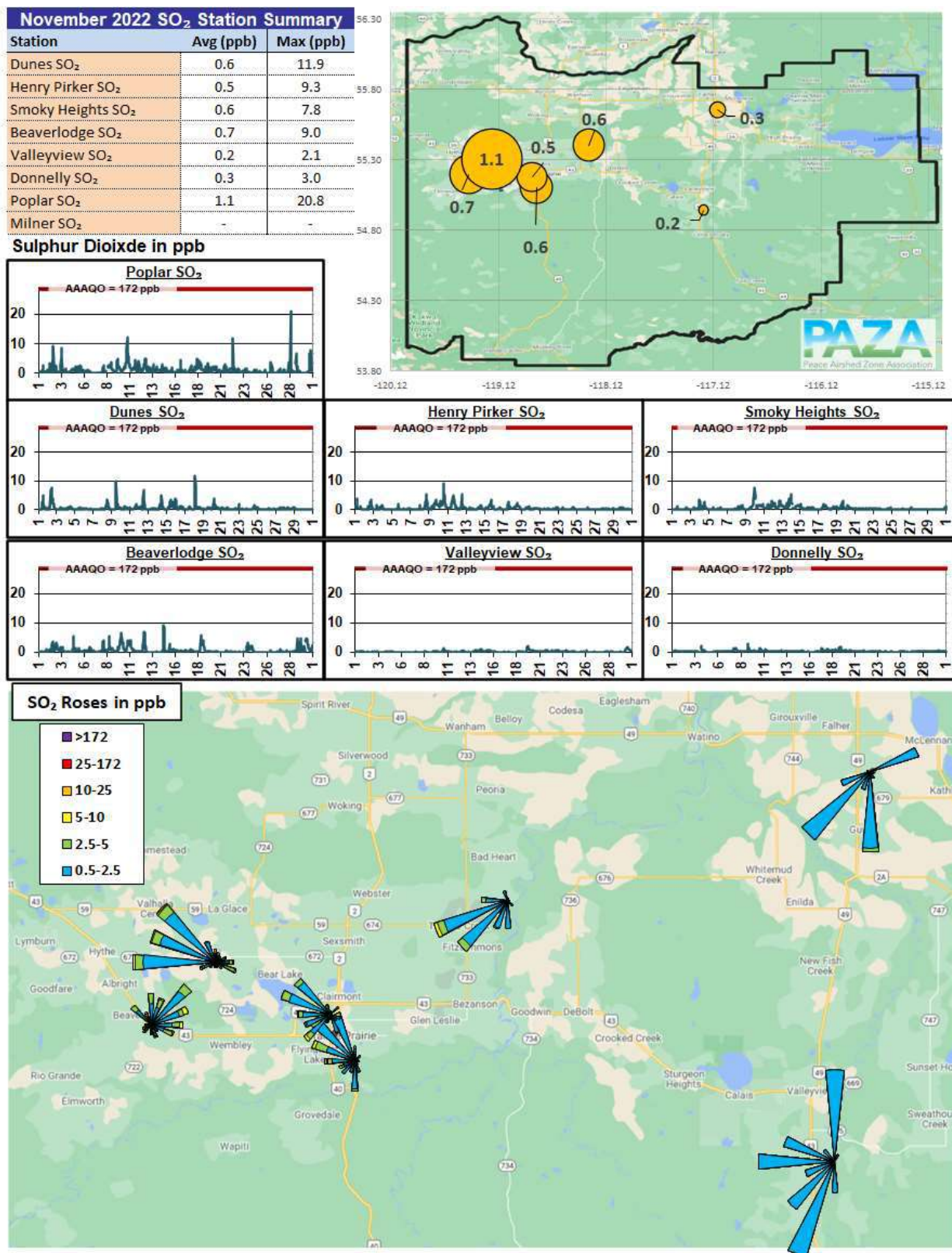
10.3 Carbon Monoxide (CO) Plots

November 2022 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.26	1.85

Carbon Monoxide in ppm



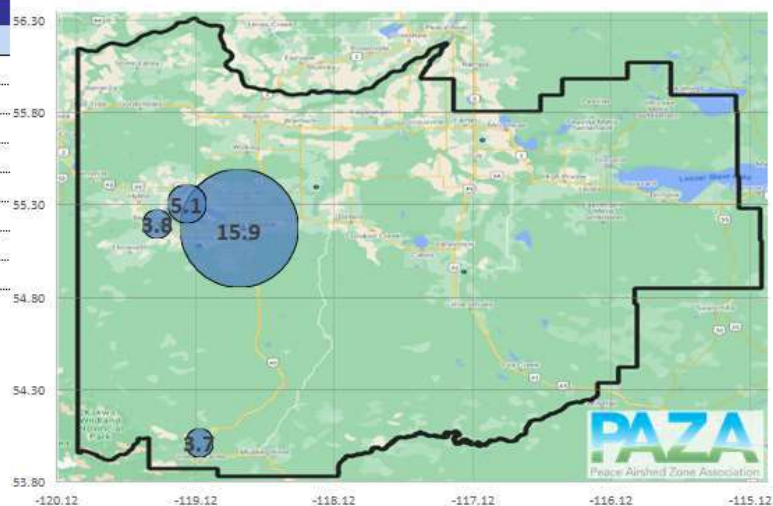
10.4 Sulphur Dioxide (SO₂) Plots



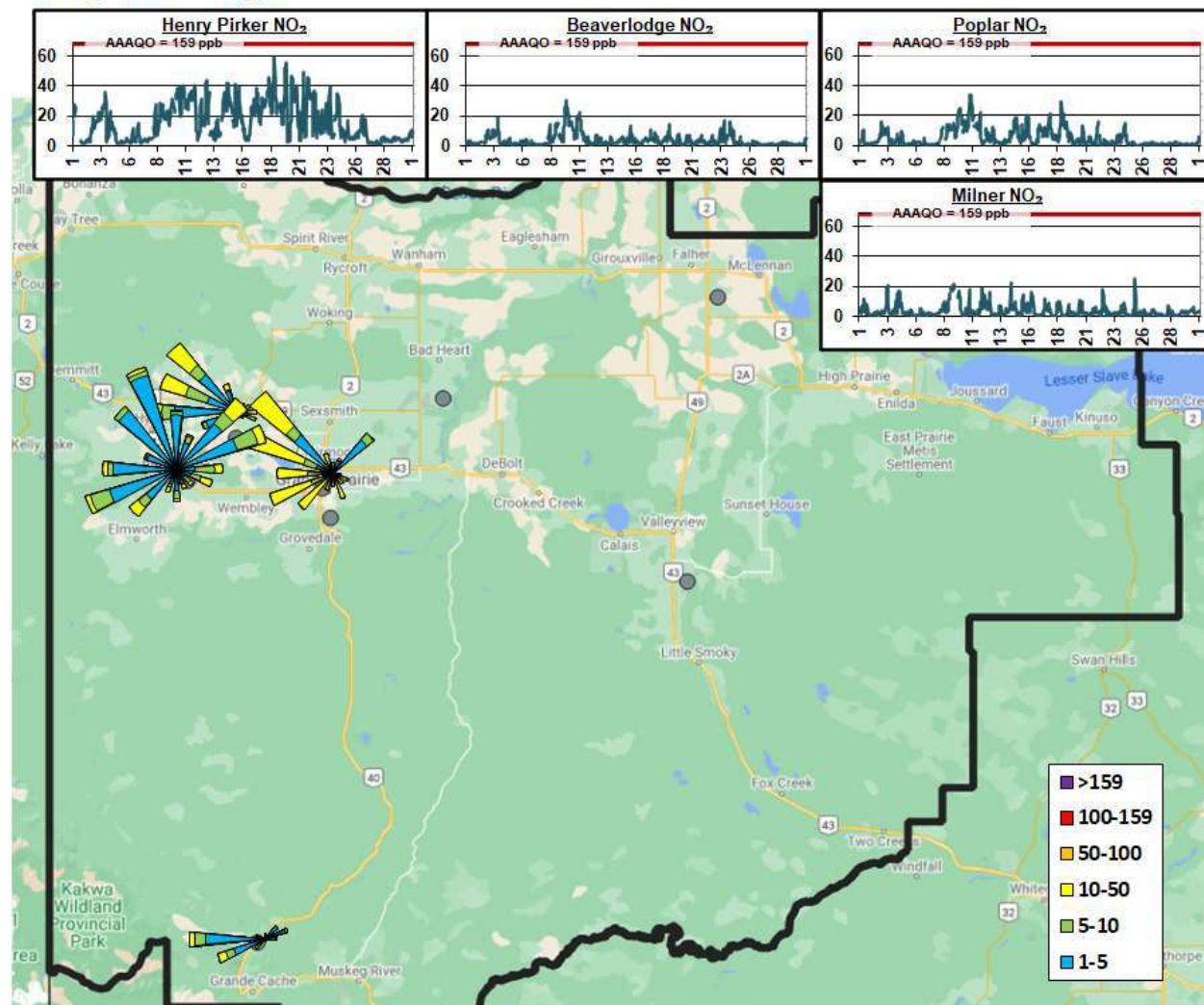
10.5 Nitrogen Dioxide (NO₂) Plots

November 2022 NO₂ Station Summary

Station	Avg (ppb)	Max (ppb)
Dunes NO ₂	-	-
Henry Pirkre NO ₂	15.9	58.7
Smoky Heights NO ₂	-	-
Beaverlodge NO ₂	3.8	30.7
Valleyview NO ₂	-	-
Donnelly NO ₂	-	-
Poplar NO ₂	5.1	33.4
Milner NO ₂	3.7	25.3

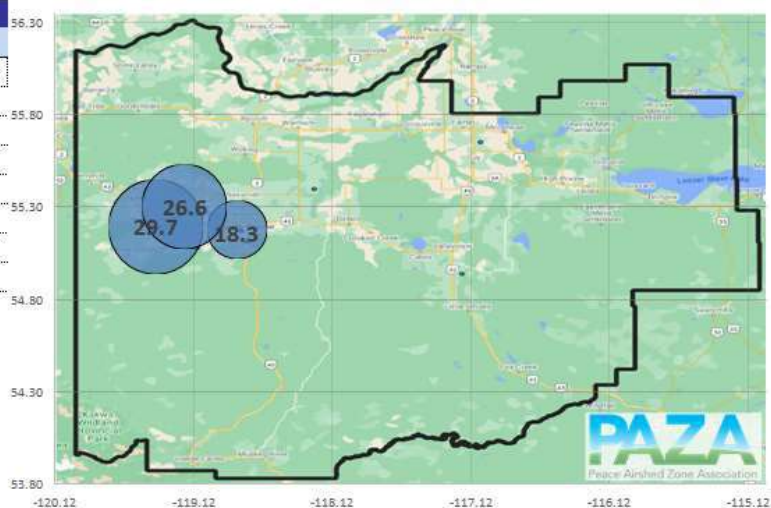


Nitrogen Dioxide in ppb

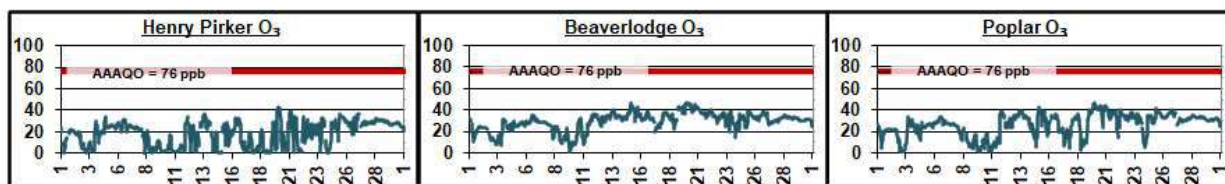


10.6 Ozone (O₃) Plots

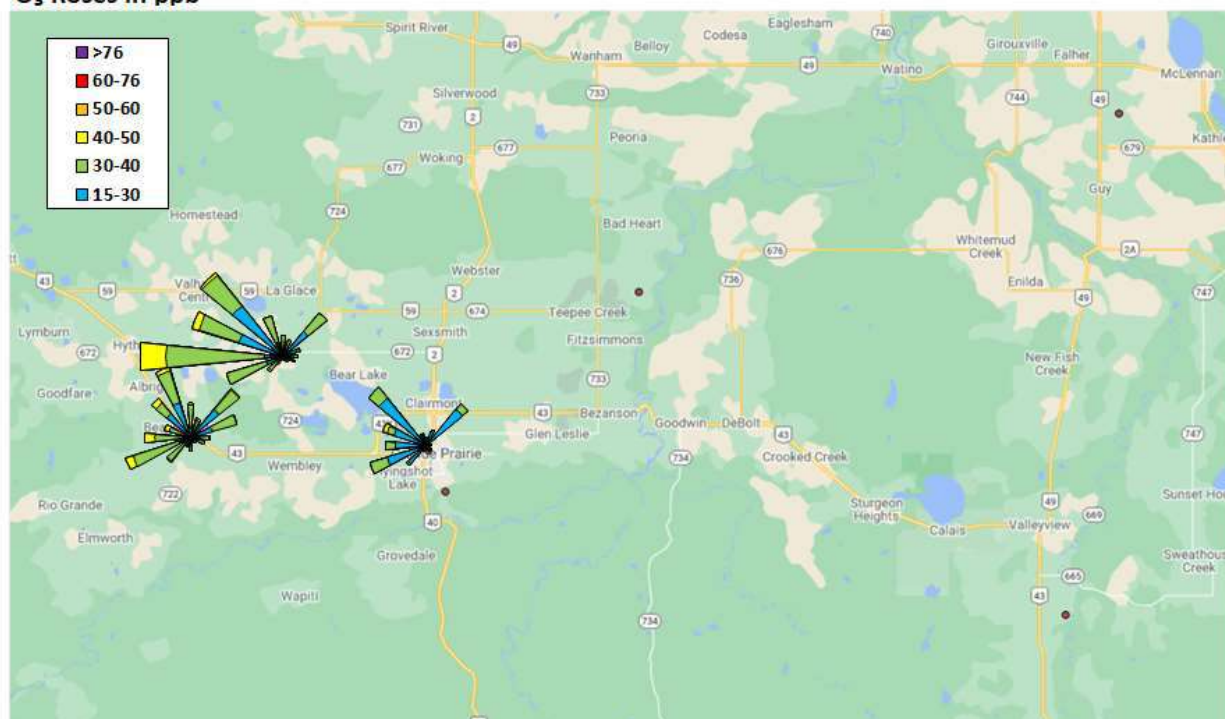
November 2022 O ₃ Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes O ₃	-	-
Henry Pirkler O ₃	18.3	43.3
Smoky Heights O ₃	-	-
Beaverlodge O ₃	29.7	47.0
Valleyview O ₃	-	-
Donnelly O ₃	-	-
Poplar O ₃	26.6	46.6
Milner O ₃	-	-



Ozone in ppb



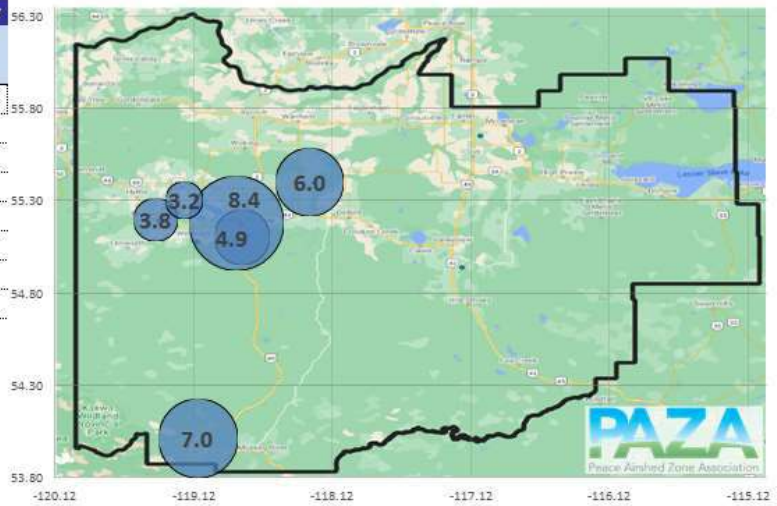
O₃ Roses in ppb



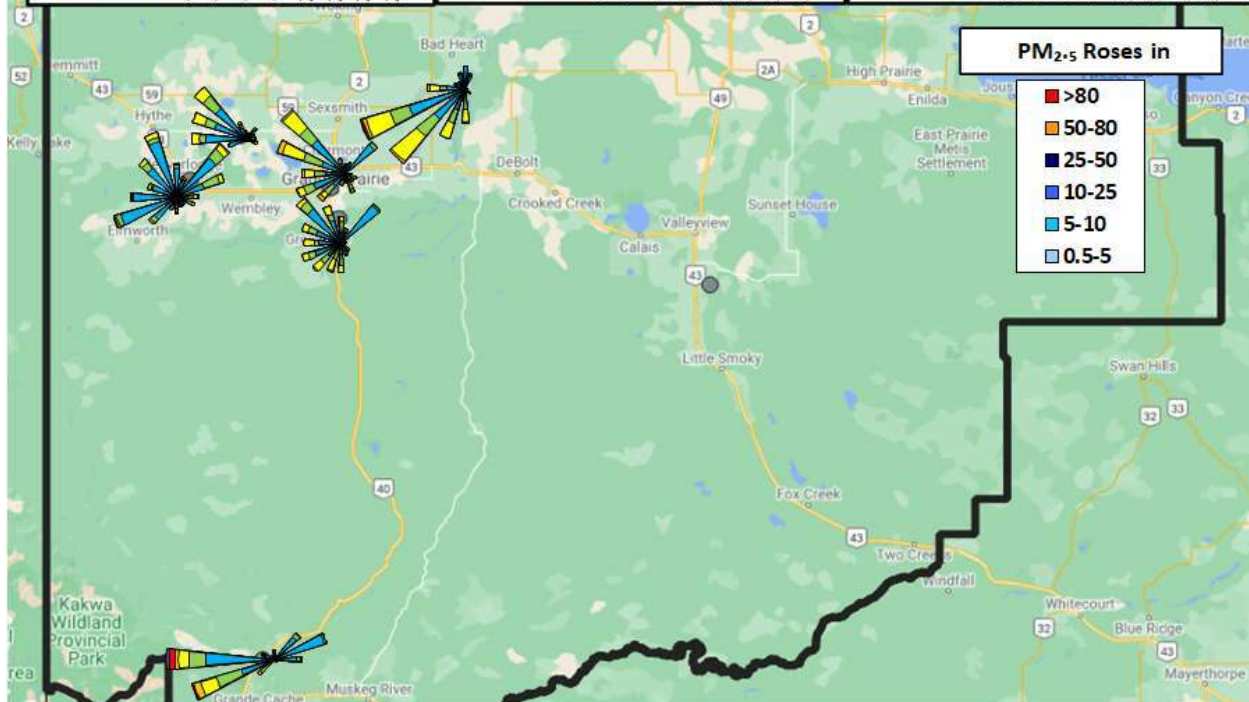
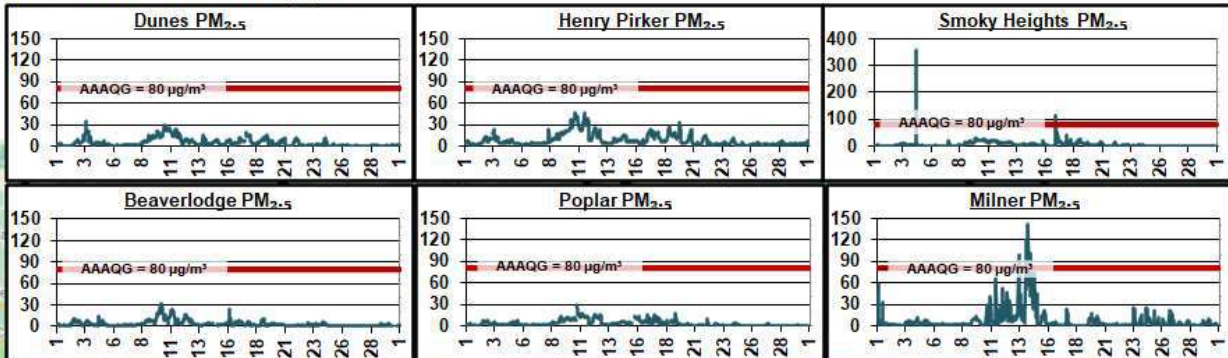
10.7 Fine Particulate Matter (PM_{2.5}) Plots

November 2022 PM_{2.5} Station Summary

Station	Avg µg/m ³	Max µg/m ³
Dunes PM _{2.5}	4.9	34.6
Henry Pirkner PM _{2.5}	8.4	47.7
Smoky Heights PM _{2.5}	6.0	356.4
Beaverlodge PM _{2.5}	3.8	32.3
Valleyview PM _{2.5}	-	-
Donnelly PM _{2.5}	-	-
Poplar PM _{2.5}	3.2	29.8
Milner PM _{2.5}	7.0	142.3

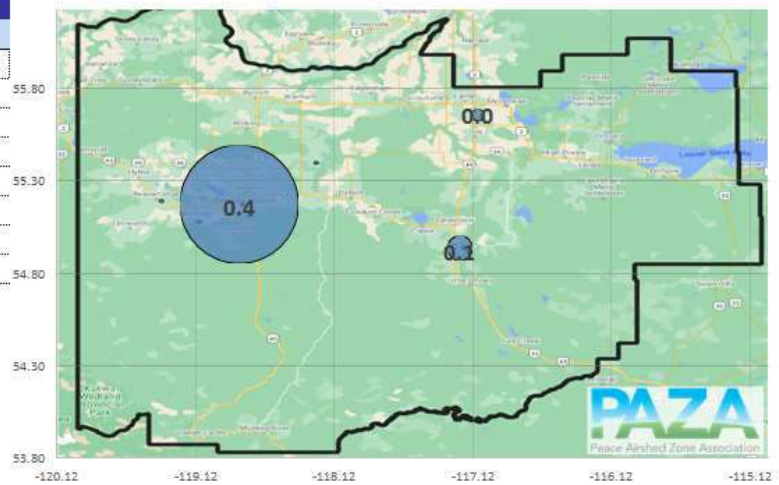


Fine Particulate Matter in µg/m³

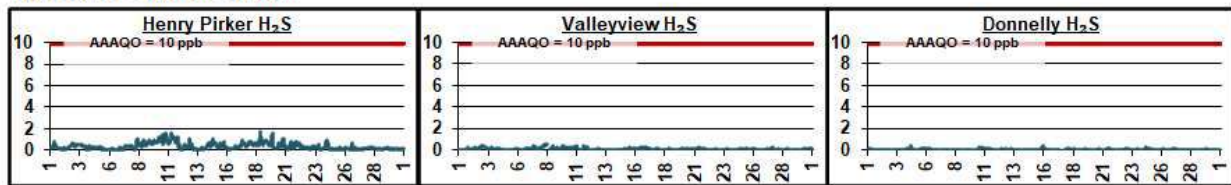


10.8 Hydrogen Sulphide (H₂S) Plots

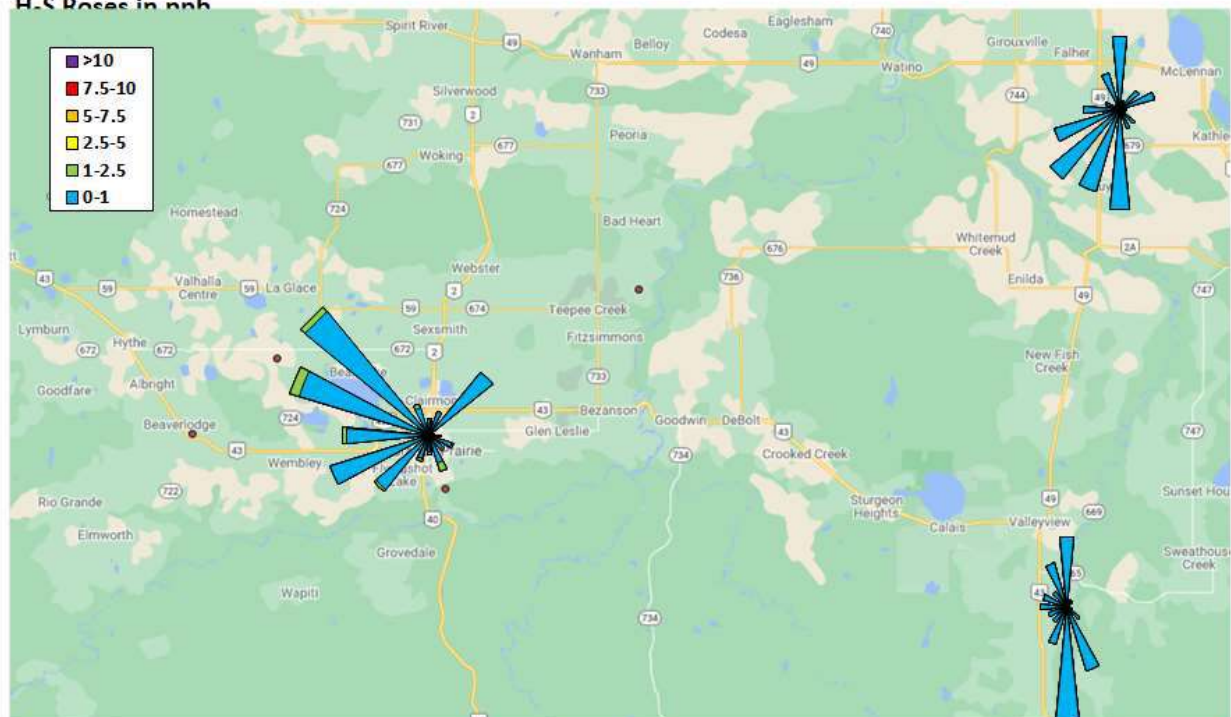
November 2022 H ₂ S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H ₂ S	-	-
Henry Pirkler H ₂ S	0.4	1.8
Smoky Heights H ₂ S	-	-
Beaverlodge H ₂ S	-	-
Valleyview H ₂ S	0.1	0.5
Donnelly H ₂ S	0.0	0.4
Poplar H ₂ S	-	-
Milner H ₂ S	-	-



Hydrogen Sulphide in ppb

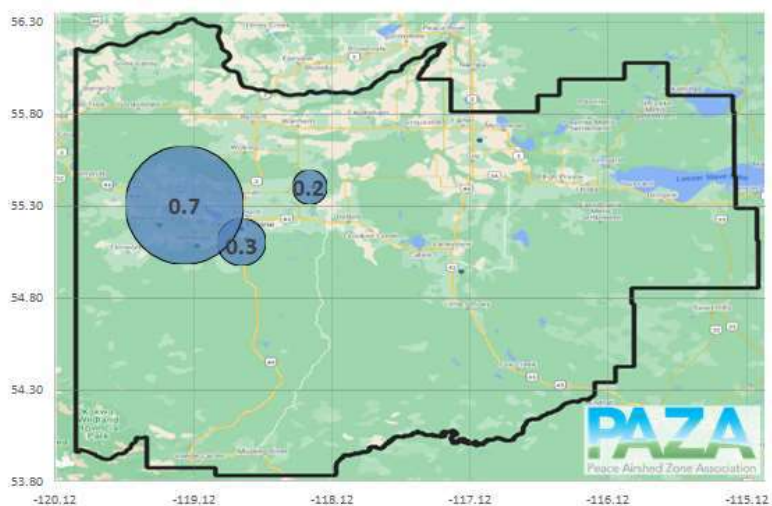


H₂S Roses in ppb

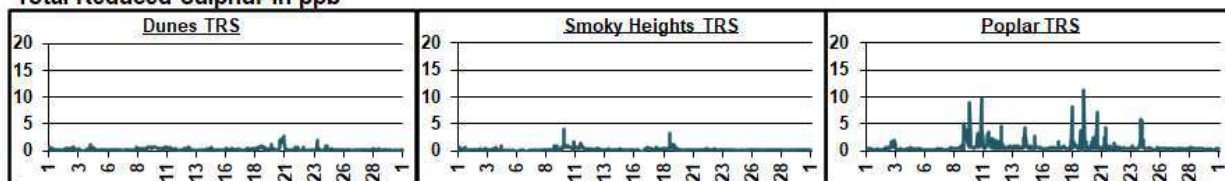


10.9 Total Reduced Sulphur (TRS) Plots

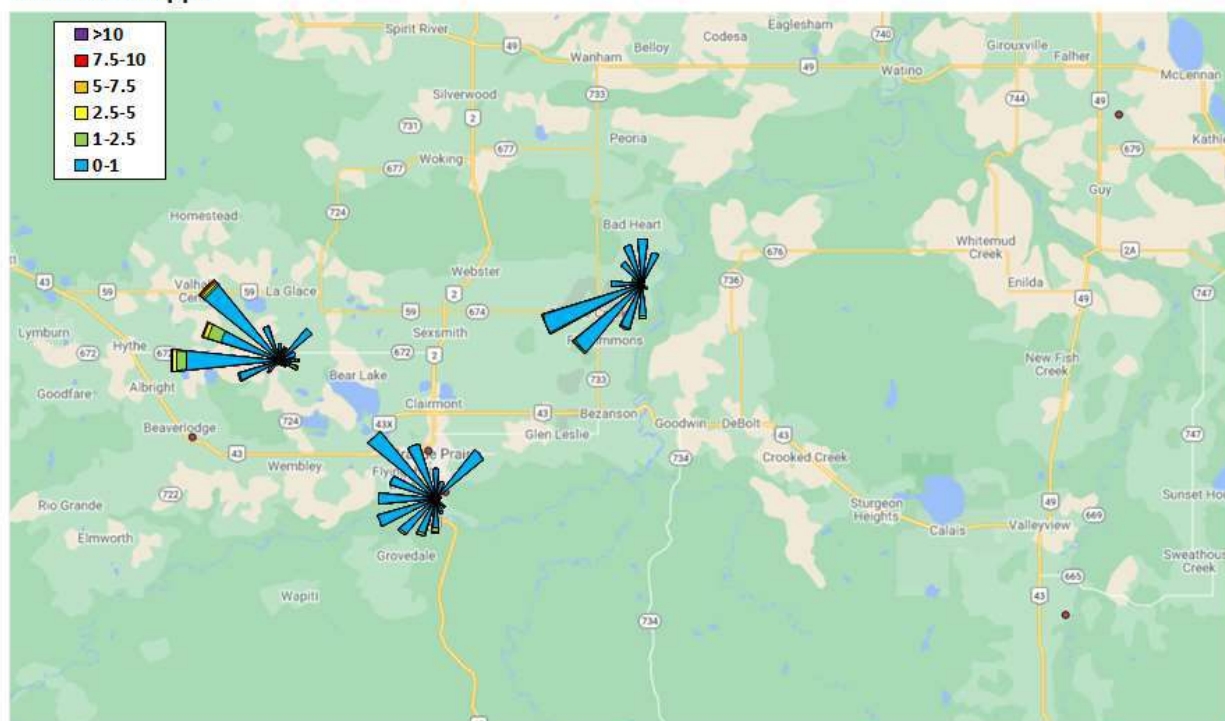
November 2022 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.3	2.8
Henry Pirkner TRS	-	-
Smoky Heights TRS	0.2	4.1
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Donnelly TRS	-	-
Poplar TRS	0.7	11.4
Milner TRS	-	-



Total Reduced Sulphur in ppb



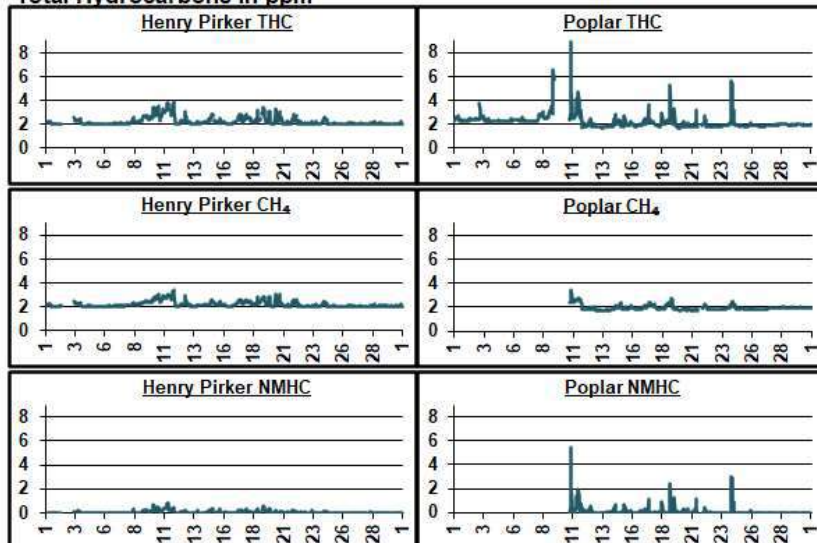
TRS Roses in ppb



10.10 Total Hydrocarbon (THC) Plots

November 2022 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	2.3	3.9	2.2	3.4	0.1	0.8
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Donnelly THC	-	-	-	-	-	-
Poplar THC	2.2	8.9	-	-	-	-

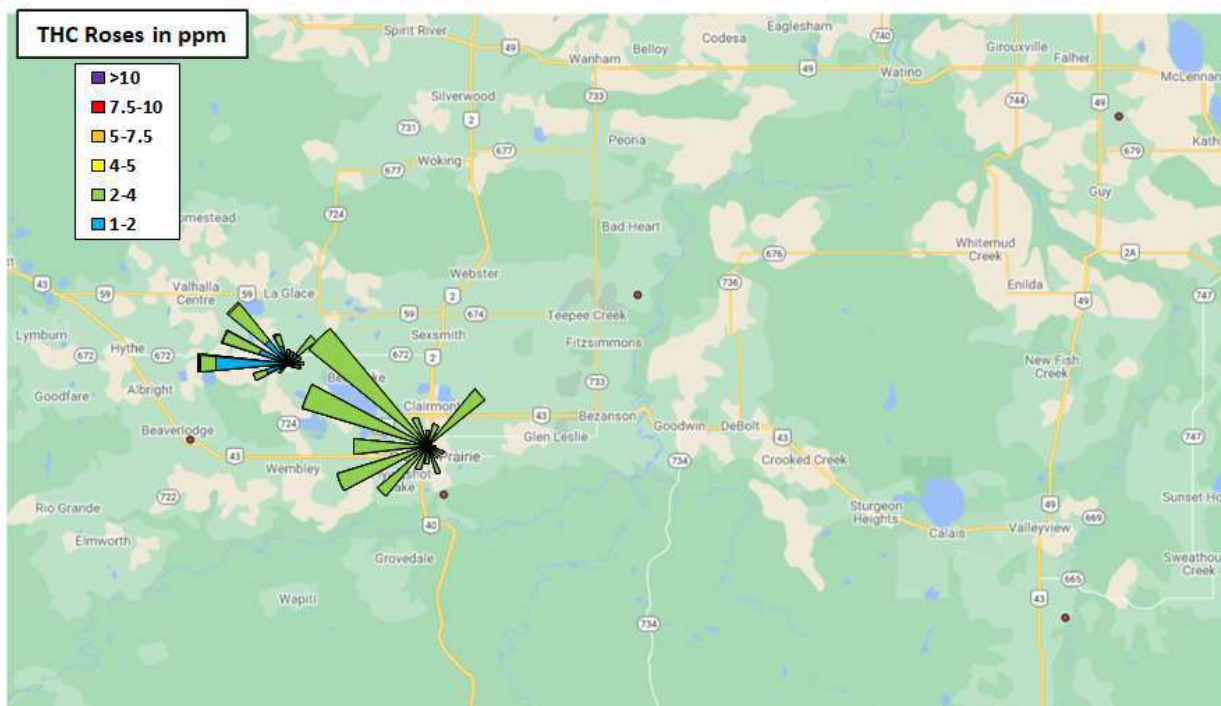
Total Hydrocarbons in ppm



Total Hydrocarbons (THC)

Methane (CH₄)

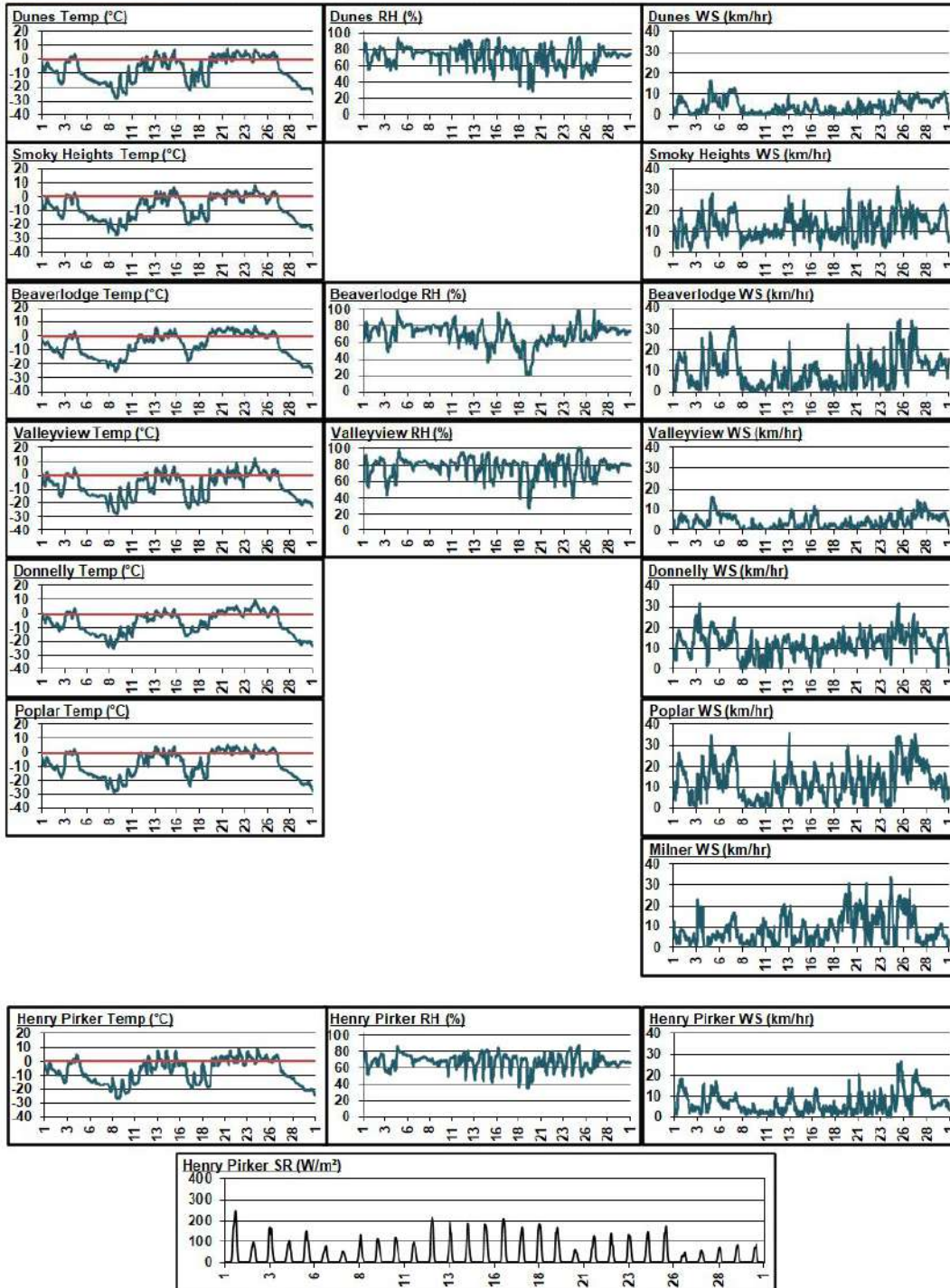
Non-Methane Hydrocarbons (NMHC)



10.11 Meteorology Summary

November 2022 Meteorological Summary						
Station	Temp (°C)	RH (%)	SR (W/m ²)	WS (km/hr)	WD (deg)	WD
Dunes	-7.6	71.8	-	4.0	321	NW
Henry Pirker	-7.2	67.3	25.6	6.5	289	WNW
Smoky Heights	-7.9	-	-	12.6	267	W
Beaverlodge	-6.6	70.1	-	9.7	319	NW
Valleyview	-7.6	77.4	-	4.4	304	WNW
Donnelly	-6.7	-	-	12.2	234	SW
Poplar	-8.4	-	-	12.8	301	WNW
Milner	-	-	-	8.7	252	W

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 November 2022

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
4a	Gordondale	0.3				04-34-078-10 W6M
4b	Gordondale	0.7				
5a	Boone Creek			1.3		01-23-076-11 W6M
5b	Boone Creek			1.3		
7a	Steeprock Creek			0.5		09-35-072-13 W6M
7b	Steeprock Creek			0.4		
17a	Poplar			3.2		13-06-073-08 W6M
17b	Poplar			missing		
19a	Wanham	0.4				16-22-077-03 W6M
19b	Wanham	0.7				
21a	Eaglesham			1.2		16-21-079-25 W5M
21b	Eaglesham			1.2		
36a	Guy				0.18	03-04-076-22 W5M
36b	Guy				0.16	
37a	Crooked Creek		29.0			16-01-071-26 W5M
37b	Crooked Creek		34.7			
40a	McLennan			3.4		03-29-077-19 W5M
40b	McLennan			1.3		
42a	Sunset House	0.4				05-32-070-19 W5M
42b	Sunset House	0.4				
D2a	Duvernay 2	0.2			0.10	04-33-062-20 W5M
D2b	Duvernay 2	0.2			0.13	
J1a	Jayar3 Bone Yard				0.10	14-08-062-03 W6M
J1b	Jayar3 Bone Yard				0.10	
J2a	Jayar4 7-8 or 8-8 Pad			0.7		10-08-062-03 W6M
J2b	Jayar4 7-8 or 8-8 Pad			0.8		
J4a	Jayar5 Camp	<0.1				11-08-062-03 W6M
J4b	Jayar5 Camp	<0.1				
M9Aa	Pipeline	<0.1				12-14-058-08 W6M
M9Ab	Pipeline	<0.1				
M9Ba	Ambient Trailer			2.4		09-15-058-08 W6M
M9Bb	Ambient Trailer			2.0		

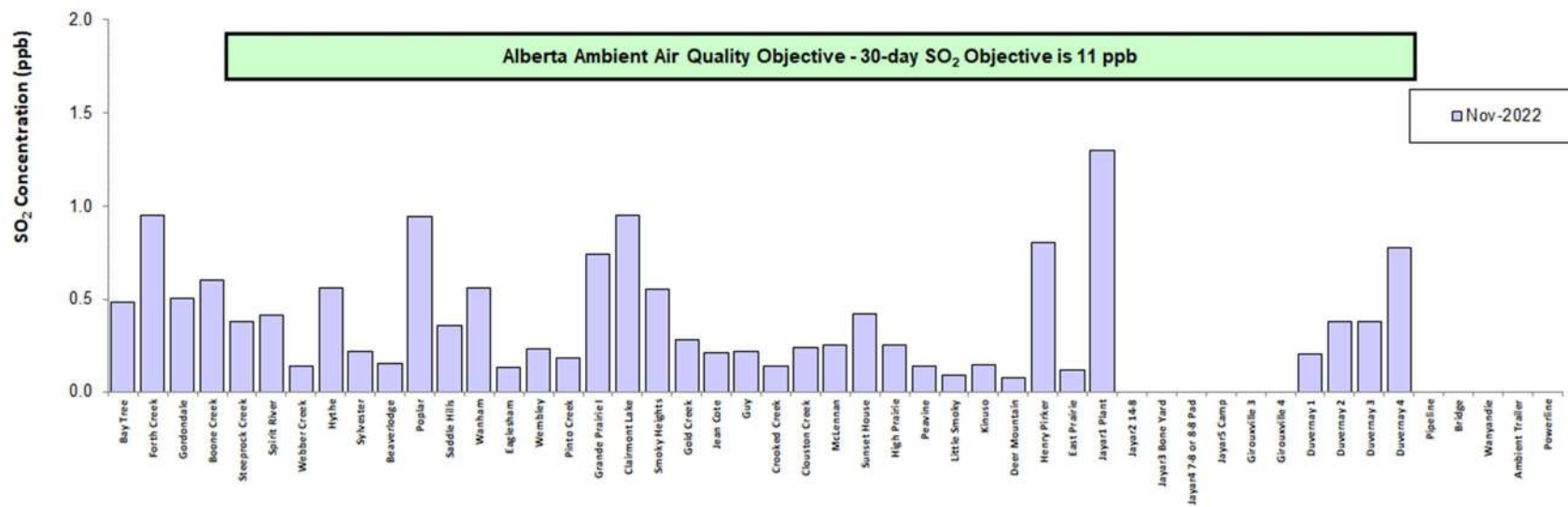
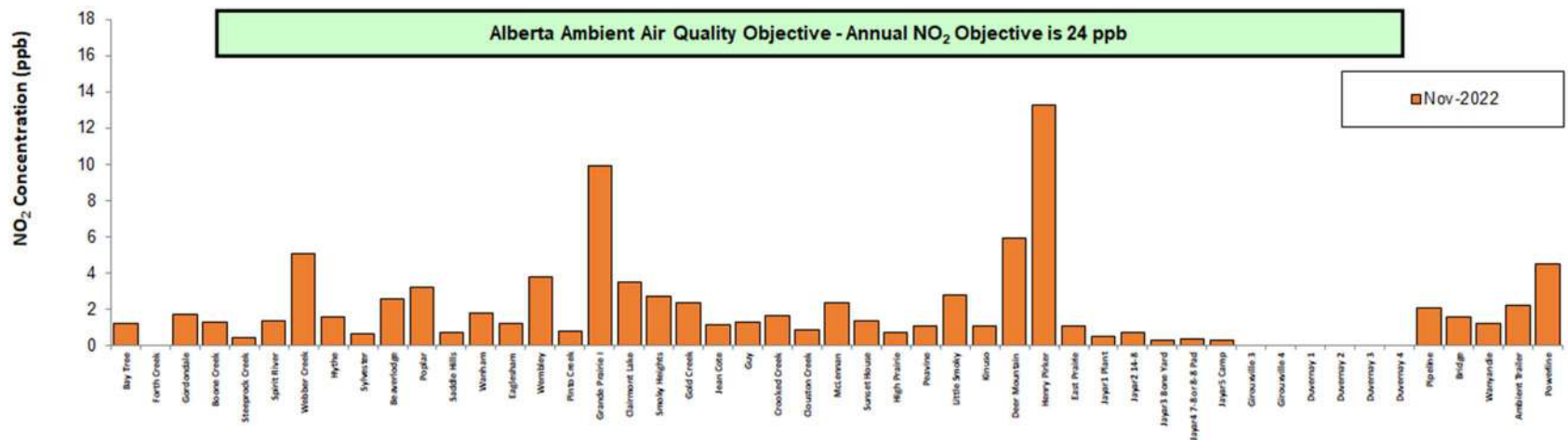
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.5	35.7	1.3	-	13-16-078-13 W6M
3	Forth Creek	1.0	-	-	-	04-13-082-07 W6M
4	Gordondale	0.5	-	1.7	-	04-34-078-10 W6M
5	Boone Creek	0.6	-	1.3	-	01-23-076-11 W6M
7	Steeprock Creek	0.4	-	0.4	-	09-35-072-13 W6M
9	Spirit River	0.4	-	1.3	-	08-12-079-07 W6M
11	Webber Creek	0.1	-	5.1	-	09-36-074-09 W6M
12	Hythe	0.6	-	1.6	-	14-36-072-11 W6M
14	Sylvester	0.2	-	0.7	-	08-06-069-12 W6M
16	Beaverlodge	0.1	-	2.6	-	15-36-071-10 W6M
17	Poplar	-	-	3.2	-	13-06-073-08 W6M
18	Saddle Hills	0.4	-	0.7	-	04-25-074-07 W6M
19	Wanham	0.6	-	1.8	-	16-22-077-03 W6M
21	Eaglesham	0.1	-	1.2	-	16-21-079-25 W5M
24	Wembley	0.2	-	3.8	-	12-31-070-08 W6M
25	Pinto Creek	0.2	-	0.8	-	04-24-069-11 W6M
27	Grande Prairie I	0.7	-	9.9	-	08-15-071-06 W6M
28	Clairmont Lake	1.0	-	3.5	-	09-06-073-04 W6M
29	Smoky Heights	0.6	-	2.7	-	04-06-075-02 W6M
32	Gold Creek	0.3	-	2.4	-	06-33-067-05 W6M
35	Jean Cote	0.2	-	1.2	-	12-35-079-21 W5M
36	Guy	0.2	-	1.3	0.17	03-04-076-22 W5M
37	Crooked Creek	0.1	31.9	1.7	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	0.9	-	12-01-073-22 W5M
40	McLennan	0.3	-	2.4	-	03-29-077-19 W5M
42	Sunset House	0.4	-	1.3	-	05-32-070-19 W5M
43	High Prairie	0.3	-	0.7	-	16-13-074-17 W5M
44	Peavine	0.1	-	1.1	-	03-05-079-15 W5M
46	Little Smoky	0.1	-	2.8	-	12-01-066-21 W5M
47	Kinuso	0.1	35.3	1.1	-	12-10-073-10 W5M
48	Deer Mountain	0.1	-	5.9	-	15-22-068-09 W5M
49	Henry Pirker	0.8	-	13.3	-	17-26-071-06 W6M
50	East Prairie	0.1	-	1.1	-	11-13-079-08 W6M
57	Jayar1 Plant	1.3	-	0.5	0.10	06-08-062-03 W6M
58	Jayar2 14-8	<0.1	-	0.8	0.10	07-08-062-03 W6M
59	Jayar3 Bone Yard	<0.1	-	0.3	0.10	14-08-062-03 W6M
60	Jayar4 7-8 or 8-8 Pad	<0.1	-	0.4	0.10	10-08-062-03 W6M
61	Jayar5 Camp	<0.1	-	0.3	0.11	11-08-062-03 W6M
G3	Girouxville 3	-	-	-	0.3	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.40	04-08-077-22 W5M
D1	Duvernay 1	0.2	-	-	0.10	04-33-062-20 W5M
D2	Duvernay 2	0.4	-	-	0.12	04-33-062-20 W5M
D3	Duvernay 3	0.4	-	-	0.11	04-33-062-20 W5M
D4	Duvernay 4	0.8	-	-	0.11	04-33-062-20 W5M
M1	Pipeline	<0.1	-	2.1	-	12-14-058-08 W6M
M2	Bridge	<0.1	-	1.6	-	08-06-057-08 W6M
M3	Wanyandie	<0.1	-	1.2	-	11-13-058-08 W6M
M4	Ambient Trailer	<0.1	-	2.2	-	09-15-058-08 W6M
M5	Powerline	<0.1	-	4.5	-	06-14-058-08 W6M

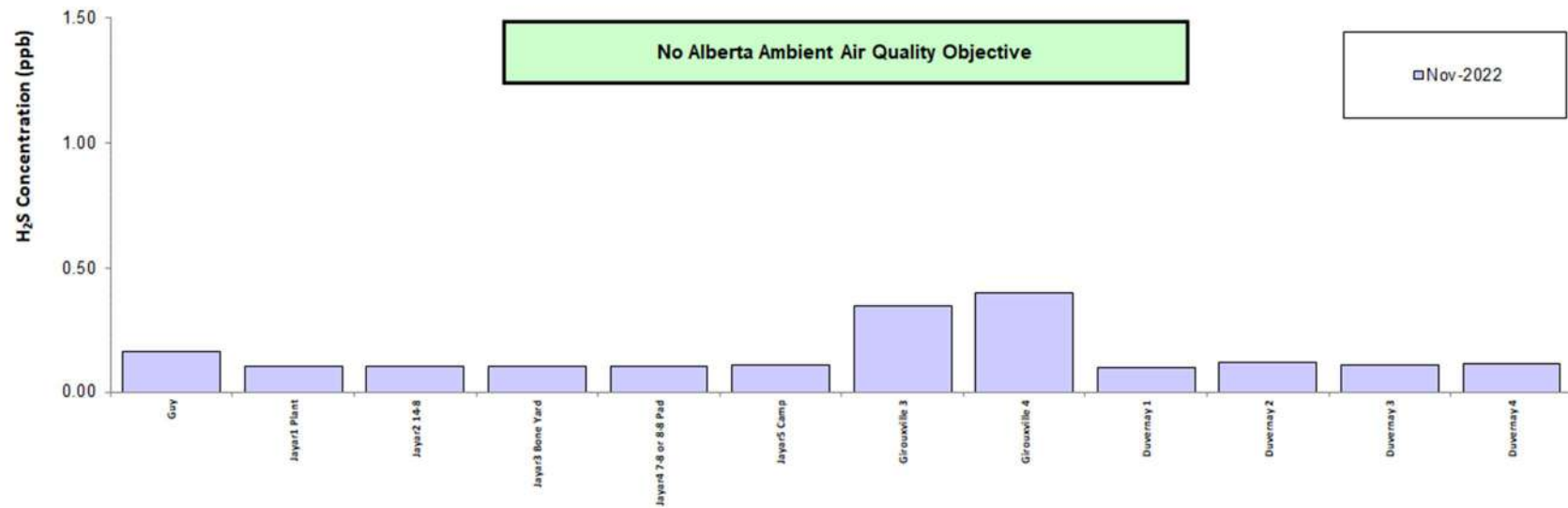
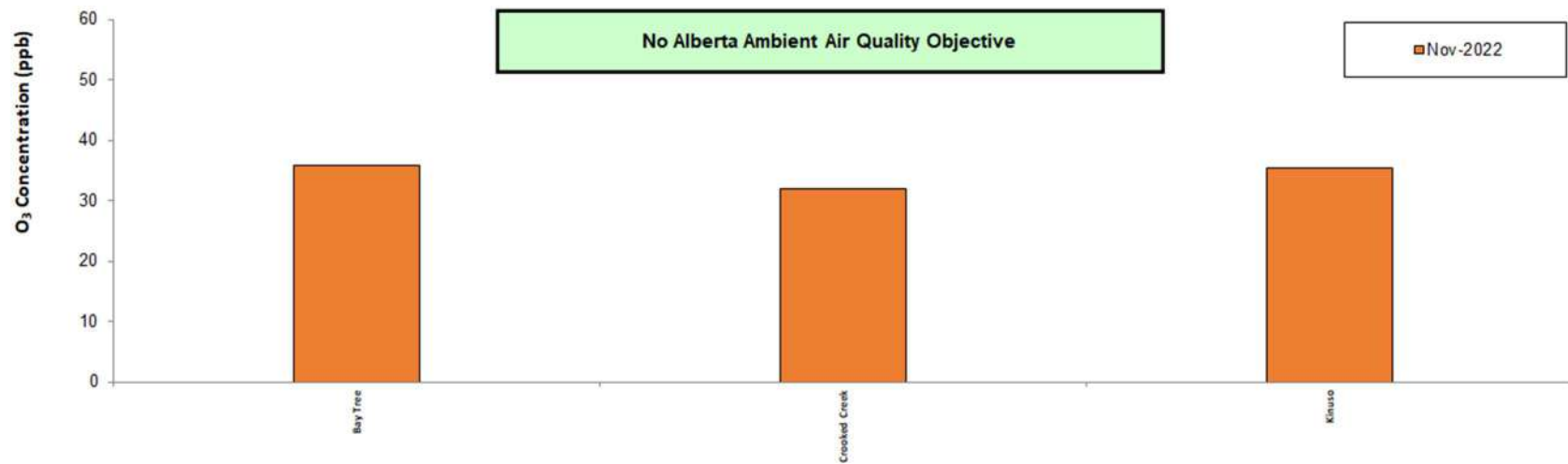
Passive Summary for November 2022

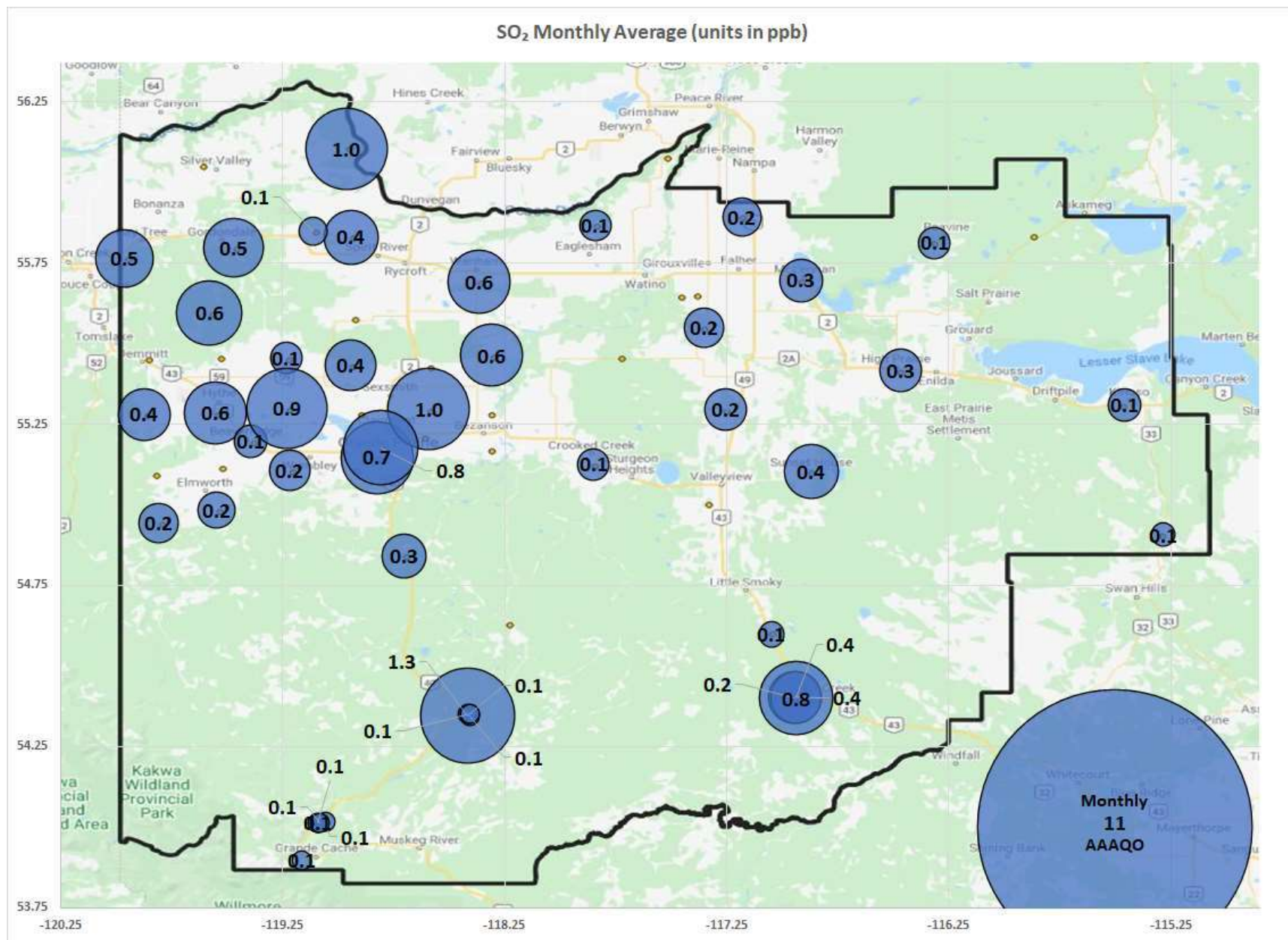
Stats	Sulphur Dioxide SO ₂	Ozone O ₃	Nitrogen Dioxide NO ₂	Hydrogen Sulphide H ₂ S
	ppb	ppb	ppb	ppb

Passive Summary for November 2022 (PAZA)				
Mean	0.4	34.3	2.2	0.2
Standard Deviation	0.3	2.1	2.5	0.1
Minimum	0.1	31.9	0.3	0.1
Maximum	Deer Mountain (#48)	Crooked Creek (#37)	Jayar3 Bone Yard (#59)	Duvernay 1 (#D1)
	1.3 Jayar1 Plant (#57)	35.7 Bay Tree (#2)	13.3 Henry Pirker (#49)	0.4 Girouxville 4 (#G4)

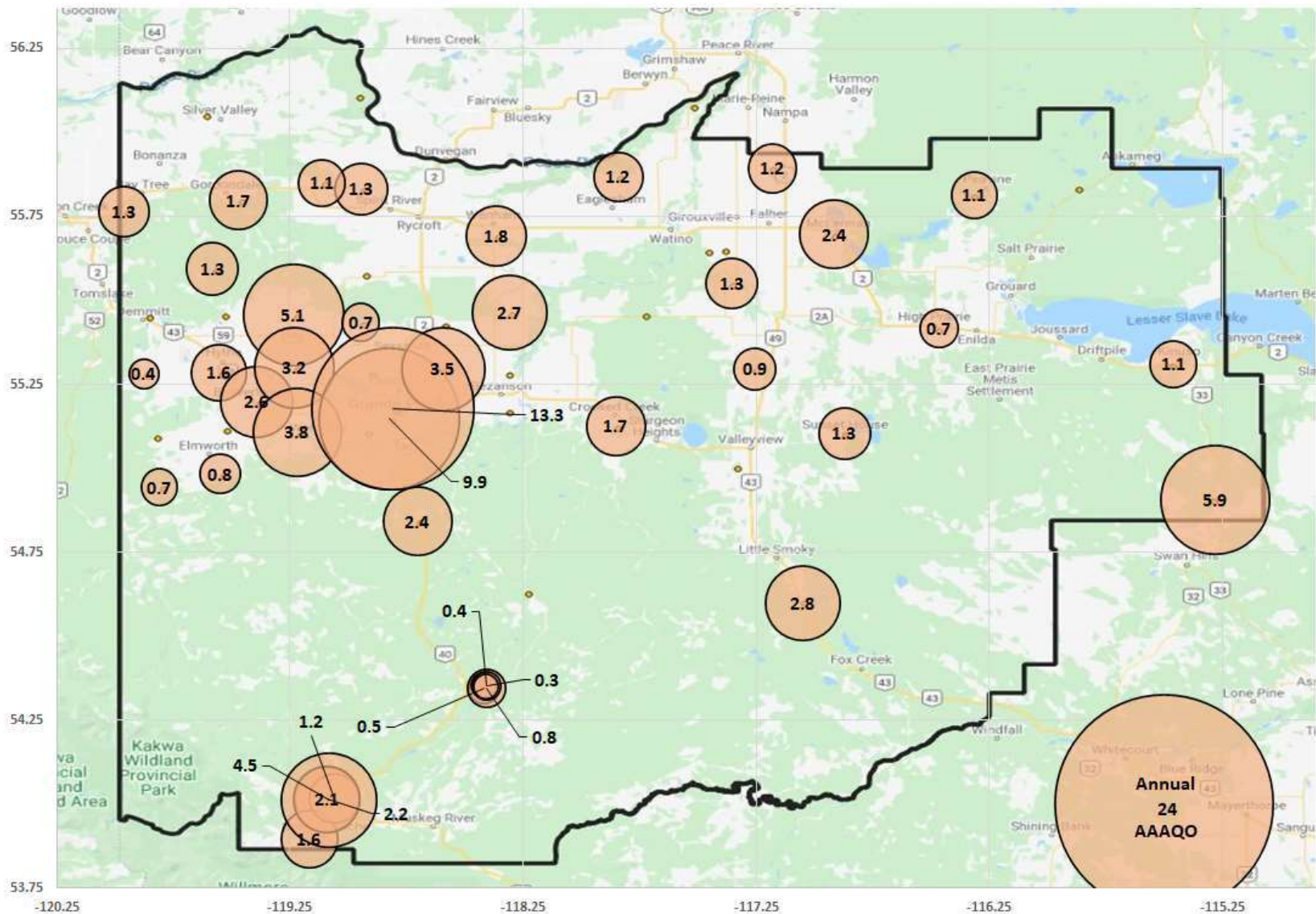
Continuous and Passive Monitoring Comparision				
PAZA Beaverlodge Station	0.7	29.7	3.8	-
Beaverlodge Passive (#16)	0.1	-	2.6	-
PAZA Henry Pirker Station	0.5	18.3	15.9	0.4
Henry Pirker passive (#49)	0.8	-	13.3	-
Milner Station	-	-	3.7	-
Henry Pirker passive (#49)	<0.1	-	2.2	-



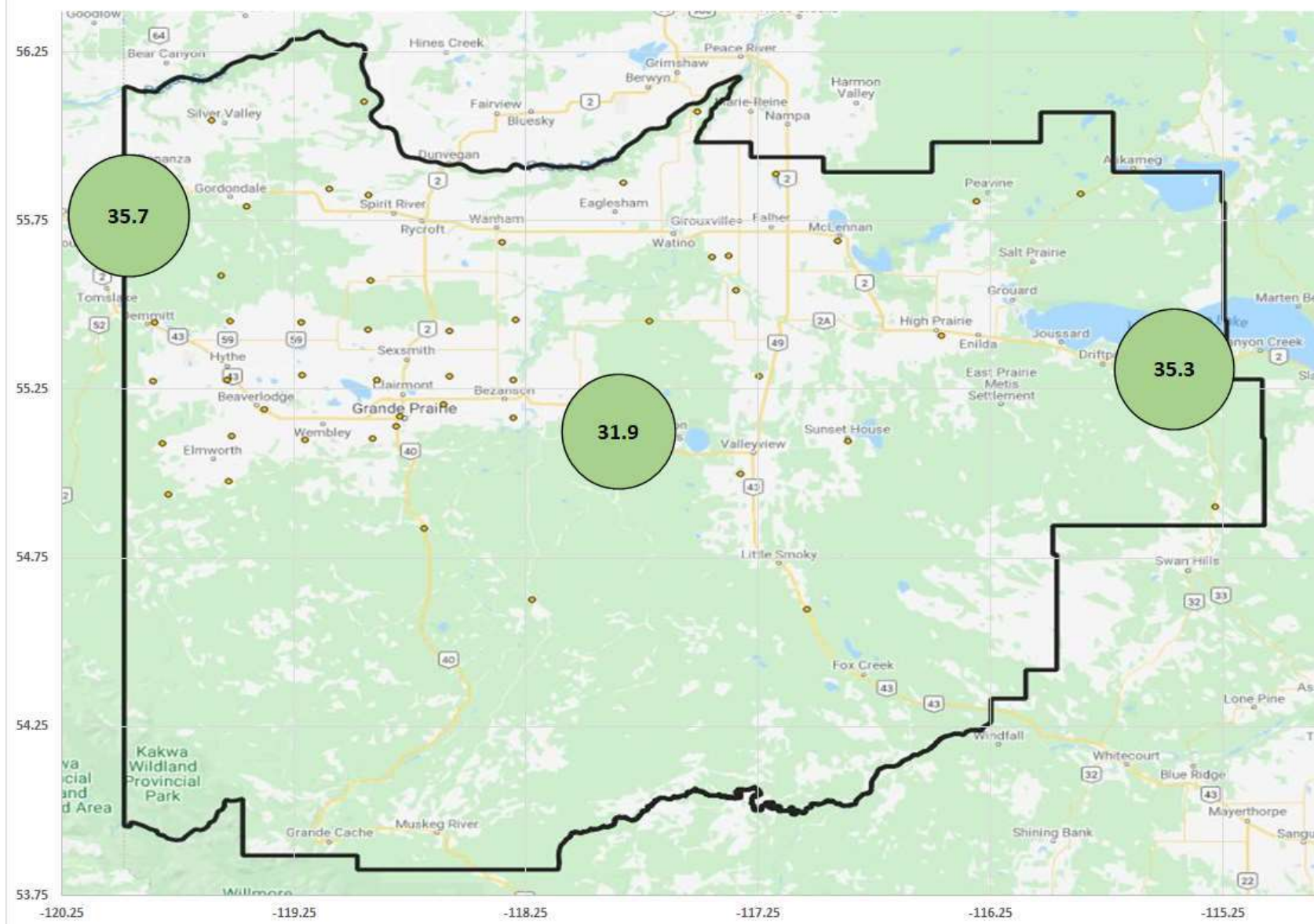


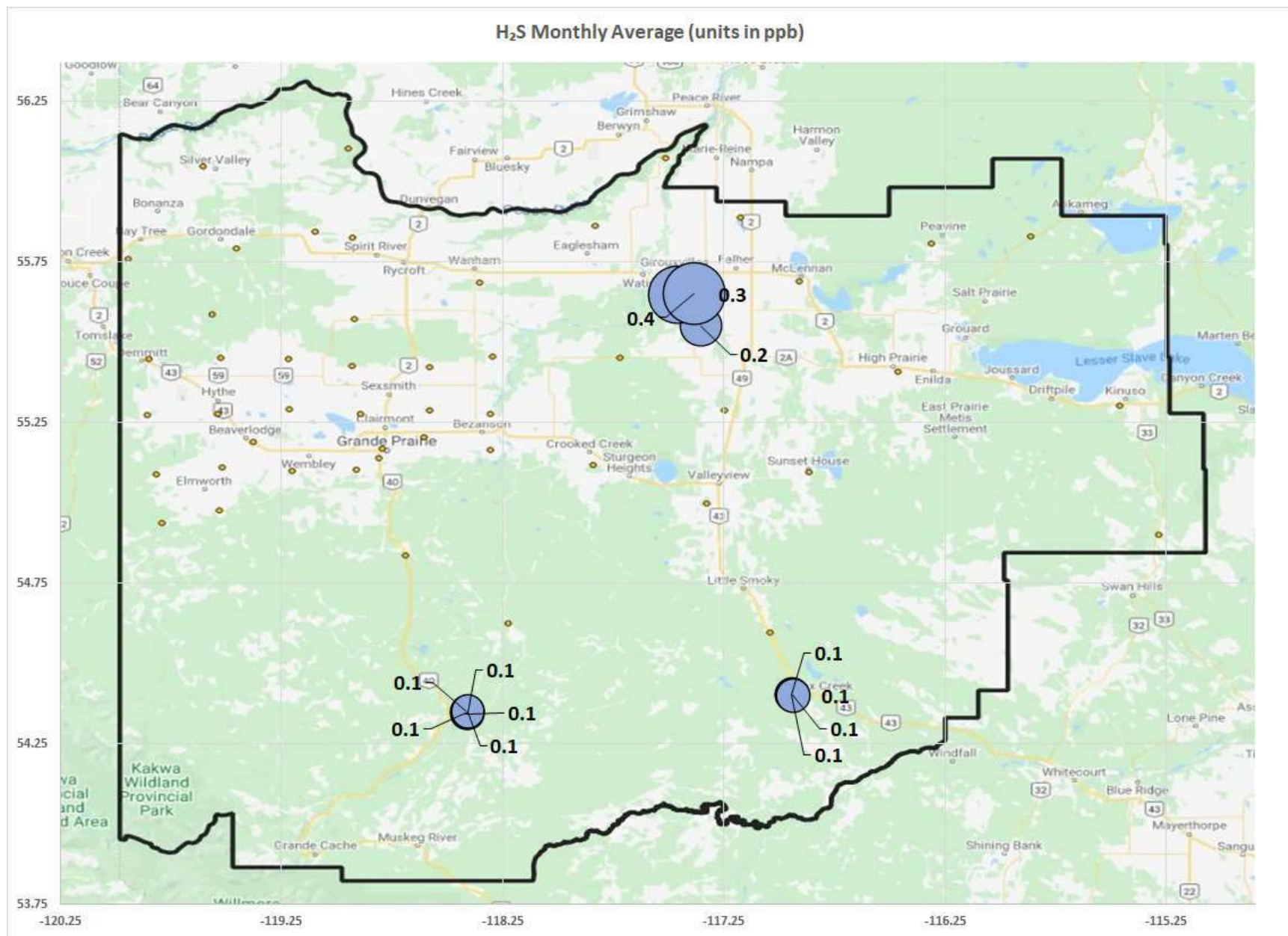


NO₂ Monthly Average (units in ppb)



O₃ Monthly Average (units in ppb)

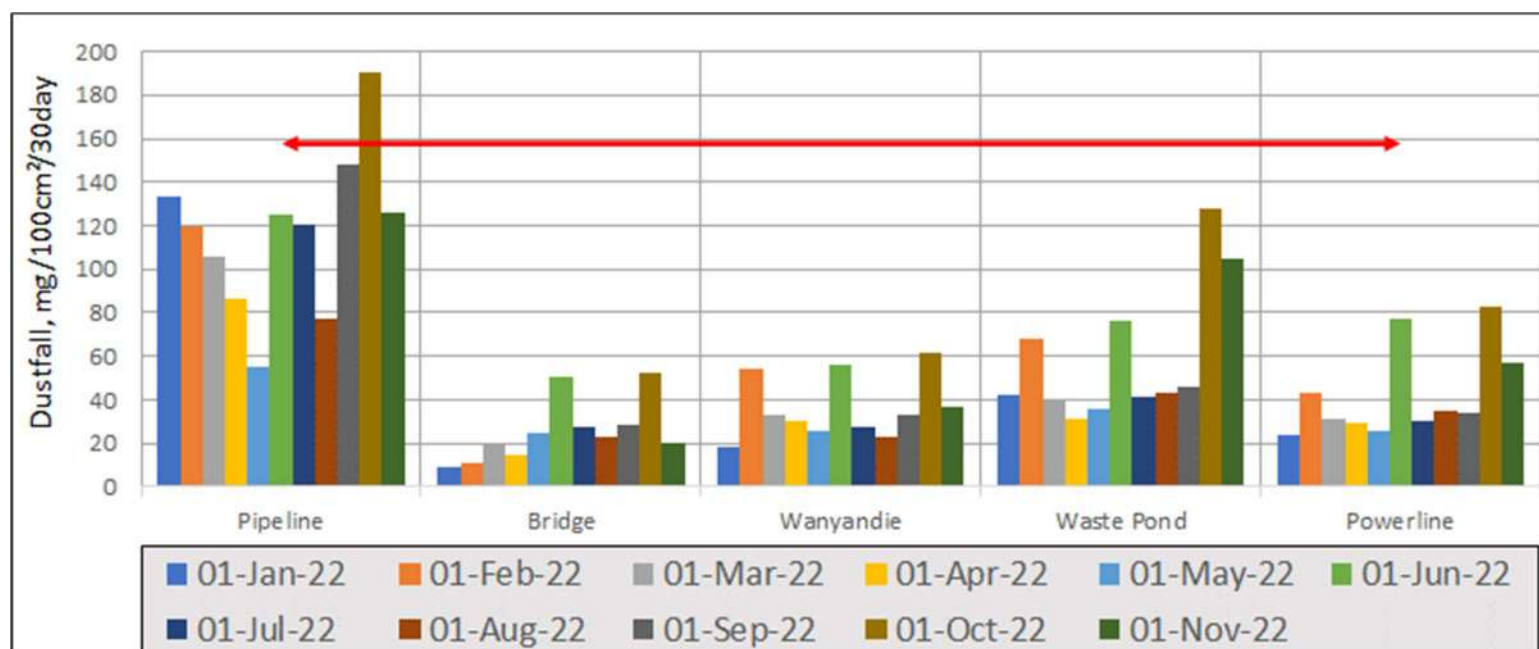




12 Dustfall Monitoring Data

Milner Dustfall Samples November 2022

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm ² /30day	Fixed Dustfall (30 day) mg/100cm ² /30day	Exposure days	Field Notes
November	2022	Pipeline	125.6	43.3	30	
November	2022	Bridge	20.0	13.1	31	
November	2022	Wanyandie	36.7	13.5	30	
November	2022	Waste Pond	105.1	24.2	30	
November	2022	Powerline	56.6	16.2	30	
November	2022	Powerline Dup	84.5	10.3	30	RPD= 40% / 45%



End of Report



Peace Airshed Zone Association

Ambient Air Monitoring Report

November 2022