



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

January 2024

February 29, 2024

Alberta Environment and Protected Areas

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

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

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

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

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

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

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

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

Continuous Monitoring:

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

Calibration and Data Submission:

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

Table A. PAZA members with Facility Operating Approvals

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

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

- A total of 20, 1hr readings above the PM_{2.5} AAAQG (80 µg/m³) and 6, 24hr readings above the PM_{2.5} AAQO (29 µg/m³) were recorded
- 1hr readings above the PM_{2.5} AAAQG (80 µg/m³) as follows:

Site	Reference Number	Date	From MST	To MST	Average (µg/m ³)	WS km/hr	WD degrees
Henry Pirker	423467	Jan 01, 2024	00:00	01:00	136.7	1.4	265
Fox Creek	424247	Jan-24, 2024	07:00	08:00	139.9	5.3	164
Fox Creek	424247	Jan-24, 2024	08:00	09:00	108.7	4.5	160
Fox Creek	424247	Jan-24, 2024	10:00	11:00	135.8	5.1	160
Fox Creek	424247	Jan-24, 2024	20:00	21:00	95.4	1.4	154
Fox Creek	424247	Jan-24, 2024	21:00	22:00	118.0	1.3	159
Fox Creek	424247	Jan-24, 2024	22:00	23:00	215.5	1.0	153
Fox Creek	424247	Jan-24, 2024	23:00	00:00	187.6	0.4	64
Fox Creek	424320	Jan-25, 2024	00:00	01:00	124.0	1.2	156
Fox Creek	424320	Jan-25, 2024	01:00	02:00	177.1	1.8	159
Fox Creek	424320	Jan-25, 2024	02:00	03:00	151.2	0.6	158
Fox Creek	424320	Jan-25, 2024	03:00	04:00	113.0	0.3	212
Fox Creek	424320	Jan-25, 2024	04:00	05:00	162.1	1.4	166
Fox Creek	424320	Jan-25, 2024	05:00	06:00	184.7	1.1	138
Fox Creek	424320	Jan-25, 2024	06:00	07:00	154.2	0.5	165
Fox Creek	424320	Jan-25, 2024	07:00	08:00	170.4	0.9	162
Fox Creek	424320	Jan-25, 2024	08:00	09:00	161.1	1.6	137
Fox Creek	424320	Jan-25, 2024	09:00	10:00	130.3	1.8	142
Fox Creek	424320	Jan-25, 2024	10:00	11:00	119.5	2.2	131
Fox Creek	424320	Jan-25, 2024	11:00	12:00	105.0	1.9	126

- 24-hr reading above the PM_{2.5} AAQO (29 µg/m³) as follows:

Site	Reference Number	Date	Day average (µg/m ³)	WS km/hr	WD degrees
Beaverlodge	425328	January 24, 2024	29.3	2.2	23
Henry Pirker	425329	January 20, 2024	34.9	2.2	115
Henry Pirker	425330	January 24, 2024	36.4	1.6	306
Smoky Heights	425332	January 24, 2024	33.5	7.4	226
Fox Creek	424247	January 24, 2024	67.8	3.2	157
Fox Creek	424320	January 25, 2024	79.5	3.0	190

Operational times less than 90 percent

Poplar CH₄/NMHC are not in operation.

Smoky Heights PM_{2.5} was <90% due to periods of extreme cold the PM_{2.5} flatlined between Jan 11-15 (89hrs); Following the PM_{2.5} calibration four hours were removed due to additional maintenance and flow verification; this resulted in <90% uptime (87.5%, reference 524087)

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

Air Incidents

Extreme cold period between Jan 11 and 14 (less than -35°C)

Deviations from Authorized Monitoring Methods

None were reported.

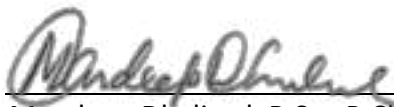
Passive Monitoring

- 53 Stations throughout the PAZA zone
 - Karr Creek was added back into monitoring rotation
 - Passive sample analyses were performed by Bureau Veritas Laboratories
- There were 20 duplicates sampled in the month of January
 - Eight SO₂ duplicates located at Webber Creek, Fitzsimmons, Deer Mountain, East Prairie, Duvernay 4, Kakwa 2, Milner Wanyandie, Jayar5 Camp
 - RPD ranging from 0% to 55% (one fail, East Prairie readings were 0.1 and 0.2ppb)
- One O₃ duplicate located at Kinuso
 - RPD 8% (no fails)
- Seven NO₂ duplicates at Steeprock Creek, Poplar, Sunset House, Kinuso, Kakwa 1, Milner Bridge, Jayar4 7-8 or 8-8 Pad
 - RPD ranging from 0% to 28% (no fail)
- Four H₂S duplicates at Duvernay 4, Girouxville 3, Kakwa 4, Jayar1 Plant
 - RPD 4% to 18% (no fail)

Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- The site, Powerline where the duplicate was collected was inaccessible due to a train blocking the tracks at all crossings, as such the Powerline site and duplicate were not collected in January 2024
- Total dustfall ranged from 12.5 to 90.4 mg/100cm²/30day.

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.

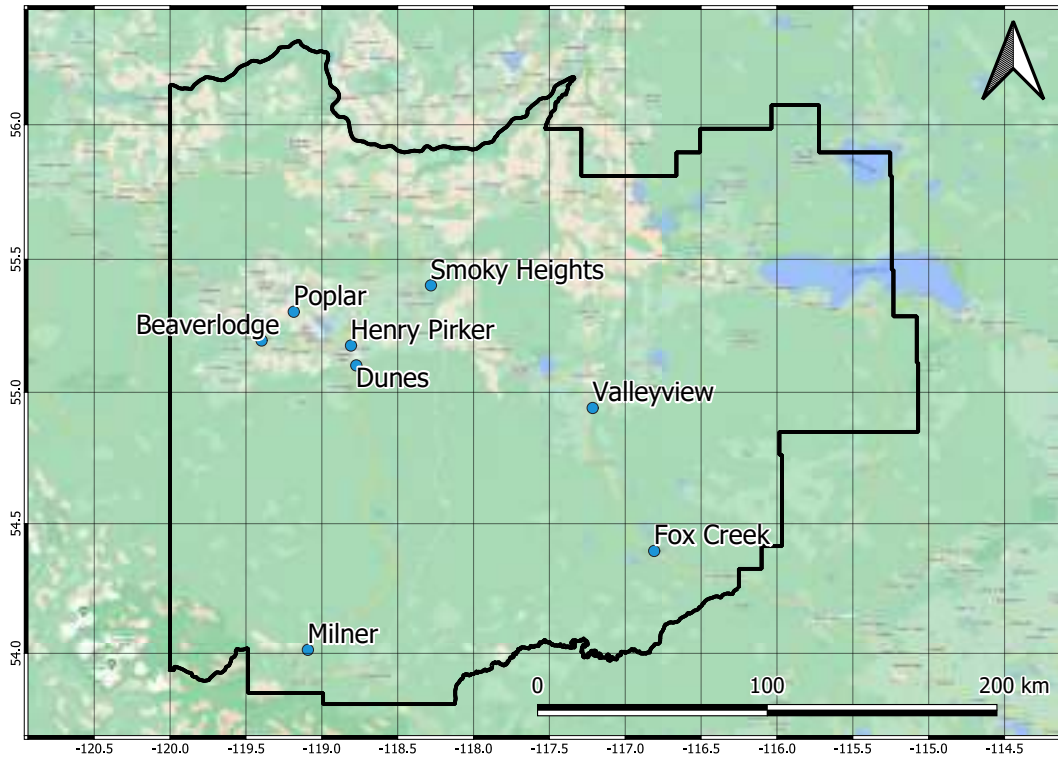


Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager

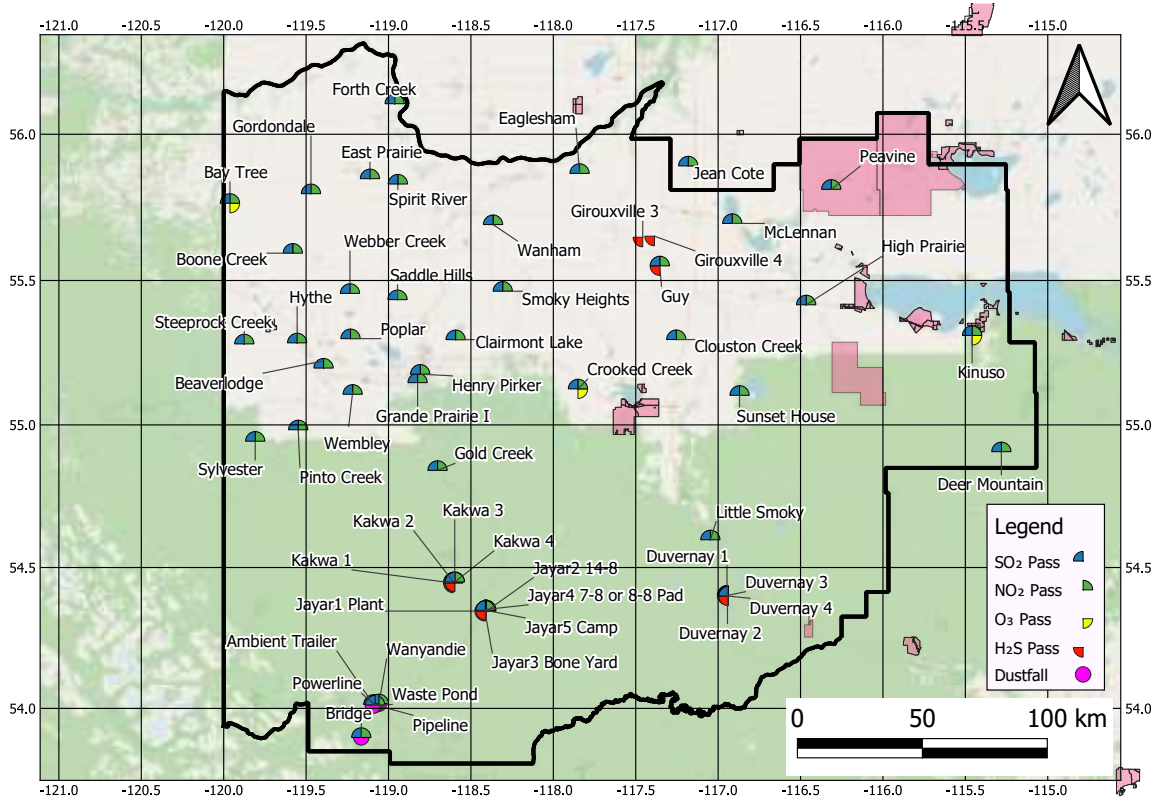
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PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 January 2024 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 - January 2024 Beaverlodge Station Report

Parameter	Janers				1-hour			24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	3hr	24hr	30d		
NO (ppb)	3.7	0.0	93.2%	100.0%	83.6	-	Jan-24 13:00	27.2	-	Jan-24	-	-	-	-	Jan 02, 2024	
NO ₂ (ppb)	11.3	0.6	93.2%	100.0%	17.5	150	Jan-15 00:00	26.4	-	Jan-24	0	-	-	-	Jan 02, 2024	
NO _x (ppb)	15.0	0.7	93.2%	100.0%	112.1	-	Jan-24 13:00	53.6	-	Jan-24	-	-	-	-	Jan 02, 2024	
O ₃ (ppb)	18.8	0.0	93.2%	99.9%	48.5	78	Jan-30 13:00	58.1	-	Jan-30	0	-	-	-	Jan 02, 2024	
PM _{2.5} (µg/m ³)	8.4	0.2	99.7%	100.0%	38.0	80	Jan-24 14:00	29.3	25	Jan-24	0	-	1	-	Jan 02, 2024	
SO ₂ (ppb)	3.5	0.0	93.4%	100.0%	12.5	172	Jan-20 21:00	4.1	46	Jan-20	0	-	0	0	Jan 03, 2024	
Average	Minimum	Valid	Operational	Maximum												
Temp (°C)	-13.3	-38.3	93.4%	95.4%	11.5	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 50% </div>										
RH (%)	75.0	41.3	100.0%	100.0%	96.0											
WS (km/hr)	8.0	0.1	100.0%	100.0%	58.2	Average Wind Direction		322	MW							
WD (deg)	322	0.1	100.0%	100.0%	393.9											

Update Summary:

Parameter	Make	Model	Equipment summary
NO _x /NO ₂ /NO	Thermo	42IQ	No Operational issues noted
O ₃	Thermo	89IQ	One hour removed Jan 30 due to power failure
PM _{2.5}	API	TE40	No Operational issues noted; one reading above the daily AAQO on Jan 24
SO ₂	Thermo	43-TLE	No operational issues noted
Met Equip	MetOne	50.5	For ET, daily drop starting Aug 9, removed every day 04:23-04:43 (31hrs); Jan 3 extreme data shifts (3hrs removed)

1.2 Dunes Air Monitoring Station

PAZA - January 2024 Dunes Station Report

Parameter	Janers				1-hour			24-hour			Exceedance				Calibration Date	
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	3hr	24hr	30d		
PM _{2.5} (µg/m ³)	8.3	0.0	92.9%	93.2%	41.6	80	Jan-25 04:00	22.3	25	Jan-23	0	-	0	-	Jan-11-2024	
SO ₂ (ppb)	0.6	0.0	93.2%	100.0%	29.2	172	Jan-26 10:00	3.1	46	Jan-25	0	-	0	0	Jan-11-2024	
TRG (ppb)	0.7	0.0	94.8%	99.9%	12.3	-	Jan-25 18:00	2.4	-	Jan-25	-	-	-	-	Jan-11-2024	
Average	Minimum	Valid	Operational	Maximum												
Temp (°C)	-15.1	-39.2	100.0%	100.0%	14.1	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 50% </div>										
RH (%)	76.3	30.8	100.0%	100.0%	99.8											
WS (km/hr)	2.1	0.0	100.0%	100.0%	16.2	Average Wind Direction		350	N							
WD (deg)	350	0.0	100.0%	100.0%	393.9											

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Thermo	SHARP 5030	Jan 11-14, 52hrs removed due to extreme cold temperatures
SO ₂	Thermo	43i	No Operational issues noted
TRG	Thermo	43i	TRG spans drifted upward following calibration on January 11, by January 30 spans were >10% calibration check performed all passed, drift was believed due to extreme temperature shifts (4hrs maintenance)
Met Equip	G4/RTYoung	MetPak/RTM98604	No Operational issues noted

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - January 2024 Henry Pirker Station Report

Parameter	January				1-hour			8-hour / 24-hour			Exceedance				Calibration Date																																			
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d																																				
NO (ppb)	16.4	0.0	95.0%	99.9%	204.8	-	Jan-26 18:00	62.4	-	Jan-26	-	-	-	-	Jan 04, 2024																																			
NO ₂ (ppb)	19.7	1.4	95.0%	99.9%	51.0	150	Jan-29 21:00	35.9	-	Jan-28	0	-	-	-	Jan 04, 2024																																			
NO _x (ppb)	36.2	1.0	95.0%	99.9%	259.3	-	Jan-26 18:00	98.6	-	Jan-26	-	-	-	-	Jan 04, 2024																																			
O ₃ (ppb)	12.5	0.1	95.2%	99.9%	45.7	78	Jan-30 14:00	28.2	-	Jan-30	0	-	-	-	Jan 04, 2024																																			
PM _{2.5} (µg/m ³)	13.1	0.6	99.7%	99.9%	139.7	80	Jan-01 00:00	36.4	29	Jan-24	1	-	1	-	Jan 09, 2024																																			
SO ₂ (ppb)	1.1	0.0	95.2%	99.9%	15.9	172	Jan-19 21:00	5.1	48	Jan-15	0	-	0	0	Jan 05, 2024																																			
H ₂ S (ppb)	0.4	0.0	95.0%	99.9%	1.8	10	Jan-25 12:00	1.0	3	Jan-15	0	-	0	-	Jan 09, 2024																																			
CH ₄ (ppm)	2.5	1.0	87.5%	91.9%	3.4	-	Jan-25 12:00	2.8	-	Jan-25	-	-	-	-	Jan 05, 2024																																			
THC (ppm)	2.5	2.0	87.5%	91.9%	3.9	-	Jan-29 21:00	2.9	-	Jan-25	-	-	-	-	Jan 05, 2024																																			
NMHC (ppm)	0.0	0.0	87.5%	91.9%	0.9	-	Jan-29 22:00	0.1	-	Jan-25	-	-	-	-	Jan 05, 2024																																			
CO (ppm)	0.5	0.1	95.2%	99.9%	1.4	11	Jan-29 21:00	0.6	5	Jan-28	0	0	-	-	Jan 05, 2024																																			
<table border="1"> <thead> <tr> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>-14.5</td> <td>-41.1</td> <td>99.0%</td> <td>99.9%</td> <td>12.0</td> </tr> <tr> <td>RH (%)</td> <td>67.3</td> <td>37.4</td> <td>99.9%</td> <td>99.9%</td> <td>85.0</td> </tr> <tr> <td>SR (W/m²)</td> <td>14.9</td> <td>0.0</td> <td>99.9%</td> <td>99.9%</td> <td>299.7</td> </tr> <tr> <td>WS (km/hr)</td> <td>3.6</td> <td>0.1</td> <td>99.2%</td> <td>99.2%</td> <td>22.5</td> </tr> <tr> <td>WD (deg)</td> <td>313</td> <td>0.6</td> <td>99.2%</td> <td>99.2%</td> <td>358.8</td> </tr> </tbody> </table>																Average	Minimum	Valid	Operational	Maximum	Temp (°C)	-14.5	-41.1	99.0%	99.9%	12.0	RH (%)	67.3	37.4	99.9%	99.9%	85.0	SR (W/m ²)	14.9	0.0	99.9%	99.9%	299.7	WS (km/hr)	3.6	0.1	99.2%	99.2%	22.5	WD (deg)	313	0.6	99.2%	99.2%	358.8
Average	Minimum	Valid	Operational	Maximum																																														
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Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	No operational issues
O ₃	TECO	49i	No operational issues
PM _{2.5}	API	T640	Elevated PM2.5 Jan 1 due to fireworks, exceed hourly AAQD and 24hr AAQD resulted later in month Jan 20 and 24
SO ₂	Thermo	43i-TLE	No operational issues
H ₂ S	TEI	450i	No operational issues
THC/CH ₄ /NMHC	TEI	55i	Jan 25-29 data dropping (in fireworks), 53hrs removed and 4 hours maintenance for calibration and exchange of hydrogen and nitrogen cylinders
CO	Thermo	48i-TLE	No operational issues
Met Equip	MetDra	50.5	No operational issues

1.4 Smoky Heights Air Monitoring Station

PAZA - January 2024 Smoky Heights Station Report

Parameter	January				1-hour			24-hour			Exceedance				Calibration Date																							
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d																								
PM _{2.5} (µg/m ³)	8.5	1.2	87.2%	87.5%	46.1	80	Jan-24 05:00	33.5	29	Jan-24	0	-	1	-	Jan 18, 2024																							
SO ₂ (ppb)	0.4	0.0	95.3%	100.0%	5.7	172	Jan-30 18:00	1.7	48	Jan-20	0	-	0	0	Jan 18, 2024																							
THS (ppb)	0.3	0.0	94.8%	100.0%	1.5	-	Jan-16 02:00	0.7	-	Jan-24	-	-	-	-	Jan 18, 2024																							
<table border="1"> <thead> <tr> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>-15.3</td> <td>-42.0</td> <td>100.0%</td> <td>100.0%</td> <td>9.3</td> </tr> <tr> <td>WS (km/hr)</td> <td>7.8</td> <td>0.4</td> <td>99.6%</td> <td>99.6%</td> <td>44.4</td> </tr> <tr> <td>WD (deg)</td> <td>301</td> <td>0.5</td> <td>99.6%</td> <td>99.6%</td> <td>390.0</td> </tr> </tbody> </table>																Average	Minimum	Valid	Operational	Maximum	Temp (°C)	-15.3	-42.0	100.0%	100.0%	9.3	WS (km/hr)	7.8	0.4	99.6%	99.6%	44.4	WD (deg)	301	0.5	99.6%	99.6%	390.0
Average	Minimum	Valid	Operational	Maximum																																		
Temp (°C)	-15.3	-42.0	100.0%	100.0%	9.3																																	
WS (km/hr)	7.8	0.4	99.6%	99.6%	44.4																																	
WD (deg)	301	0.5	99.6%	99.6%	390.0																																	
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p>																																						
<table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Average Wind Direction</td> <td>301 WNW</td> </tr> </tbody> </table>																Parameter	Value	Average Wind Direction	301 WNW																			
Parameter	Value																																					
Average Wind Direction	301 WNW																																					

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Sharp	5030	During periods of extreme cold, Jan 11-15 (89hrs removed data flatlined); After calibration flat hours removed due to maintenance; this resulted in <90% uptime (87.5%, ref526087); Jan 24, 1x 24hr reading above AAQD
SO ₂	TECO	43i	No Operational issues noted during the month
THS	TEI	43i-APSAA	No Operational issues noted during the month
Met Equip	MetOne	50.5	Due to extreme cold 8hrs removed from wind speed/direction Jan 11 (2hrs) and Jan 14 (1hr)

1.5 Valleyview Air Monitoring Station

PAZA - January 2024 Valleyview Station Report

Parameter	January				1-hour			24-hour			Exceedance			Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	3hr	24hr	
SO ₂ (ppb)	0.1	0.0	95.4%	100.0%	1.8	172	Jan-14 14:00	0.5	48	Jan-20	0	0	0	Jan 23, 2024
H ₂ S (ppb)	0.1	0.0	95.3%	100.0%	0.8	38	Jan-16 07:00	0.4	3	Jan-30	0	0	0	Jan 23, 2024
	Average	Minimum	Valid	Operational	Maximum									
Temp (°C)	-14.0	-45.2	100.0%	100.0%	16.8	Note: Valid hours must be greater than 75% Operational hours must be greater than 50%								
RH (%)	80.5	52.5	100.0%	100.0%	97.4									
WS (m/s)	2.7	0.1	100.0%	100.0%	19.0	Average Wind Direction								
WD (deg)	339	0.1	100.0%	100.0%	353.9	329 MW								

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	TEI	43-AFSCB	No Operational issues noted
H ₂ S	TEI	450-APHA / 43C	No Operational issues noted
Mkt Equip	RMYoung	RMYS6004	No Operational issues noted

1.6 Fox Creek Air Monitoring Station

PAZA - January 2024 Fox Creek Station Report

Parameter	January				1-hour			8-hour / 24-hour			Exceedance			Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	3hr	24hr	
NO (ppb)	16.9	0.0	95.0%	100.0%	152.7	-	Jan-29 18:00	55.9	-	Jan-23	-	-	-	Jan 23, 2024
NO ₂ (ppb)	12.6	0.7	95.0%	100.0%	40.5	150	Jan-15 20:00	27.2	-	Jan-15	0	-	-	Jan 23, 2024
NO _x (ppb)	29.8	1.0	95.0%	100.0%	193.4	-	Jan-29 18:00	75.3	-	Jan-23	-	-	-	Jan 23, 2024
O ₃ (ppb)	14.0	0.0	95.4%	100.0%	49.9	78	Jan-30 15:00	30.8	-	Jan-30	0	-	-	Jan 23, 2024
PM _{2.5} (µg/m ³)	12.2	0.4	99.9%	100.0%	215.5	80	Jan-24 22:00	79.5	25	Jan-25	19	2	-	Jan 24, 2024
SO ₂ (ppb)	0.5	0.0	95.3%	100.0%	18.0	172	Jan-12 12:00	5.0	48	Jan-14	0	0	0	Jan 24, 2024
H ₂ S (ppb)	0.5	0.0	95.3%	100.0%	1.1	38	Jan-25 09:00	0.6	3	Jan-23	0	0	0	Jan 24, 2024
	Average	Minimum	Valid	Operational	Maximum									
Temp (°C)	-12.1	-40.7	100.0%	100.0%	14.8	Note: Valid hours must be greater than 75% Operational hours must be greater than 50%								
WS (m/s)	4.8	0.2	100.0%	100.0%	27.6									
WD (deg)	161	0.1	100.0%	100.0%	338.2	Average Wind Direction								
						261 SSE								

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42IQ	No operational issues
O ₃	TECO	49I	No operational issues
PM _{2.5}	API	T640	No operational issues; 10x 1hr readings above AAQO and 2x 24hr above AAQO
SO ₂	TEI	43I-TLE	No operational issues
H ₂ S	TEI	450I	No operational issues
Mkt Equip	MettDrel	50.5	No operational issues

1.7 Poplar Air Monitoring Station

PAZA - January 2024 Poplar Station Report

Parameter	Janers				1-hour			24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	2.5	0.0	92.2%	97.0%	43.0	-	Jan-25 11:00	15.1	-	Jan-25	-	-	-	-	Jan 08, 2024
NO ₂ (ppb)	10.0	0.6	92.2%	97.0%	34.1	150	Jan-12 21:00	21.2	-	Jan-15	0	-	-	-	Jan 08, 2024
NO _x (ppb)	12.4	0.7	92.2%	97.0%	66.5	-	Jan-25 11:00	30.2	-	Jan-25	-	-	-	-	Jan 08, 2024
O ₃ (ppb)	19.2	0.3	95.4%	100.0%	48.3	78	Jan-30 13:00	57.3	-	Jan-30	0	-	-	-	Jan 09, 2024
PM _{2.5} (µg/m ³)	8.0	0.1	99.7%	100.0%	65.0	80	Jan-16 09:00	24.4	29	Jan-24	0	-	0	-	Jan 04, 2024
SO ₂ (ppb)	3.6	0.0	95.3%	100.0%	16.2	172	Jan-22 13:00	5.6	48	Jan-19	0	-	0	0	Jan 08, 2024
THS (ppb)	0.8	0.1	95.2%	100.0%	5.3	-	Jan-30 17:00	1.1	-	Jan-25	-	-	-	-	Jan 04, 2024
CH ₄ (ppm)	removed Dec 12, 2022														
THC (ppm)	2.5	2.0	95.4%	100.0%	4.8	-	Jan-25 06:00	3.2	-	Jan-24	-	-	-	-	Jan 04, 2024
NVHC (ppm)	removed Dec 12, 2022														
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	-15.3	-40.6	99.7%	99.7%	8.3										
WS (km/hr)	8.6	0.1	92.6%	92.6%	45.0										
WD (deg)	328	0.0	92.6%	92.6%	359.8										

Note: Valid hours must be greater than 75%
Operational hours must be greater than 50%

Average Wind Direction: 328 NW

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	TEI	421	Removal calibration Jan 8 to replace pump, was recalibration Jan 9 (18hrs removed, 4hrs maintenance)
O ₃	TEI	491	No issues noted
PM _{2.5}	API	T640	No issues noted
SO ₂	TEI	431	No issues noted
THS	TEI	431	No issues noted
THC	TEI	551 / 531-LT	No issues noted
Met Equip	MetOne	50.5	Wind speed/direction frozen instrument Jan 2-6 (54hr) removed, 1hr maintenance; Temp (2hrs maintenance)

1.8 Milner Air Monitoring Station

PAZA - January 2024 Milner Station Report

Parameter	Janers				1-hour			24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	2.4	0.0	94.6%	100.0%	31.1	-	Jan-04 12:00	6.6	-	Jan-04	-	-	-	-	Jan 05, 2024
NO ₂ (ppb)	5.5	0.0	94.6%	100.0%	30.6	150	Jan-15 07:00	11.3	-	Jan-14	0	-	-	-	Jan 05, 2024
NO _x (ppb)	6.9	0.0	94.6%	100.0%	46.5	-	Jan-04 12:00	16.7	-	Jan-04	-	-	-	-	Jan 05, 2024
PM _{2.5} (µg/m ³)	4.0	0.1	99.7%	100.0%	43.9	80	Jan-20 23:00	17.6	29	Jan-21	0	-	0	-	Jan 05, 2024
	Average	Minimum	Valid	Operational	Maximum										
WS (km/hr)	4.9	0.0	100.0%	100.0%	31.5										
WD (deg)	278	1.1	100.0%	100.0%	358.2										

Note: Valid hours must be greater than 75%
Operational hours must be greater than 50%

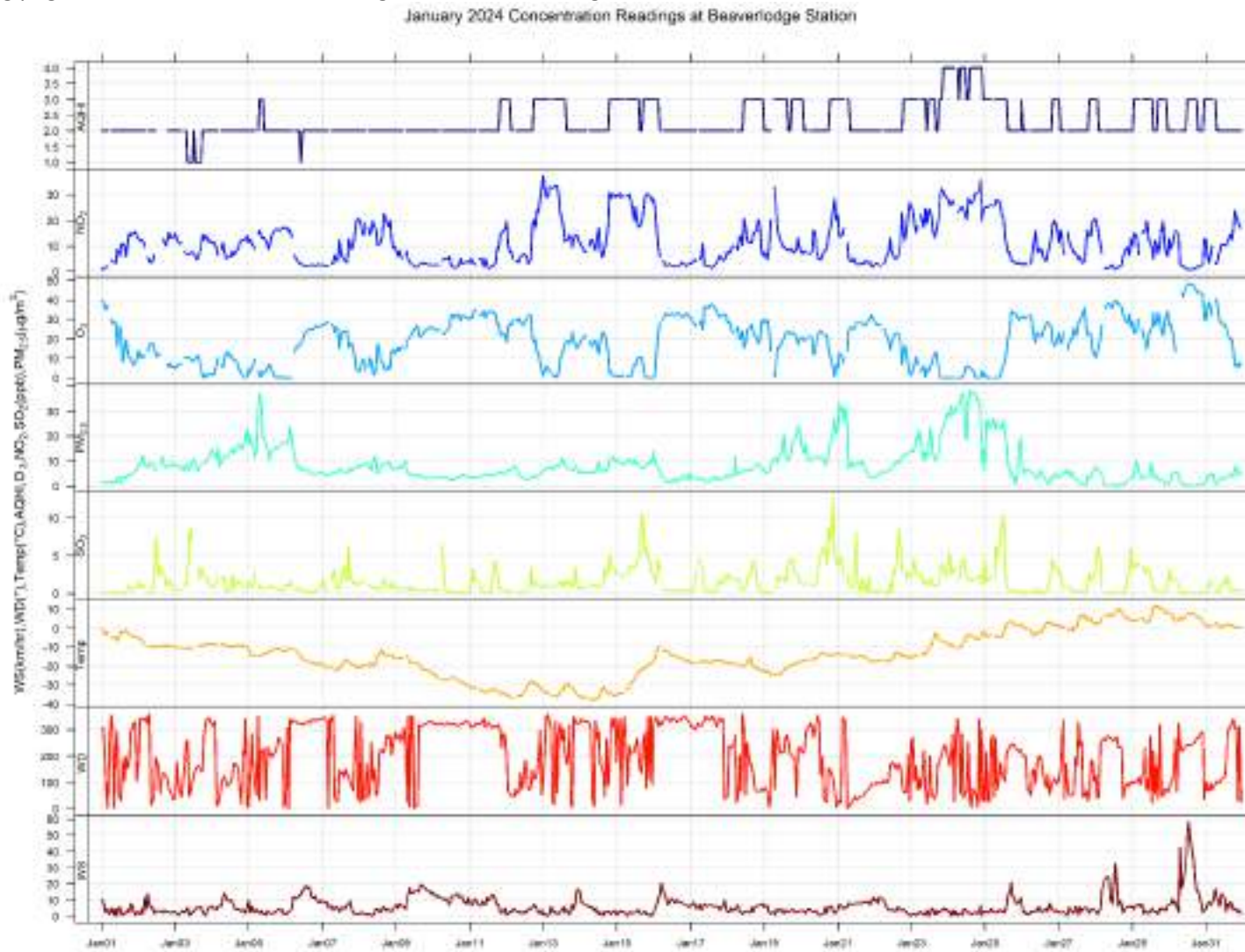
Average Wind Direction: 278 W

Update Summary:

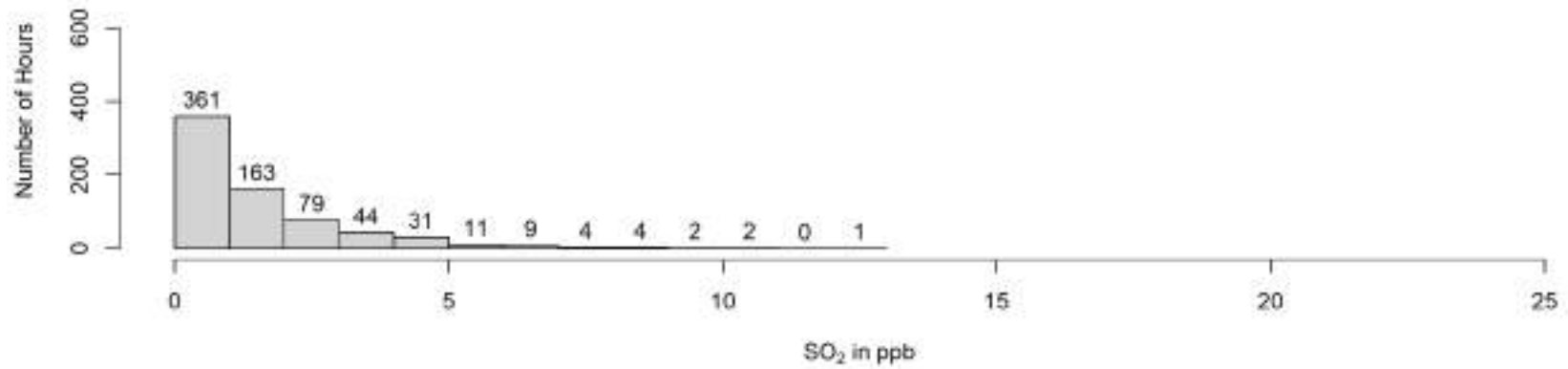
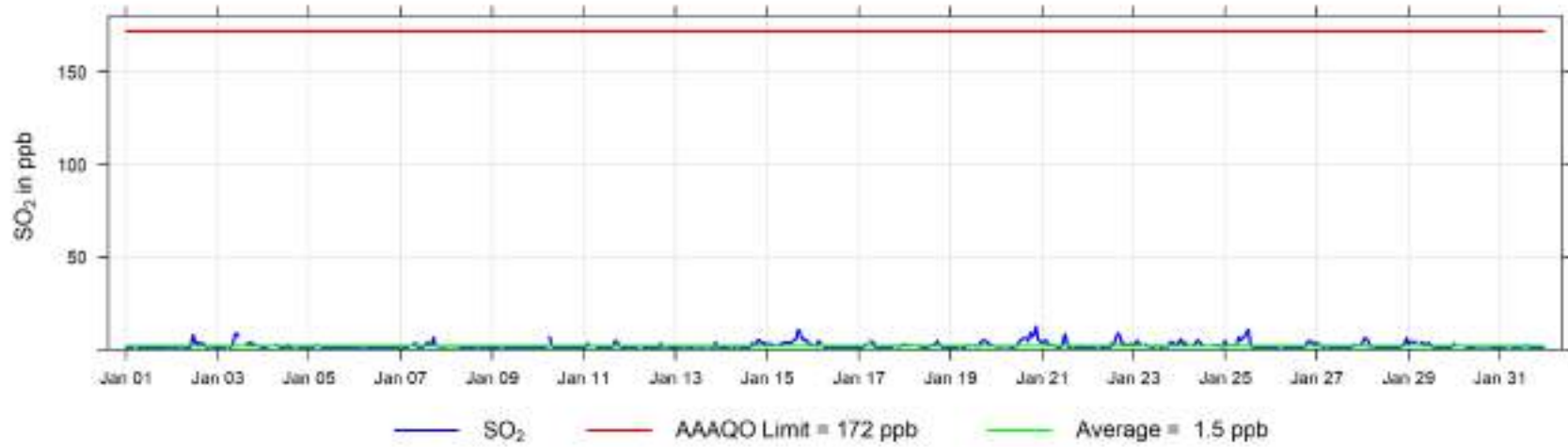
Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	421	Analyzer exchanged based on poor baseline performance; Jan 5 onward baseline much more stable
PM _{2.5}	API	T640	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

2 Beaverlodge Charts

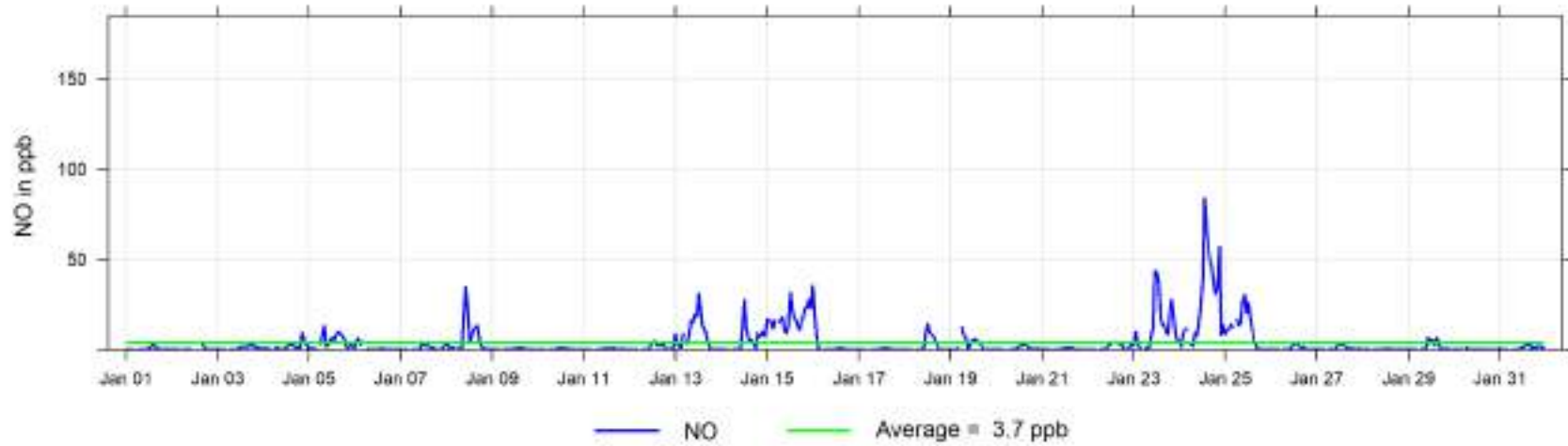
The following pages include the charts and histograms for Beaverlodge Station



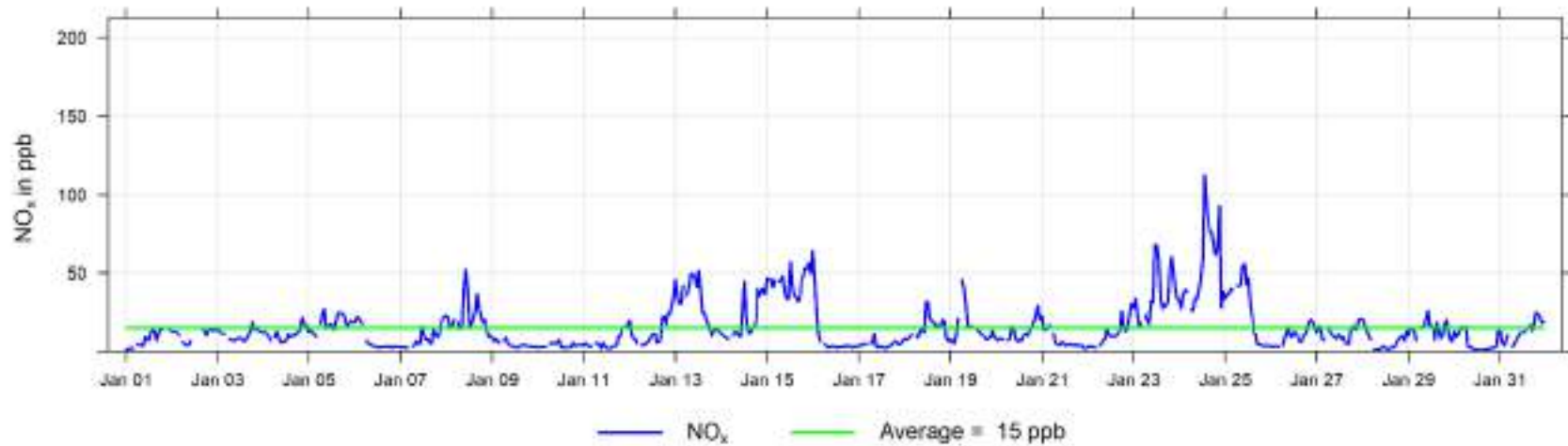
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Beaverlodge



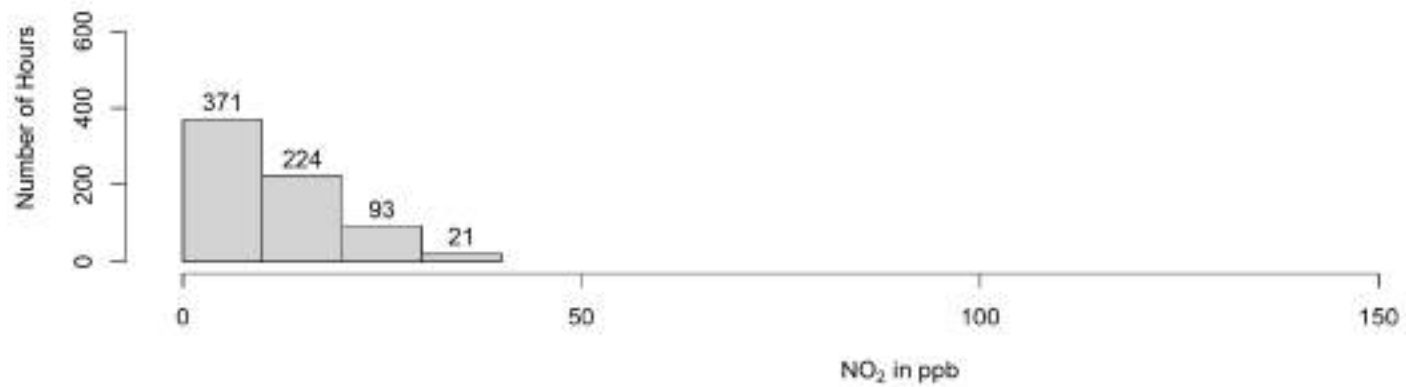
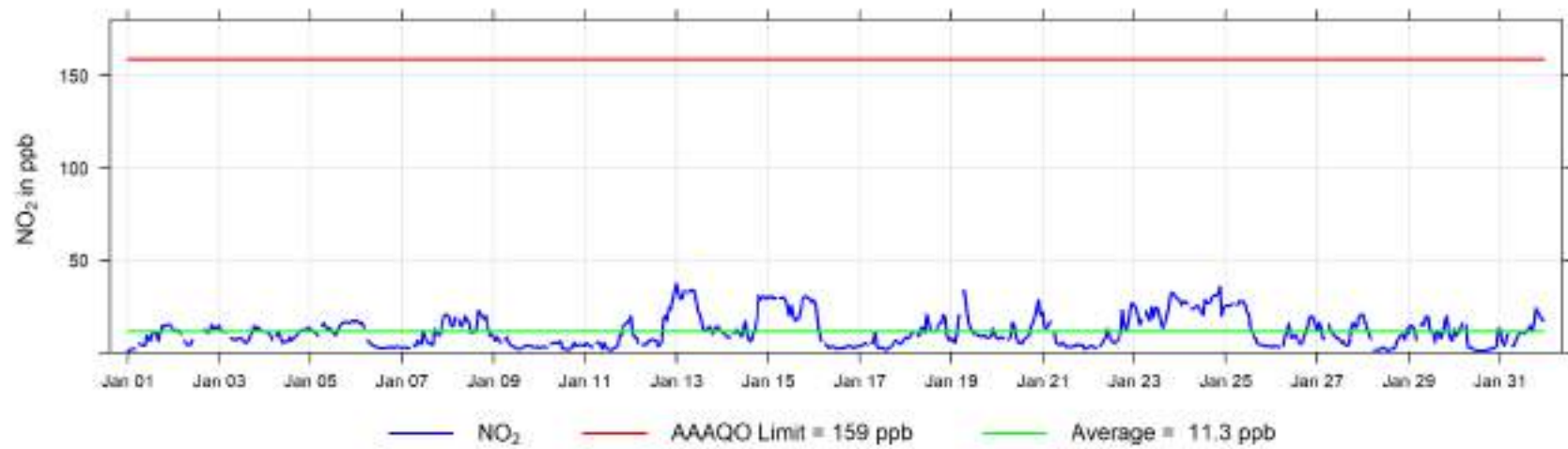
January 2024 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



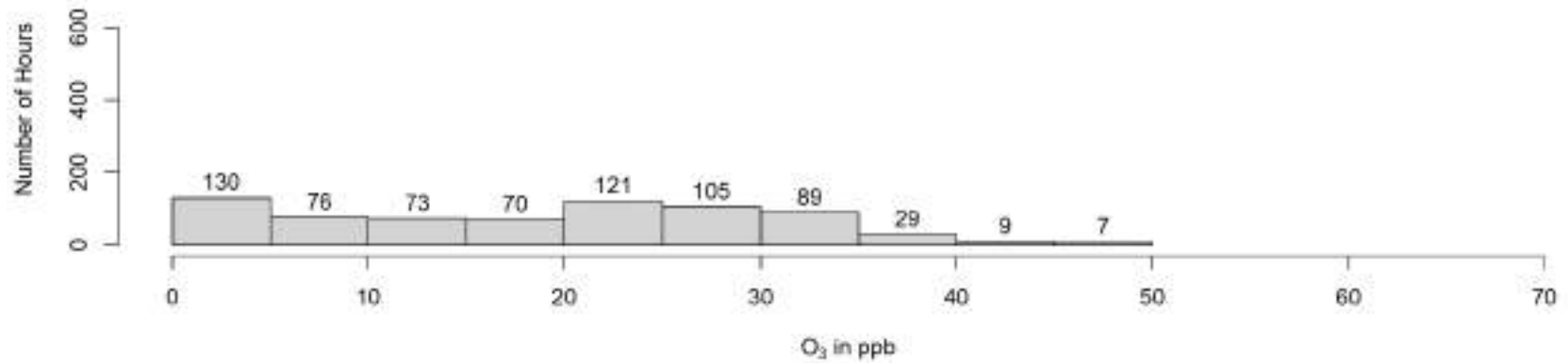
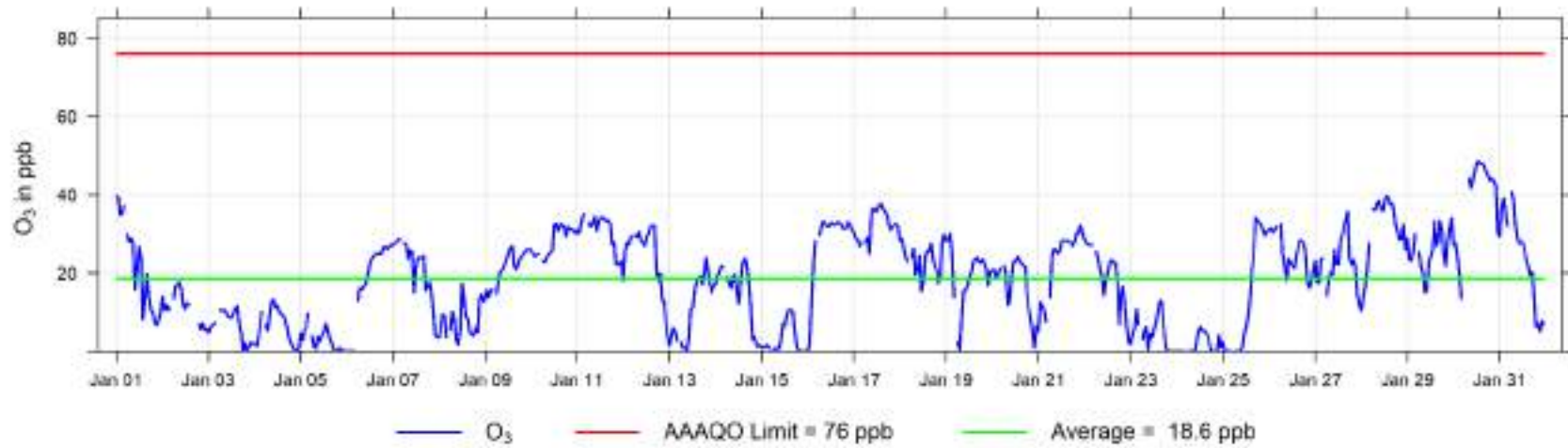
January 2024 Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge



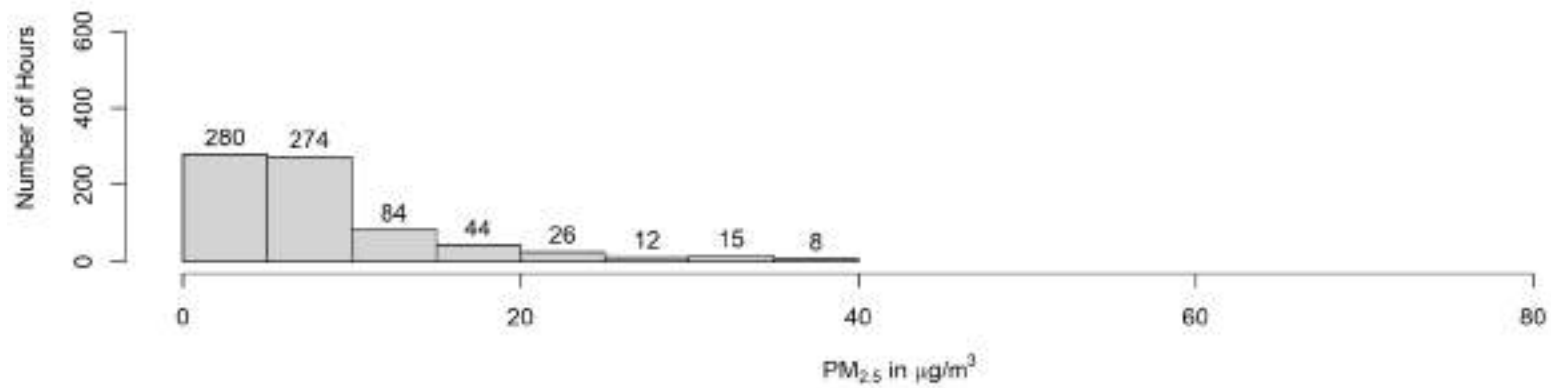
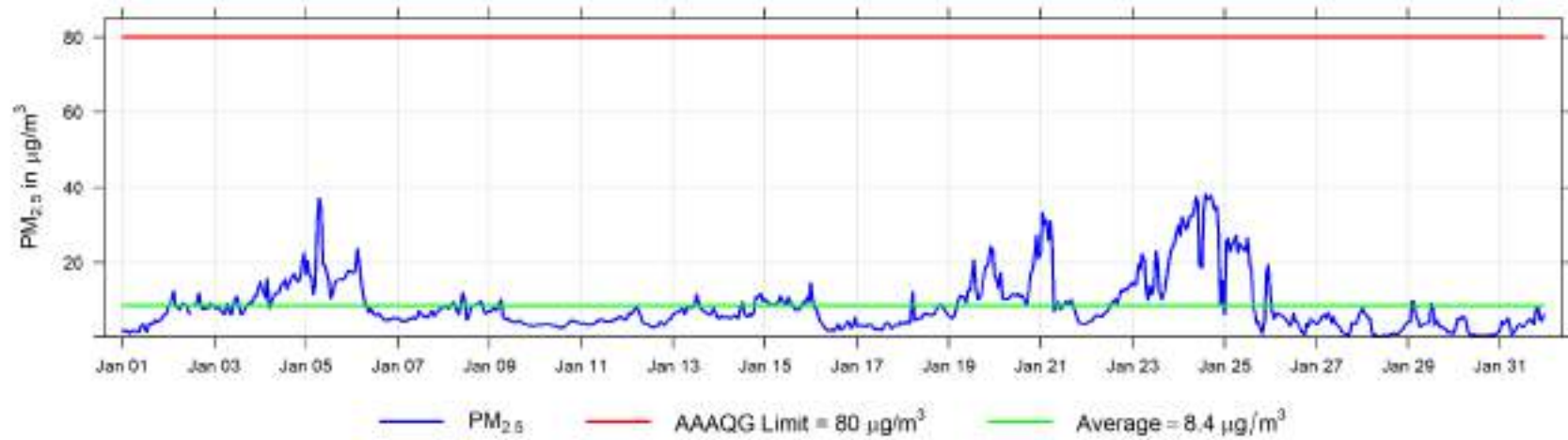
January 2024 Hourly Concentration Readings of NO₂ (in ppb) at Beaverlodge



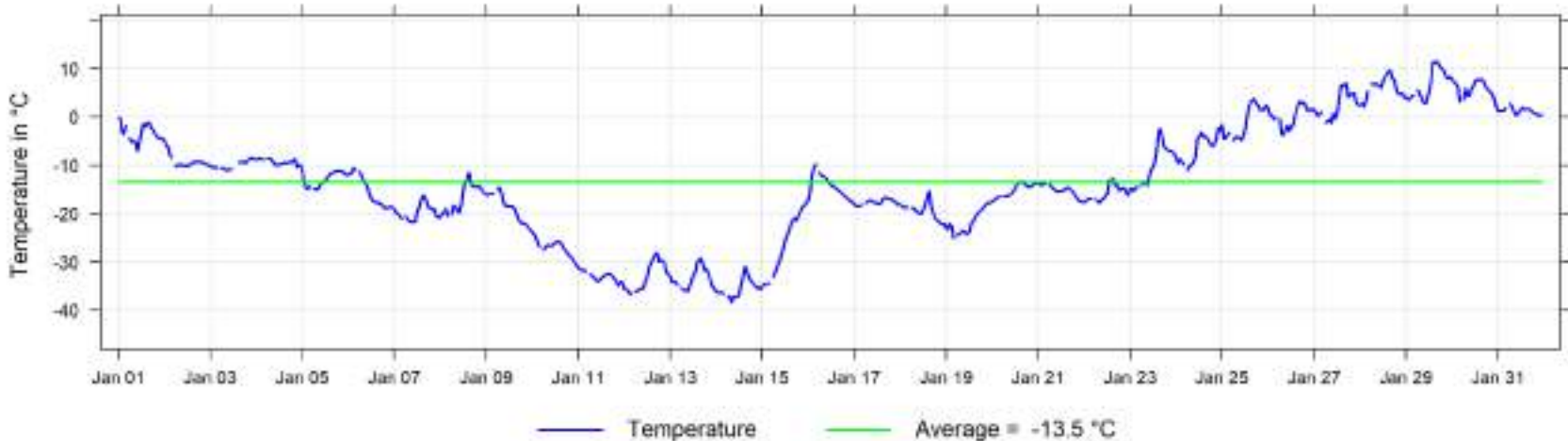
January 2024 Hourly Concentration Readings of O₃ (in ppb) at Beaverlodge



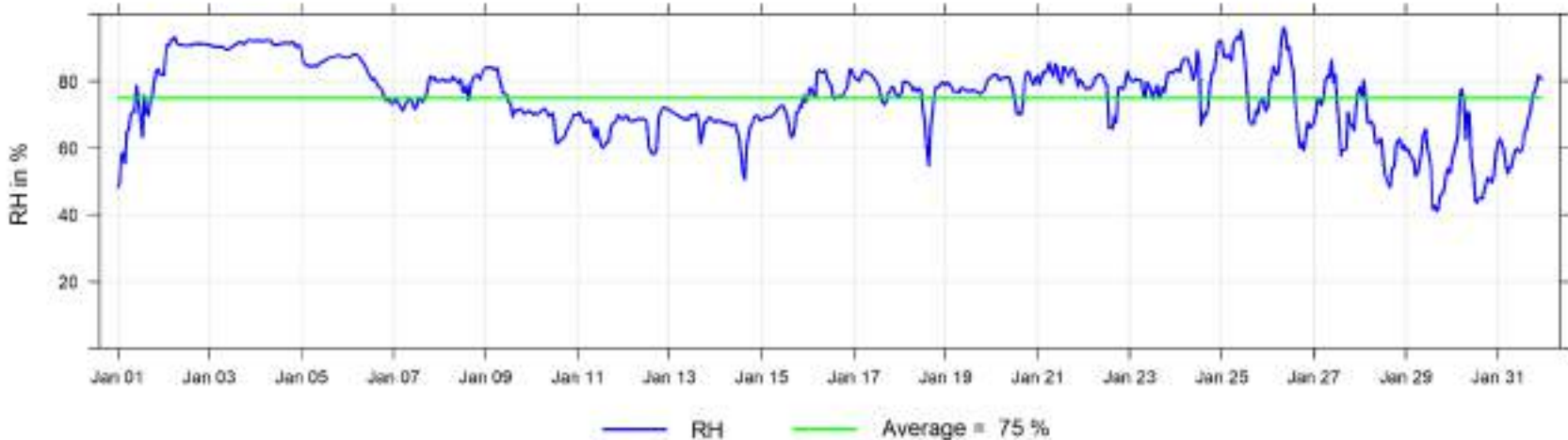
January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Beaverlodge



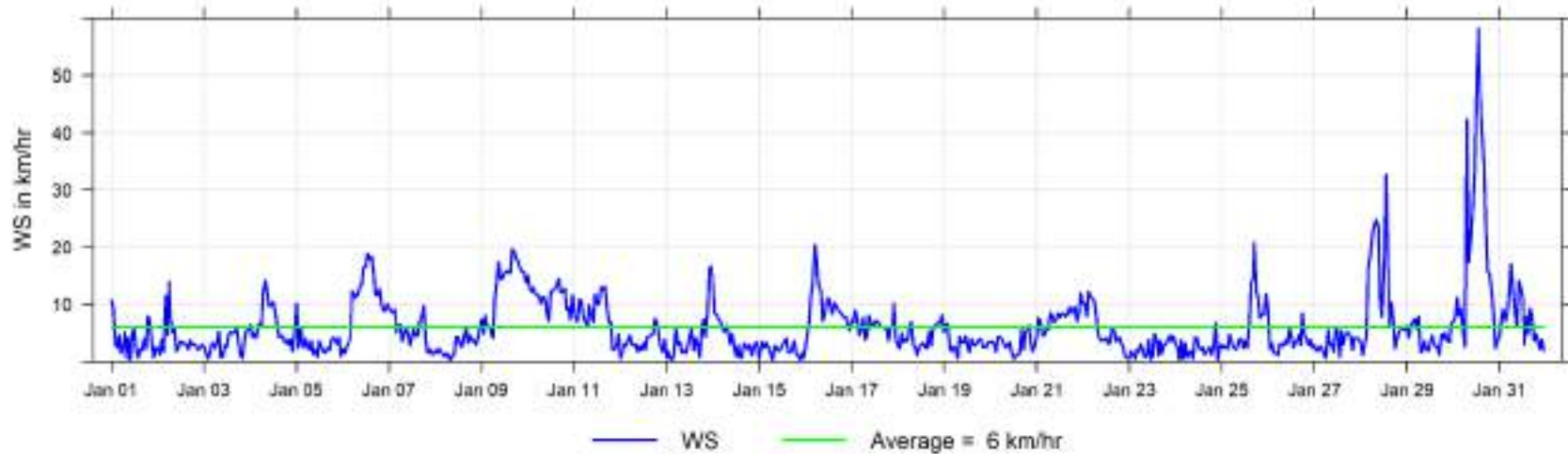
January 2024 Hourly Temperature Readings (in °C) at Beaverlodge



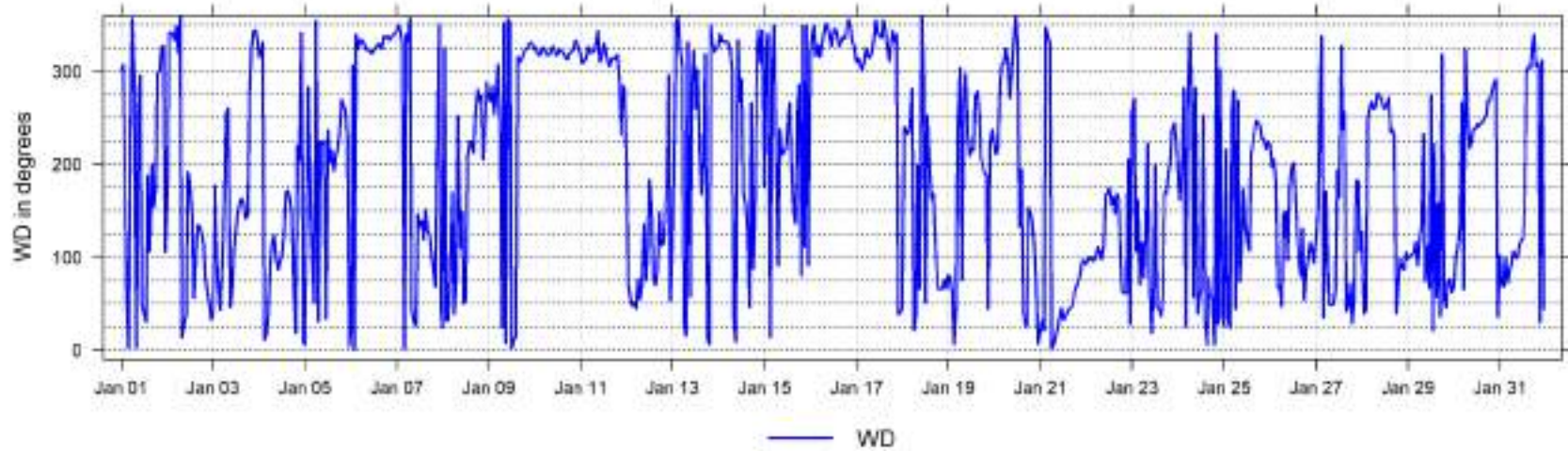
January 2024 Hourly Readings of Relative Humidity (in %) at Beaverlodge



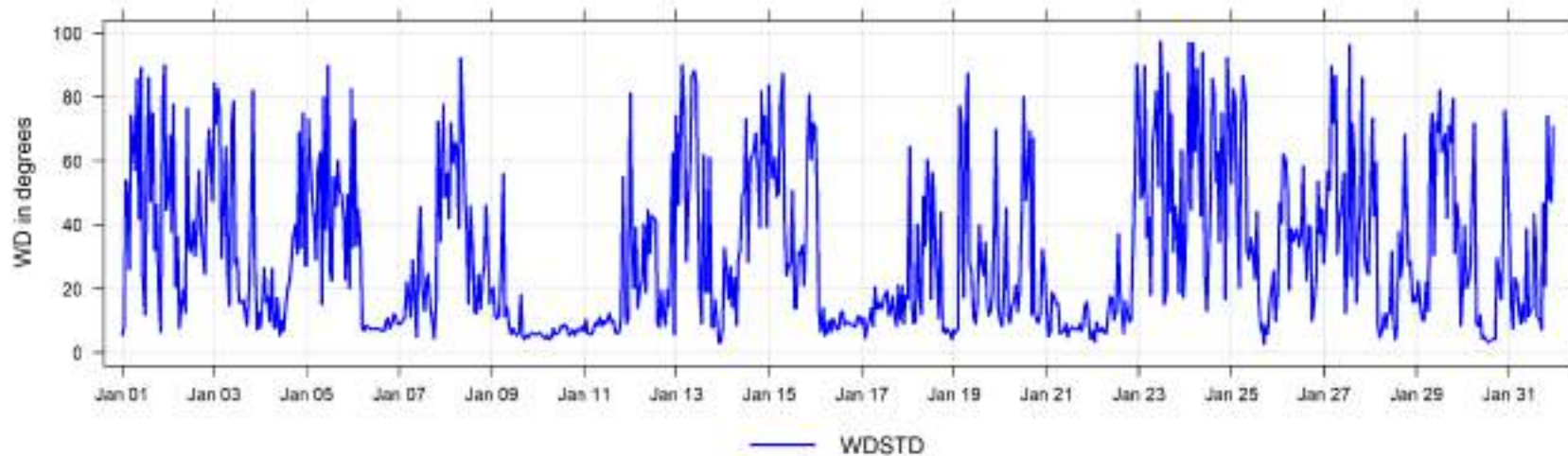
January 2024 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

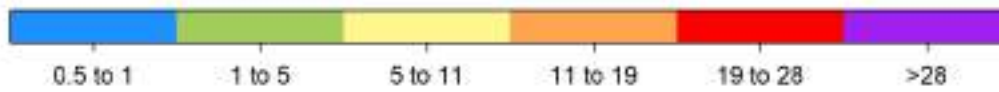
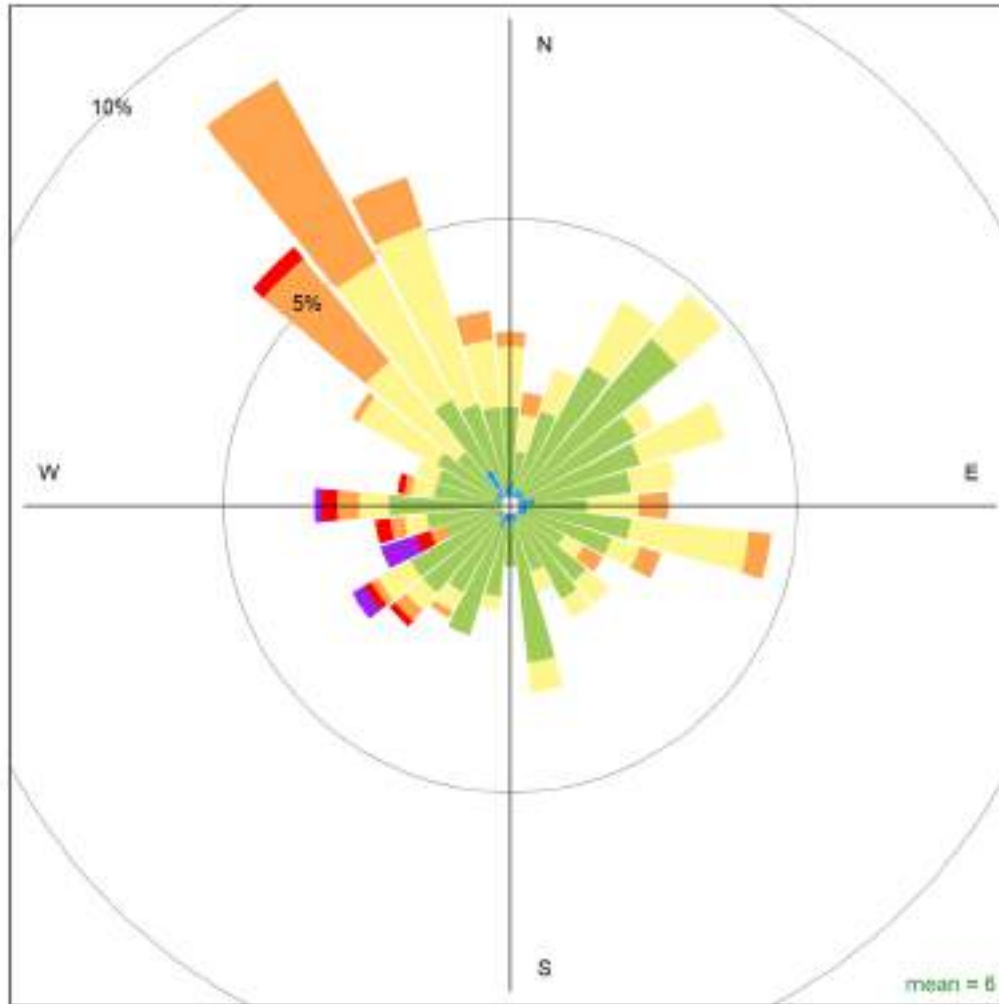


January 2024 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



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



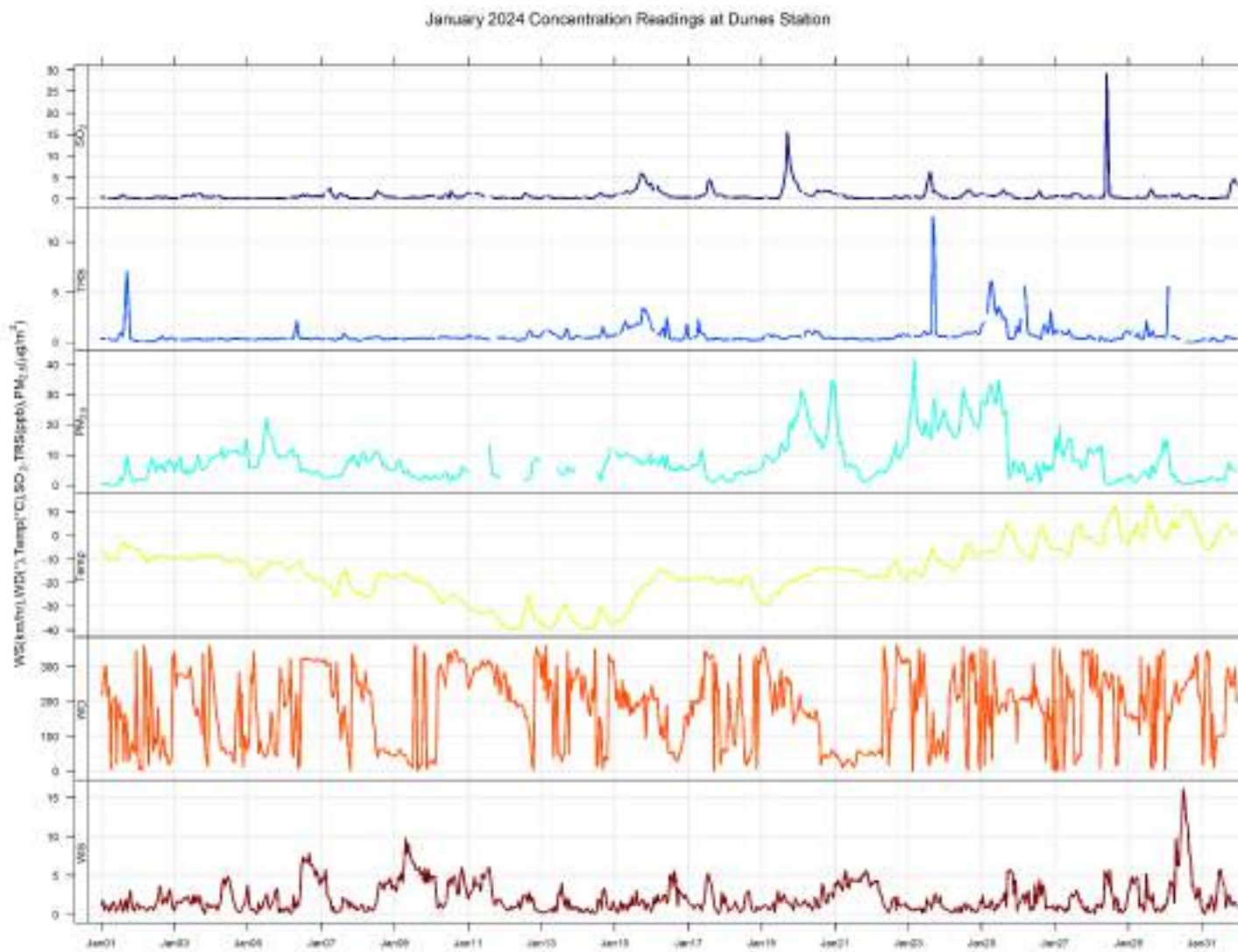


Beaverlodge January 2024 Wind Rose, wind speed in km/hr

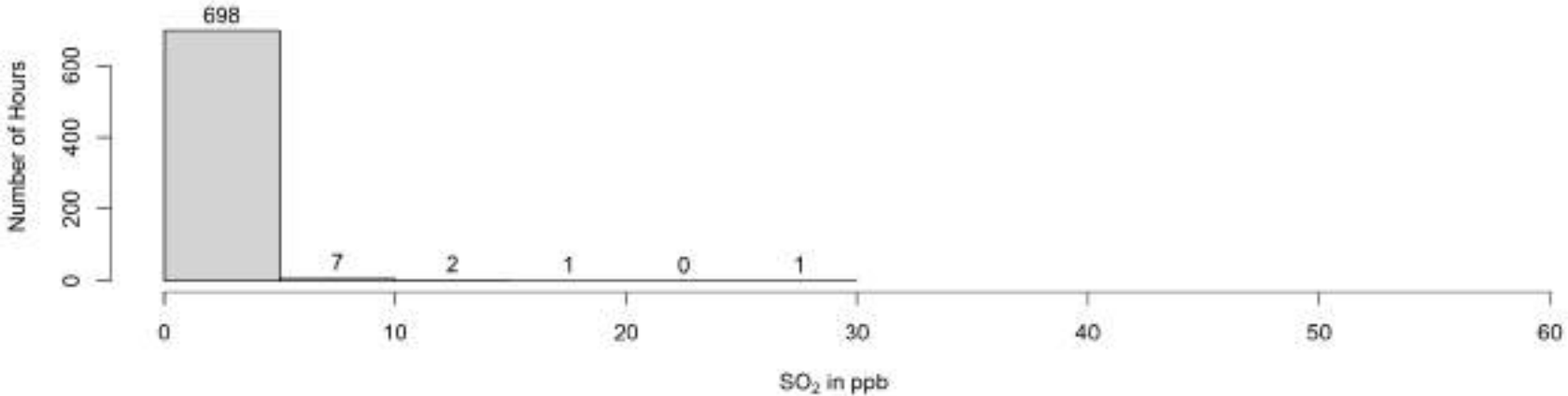
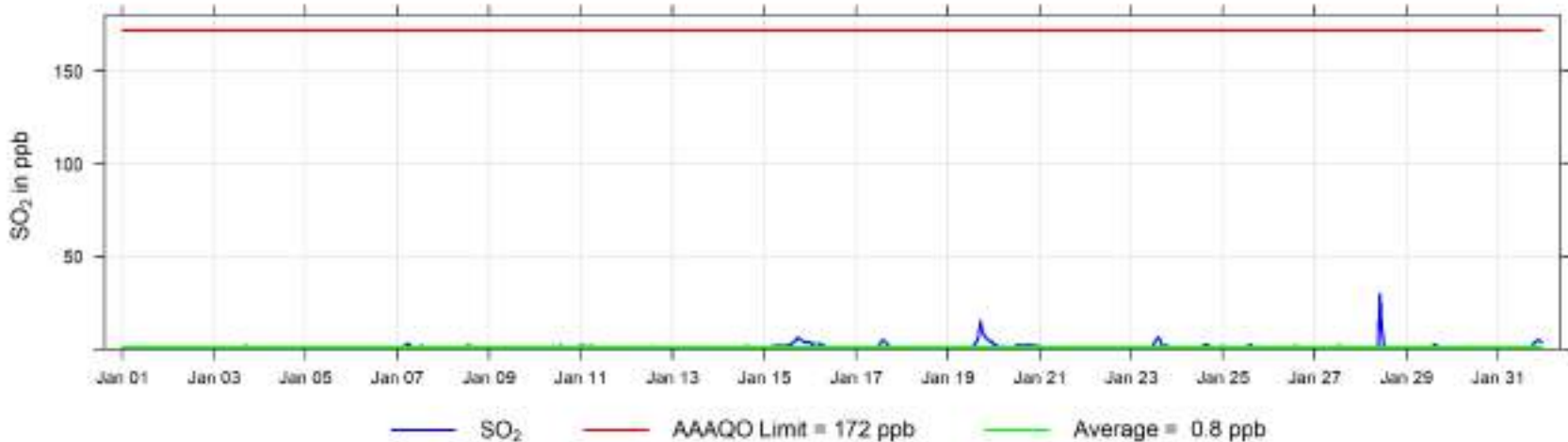
Calms (<0.5km/hr) = 2.4 %

3 Dunes Charts

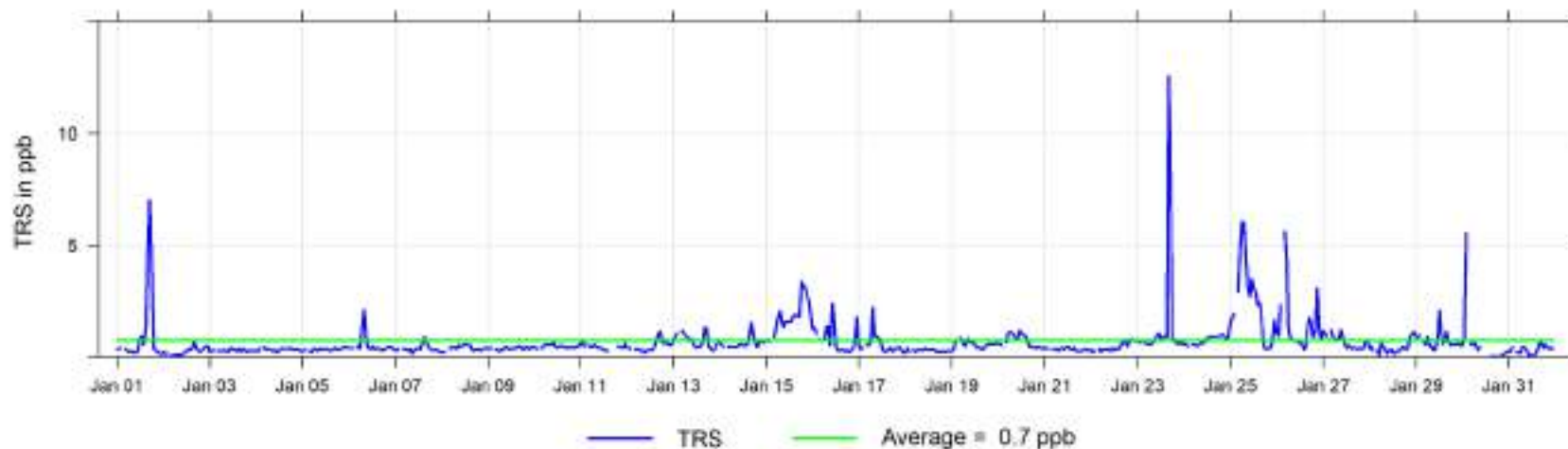
The following pages include the charts and histograms for Dunes Station



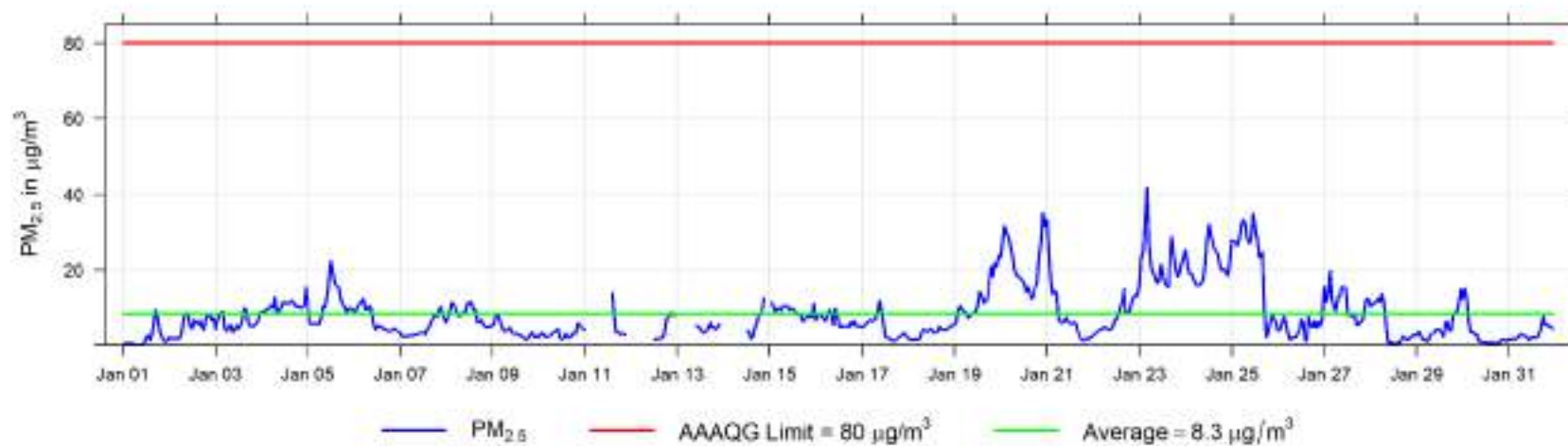
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Dunes

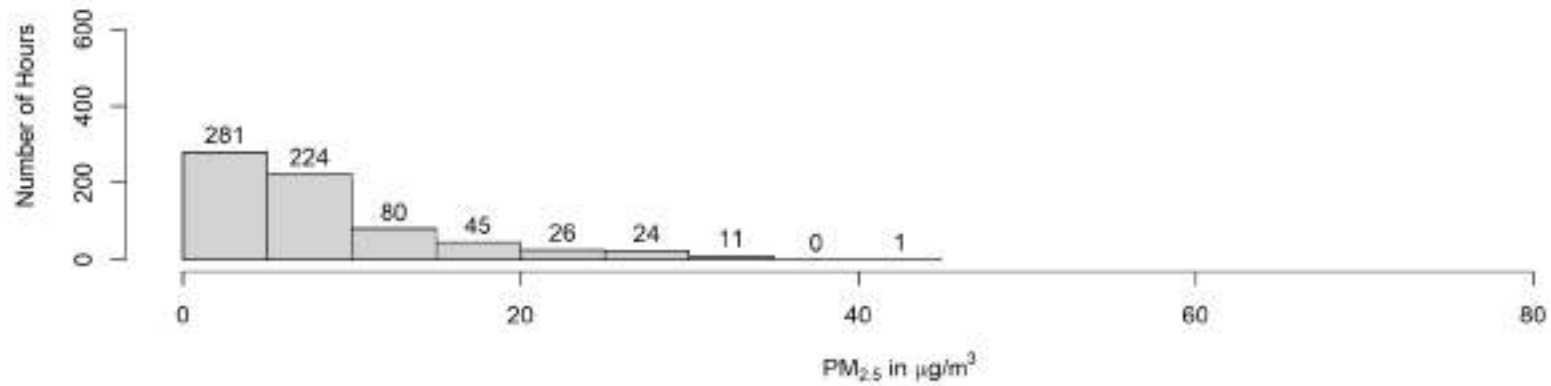


January 2024 Hourly Concentration Readings of TRS (in ppb) at Dunes

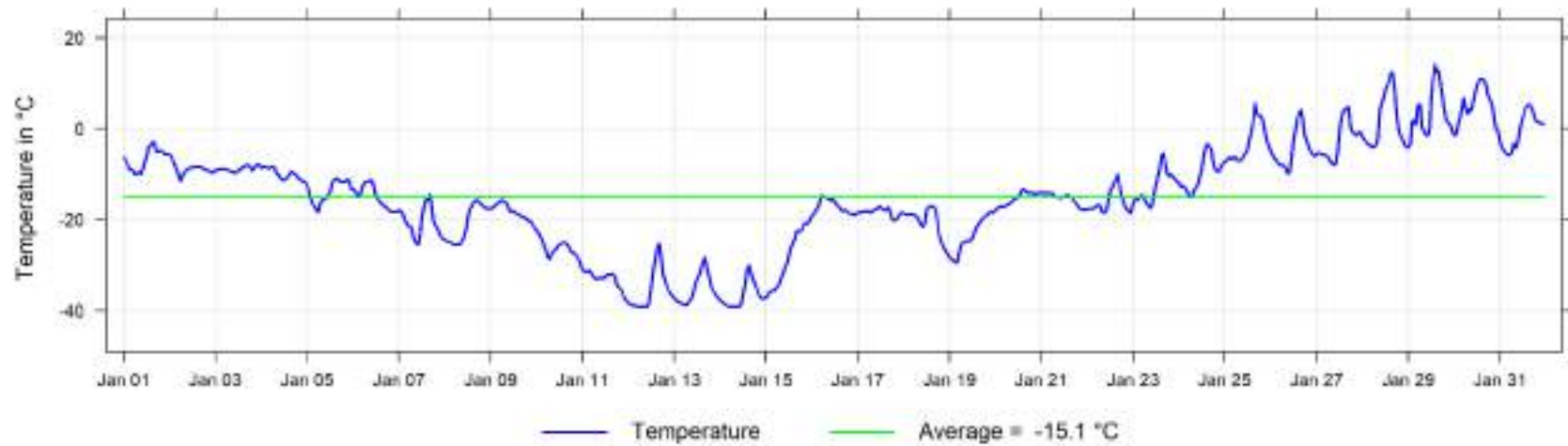


January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Dunes

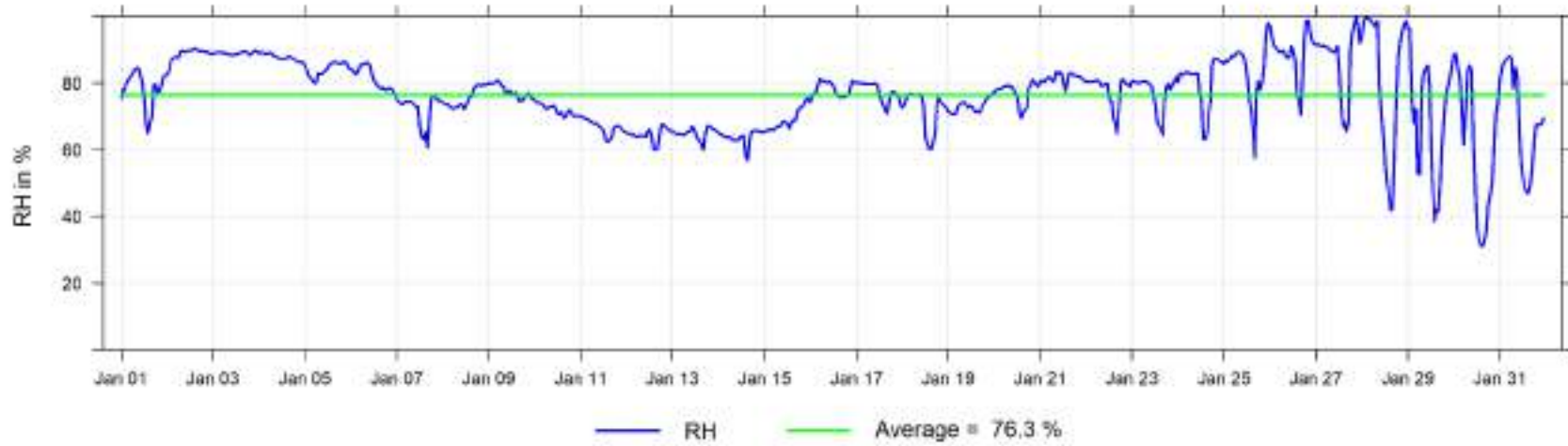




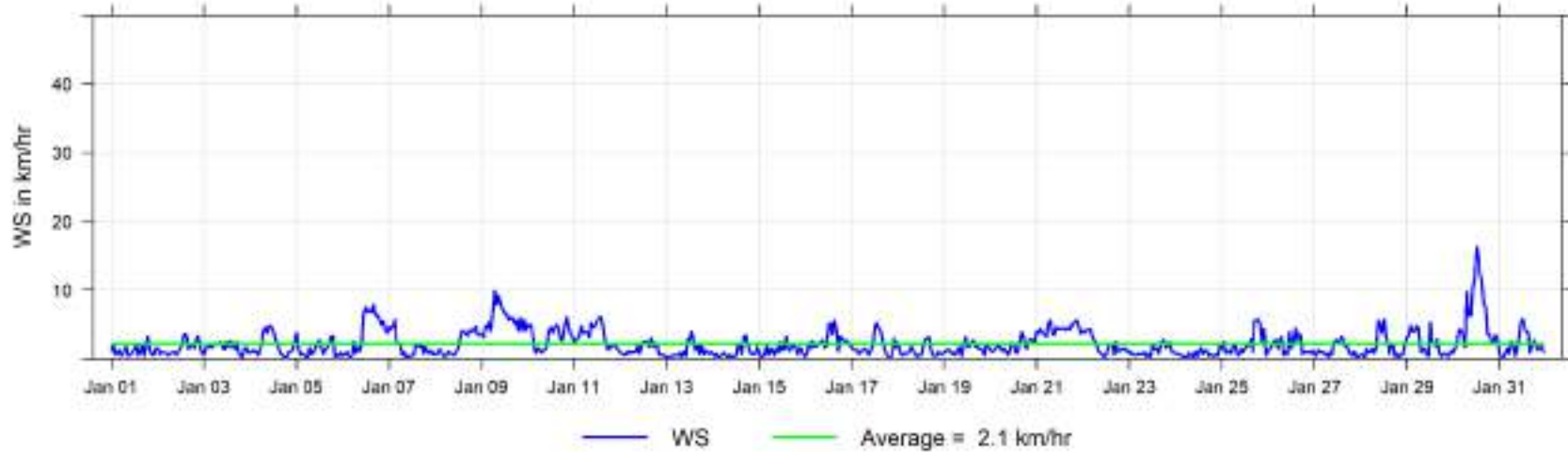
January 2024 Hourly Temperature Readings (in °C) at Dunes



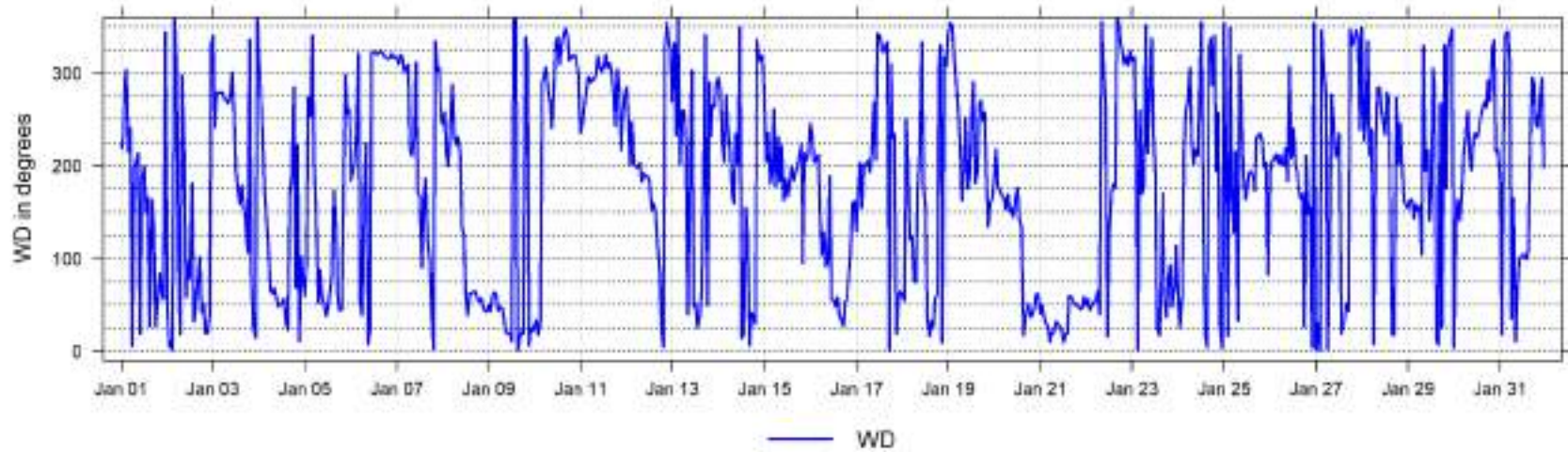
January 2024 Hourly Readings of Relative Humidity (in %) at Dunes



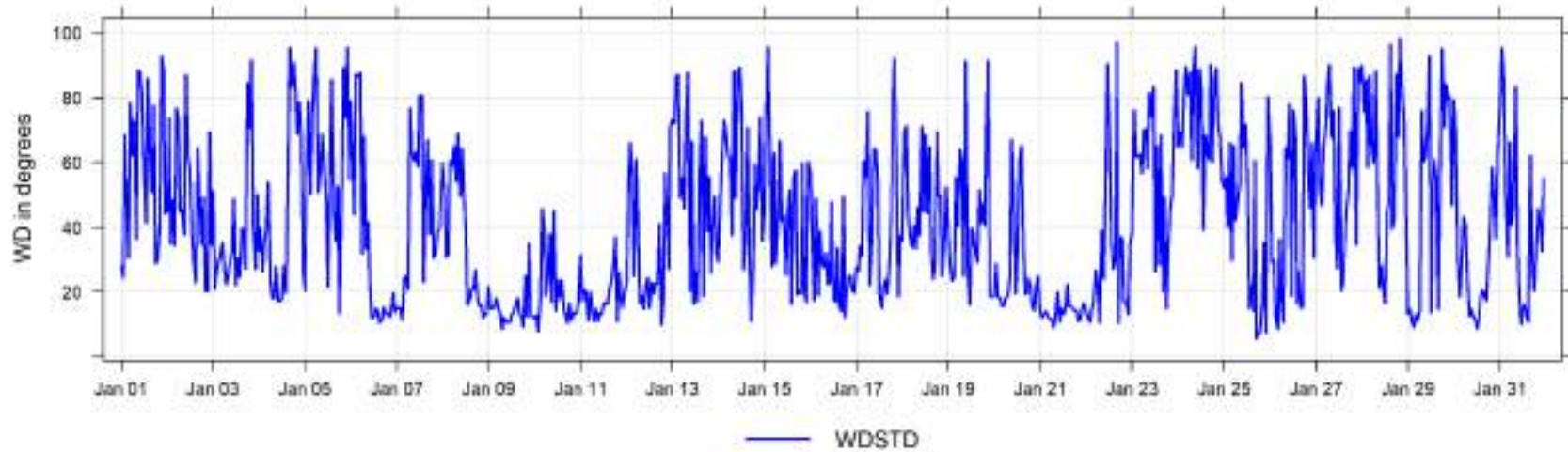
January 2024 Hourly Readings of Wind Speed (in km/hr) at Dunes

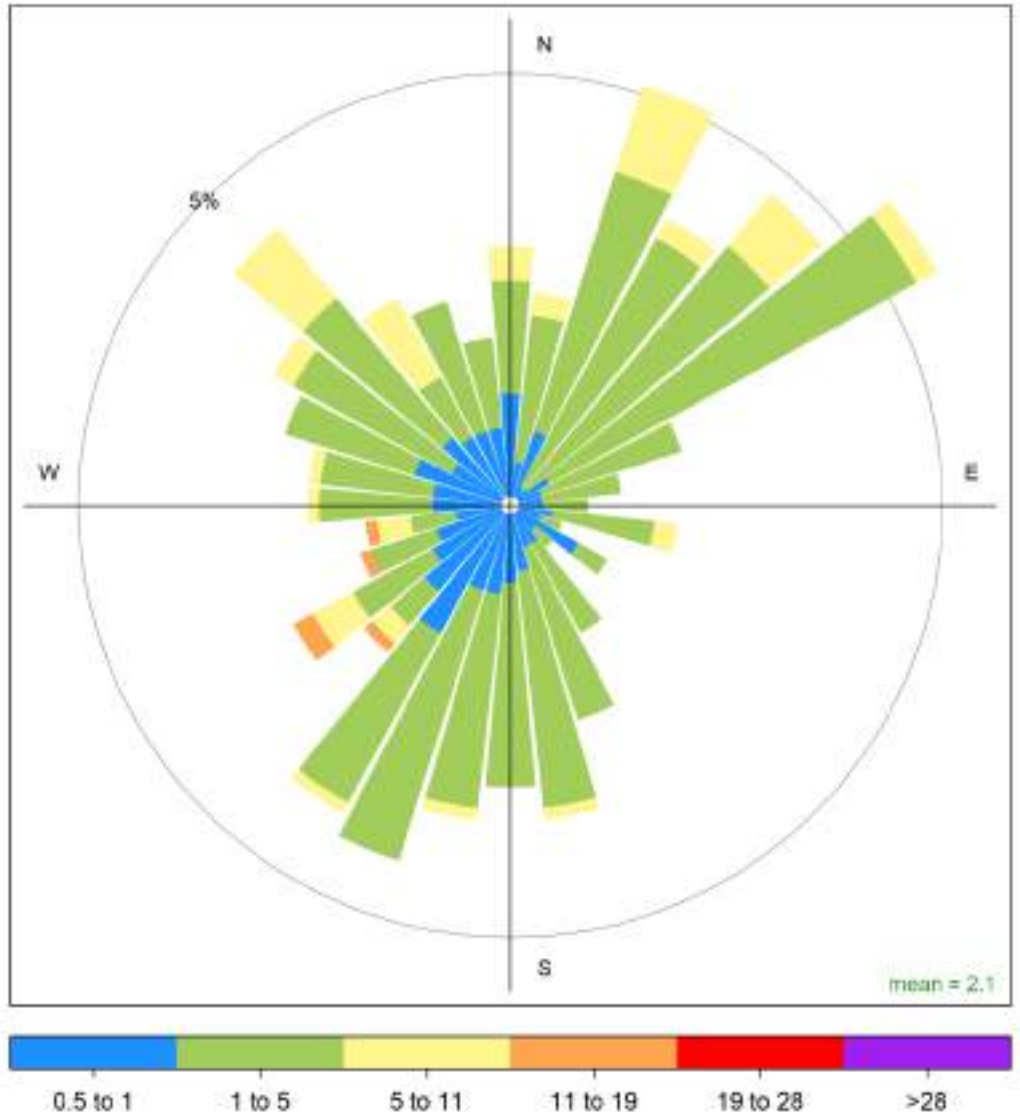


January 2024 Hourly Readings of Wind Direction (in degrees) at Dunes



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





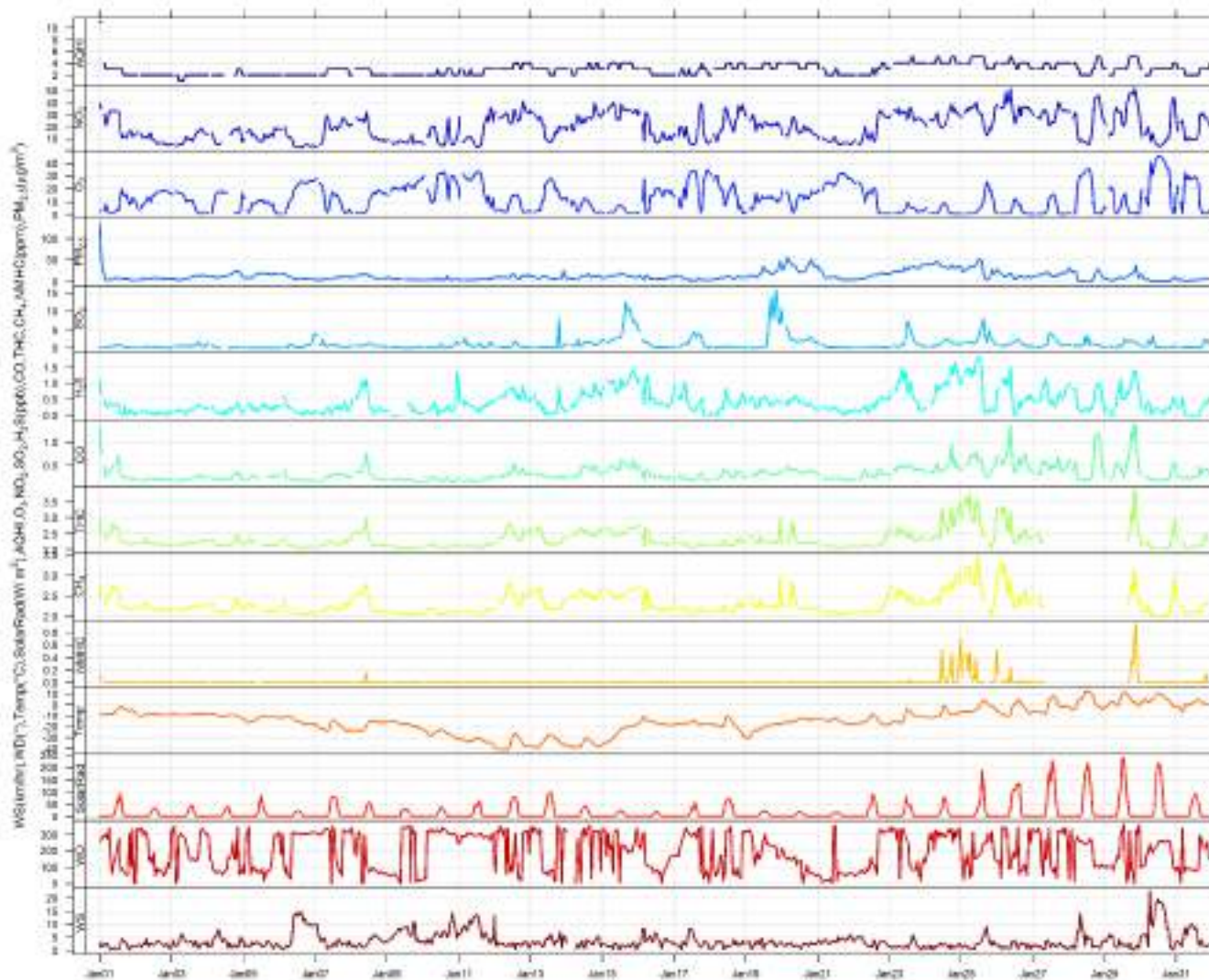
Dunes January 2024 Wind Rose, wind speed in km/hr

Calms (<0.5km/hr) = 14.5 %

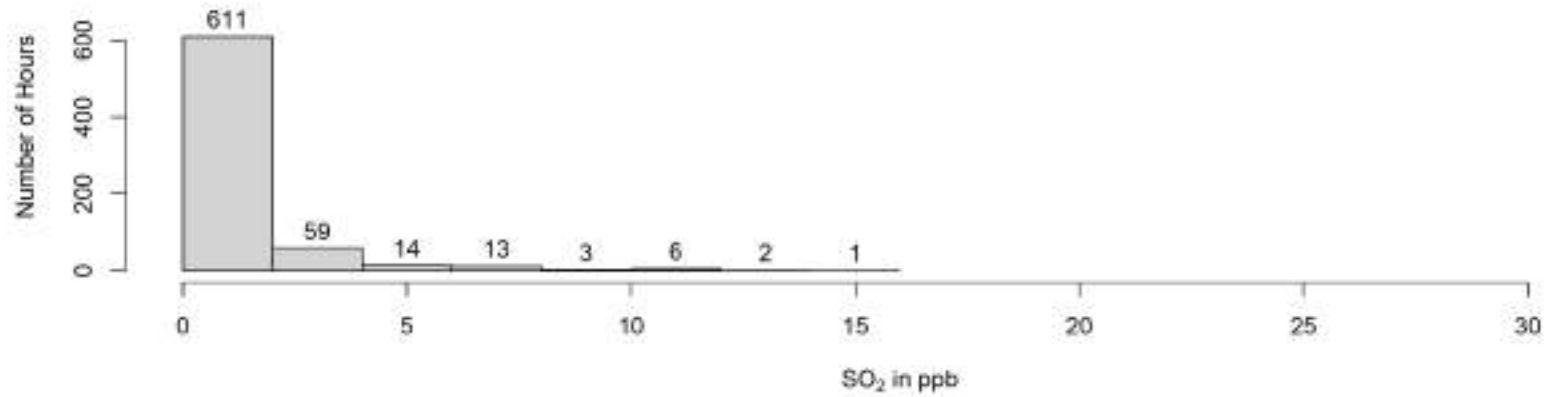
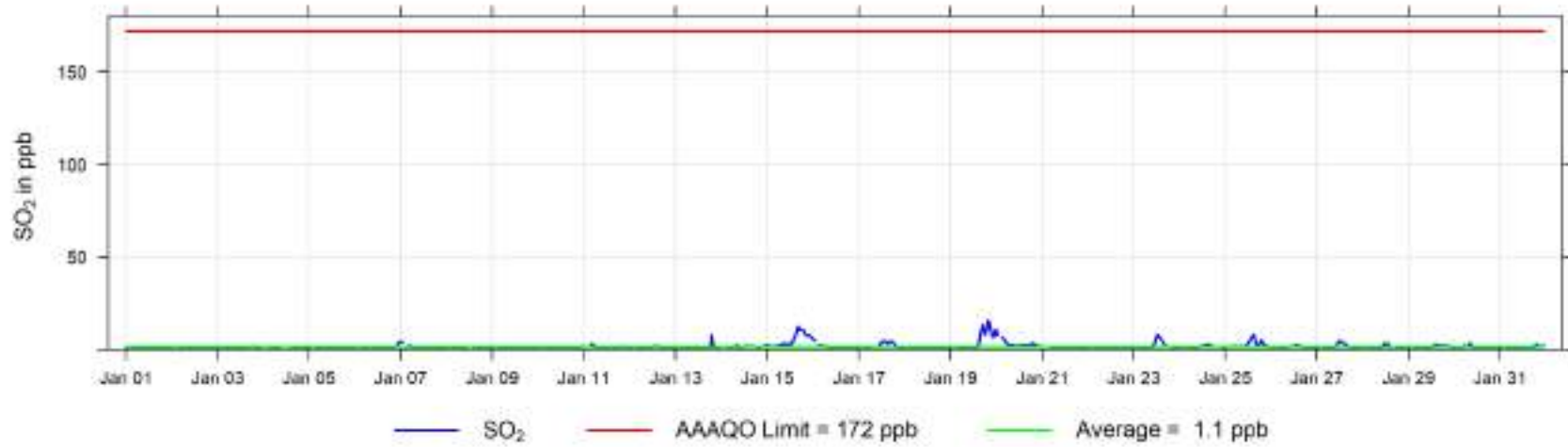
4 Grande Prairie - Henry Pirker Charts

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

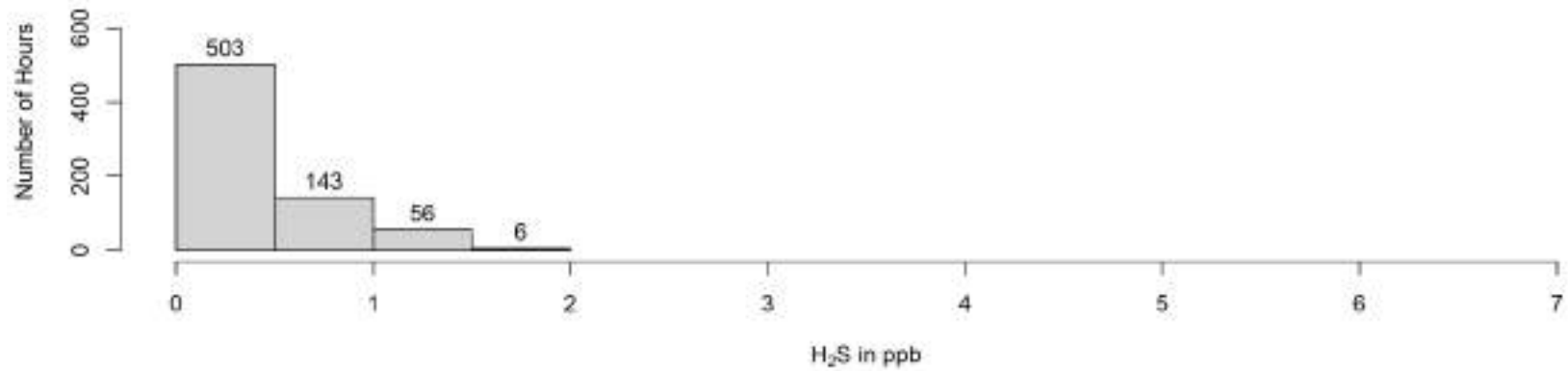
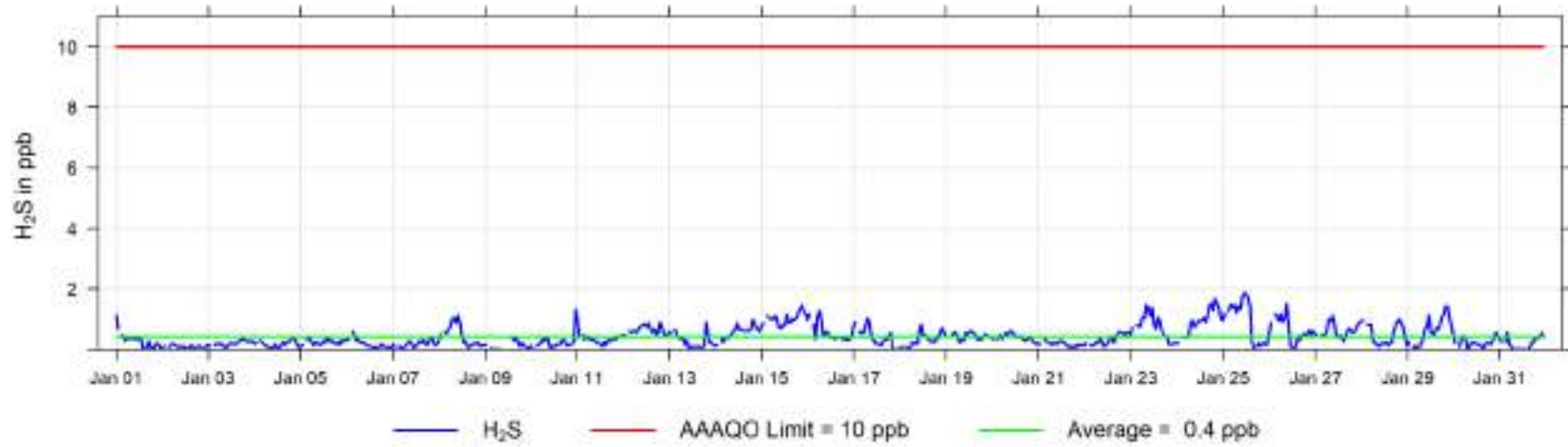
January 2024 Concentration Readings at Henry Pirker Station



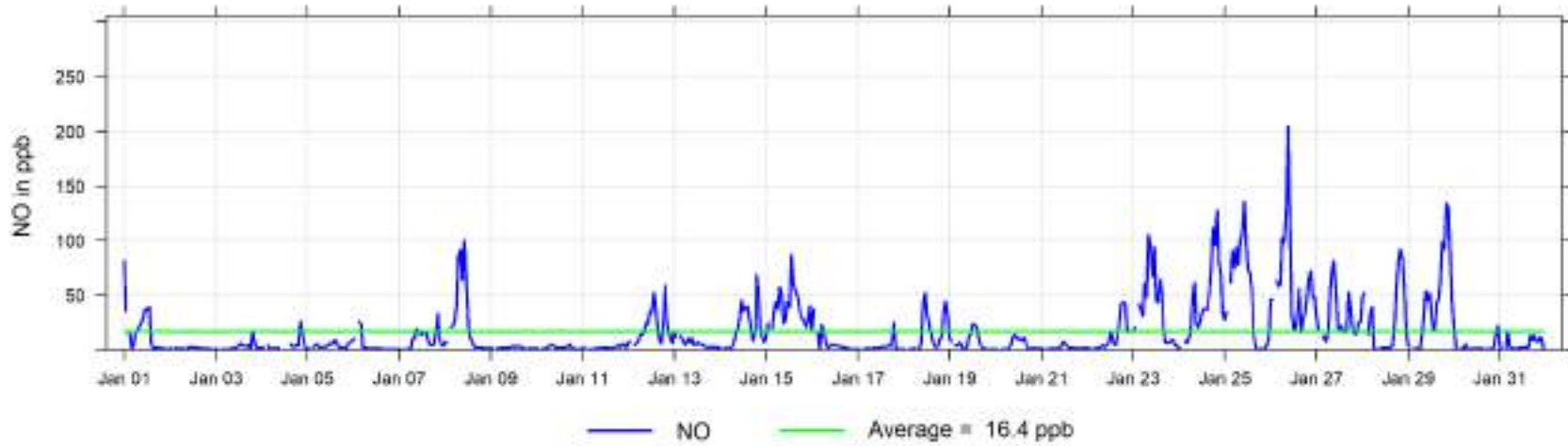
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Henry Pirker



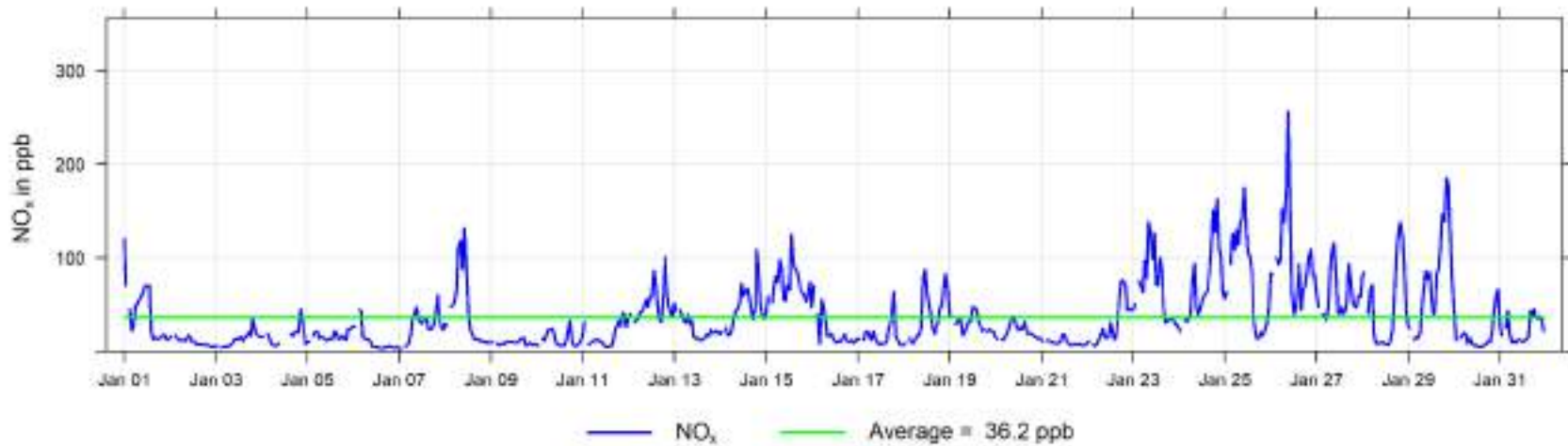
January 2024 Hourly Concentration Readings of H₂S (in ppb) at Henry Pirker



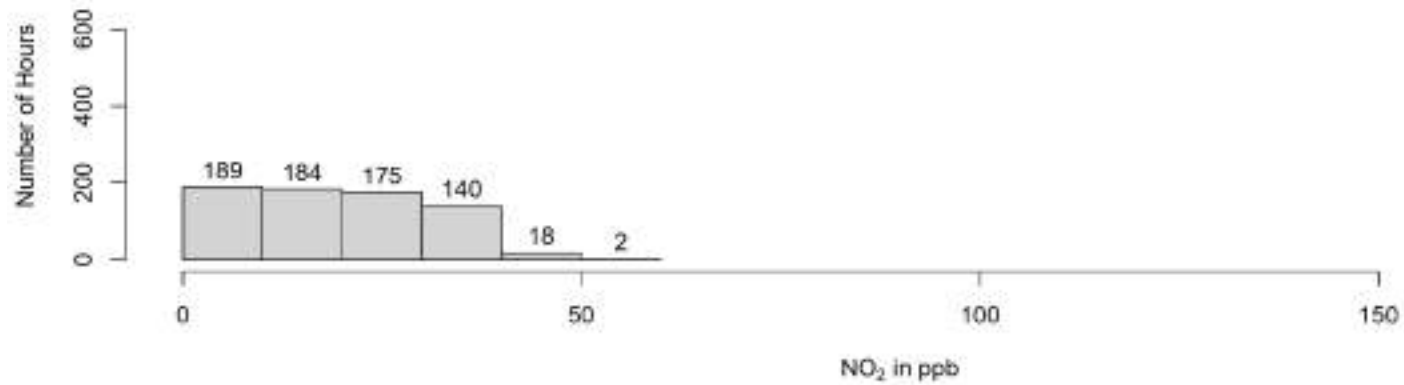
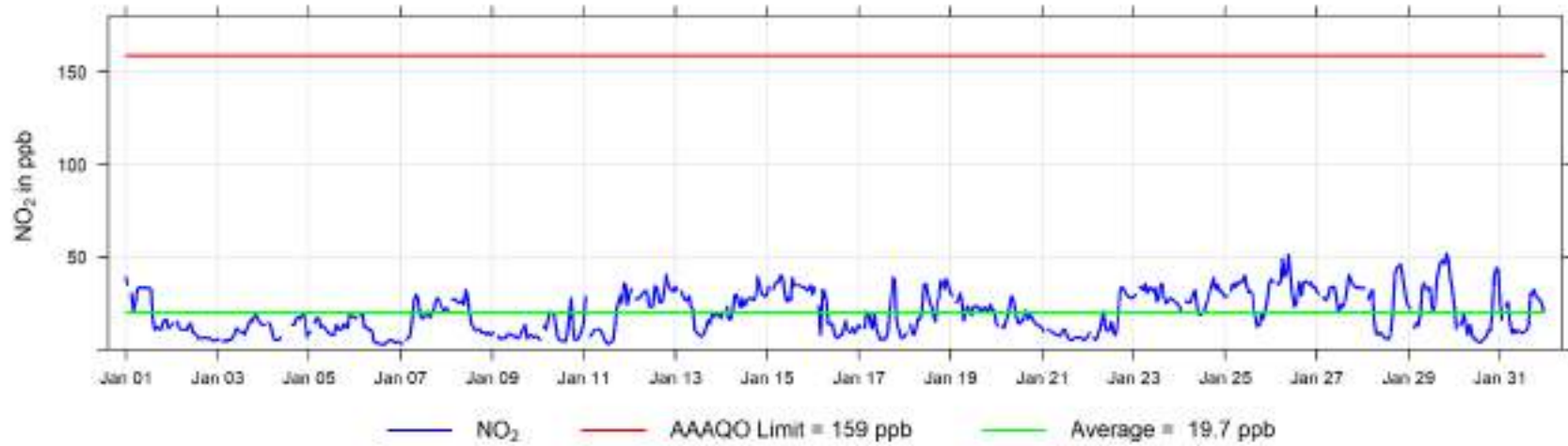
January 2024 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



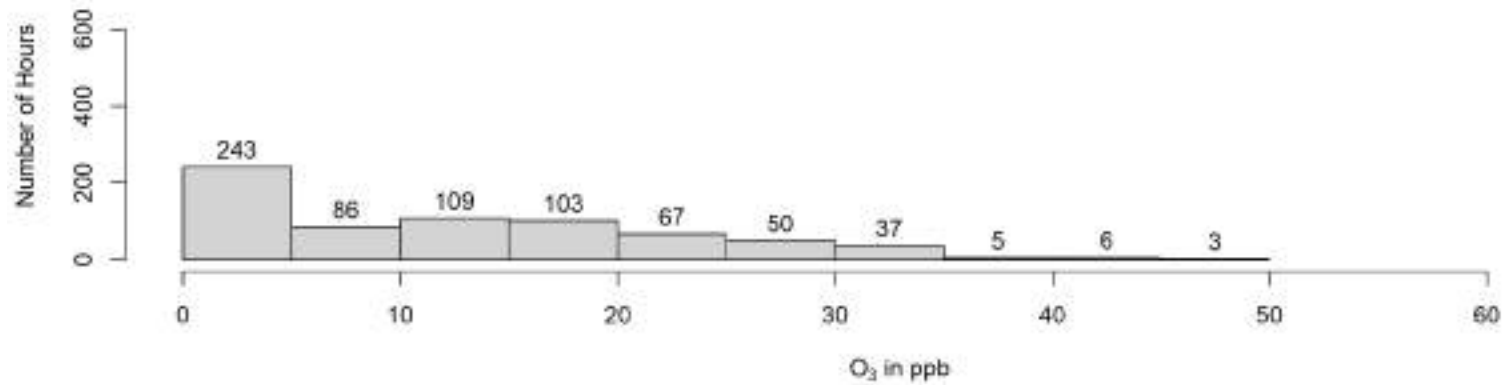
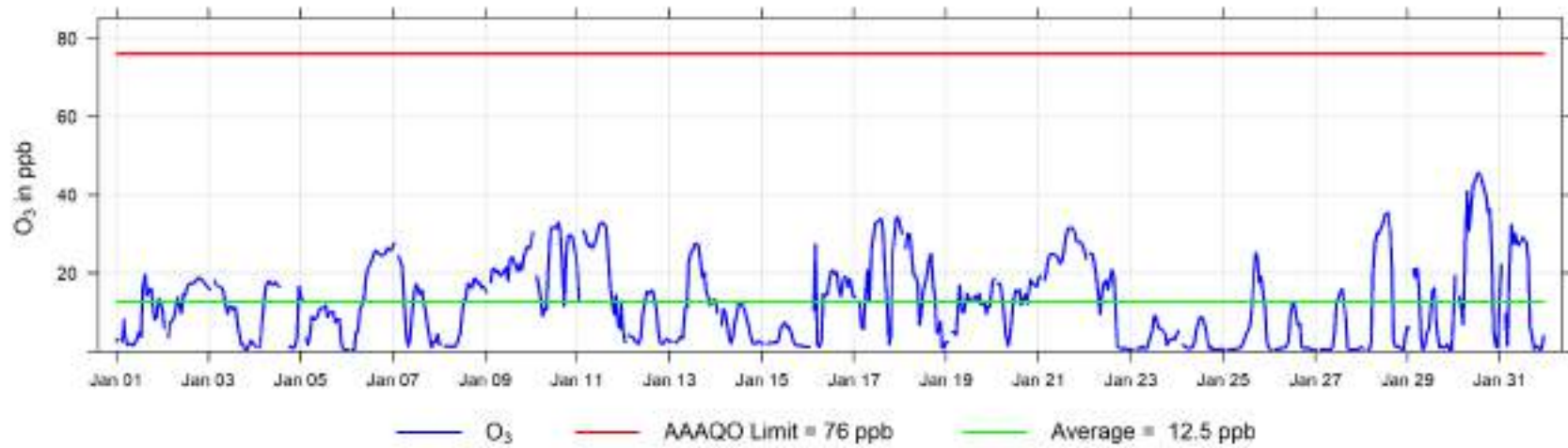
January 2024 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



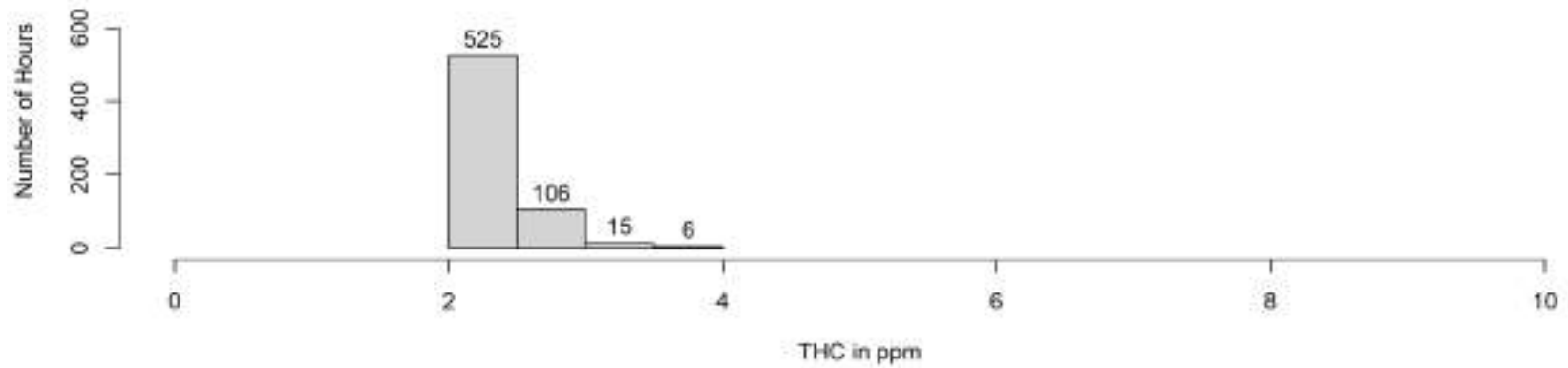
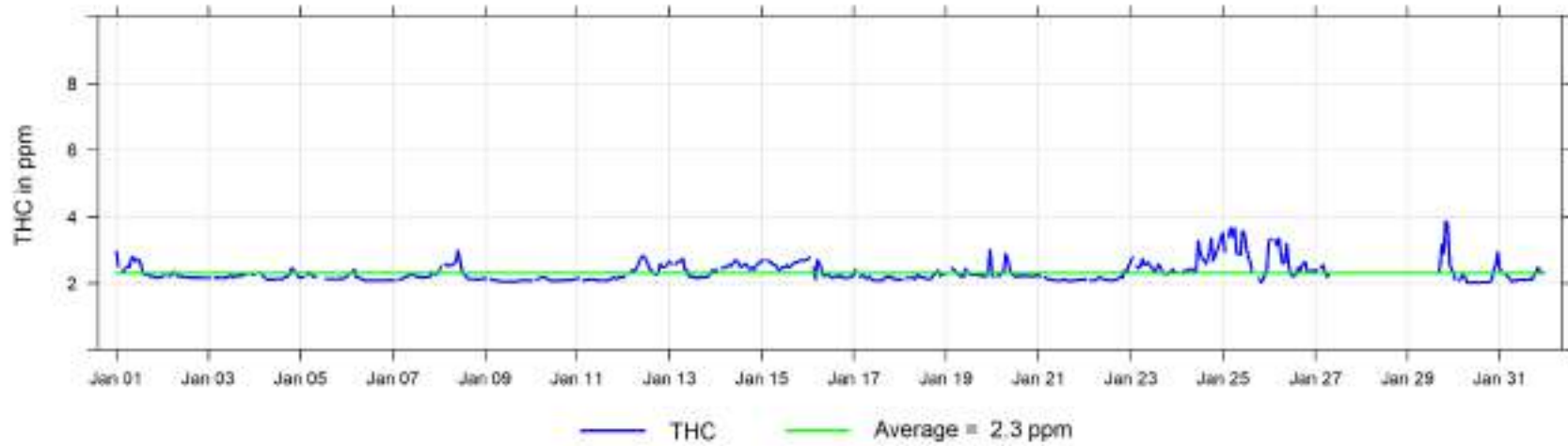
January 2024 Hourly Concentration Readings of NO₂ (in ppb) at Henry Pirker



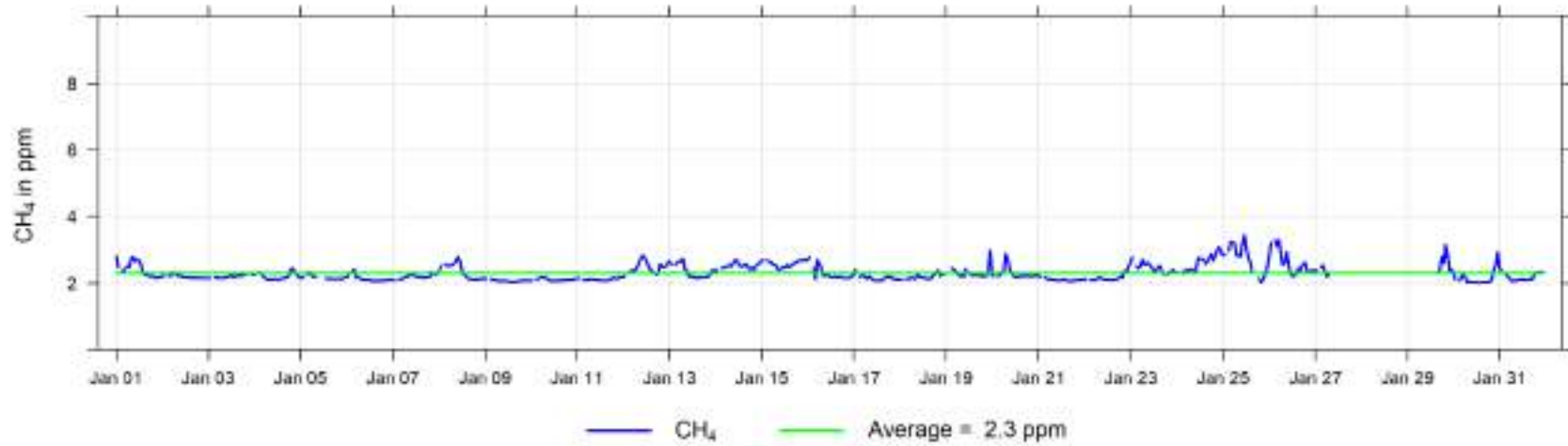
January 2024 Hourly Concentration Readings of O₃ (in ppb) at Henry Pirker



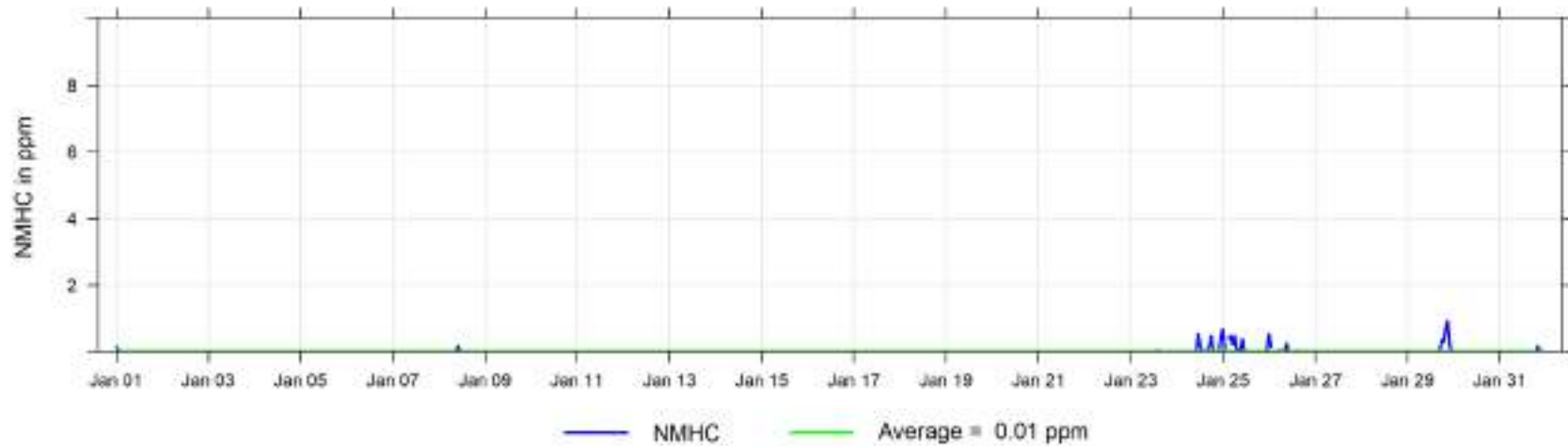
January 2024 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



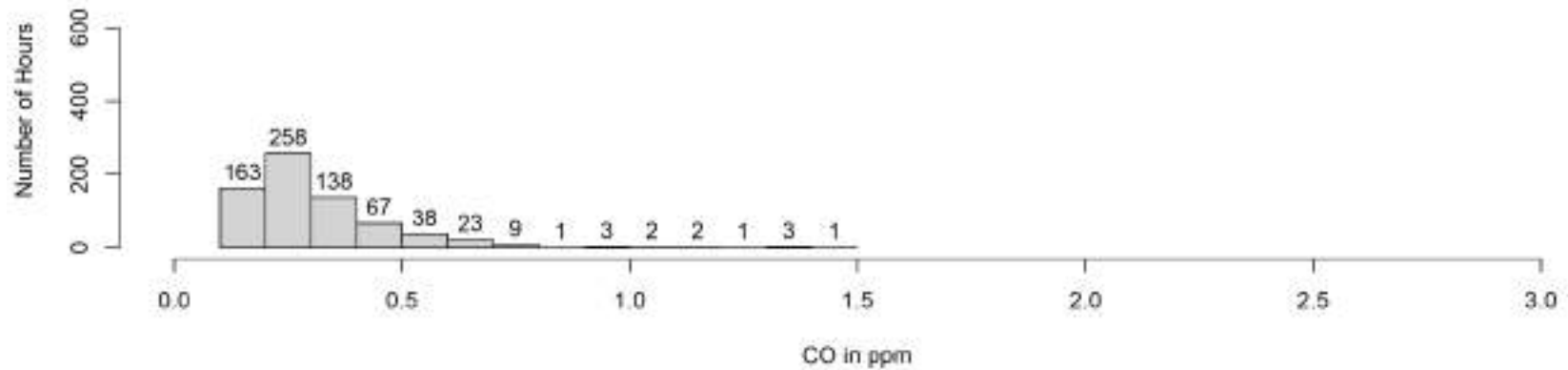
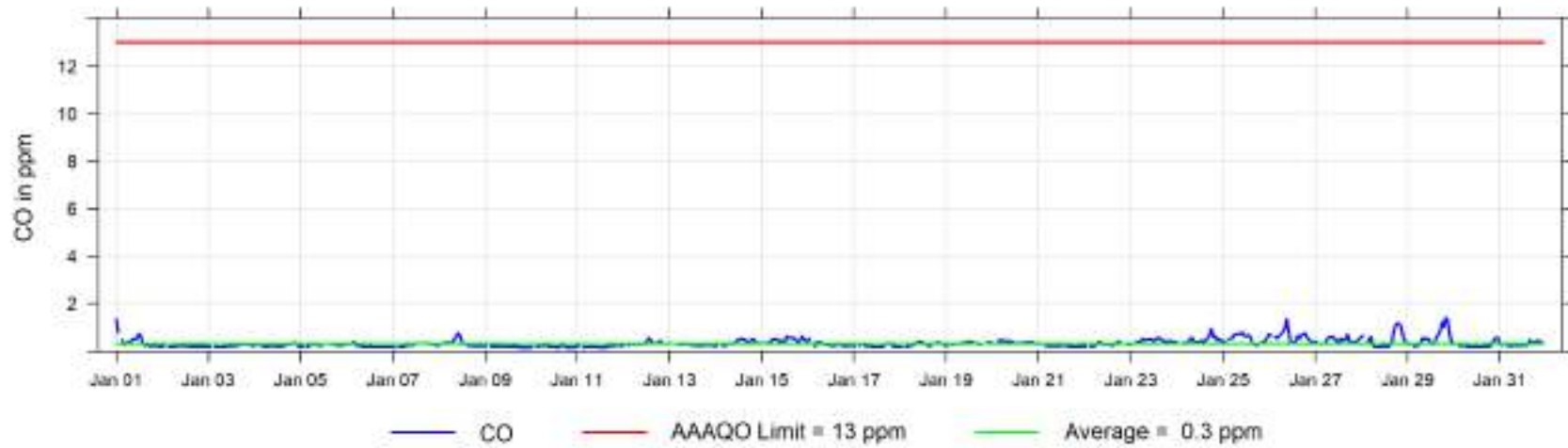
January 2024 Hourly Concentration Readings of CH₄ (in ppm) at Henry Pirker



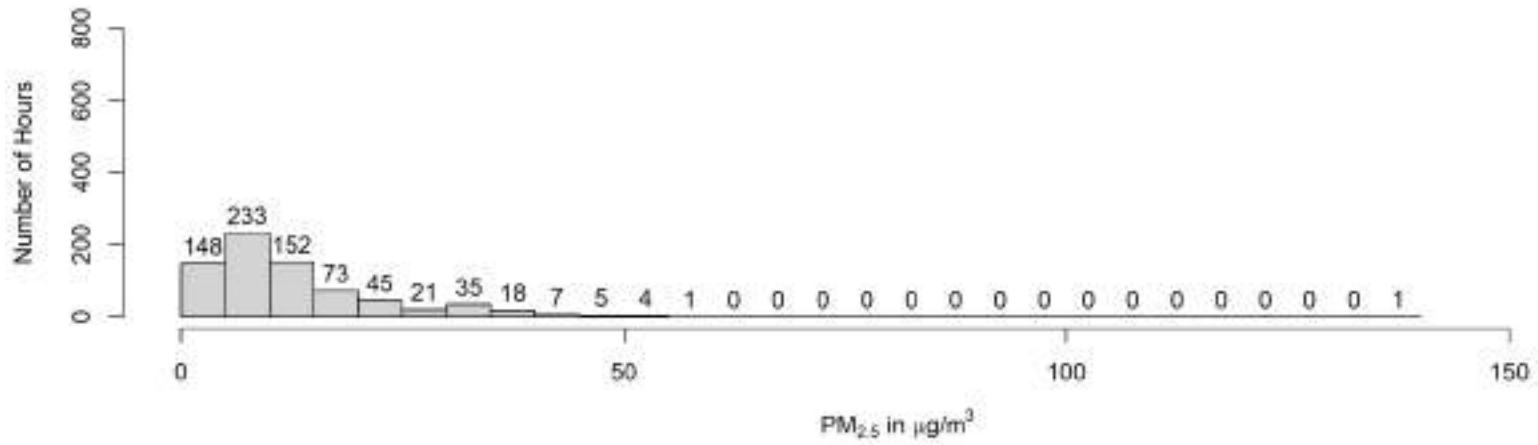
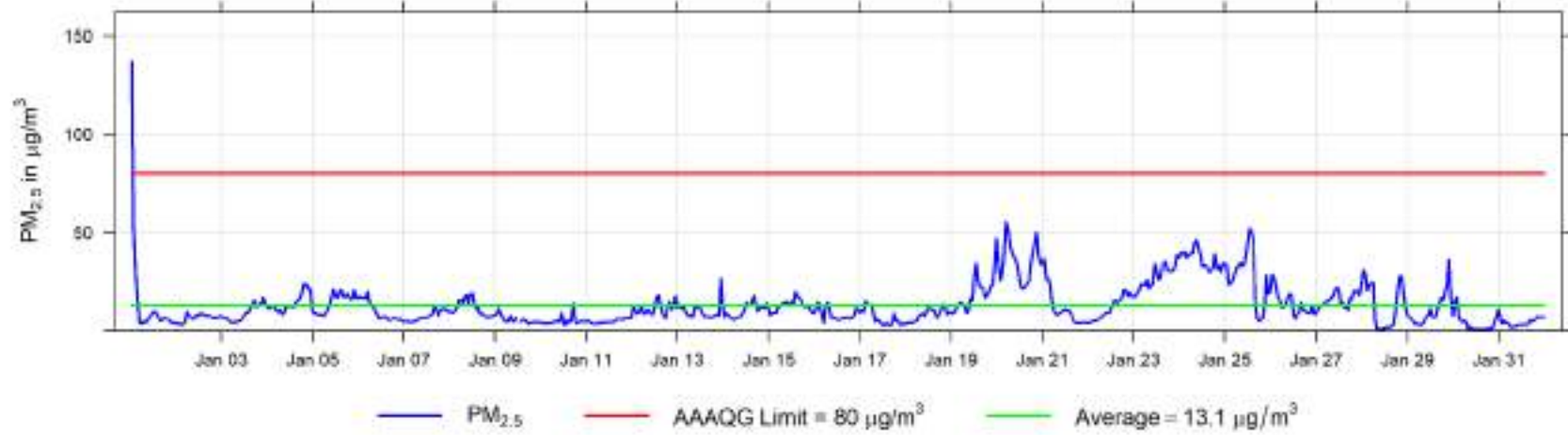
January 2024 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



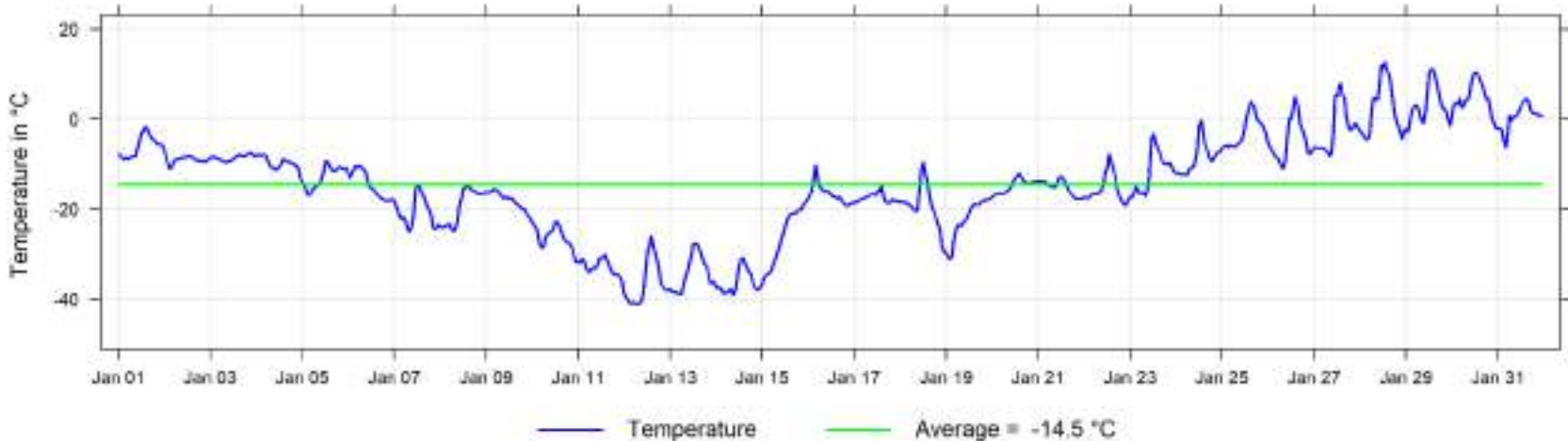
January 2024 Hourly Concentration Readings of CO (in ppm) at Henry Pirker



January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Henry Pirker



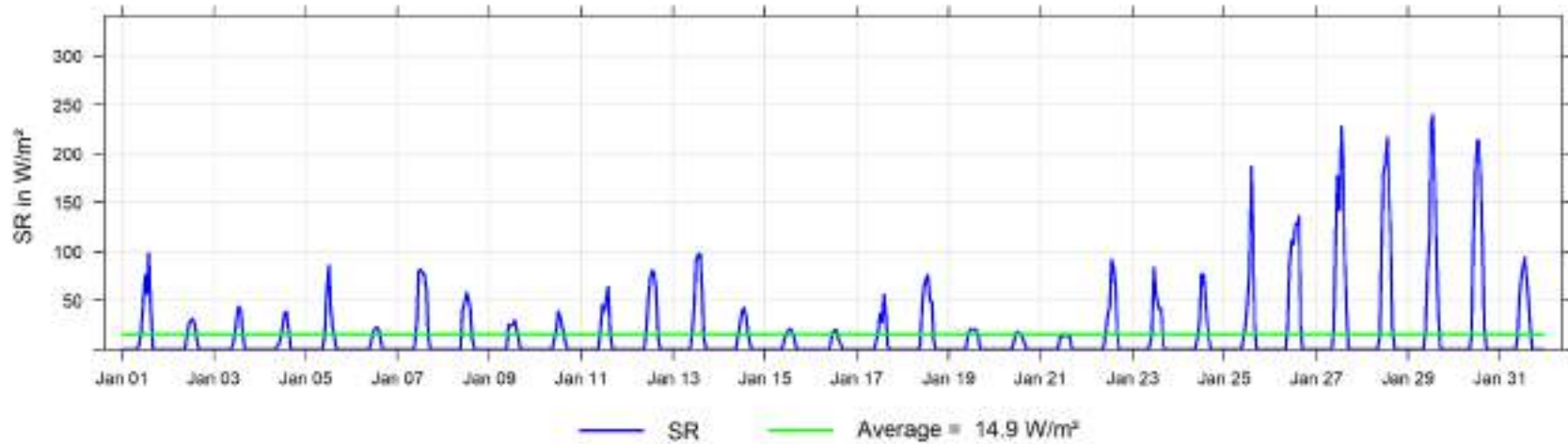
January 2024 Hourly Temperature Readings (in °C) at Henry Pirker



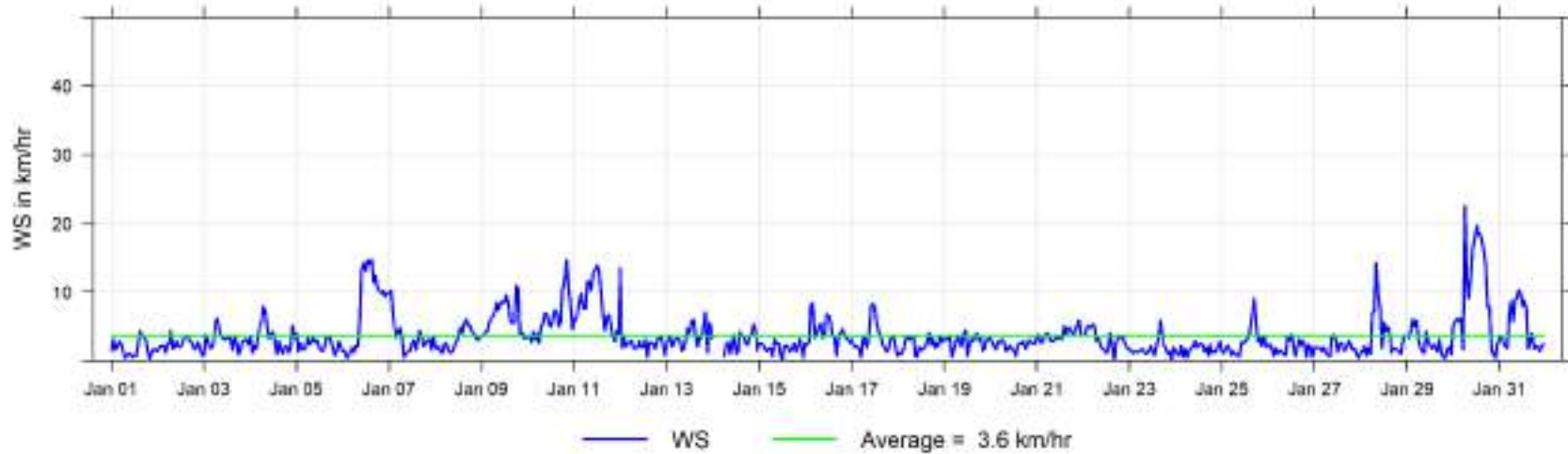
January 2024 Hourly Readings of Relative Humidity (in %) at Henry Pirker



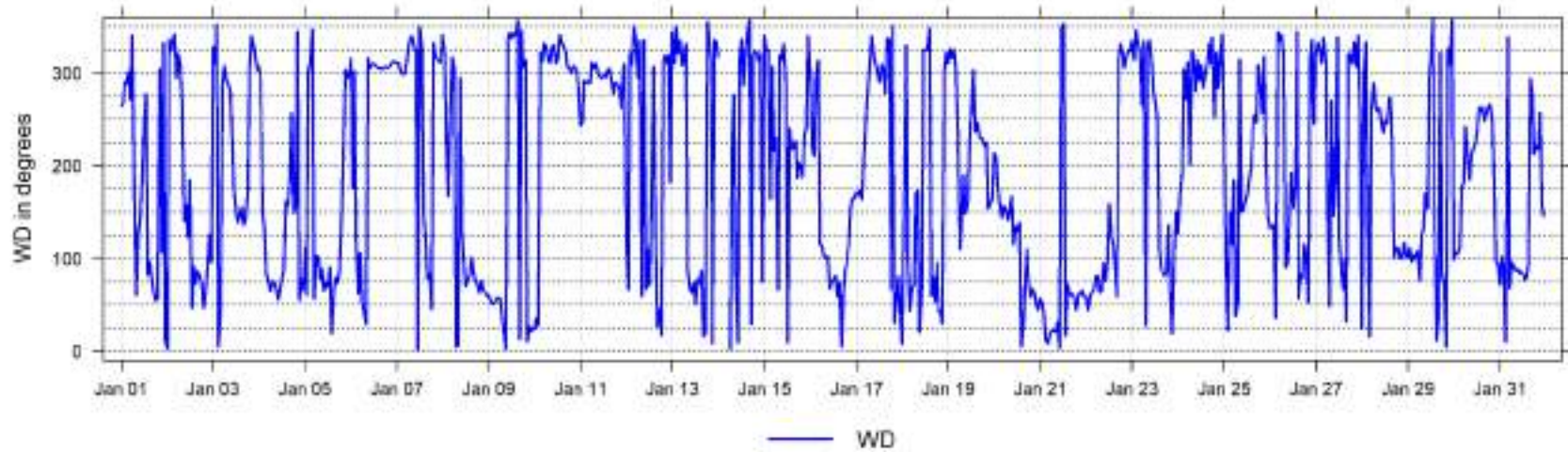
January 2024 Hourly Readings of Solar Radiation (in W/m²) at Henry Pirker



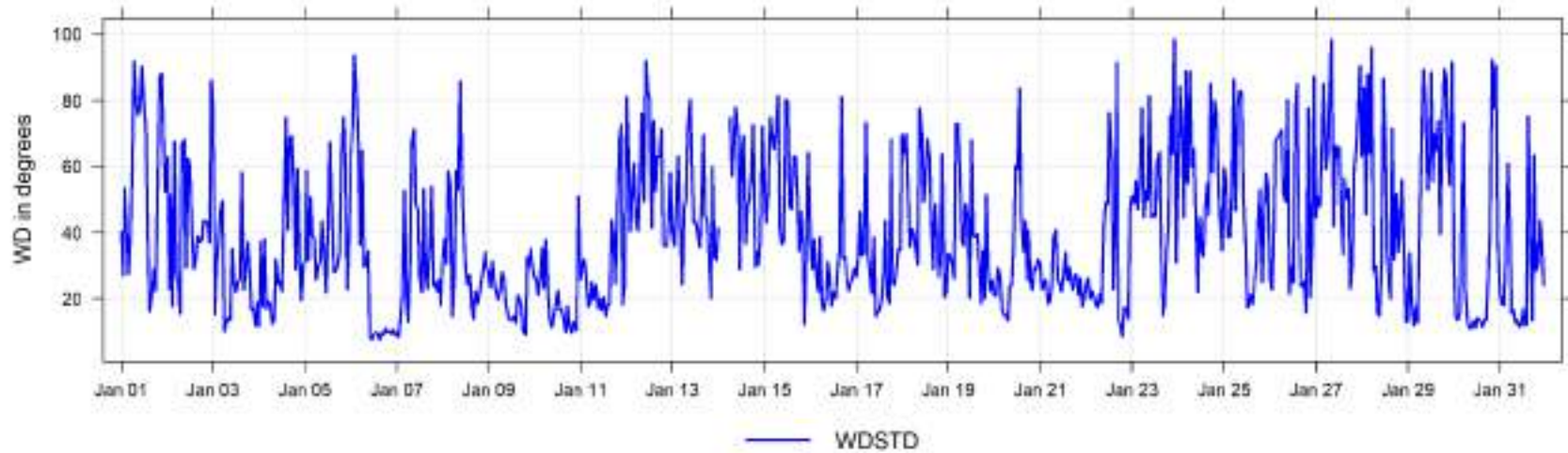
January 2024 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker

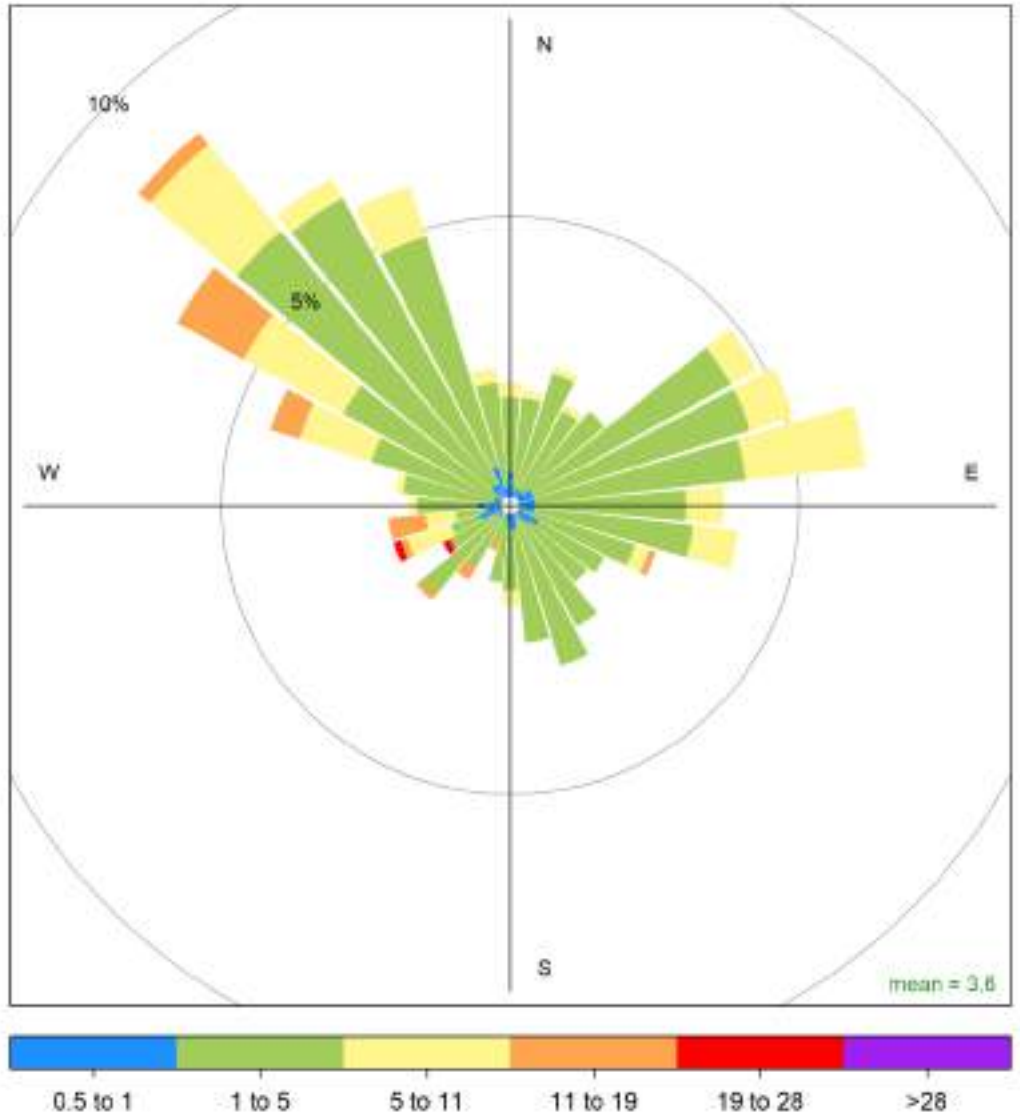


January 2024 Hourly Readings of Wind Direction (in degrees) at Henry Pirker



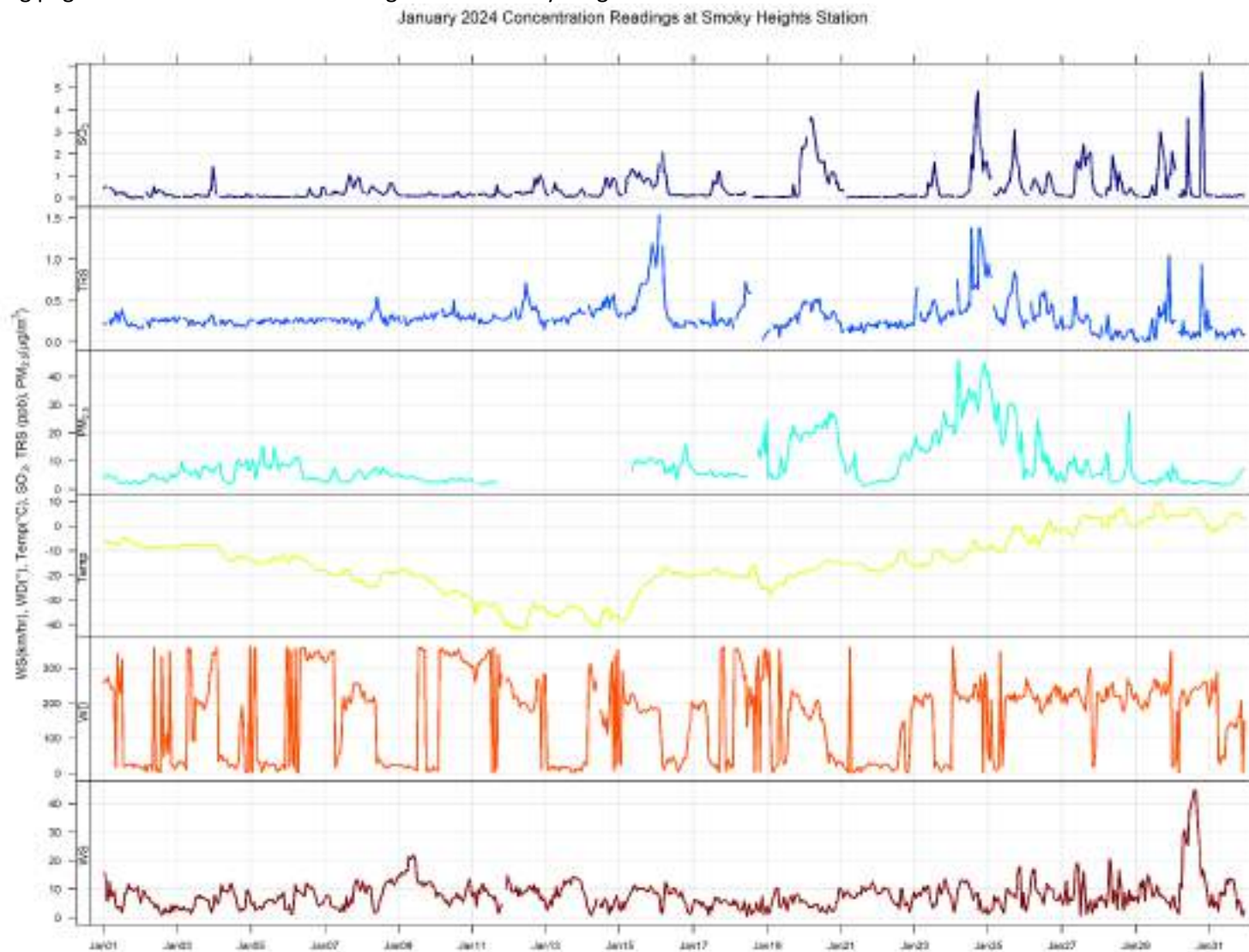
January 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Henry Pirker



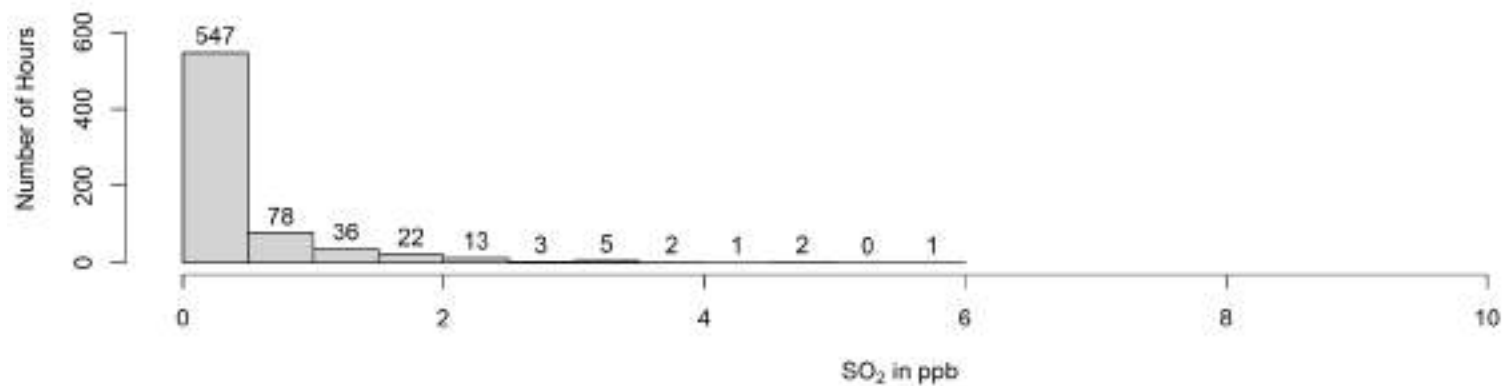
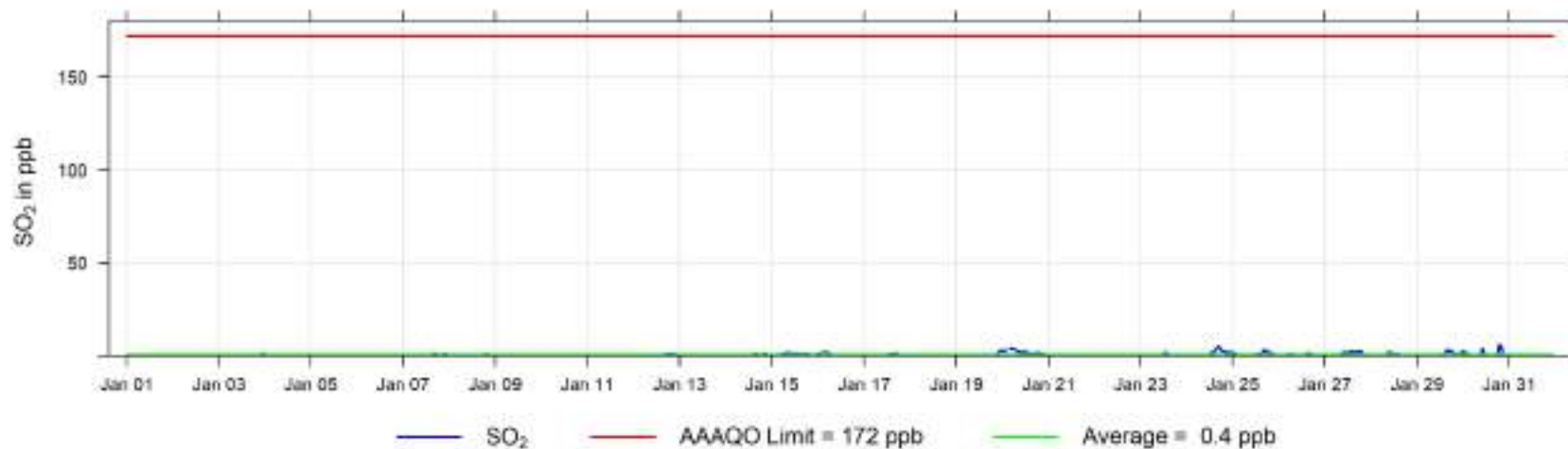


5 Smoky Heights Charts

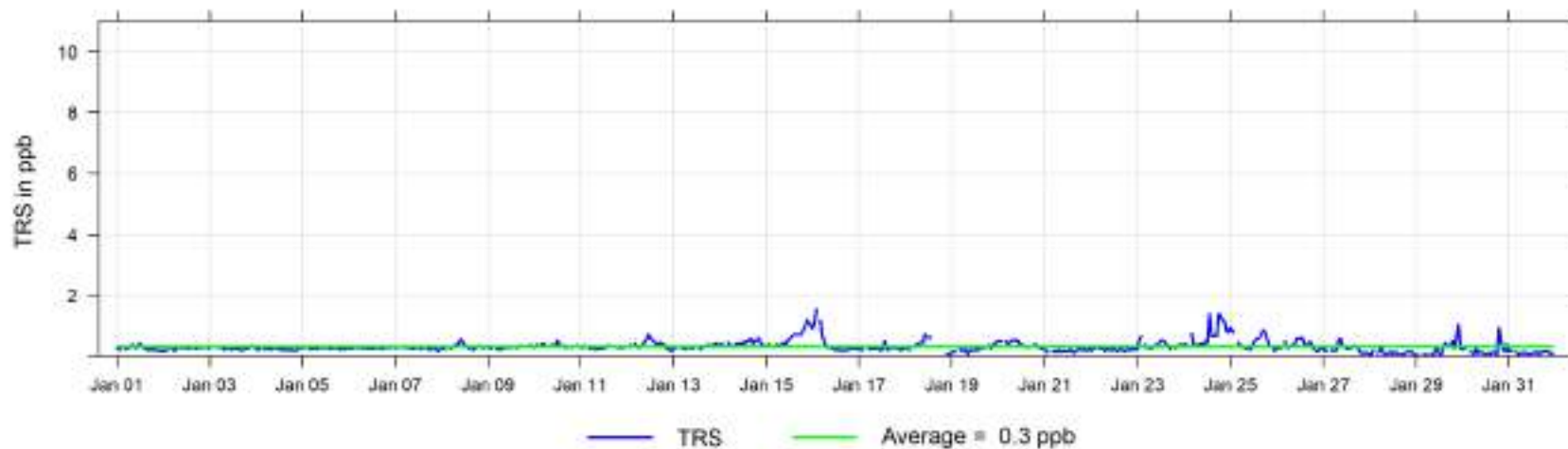
The following pages include the charts and histograms for Smoky Heights Station



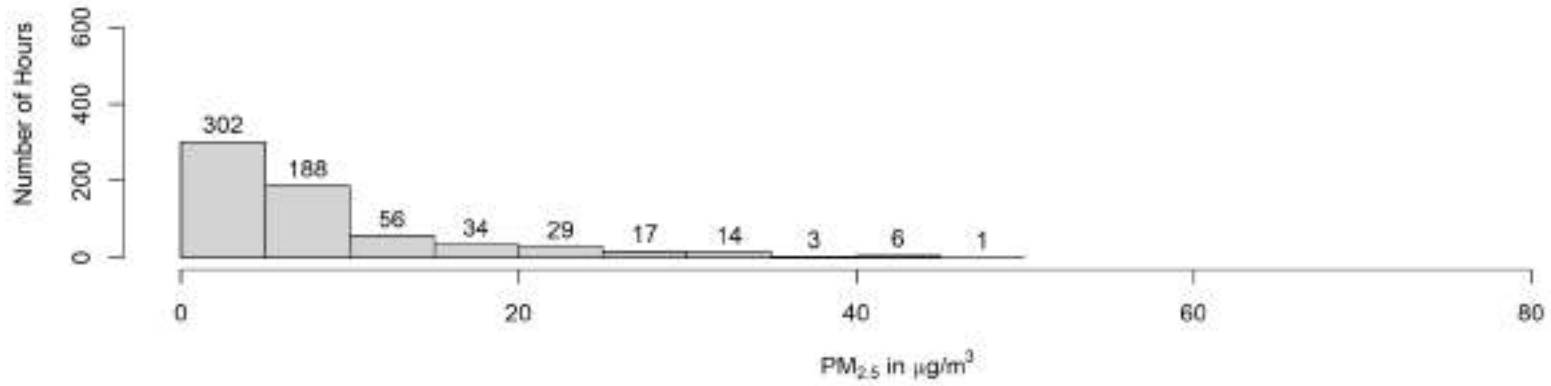
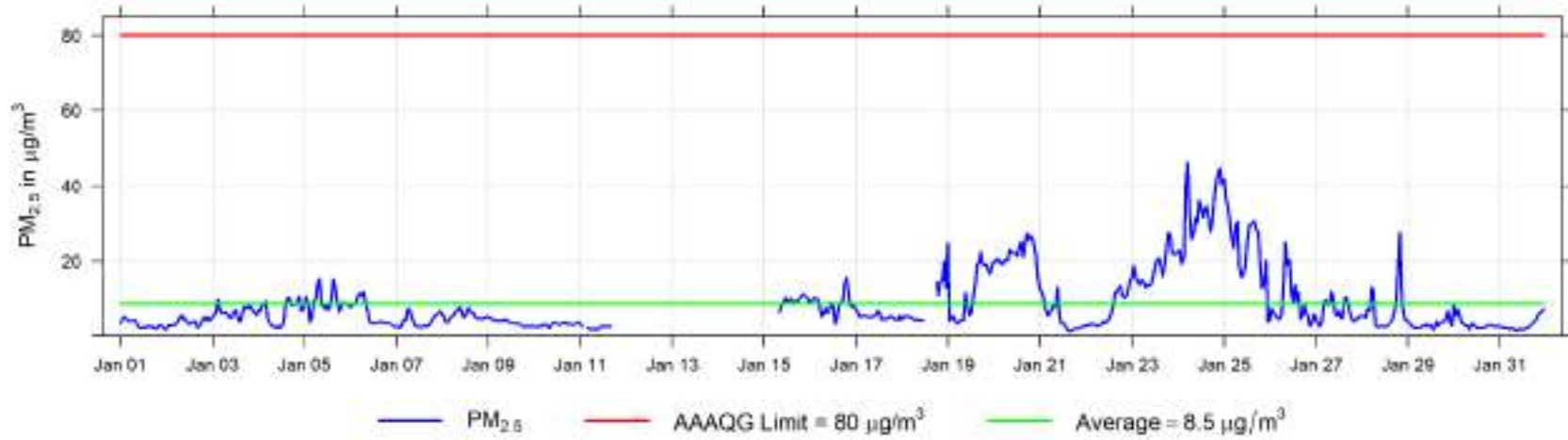
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights



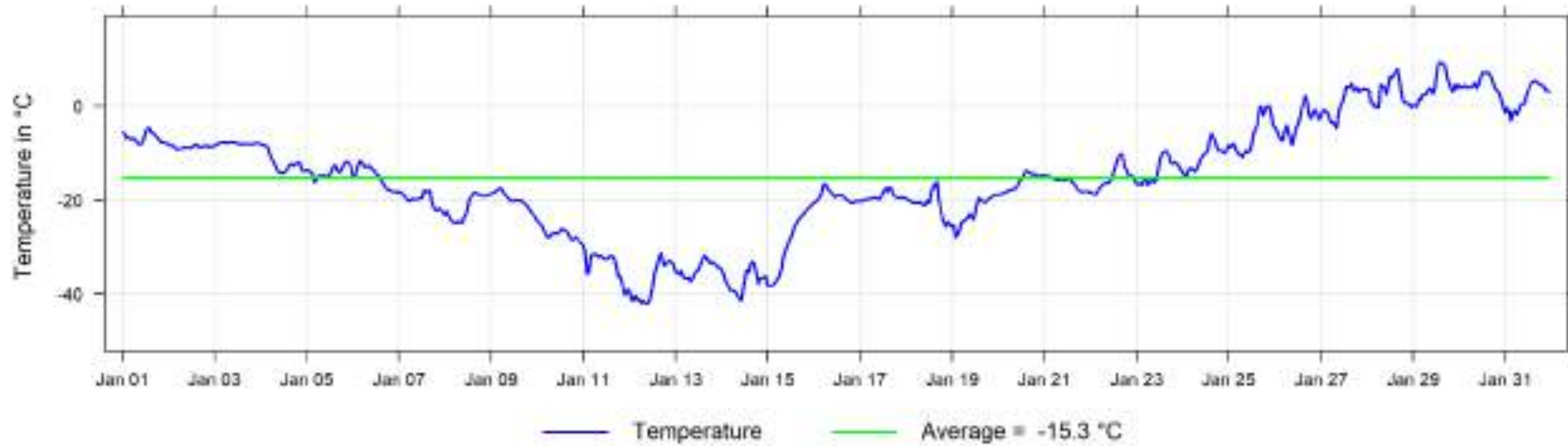
January 2024 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights



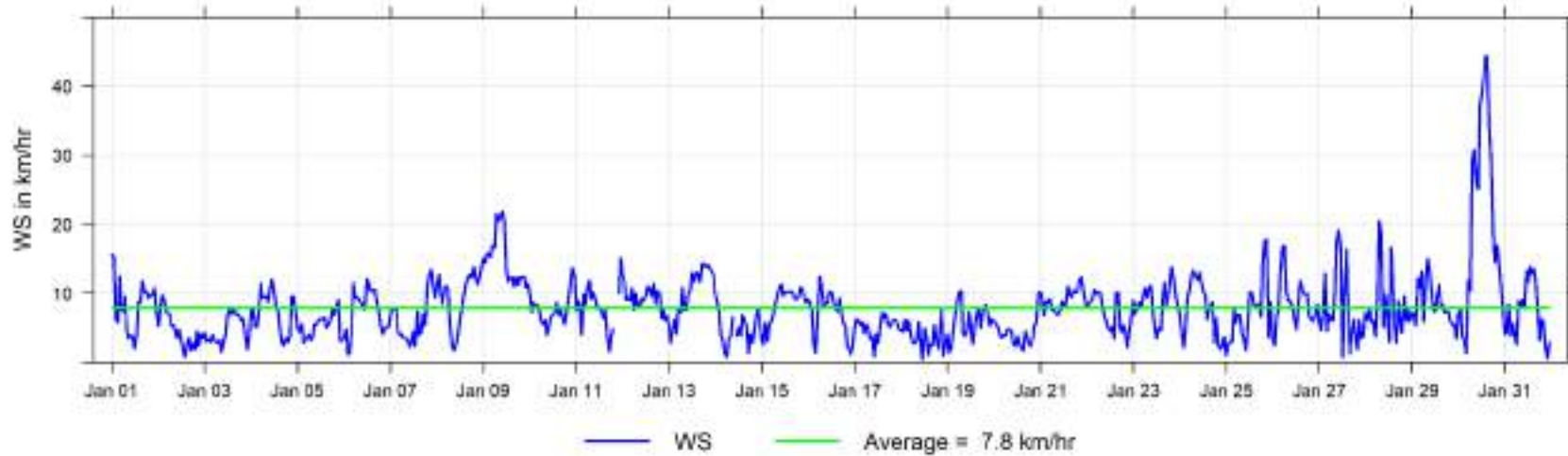
January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



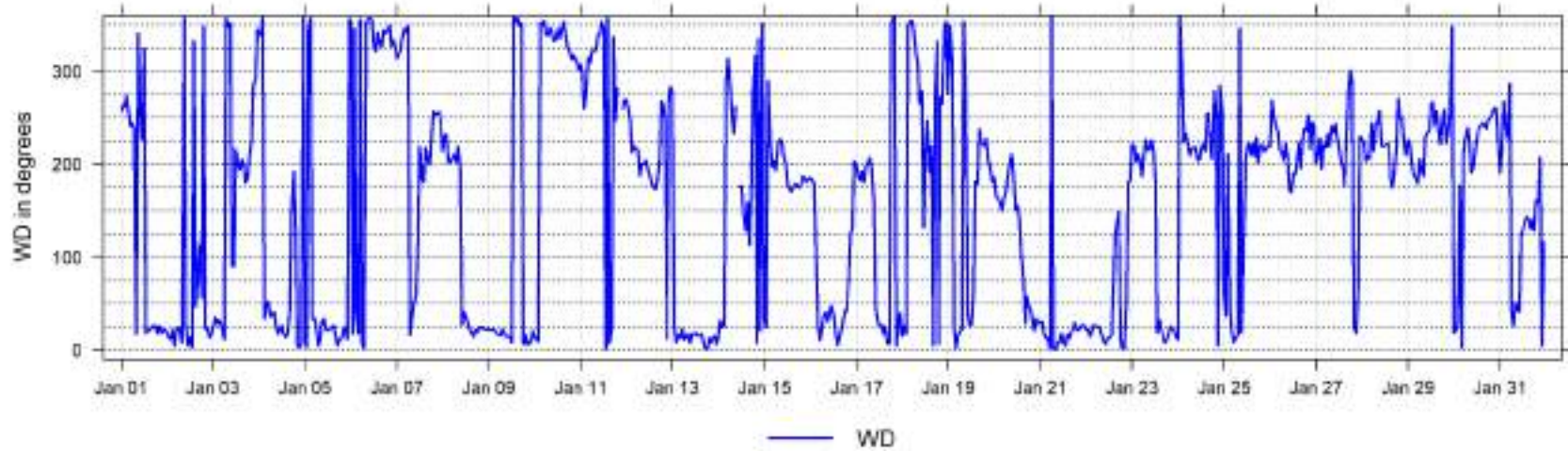
January 2024 Hourly Temperature Readings (in °C) at Smoky Heights



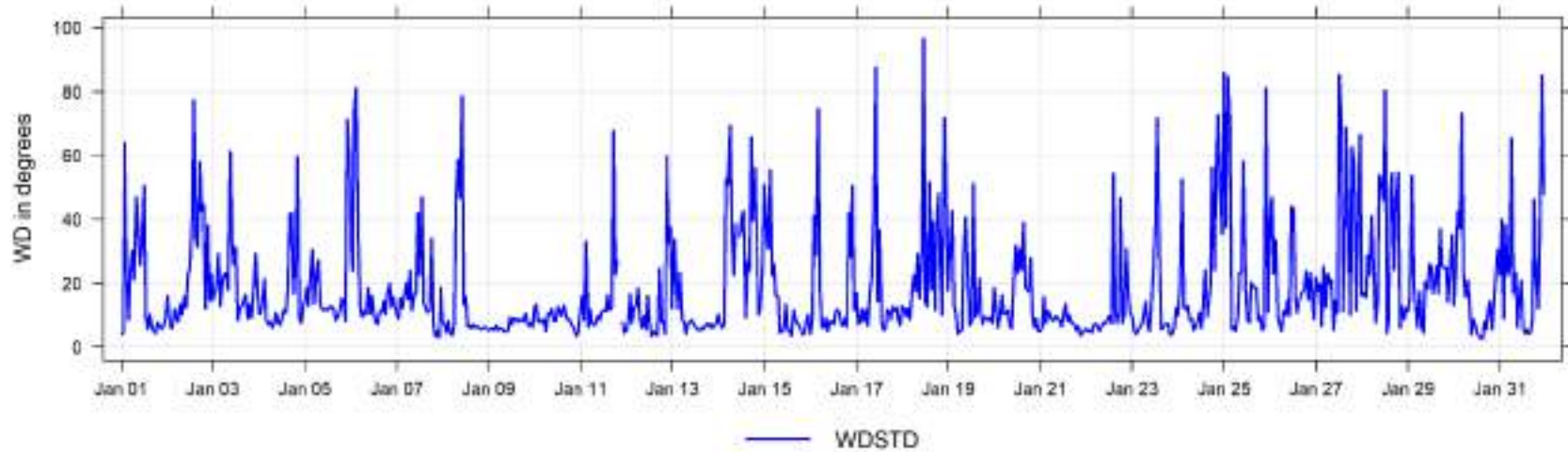
January 2024 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

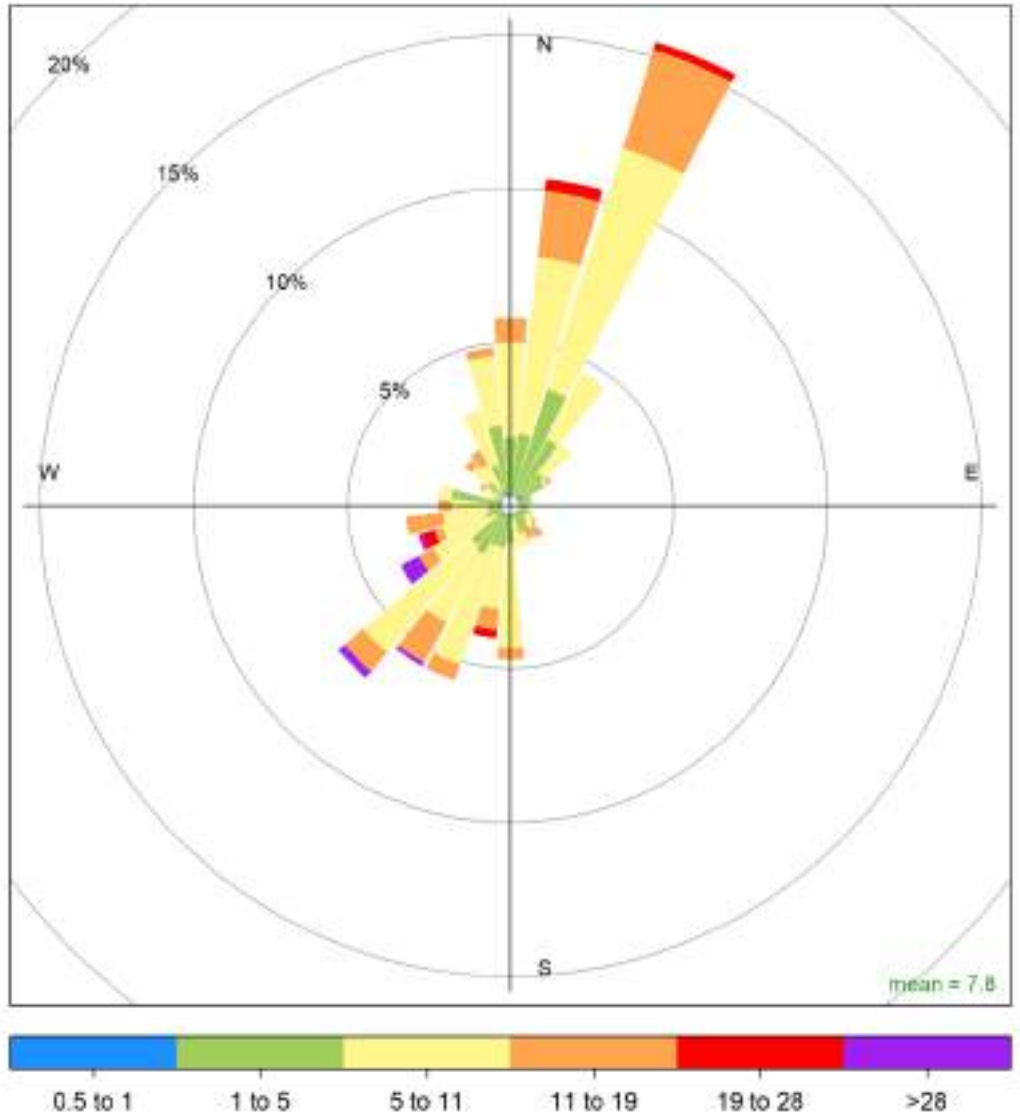


January 2024 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



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

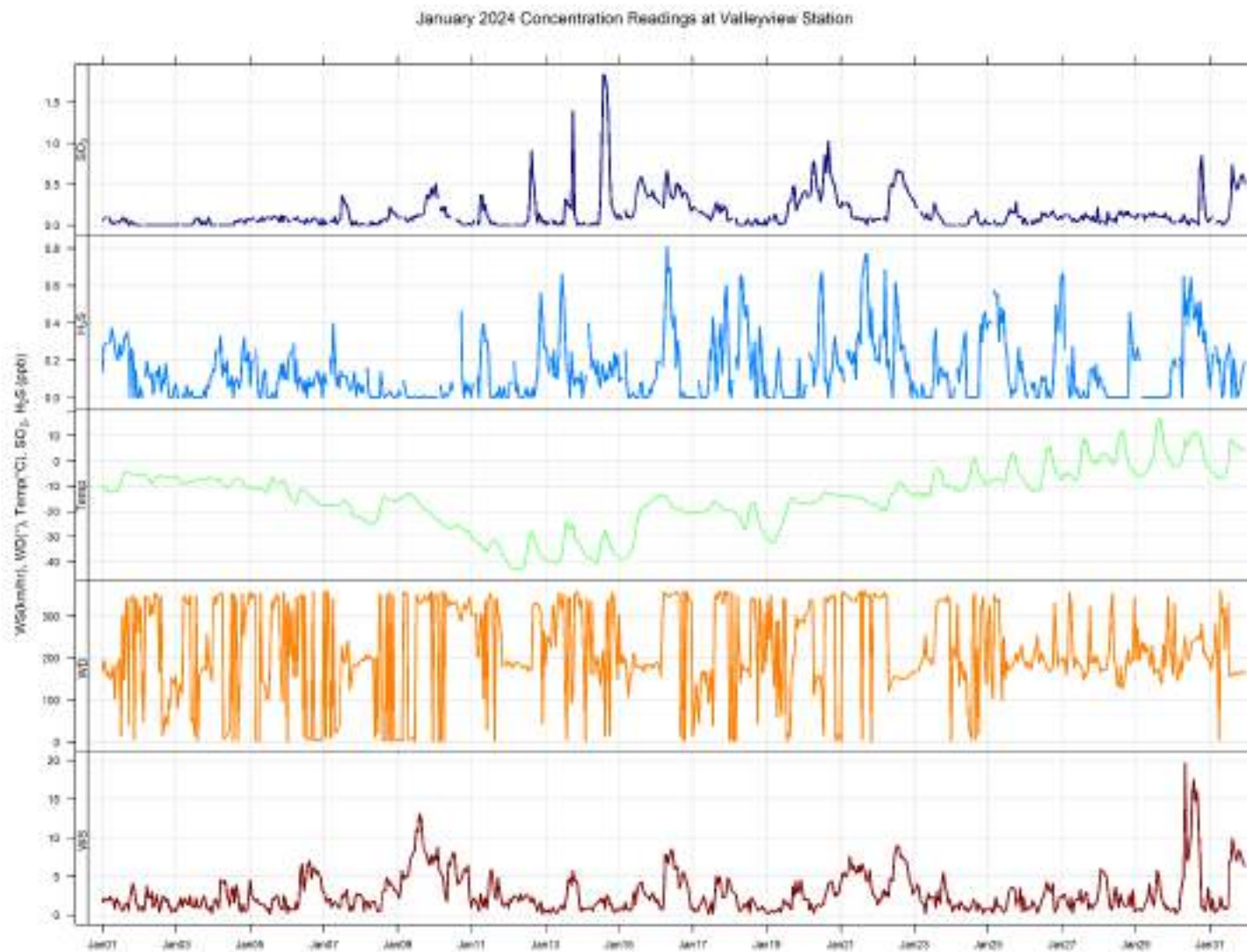




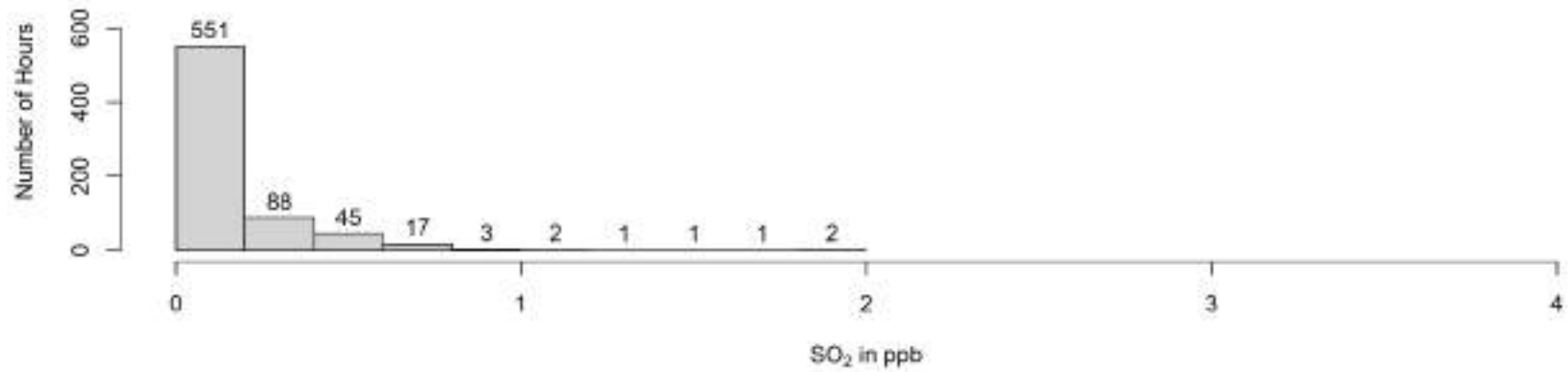
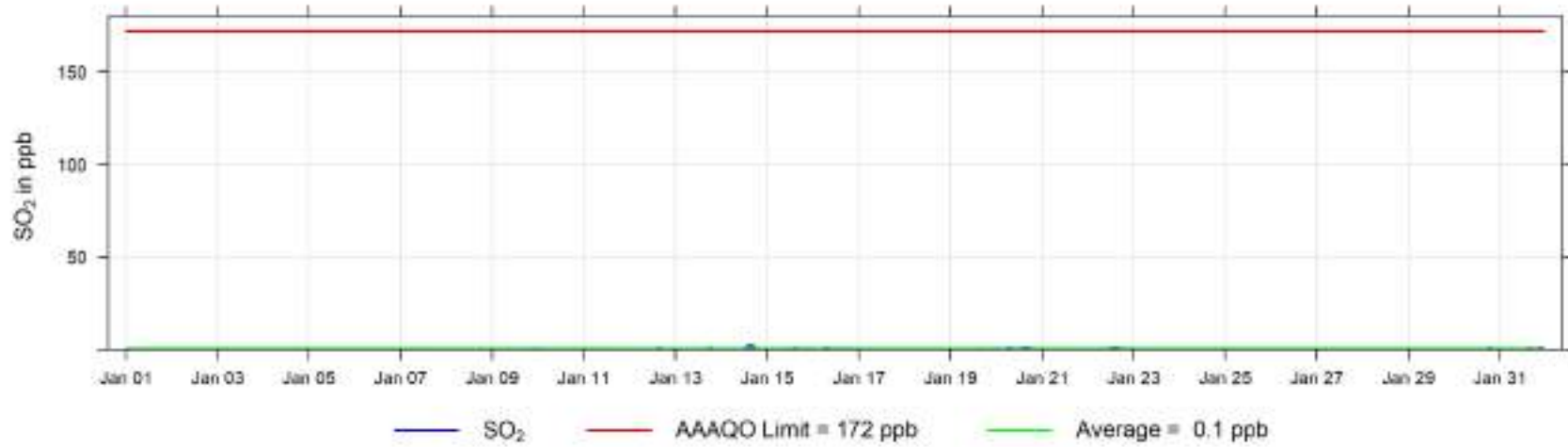
Smoky Heights January 2024 Wind Rose, wind speed in km/hr
Calms (<0.5km/hr) = 0.1 %

6 Valleyview Charts

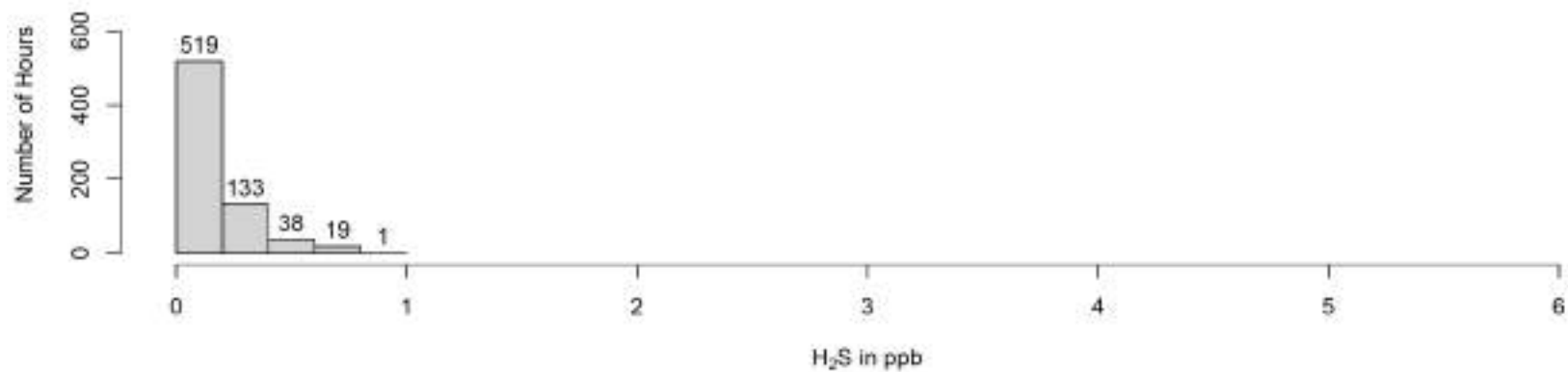
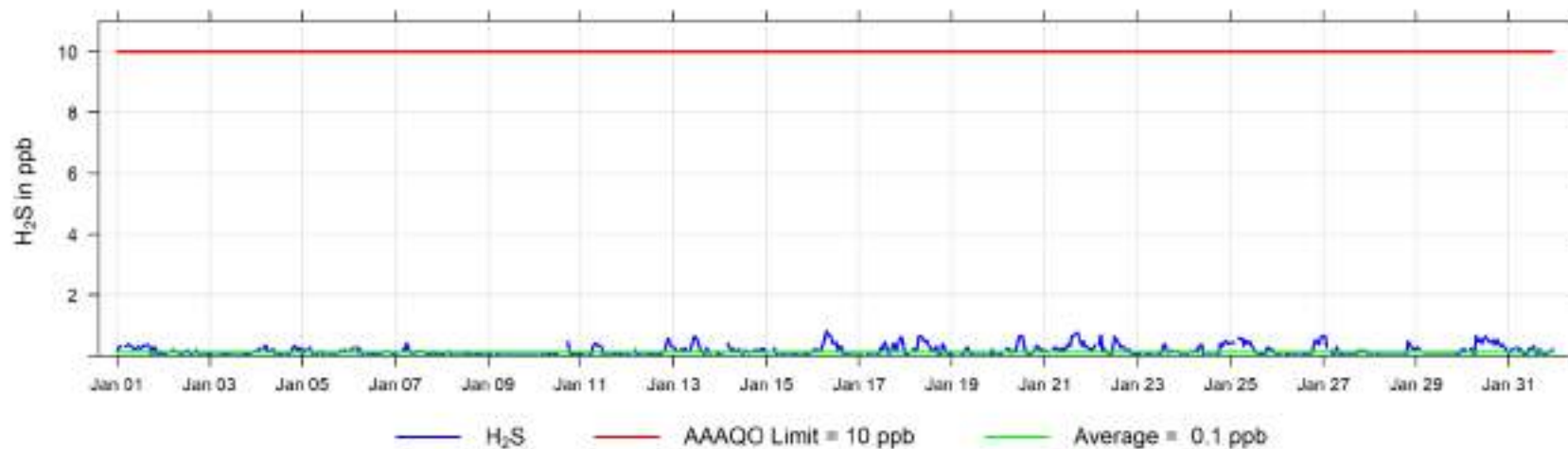
The following pages include the charts and histograms for Valleyview Station



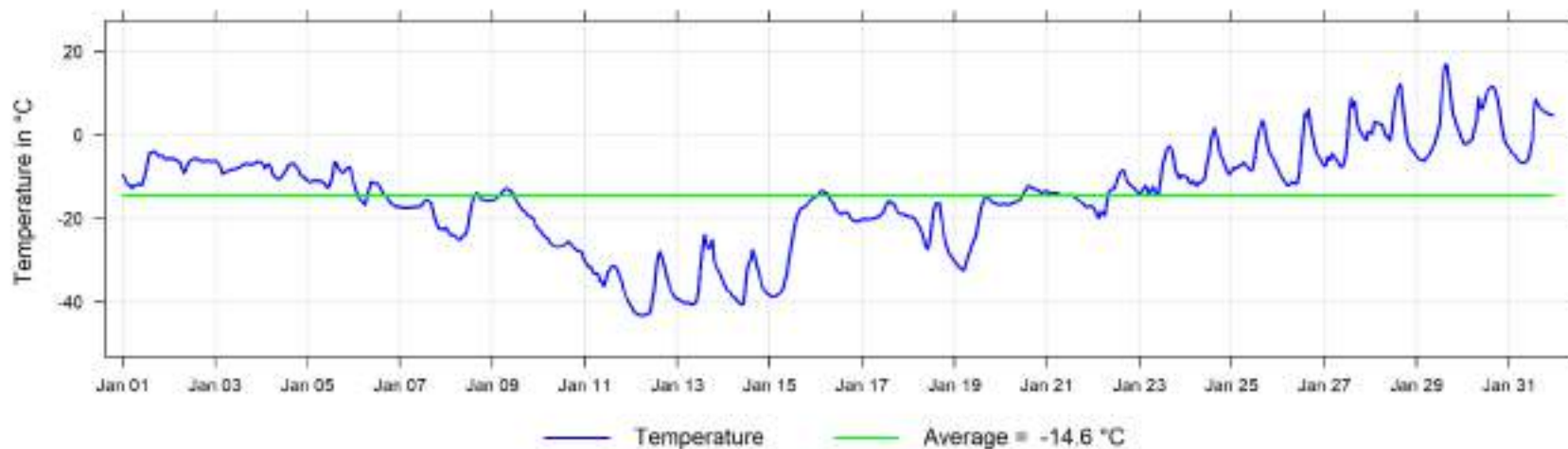
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview



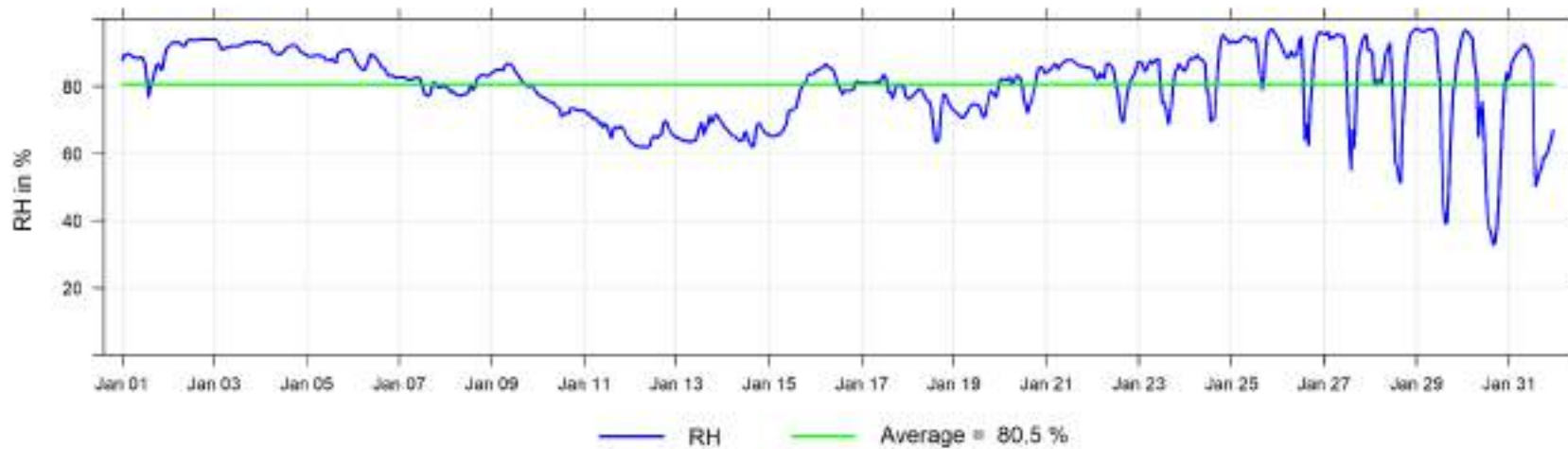
January 2024 Hourly Concentration Readings of H₂S (in ppb) at Valleyview



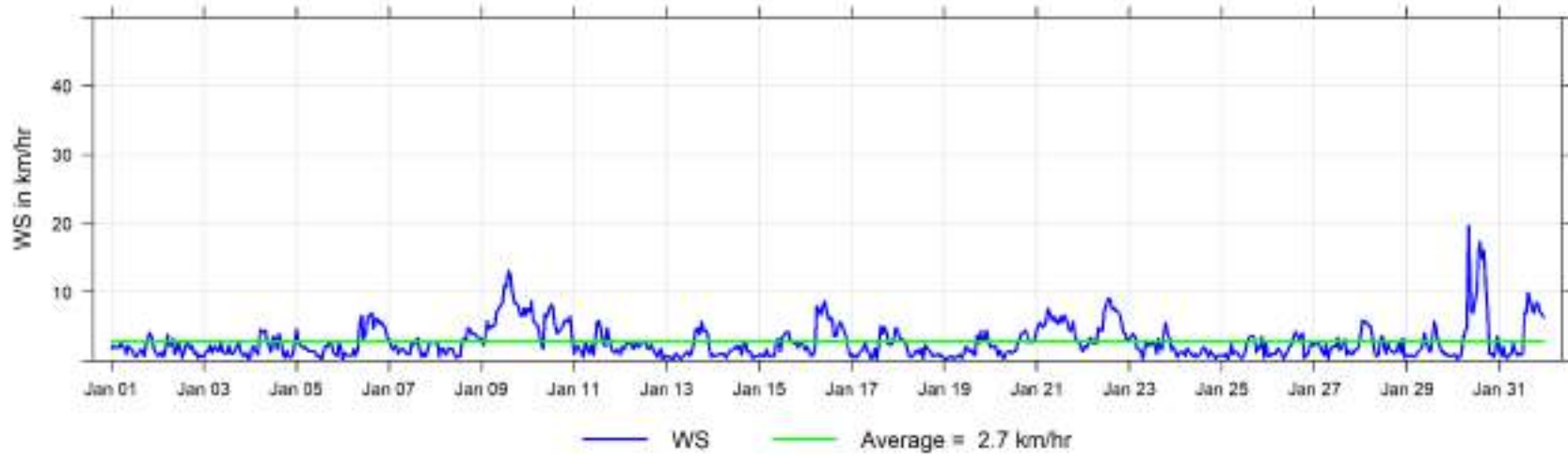
January 2024 Hourly Temperature Readings (in °C) at Valleyview



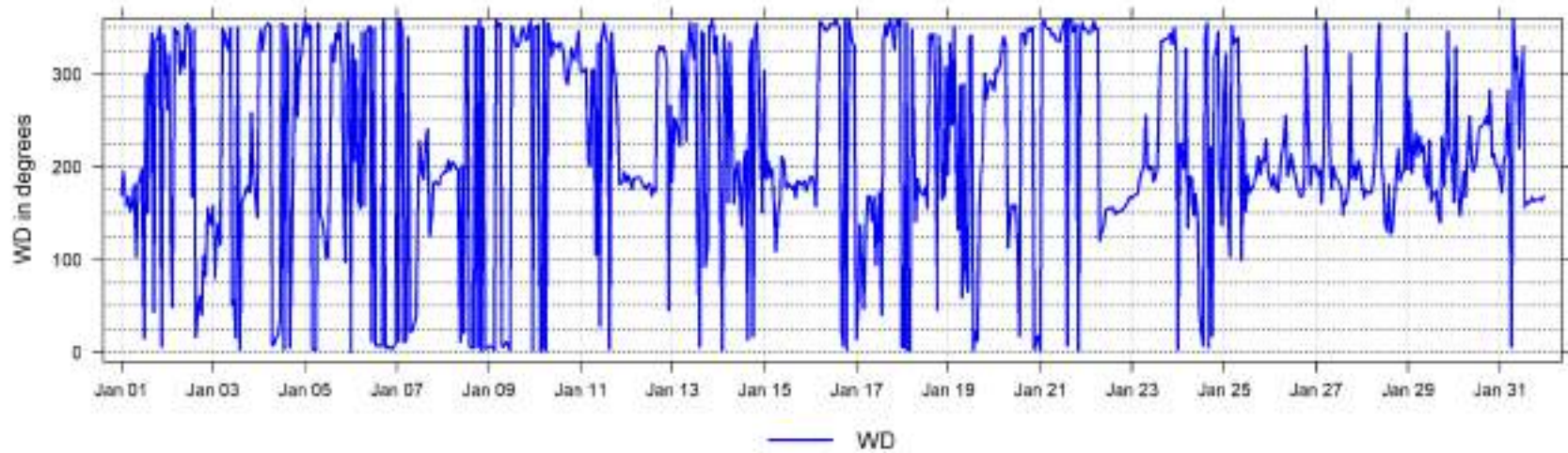
January 2024 Hourly Readings of Relative Humidity (in %) at Valleyview



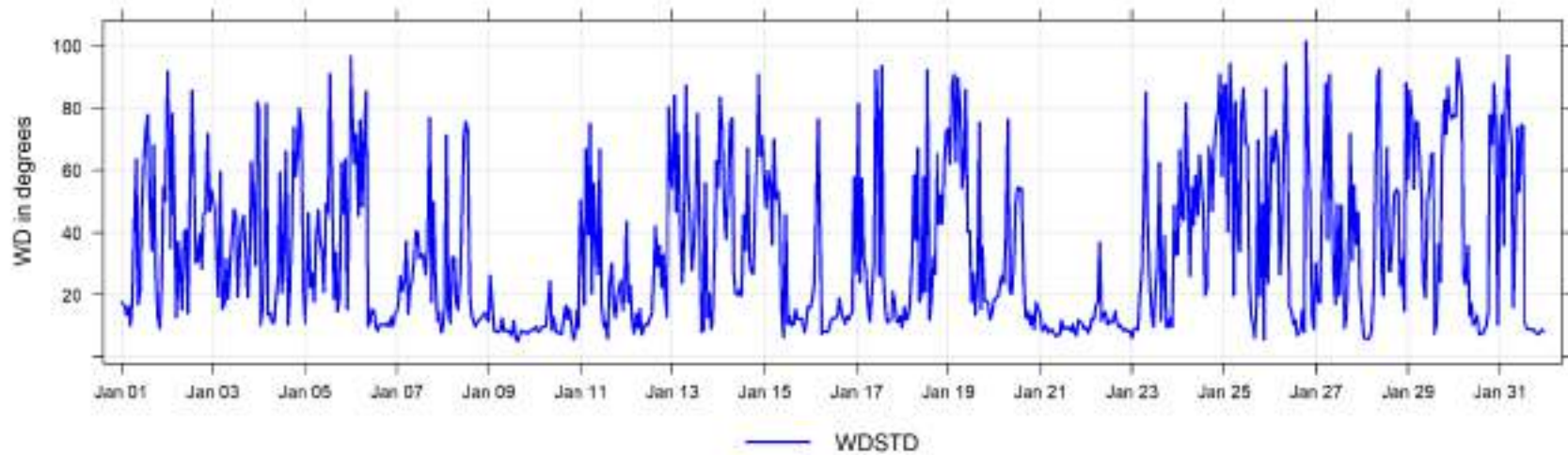
January 2024 Hourly Readings of Wind Speed (in km/hr) at Valleyview

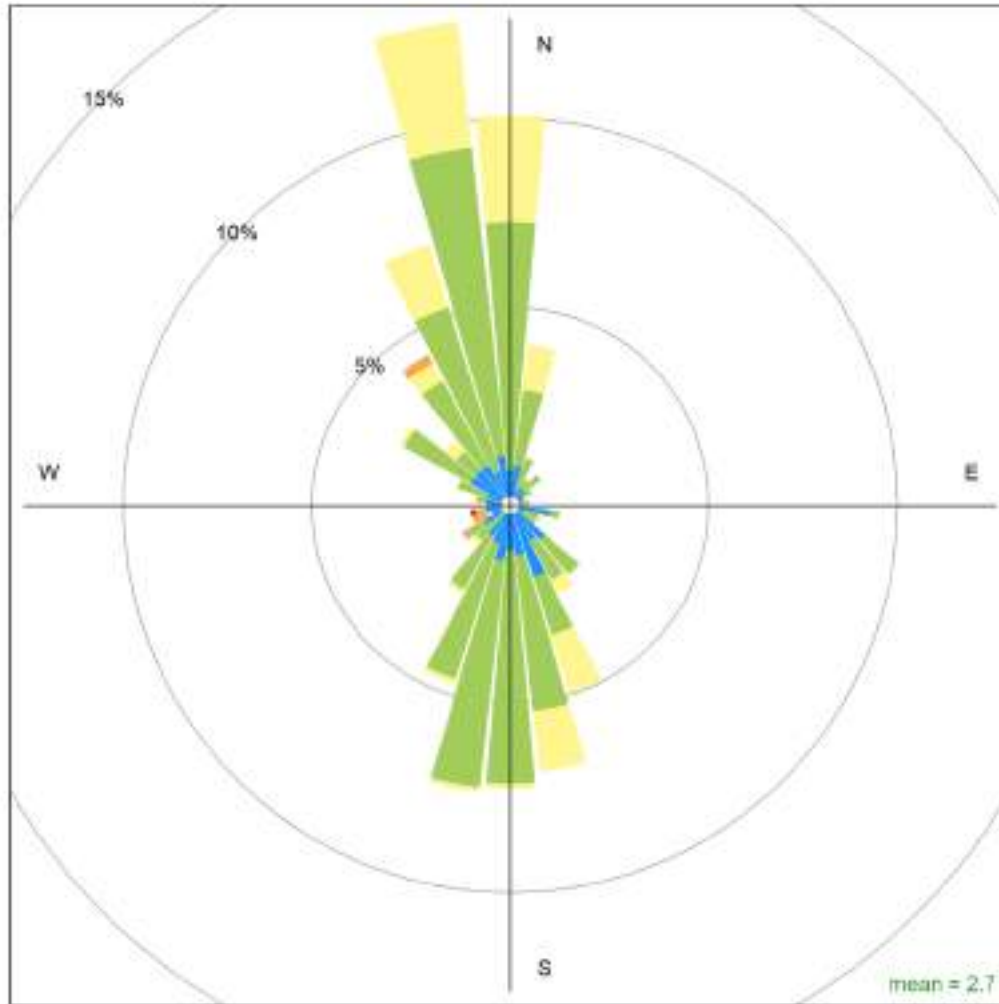


January 2024 Hourly Readings of Wind Direction (in degrees) at Valleyview



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





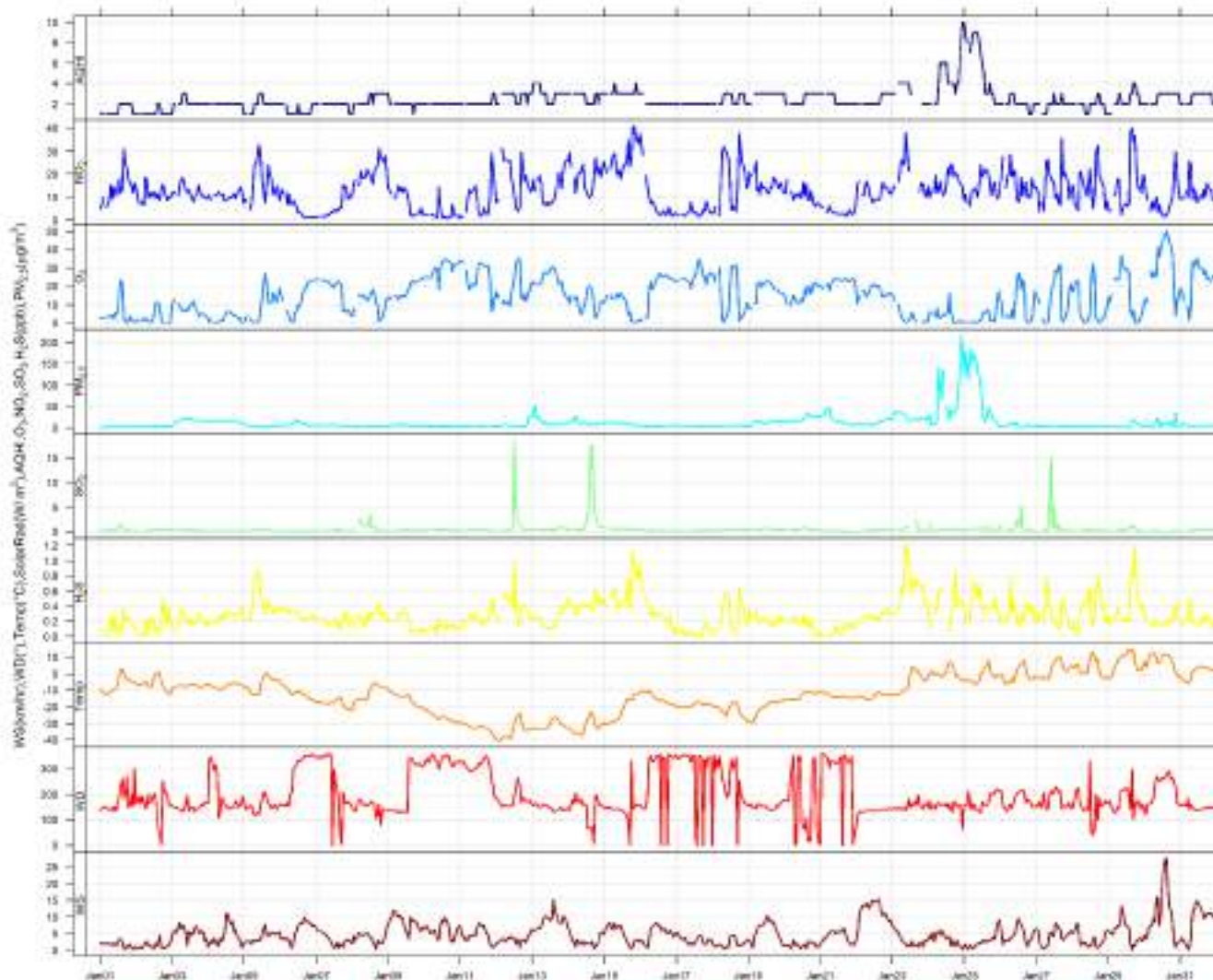
Valleyview January 2024 Wind Rose, wind speed in km/hr

Calms (<0.5km/hr) = 7 %

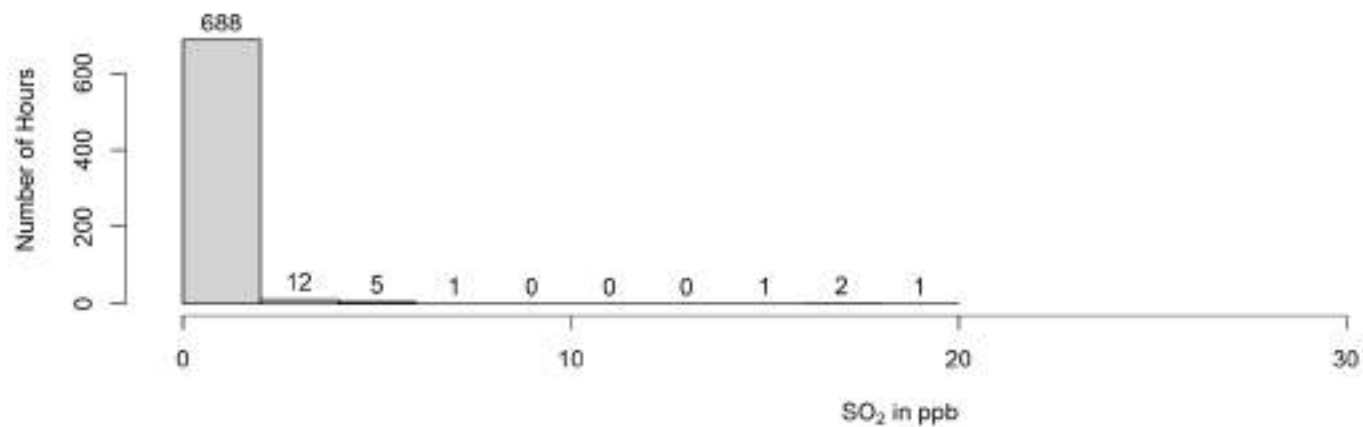
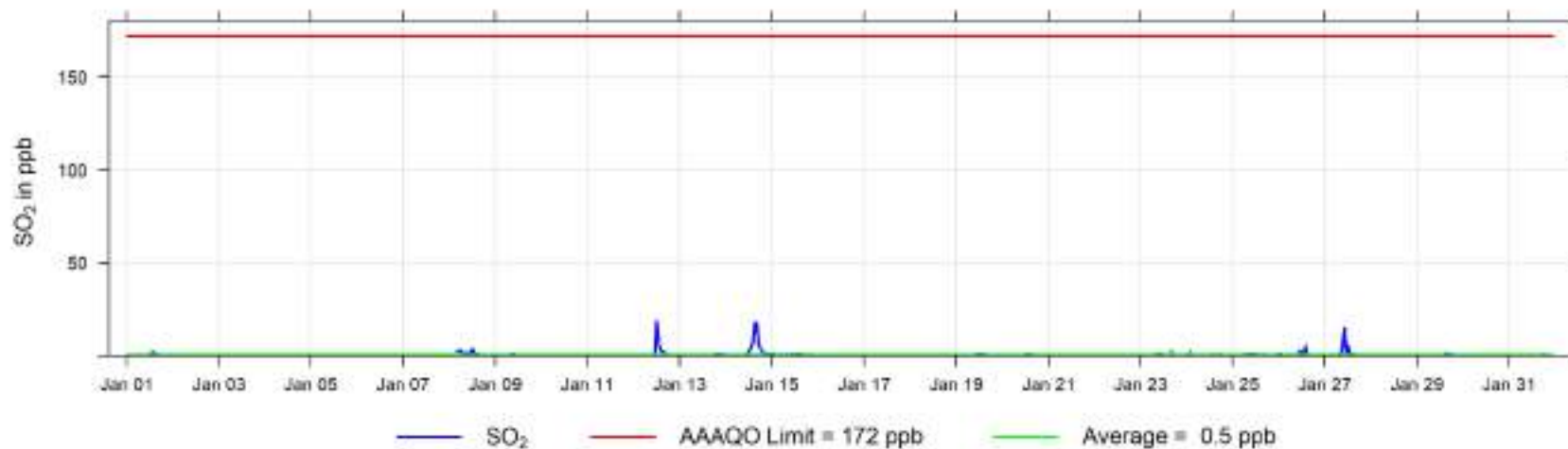
7 Fox Creek Charts

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

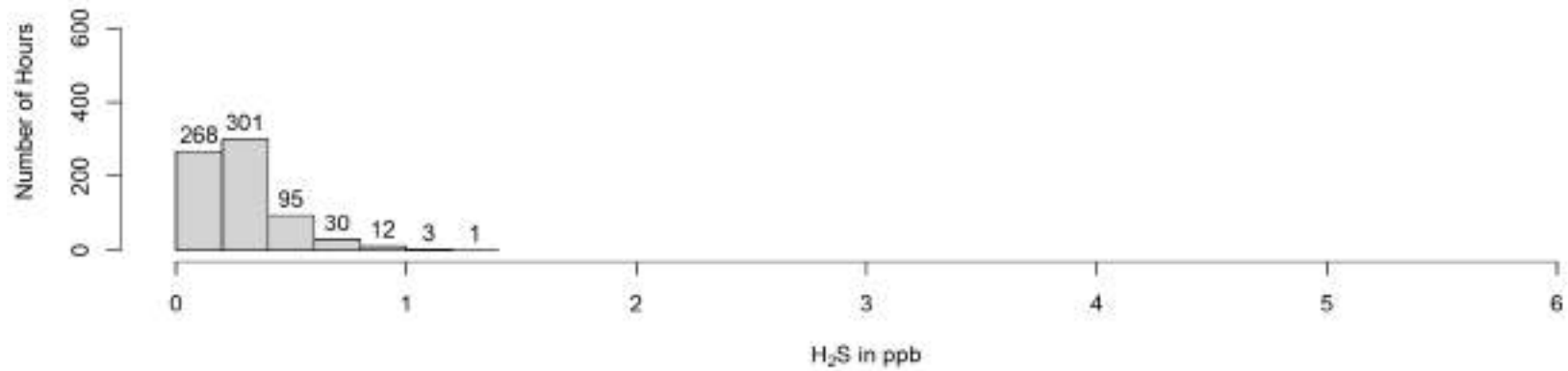
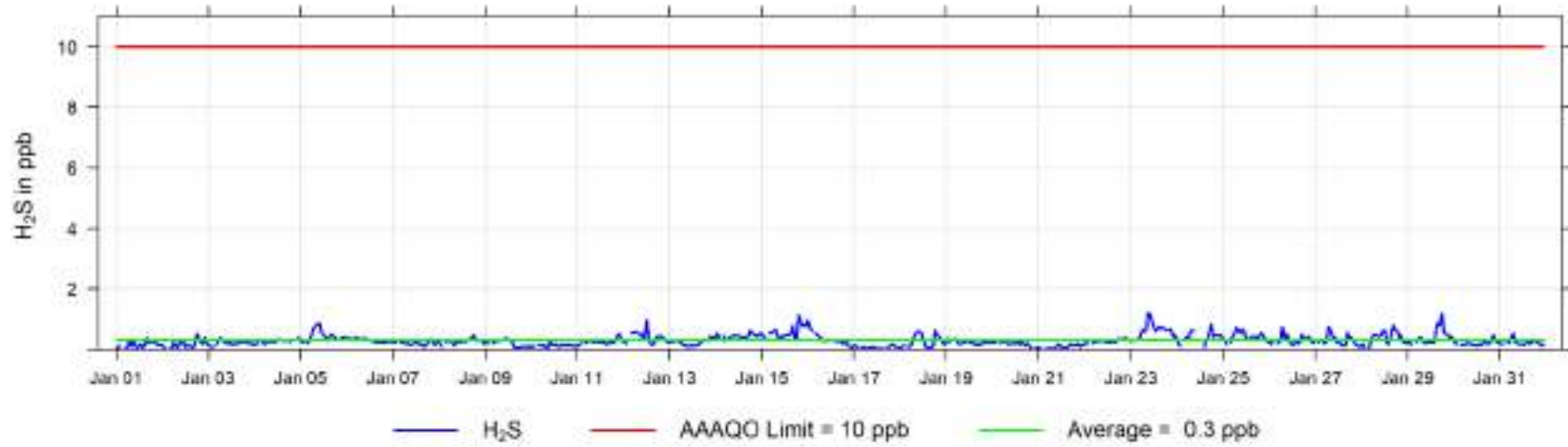
January 2024 Concentration Readings at Fox Creek Station



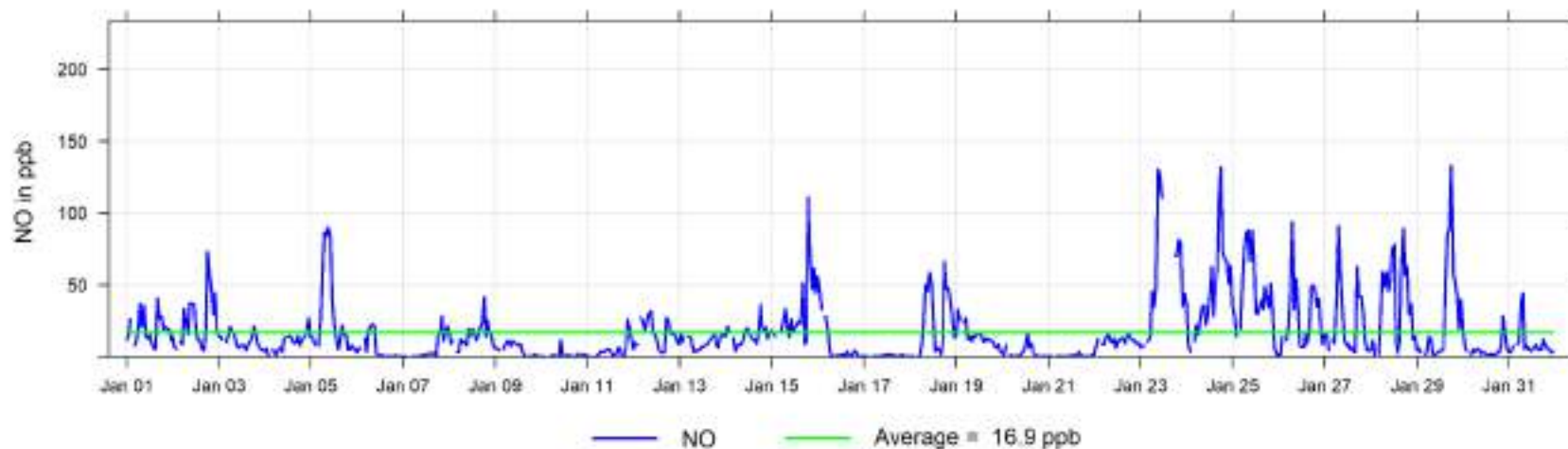
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Fox Creek



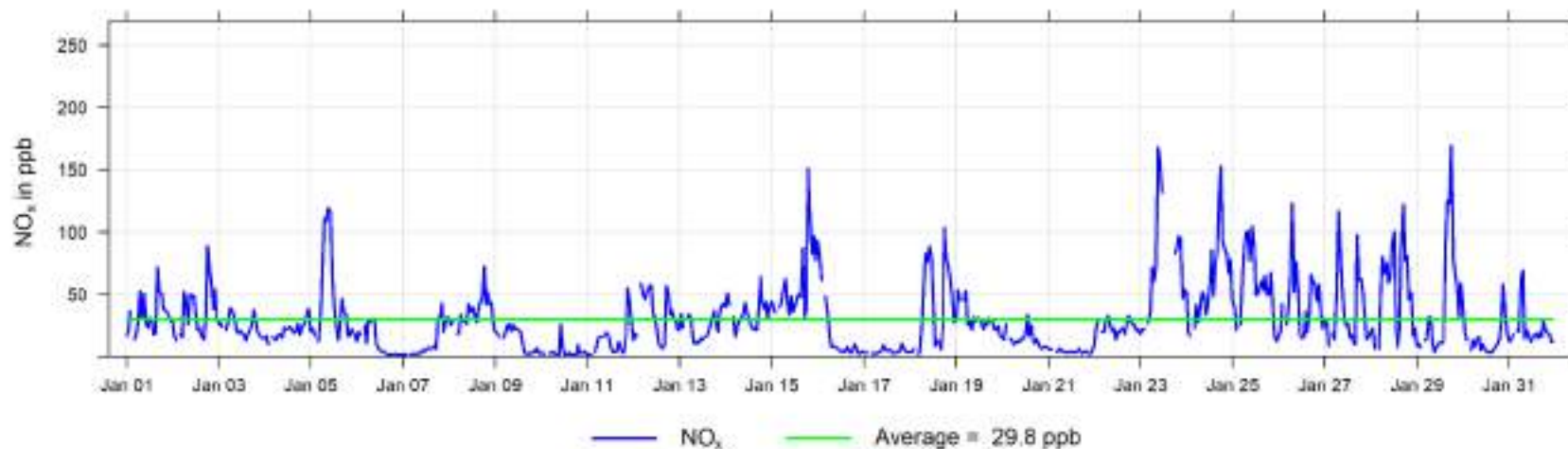
January 2024 Hourly Concentration Readings of H₂S (in ppb) at Fox Creek



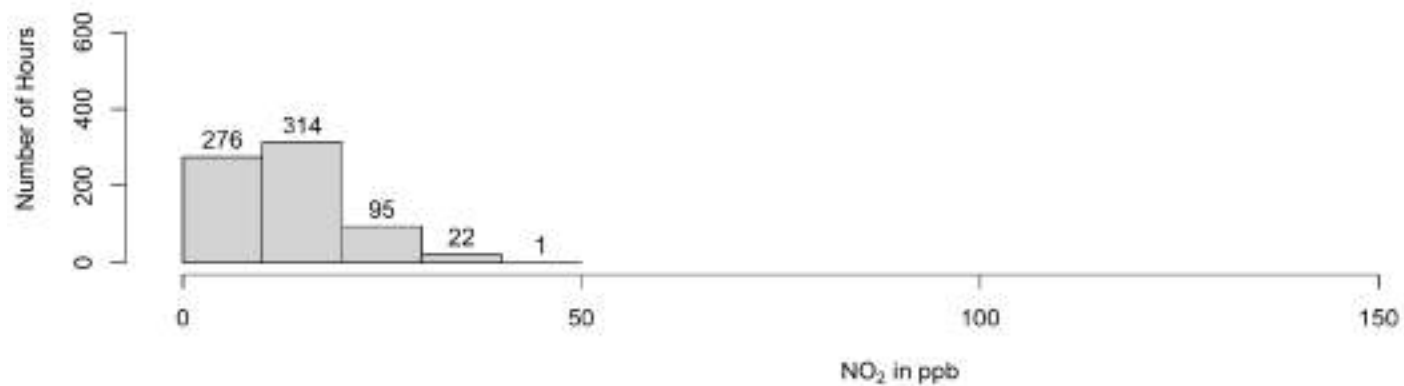
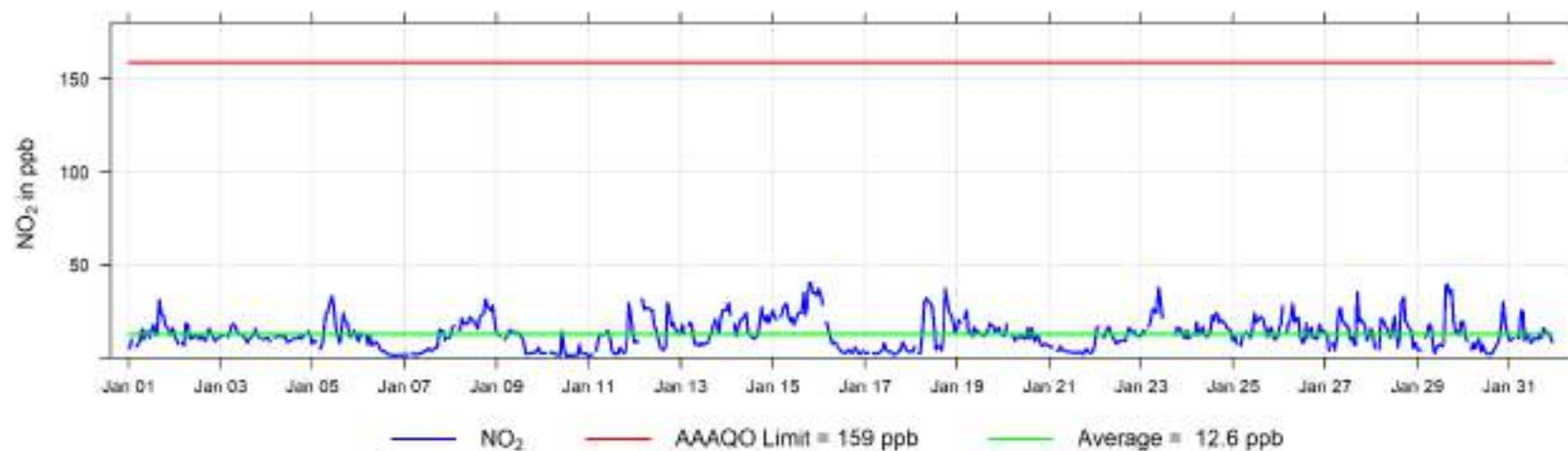
January 2024 Hourly Concentration Readings of NO (in ppb) at Fox Creek



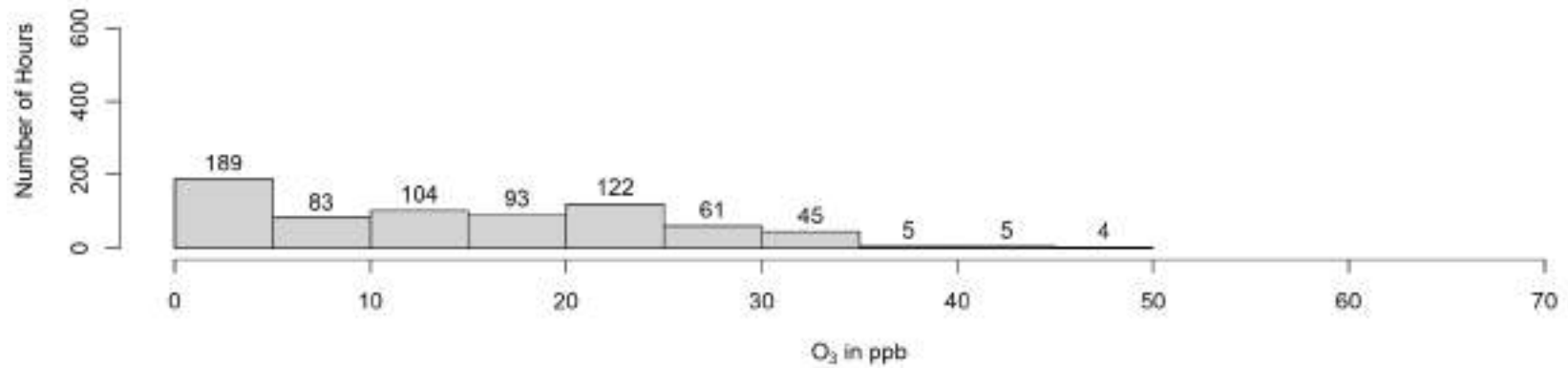
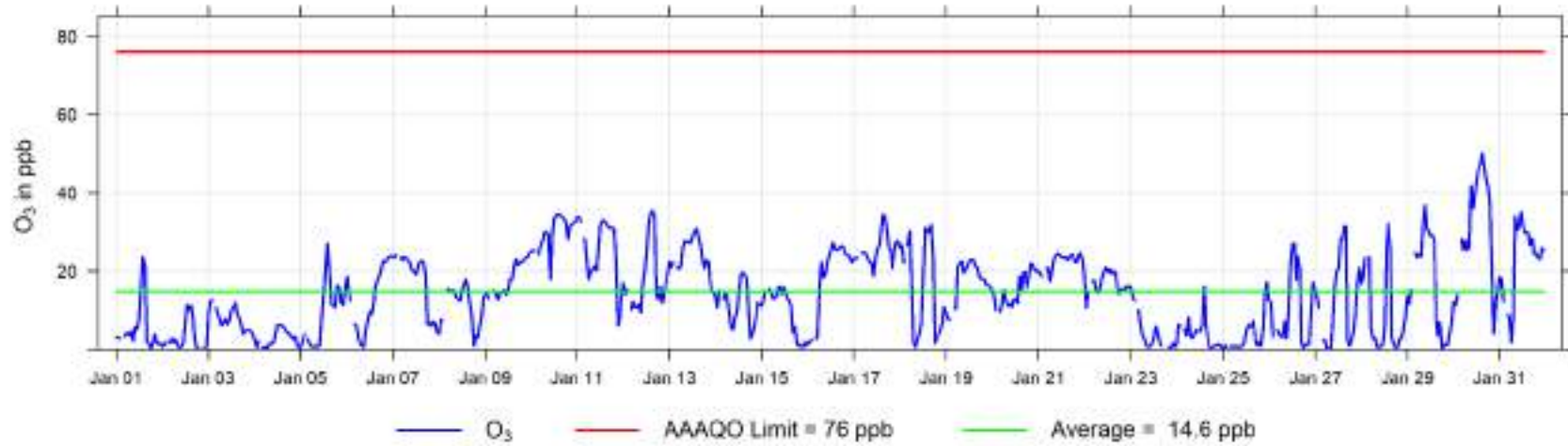
January 2024 Hourly Concentration Readings of NO_x (in ppb) at Fox Creek



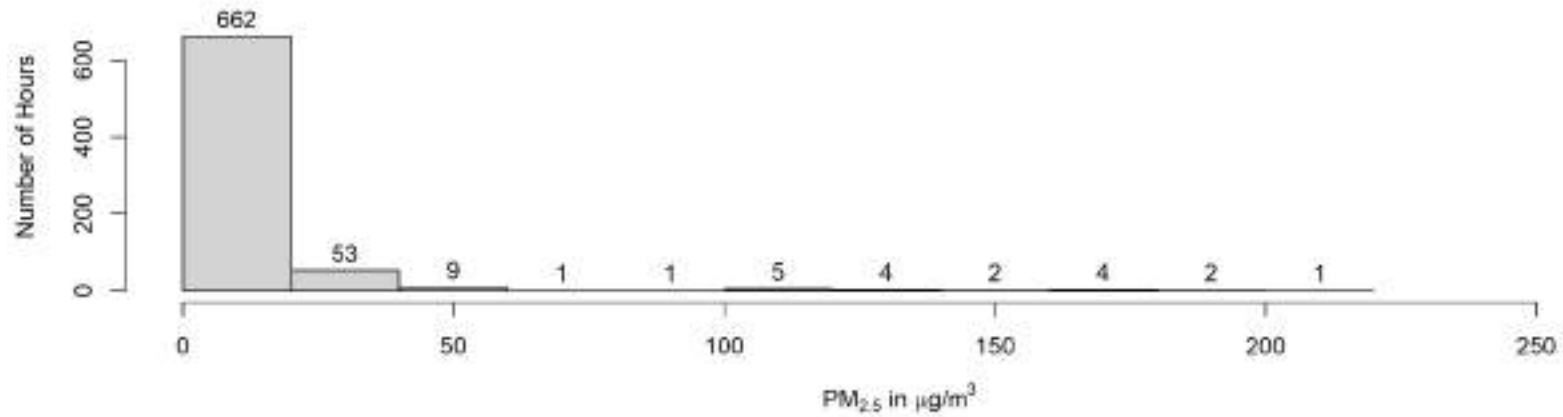
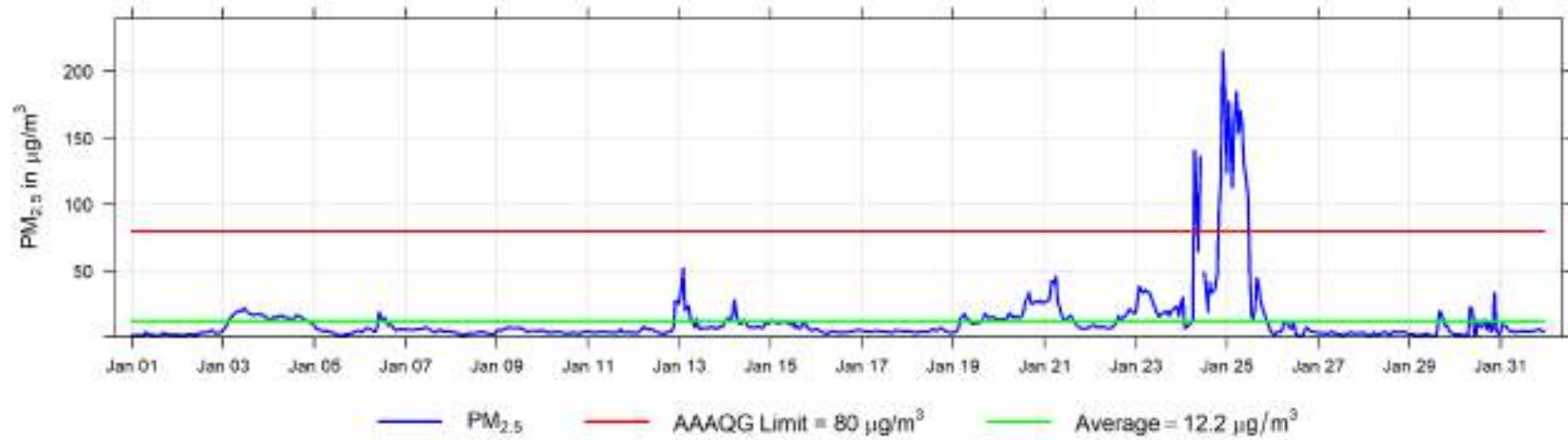
January 2024 Hourly Concentration Readings of NO₂ (in ppb) at Fox Creek



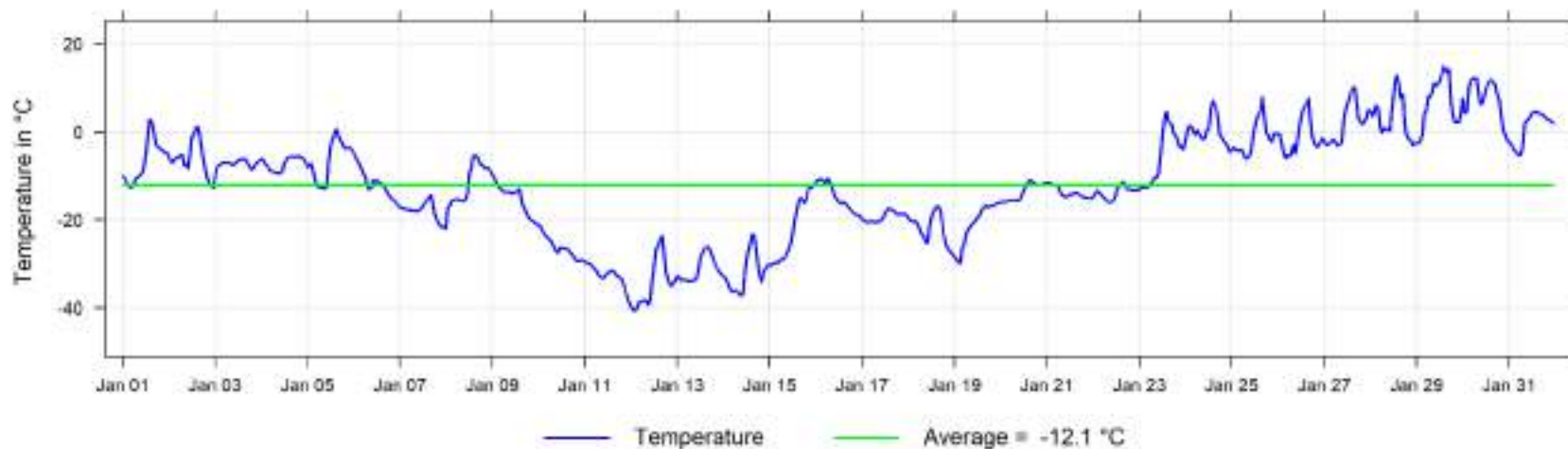
January 2024 Hourly Concentration Readings of O₃ (in ppb) at Fox Creek



January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Fox Creek



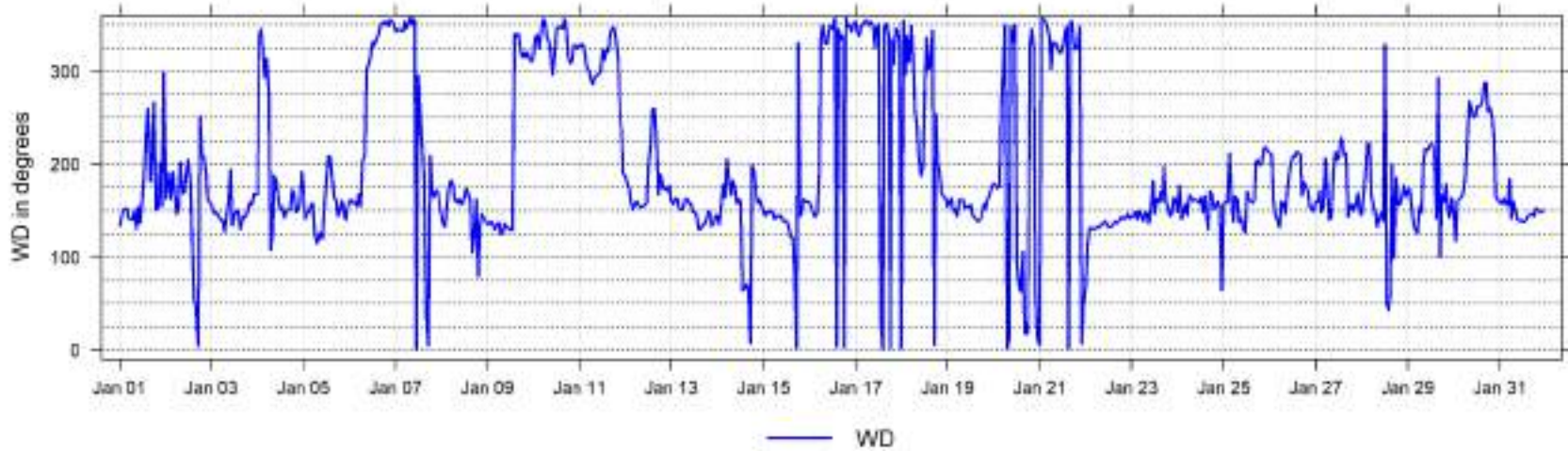
January 2024 Hourly Temperature Readings (in °C) at Fox Creek



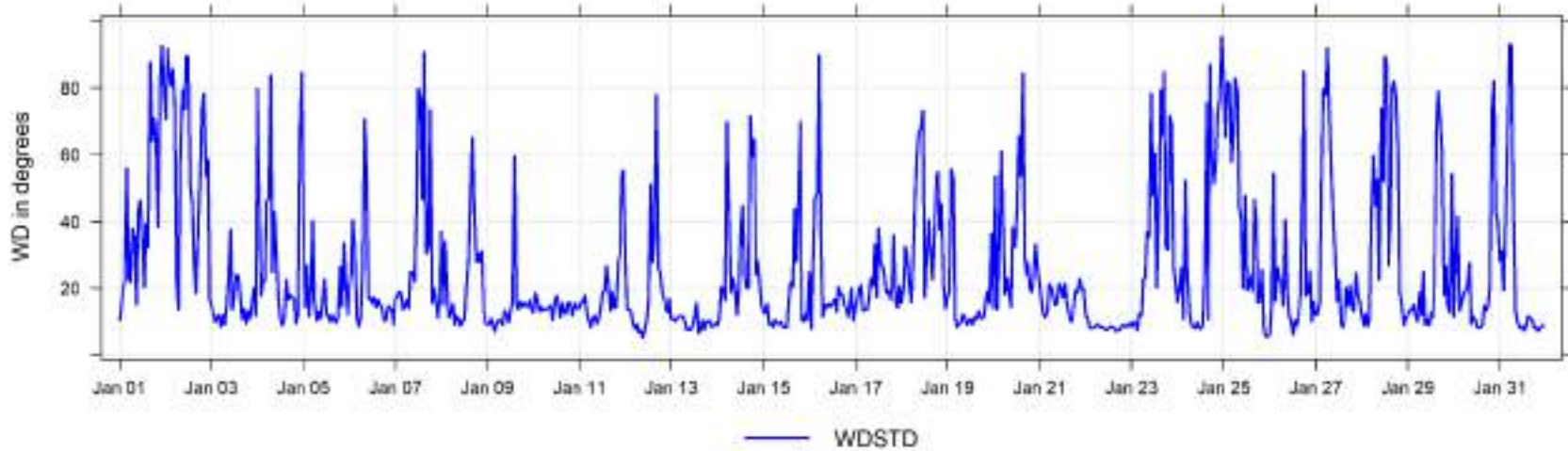
January 2024 Hourly Readings of Wind Speed (in km/hr) at Fox Creek

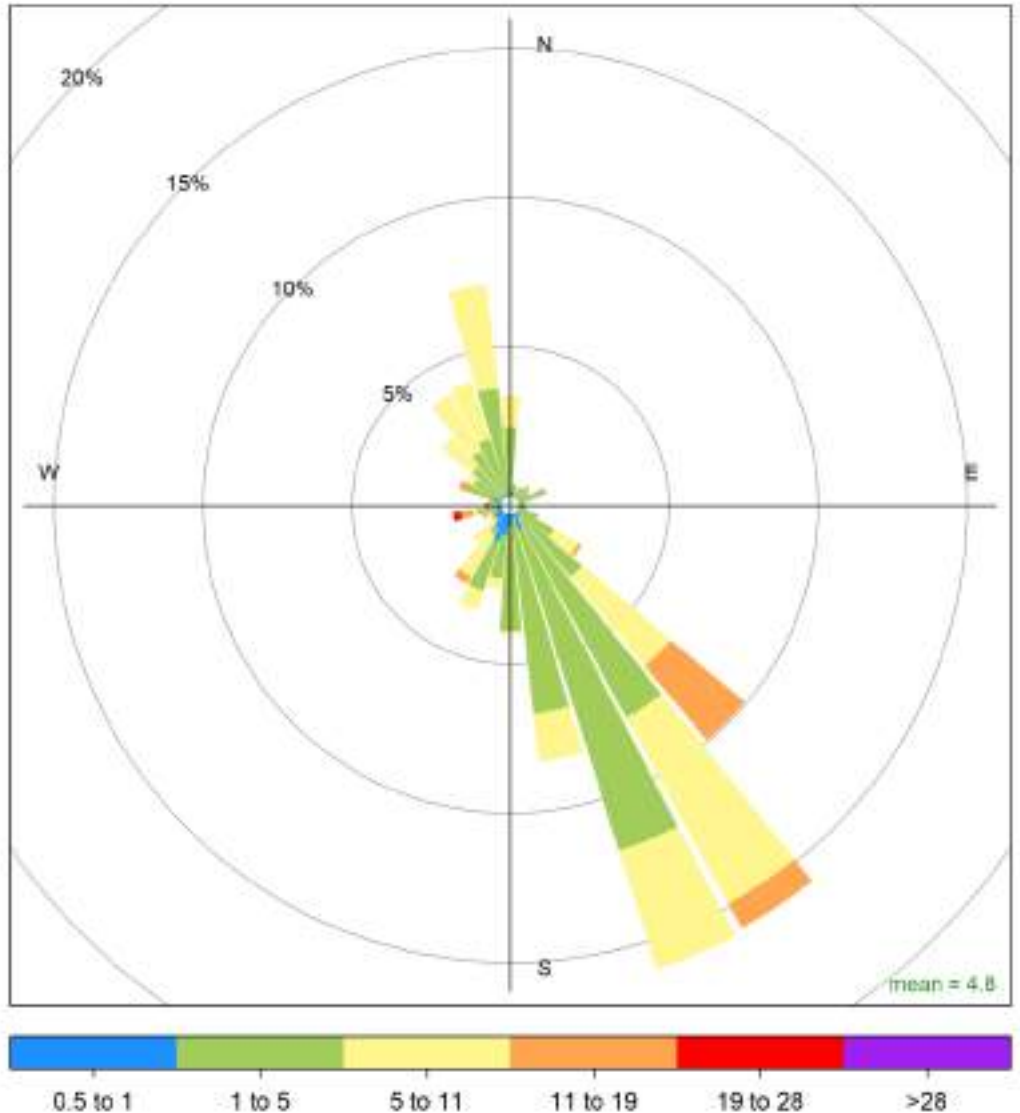


January 2024 Hourly Readings of Wind Direction (in degrees) at Fox Creek



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

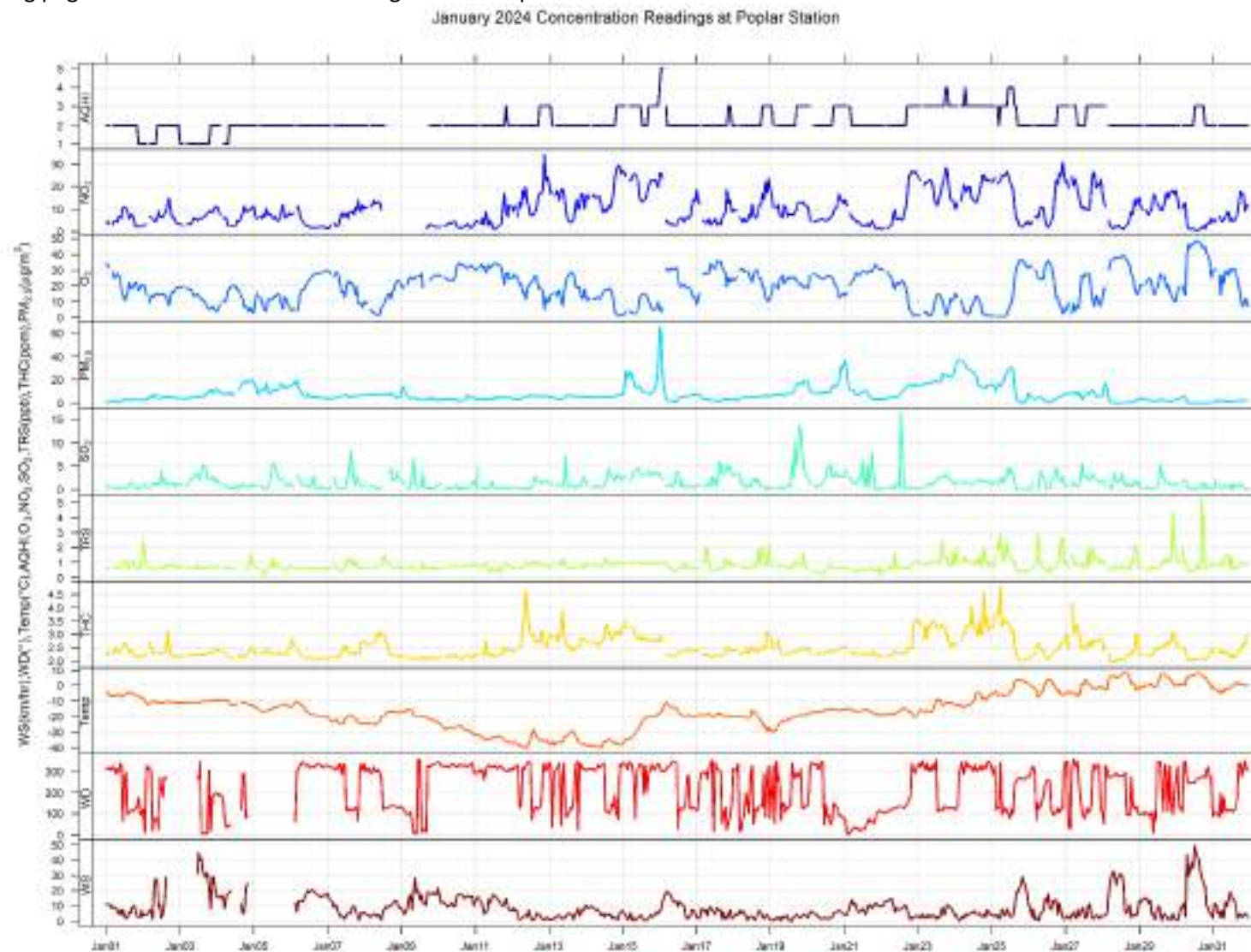




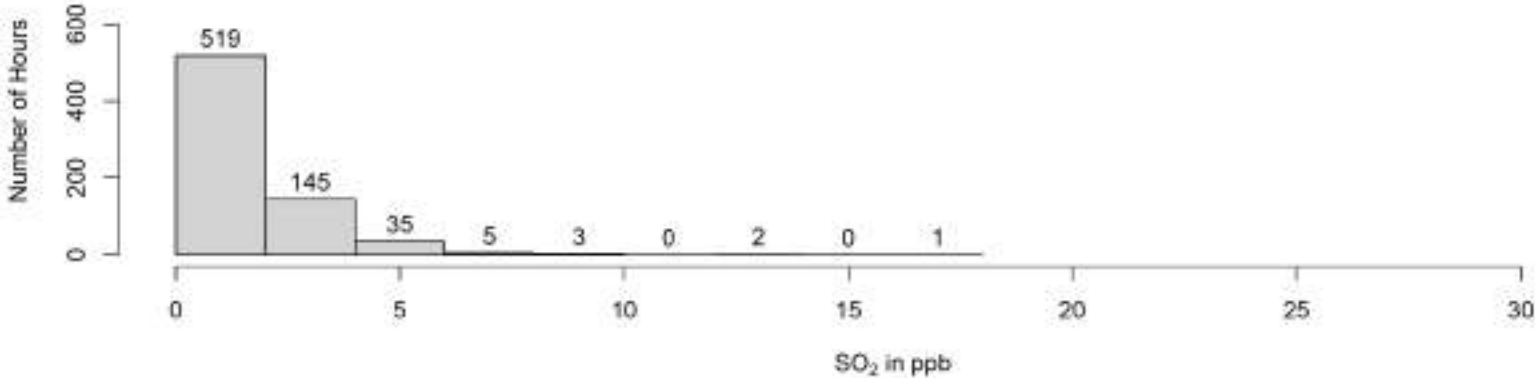
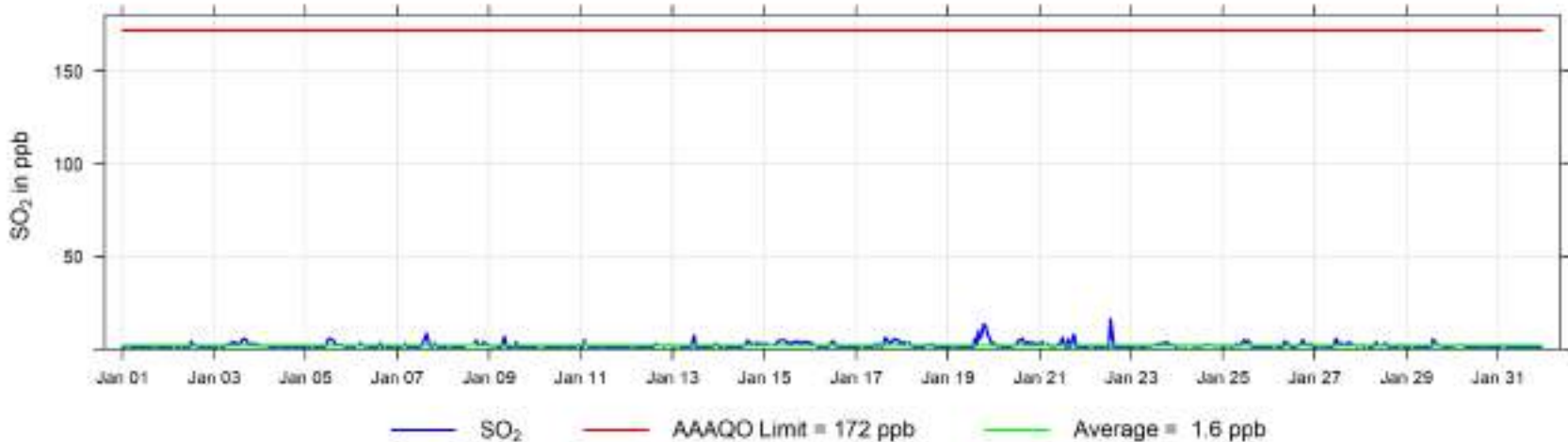
Fox Creek January 2024 Wind Rose, wind speed in km/hr
Calms (<0.5km/hr) = 1.6 %

8 Poplar (Portable) Charts

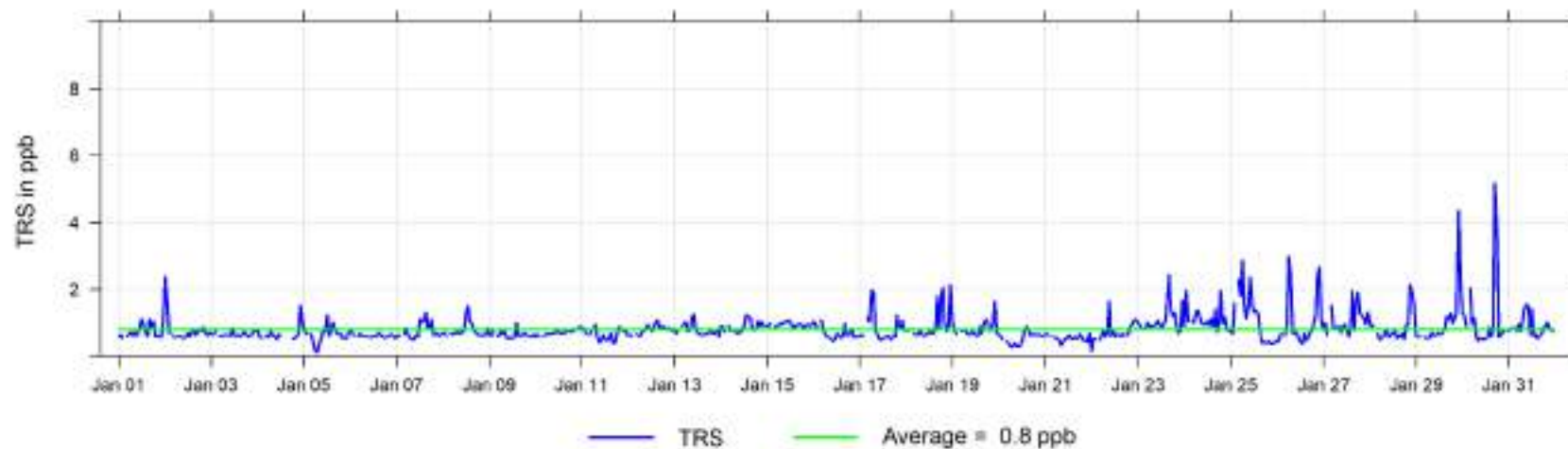
The following pages include the charts and histograms for Poplar Portable Station



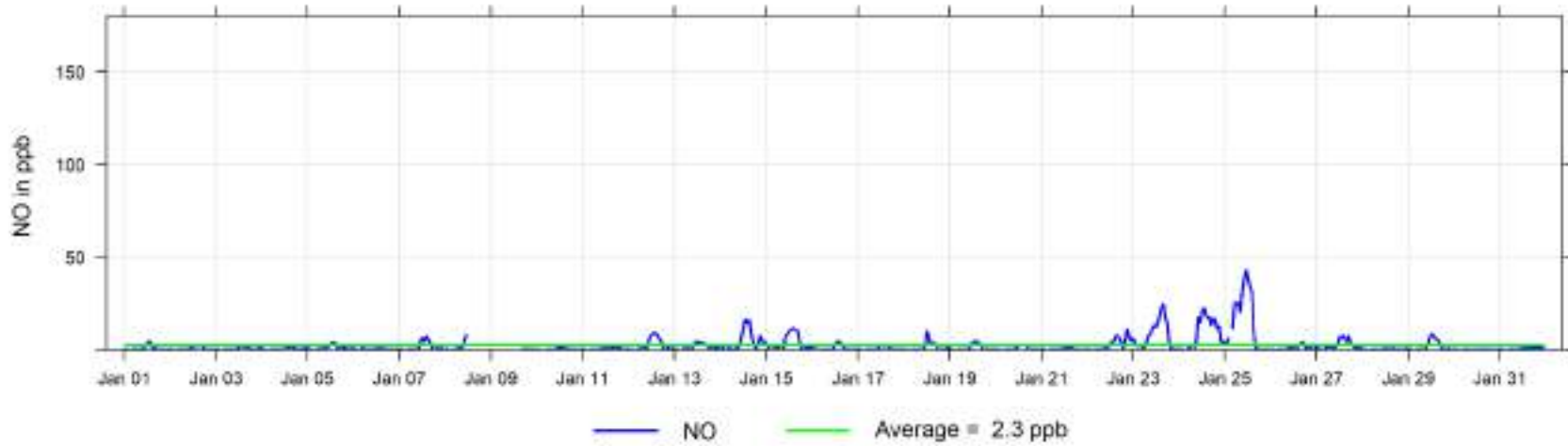
January 2024 Hourly Concentration Readings of SO₂ (in ppb) at Poplar



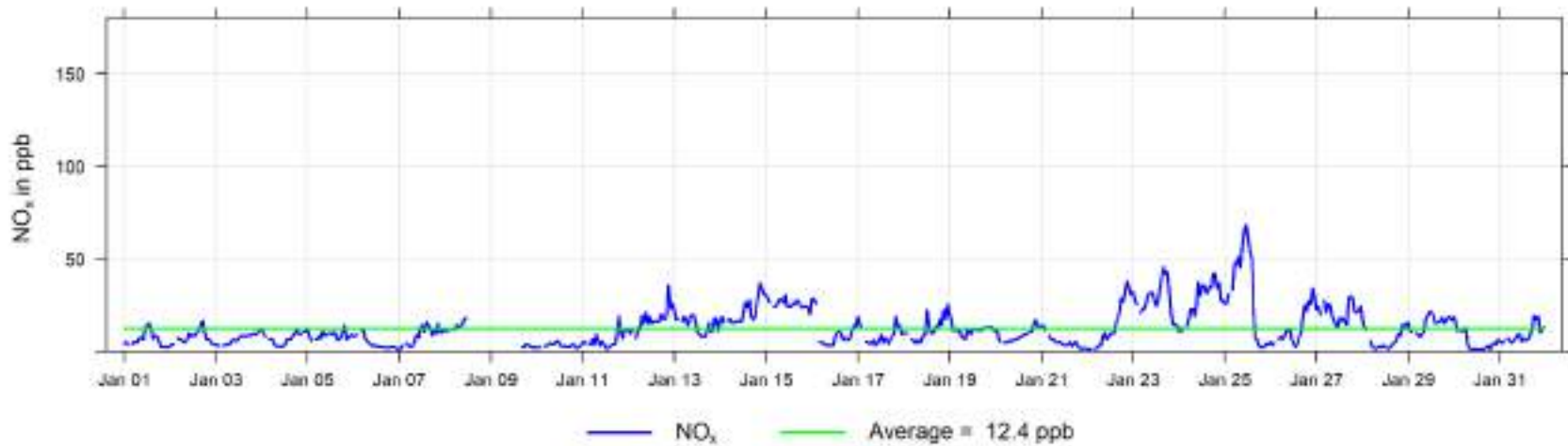
January 2024 Hourly Concentration Readings of TRS (in ppb) at Poplar



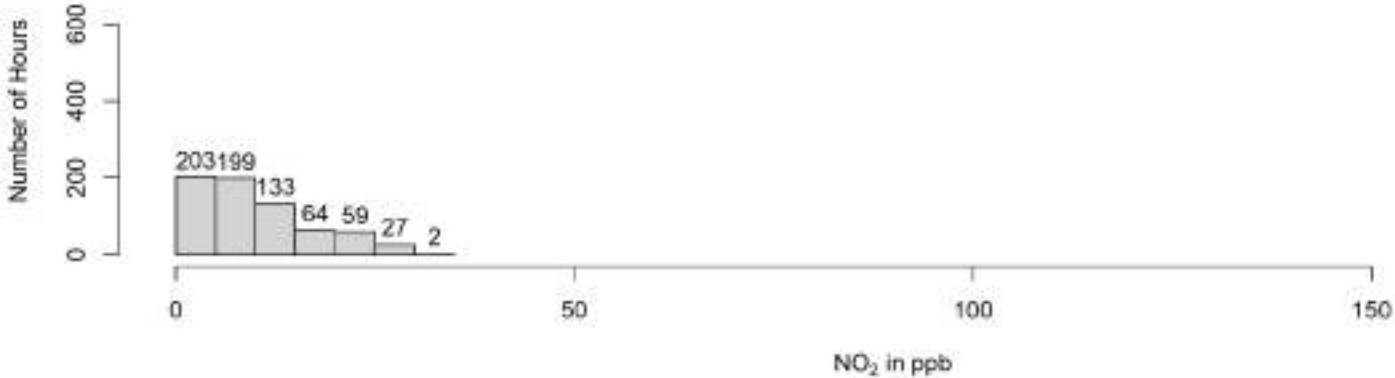
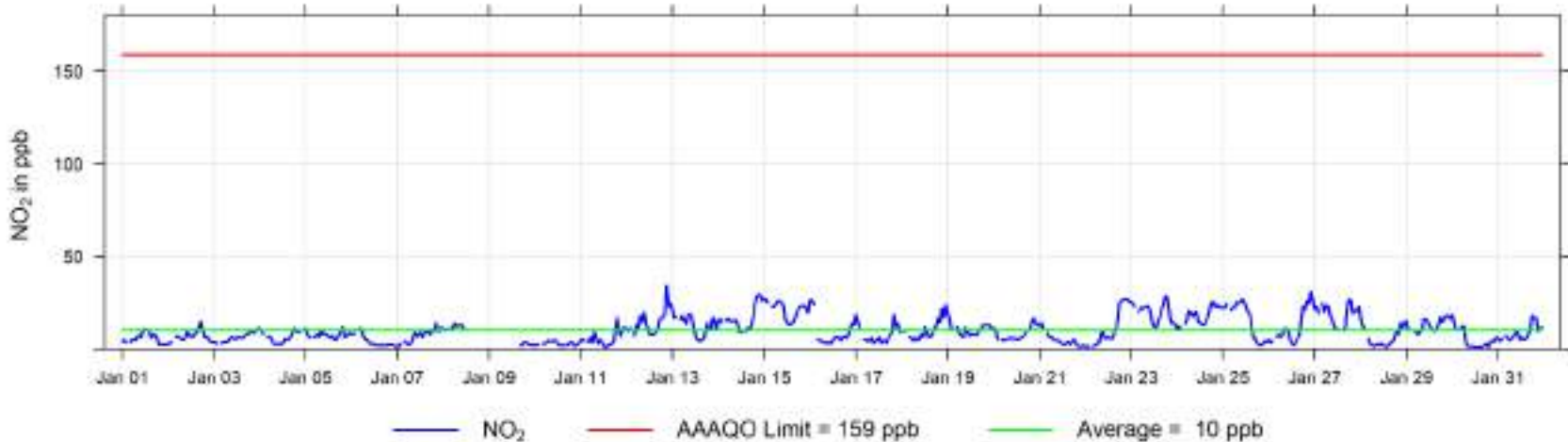
January 2024 Hourly Concentration Readings of NO (in ppb) at Poplar



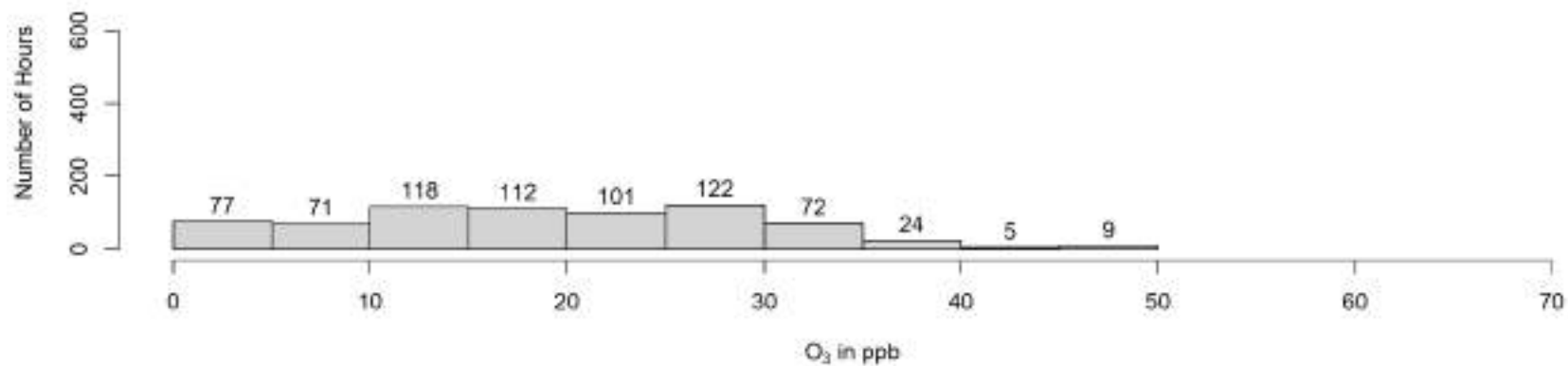
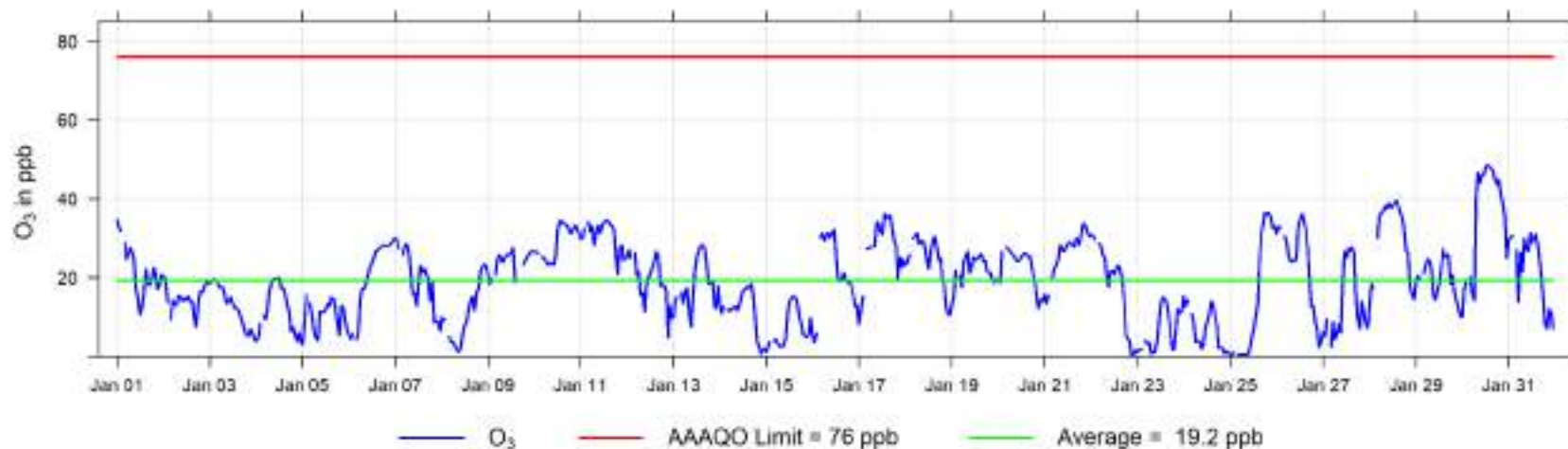
January 2024 Hourly Concentration Readings of NO_x (in ppb) at Poplar



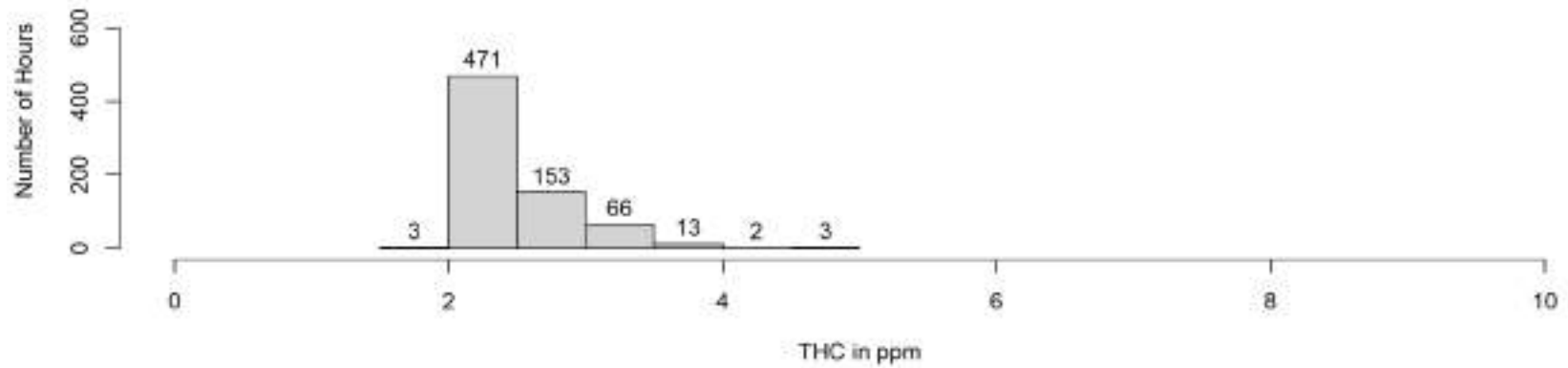
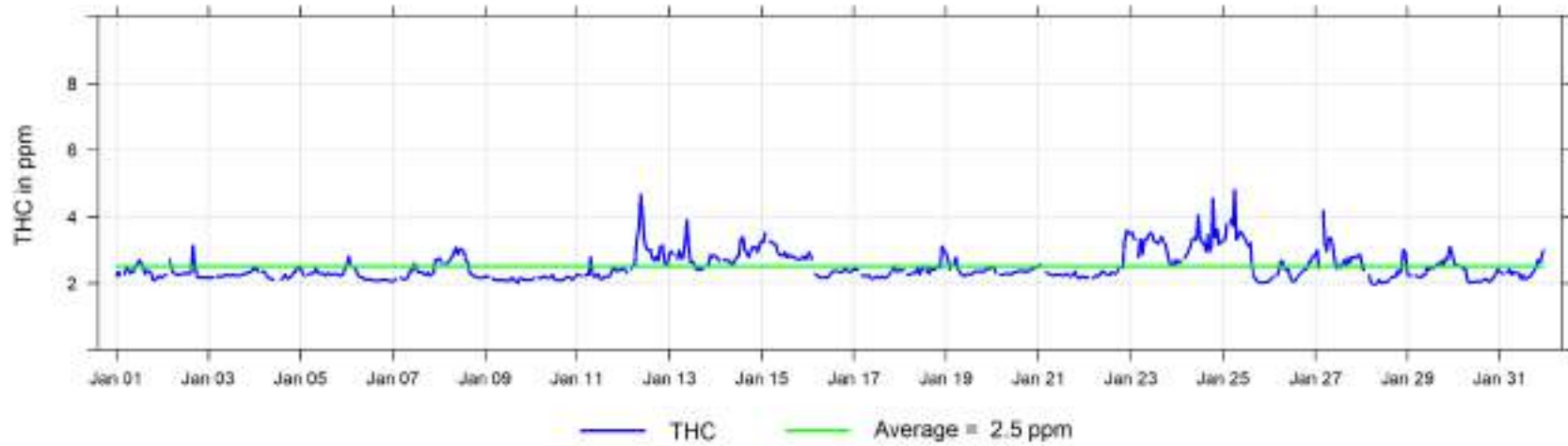
January 2024 Hourly Concentration Readings of NO₂ (in ppb) at Poplar



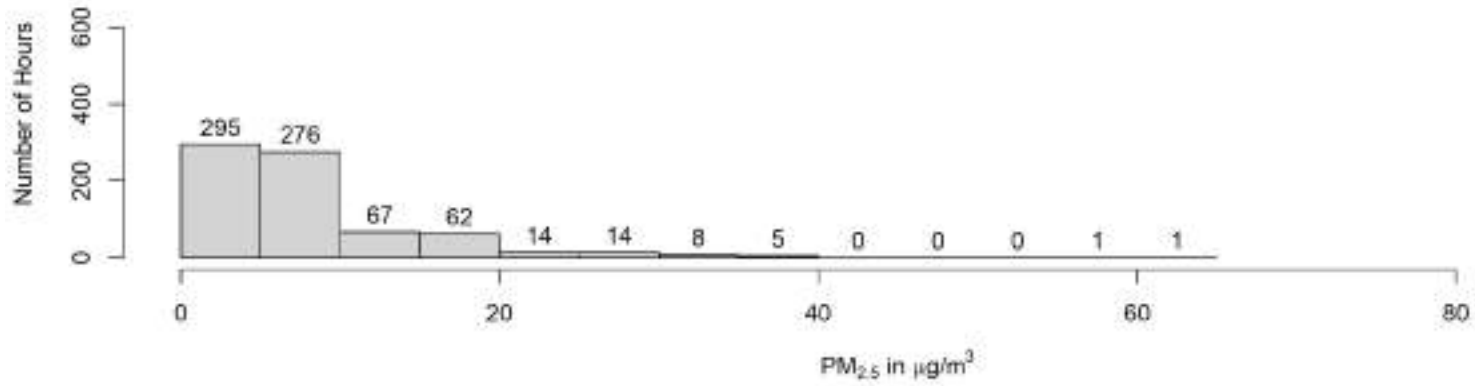
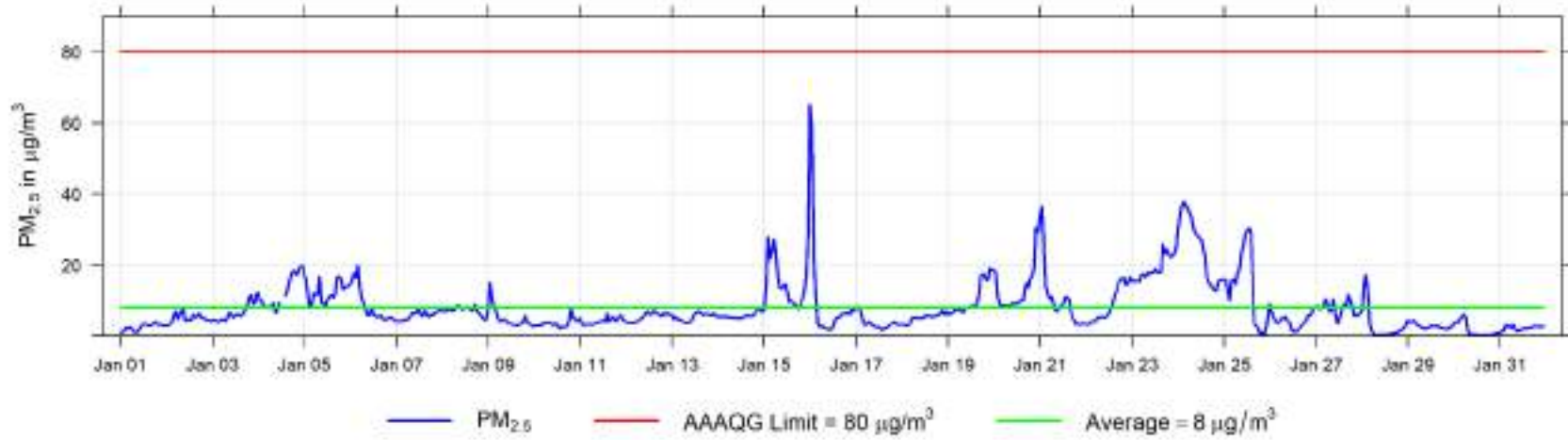
January 2024 Hourly Concentration Readings of O₃ (in ppb) at Poplar



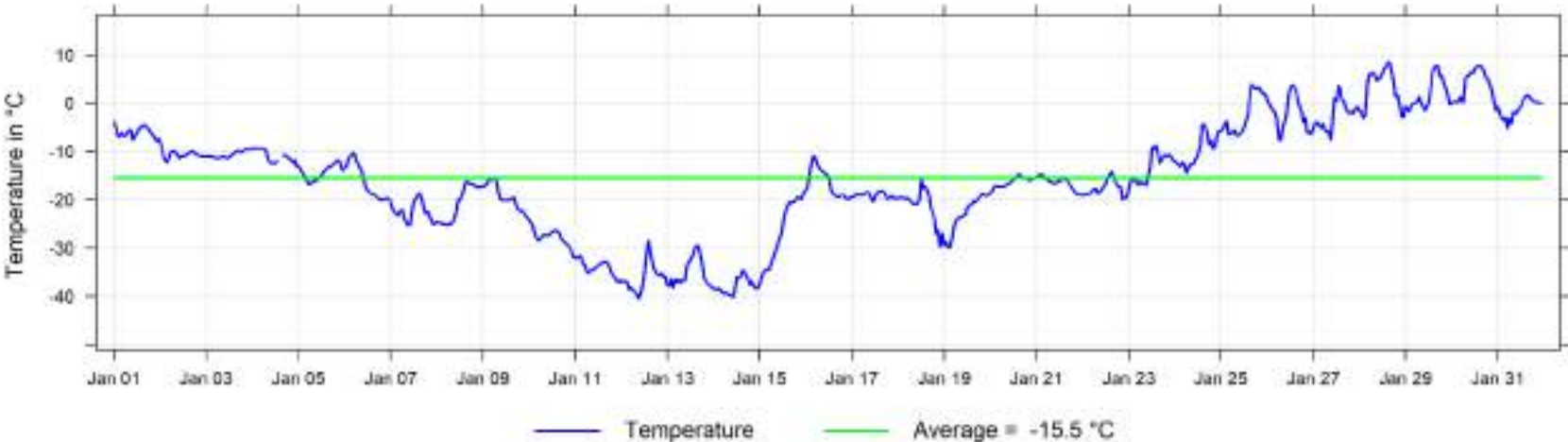
January 2024 Hourly Concentration Readings of THC (in ppm) at Poplar



January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Poplar



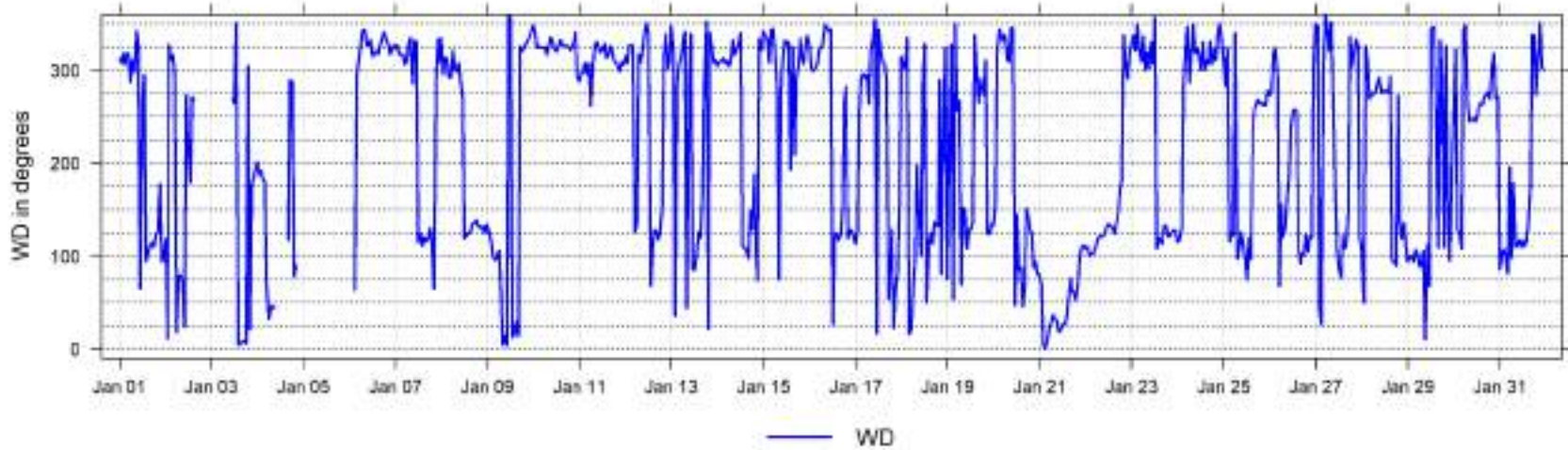
January 2024 Hourly Temperature Readings (in °C) at Poplar



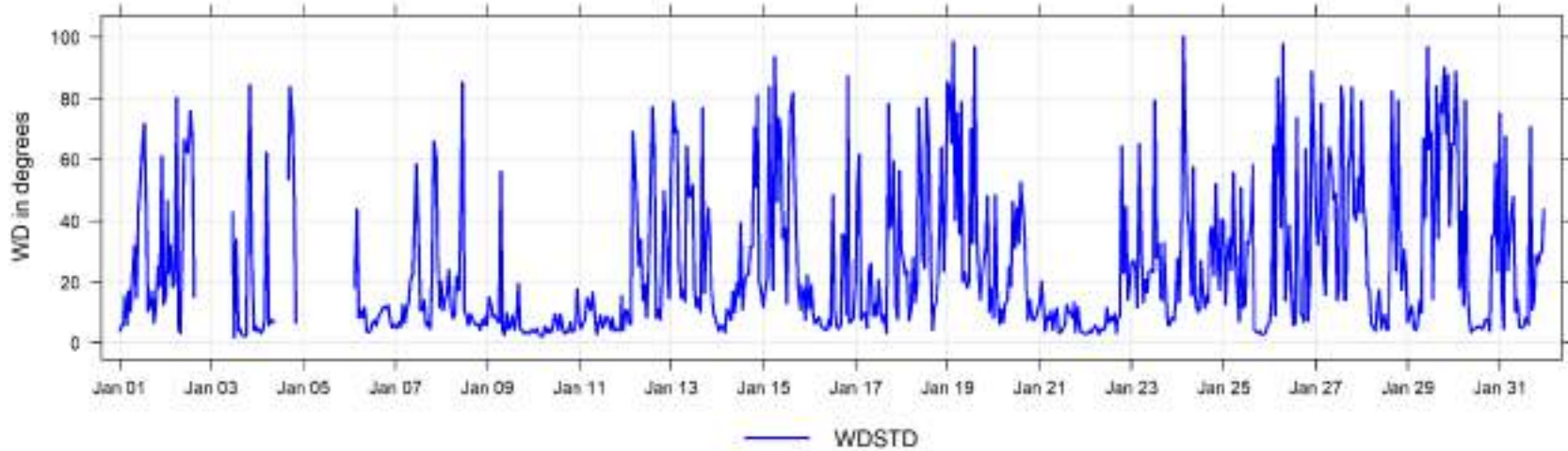
January 2024 Hourly Readings of Wind Speed (in km/hr) at Poplar

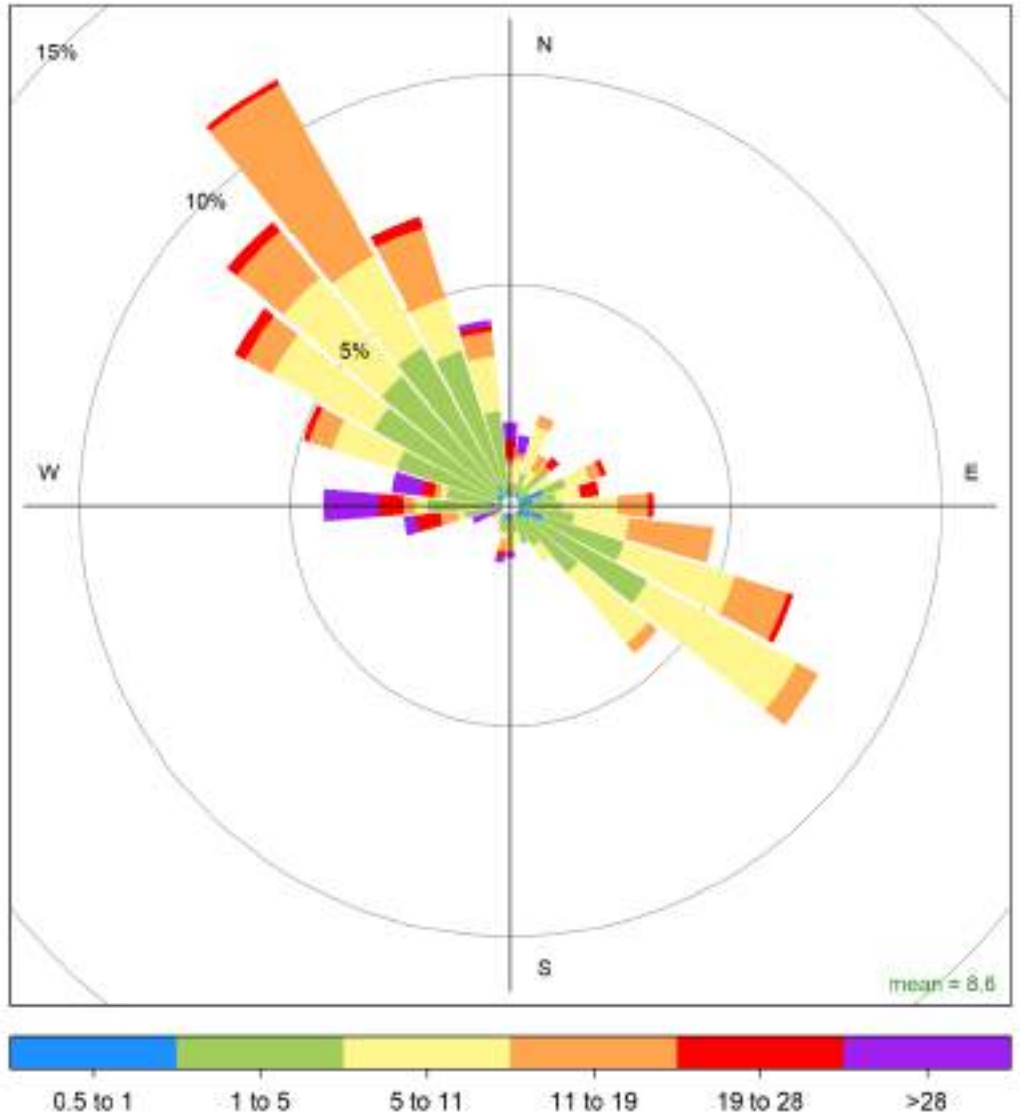


January 2024 Hourly Readings of Wind Direction (in degrees) at Poplar



January 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Poplar

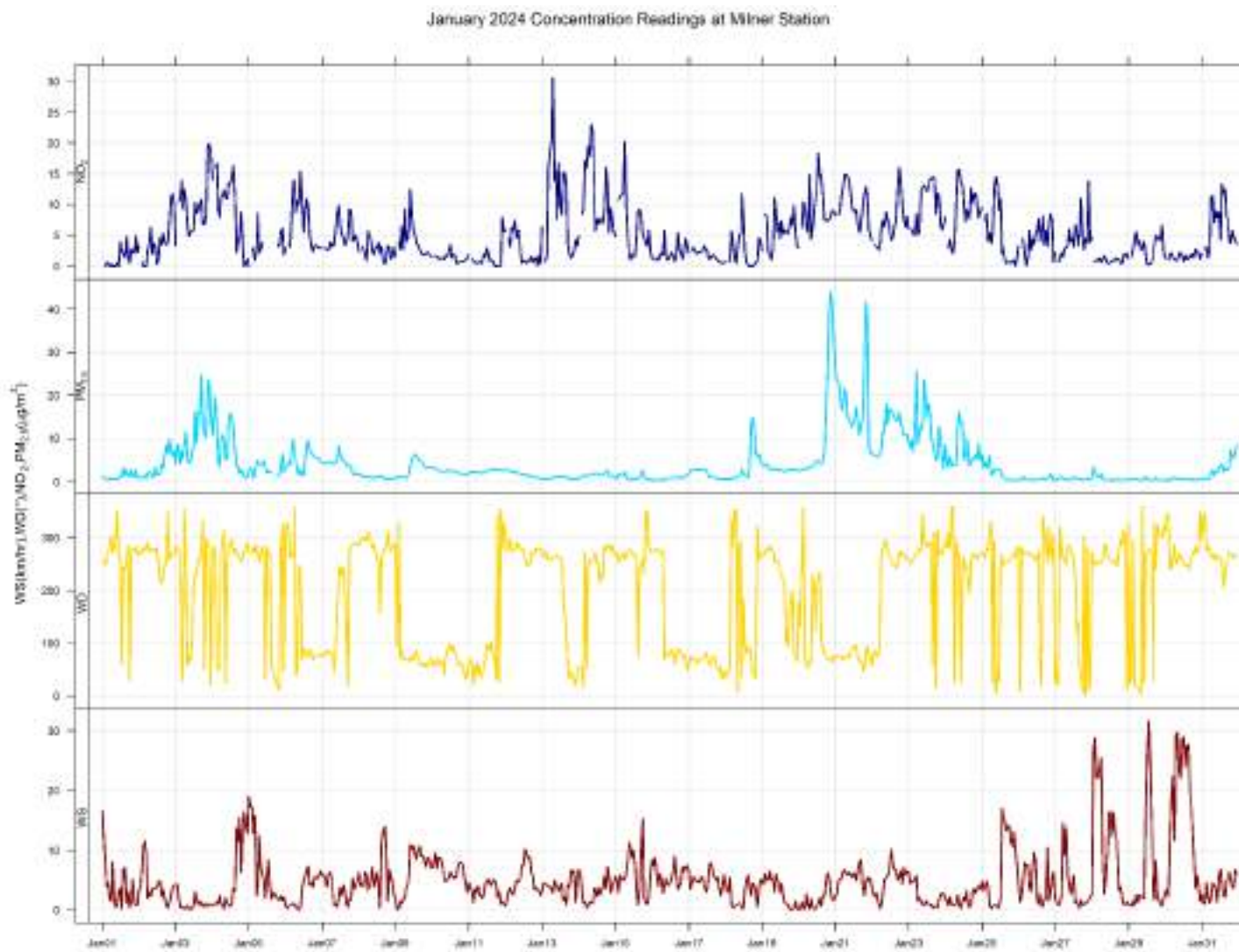




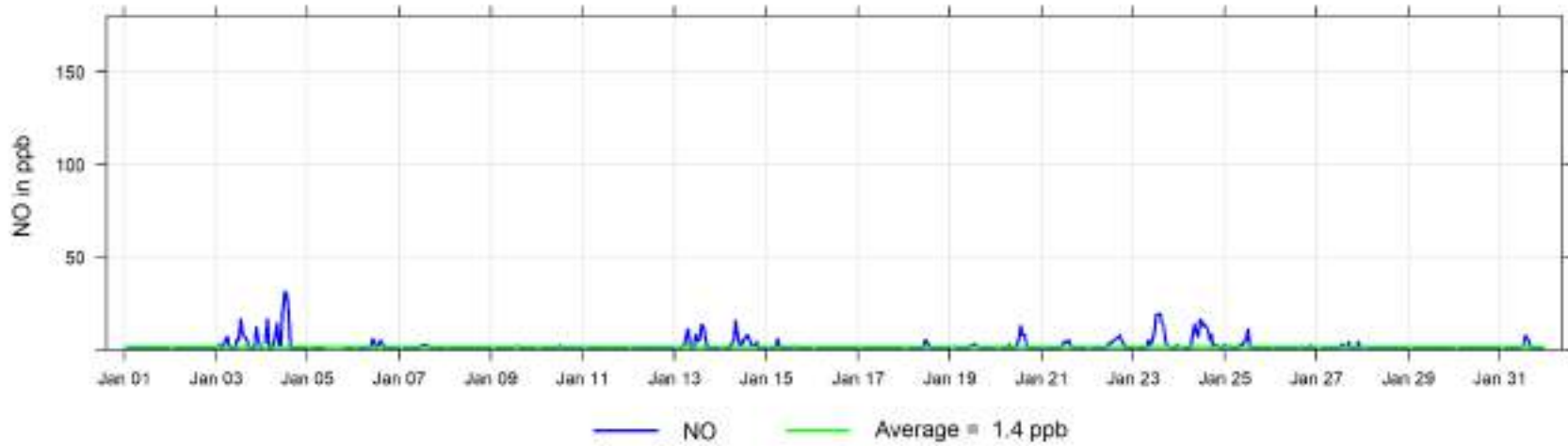
Poplar January 2024 Wind Rose, wind speed in km/hr
Calms (<0.5km/hr) = 1.3 %

9 Milner Charts

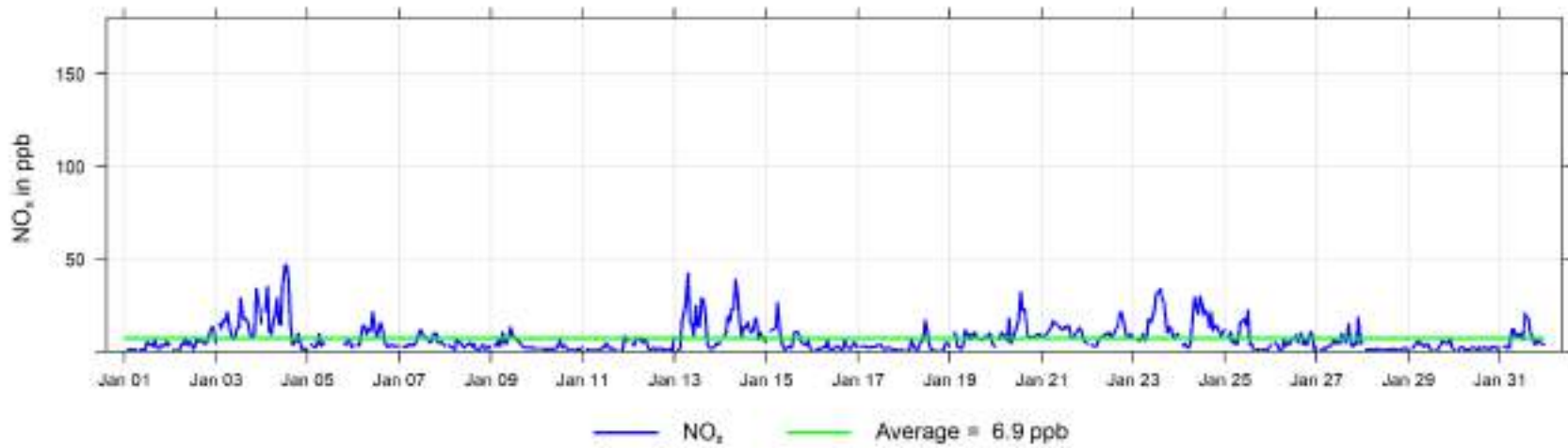
The following pages include the charts and histograms for Milner Station



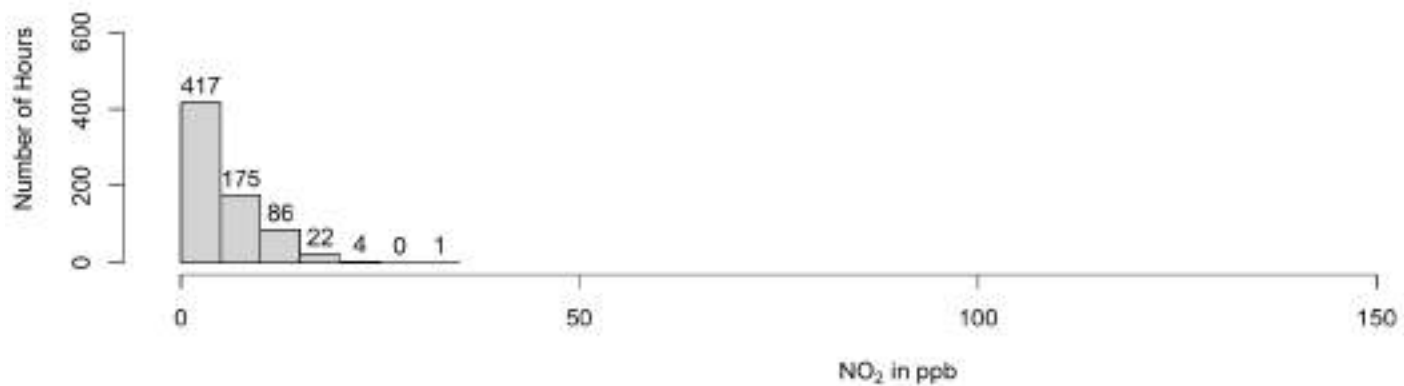
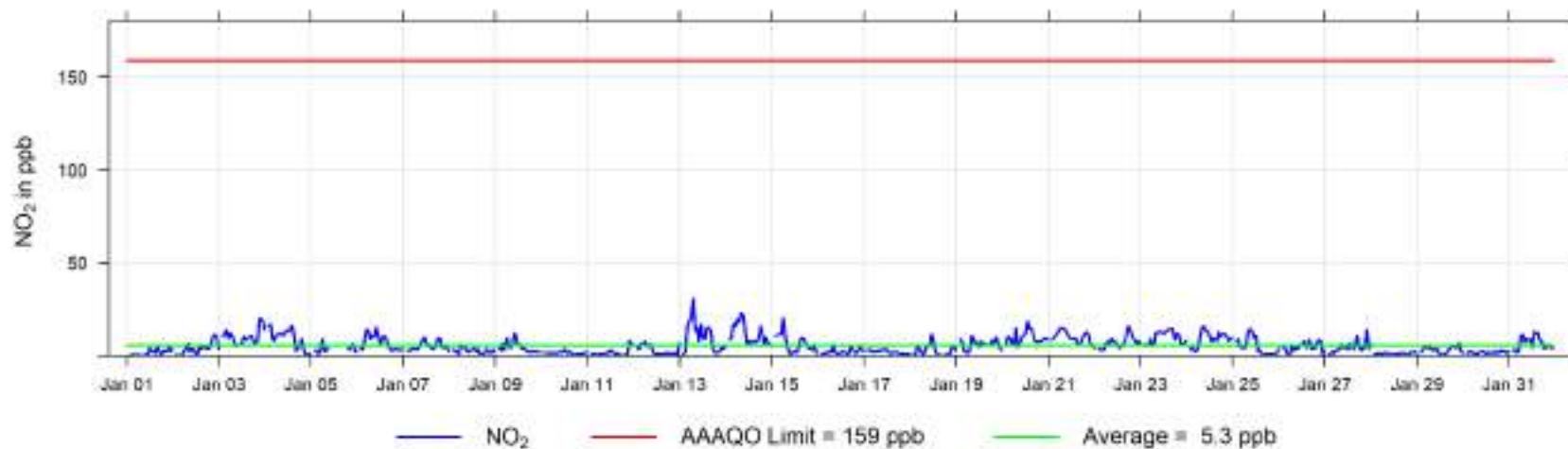
January 2024 Hourly Concentration Readings of NO (in ppb) at Milner



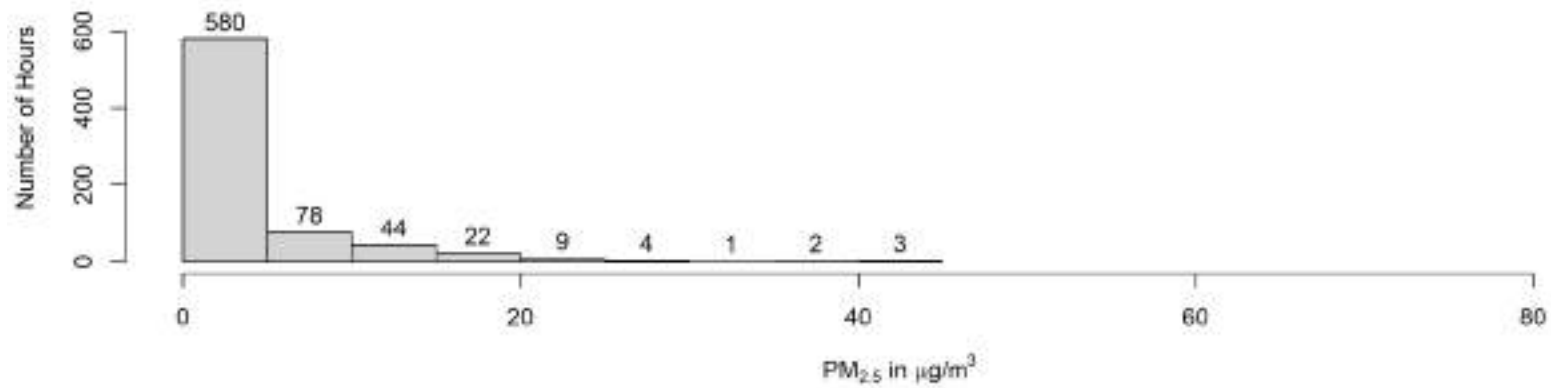
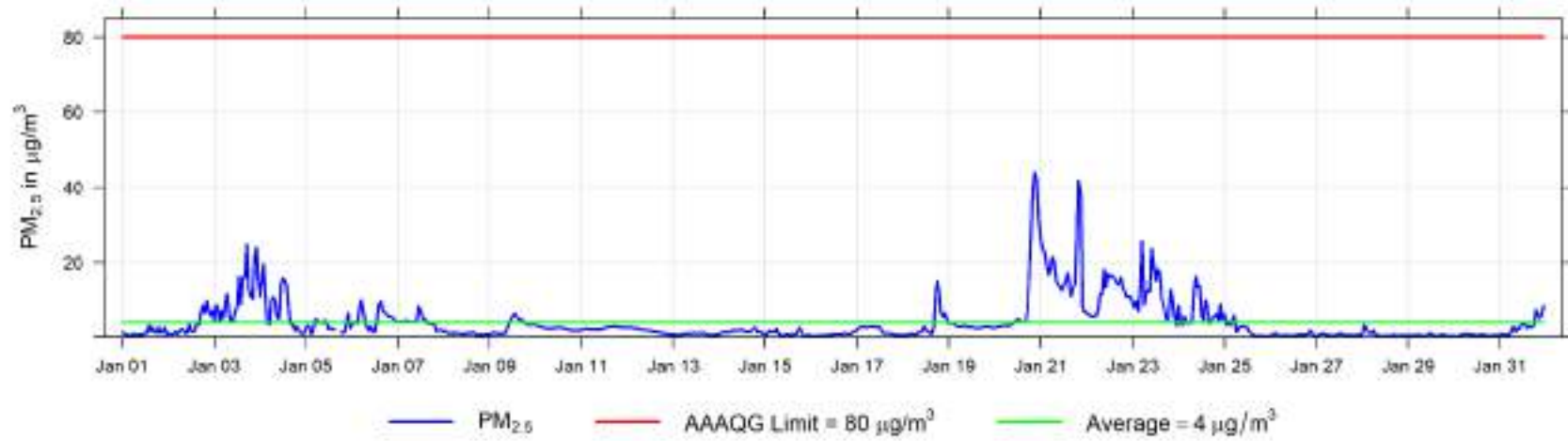
January 2024 Hourly Concentration Readings of NO_x (in ppb) at Milner



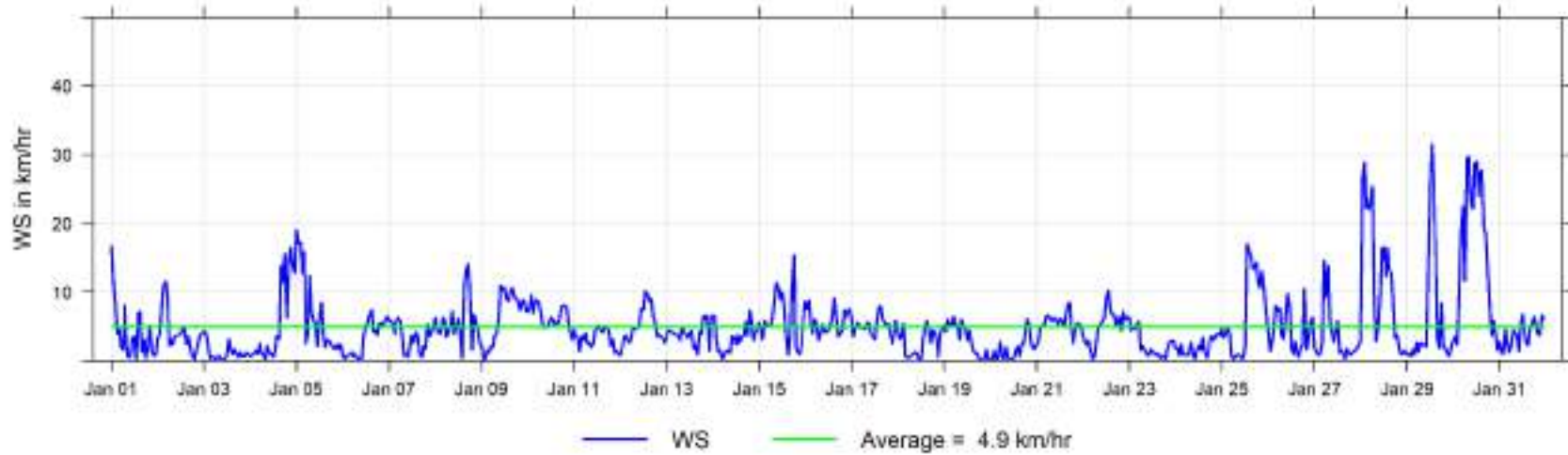
January 2024 Hourly Concentration Readings of NO₂ (in ppb) at Milner



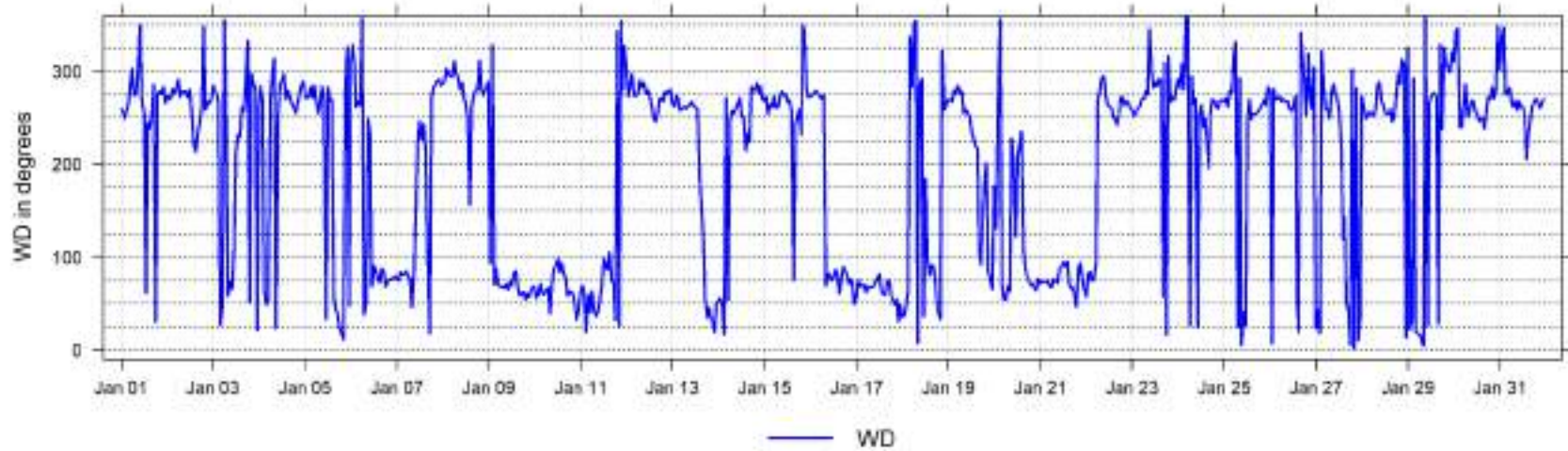
January 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner



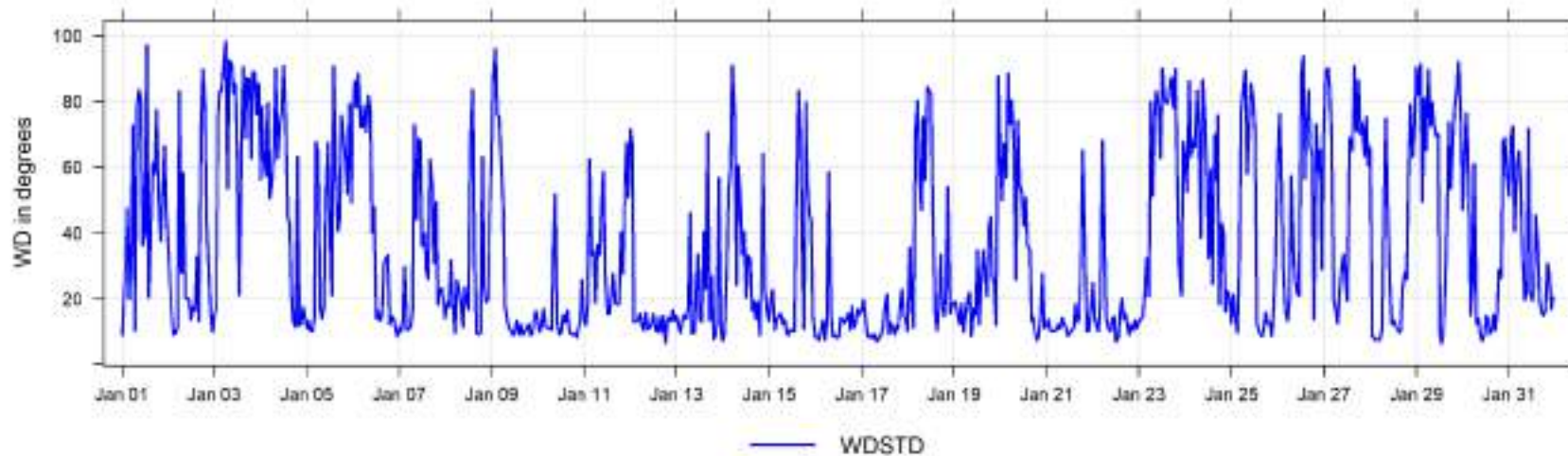
January 2024 Hourly Readings of Wind Speed (in km/hr) at Milner

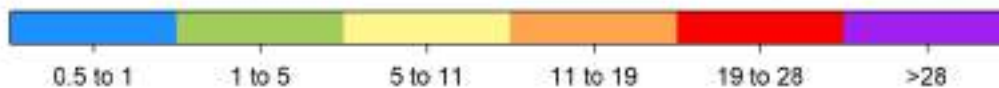
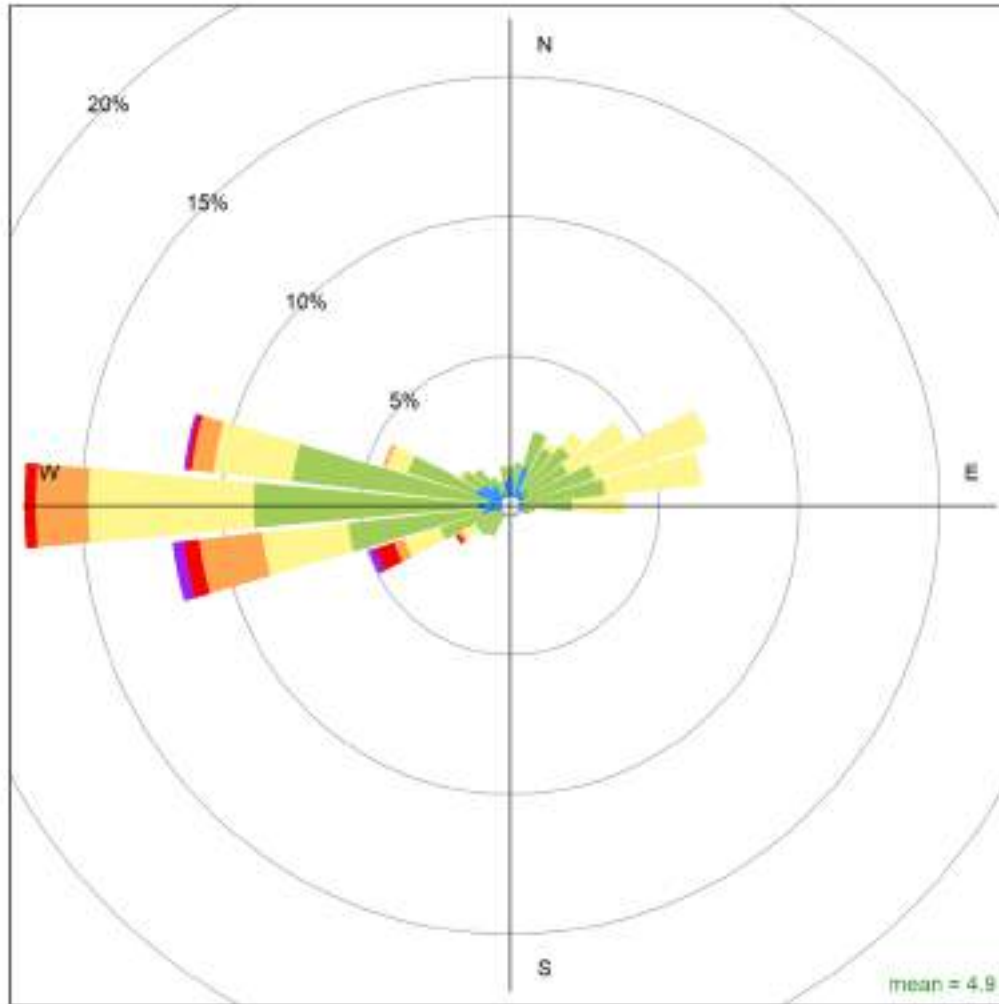


January 2024 Hourly Readings of Wind Direction (in degrees) at Milner



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

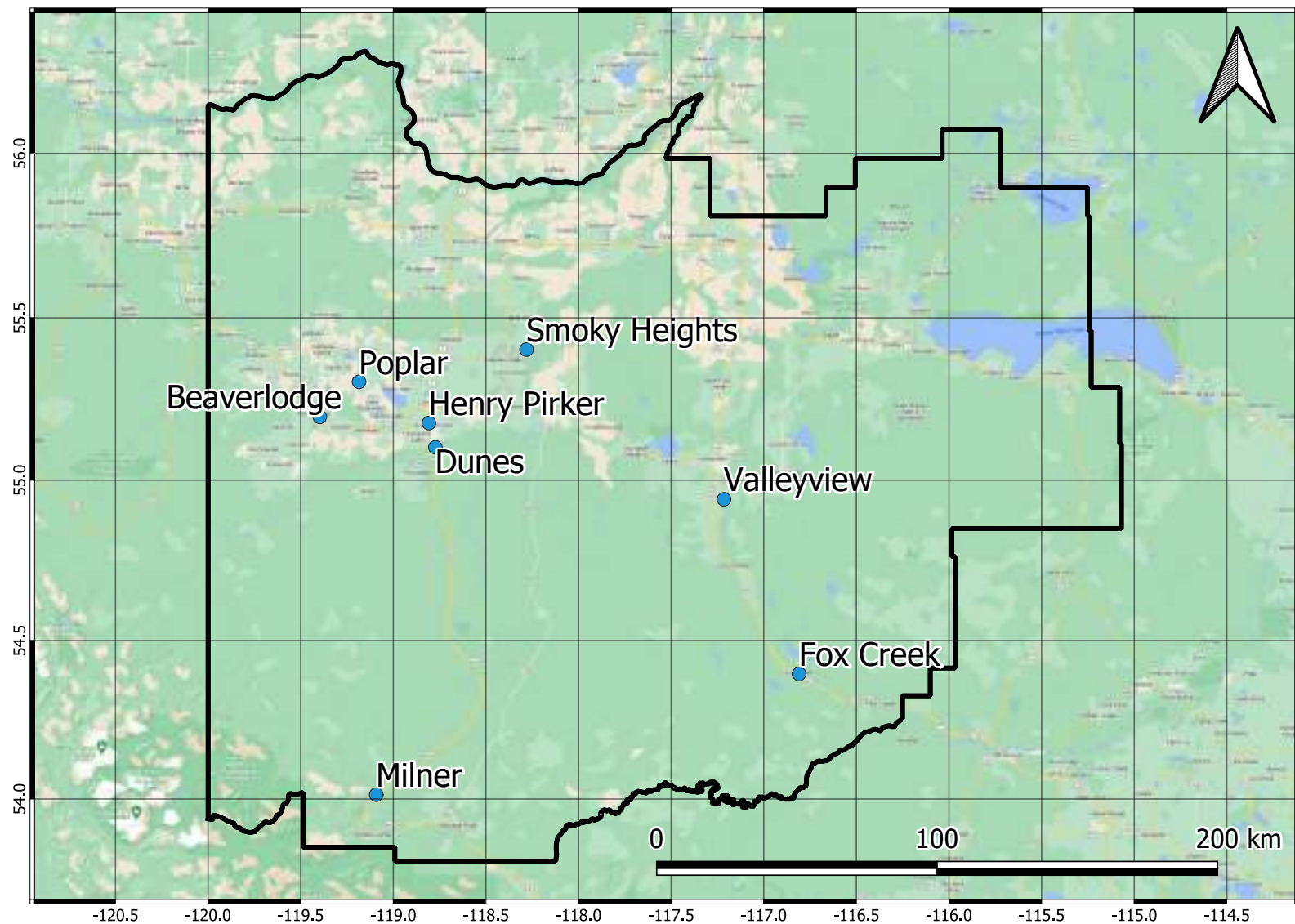




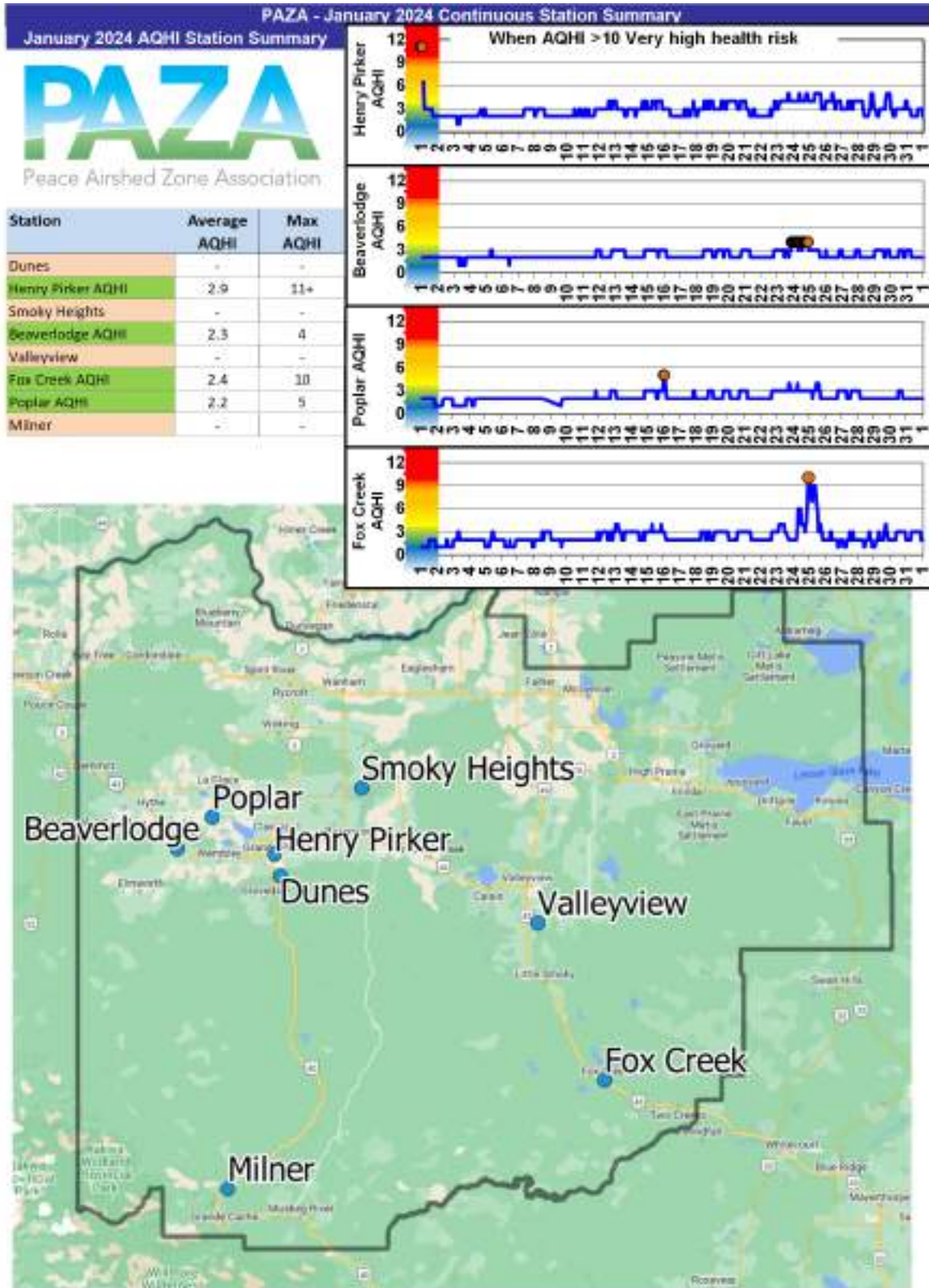
Milner January 2024 Wind Rose, wind speed in km/hr

Calms (<0.5km/hr) = 7.2 %

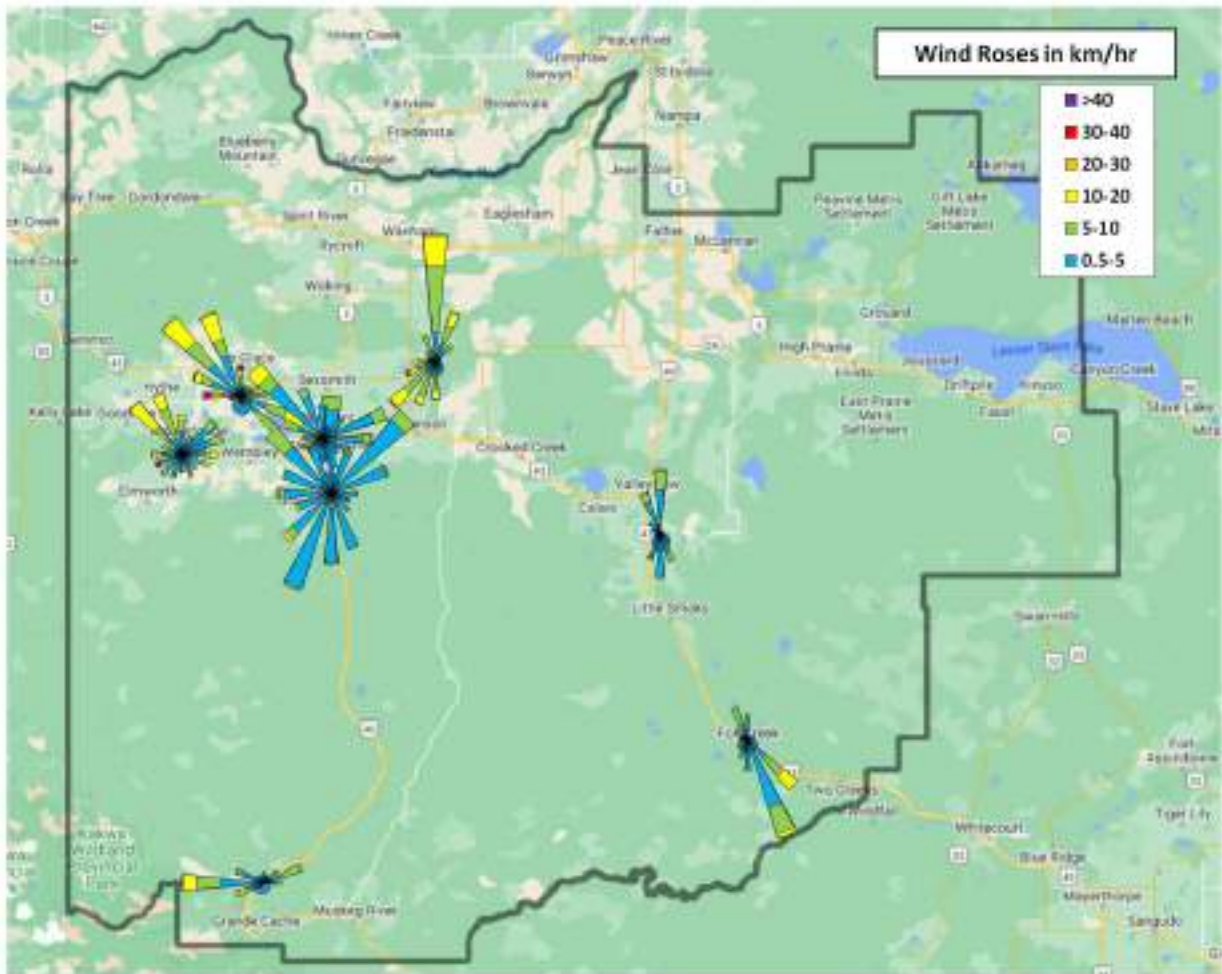
10 Concentration Summaries and Roses for PAZA



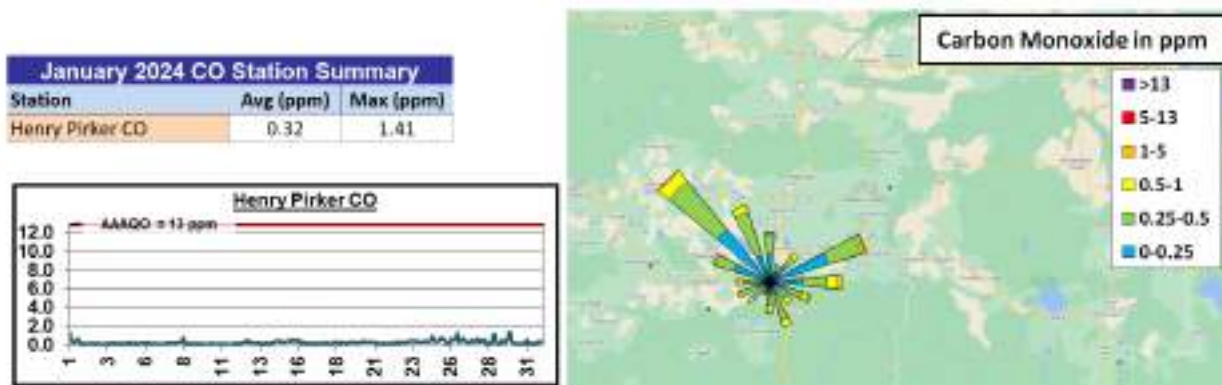
10.1 Air Quality Health Index (AQHI) Plots



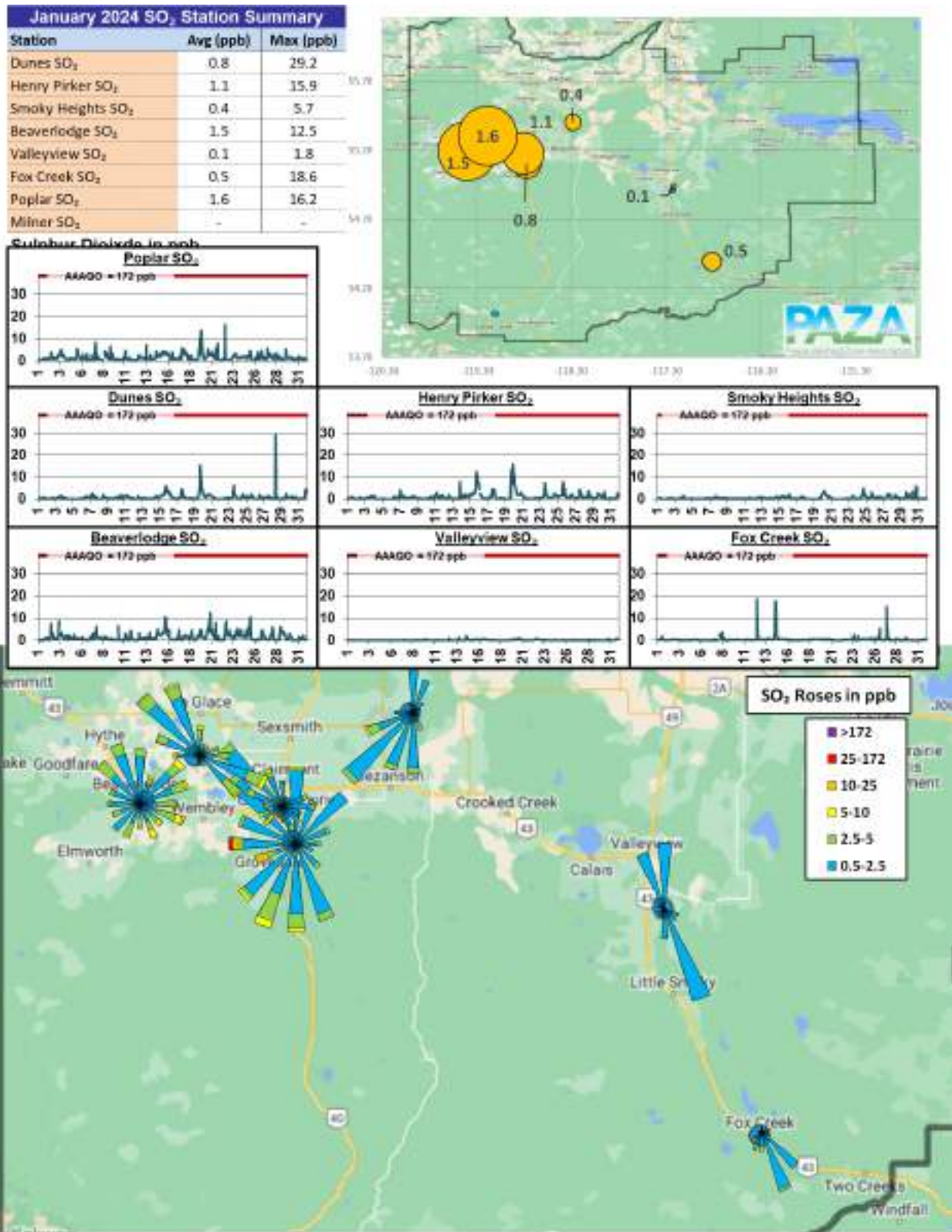
10.2 Wind Roses



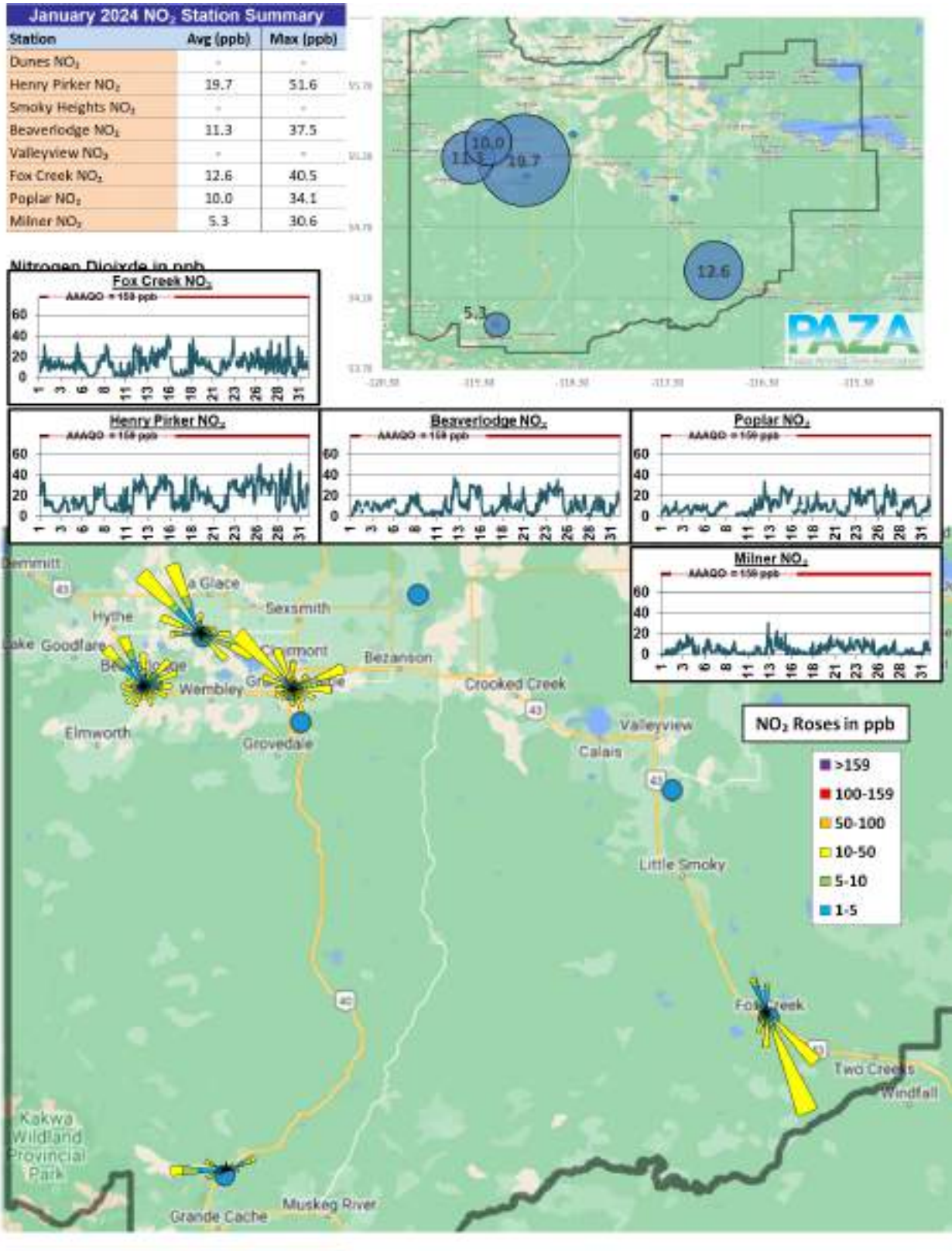
10.3 Carbon Monoxide (CO) Plots



10.4 Sulphur Dioxide (SO₂) Plots



10.5 Nitrogen Dioxide (NO₂) Plots



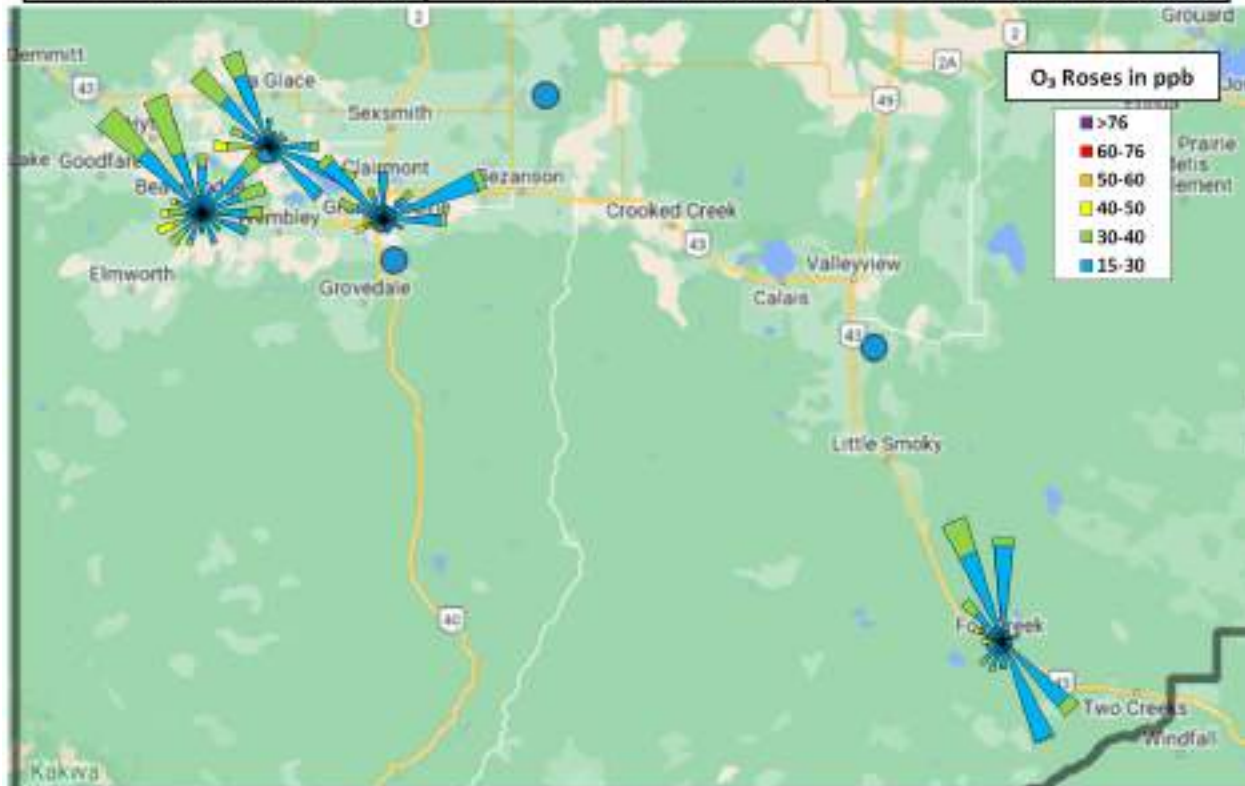
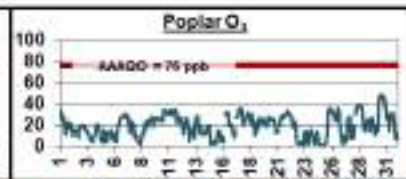
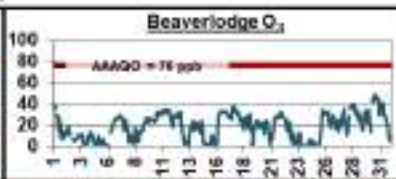
10.6 Ozone (O₃) Plots

January 2024 O₃ Station Summary

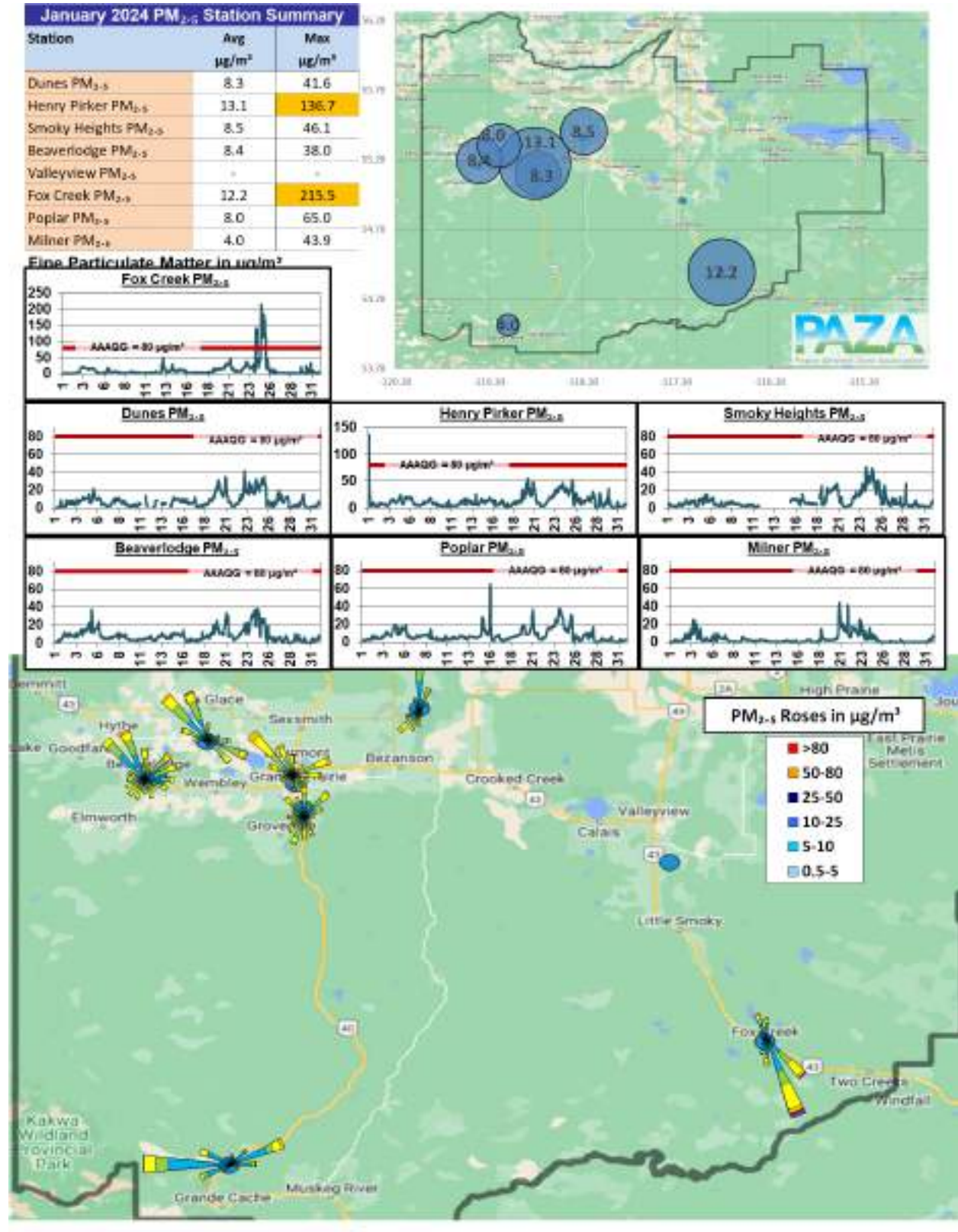
Station	Avg (ppb)	Max (ppb)
Dunes O ₃	-	-
Henry Pirkler O ₃	12.5	45.7
Smoky Heights O ₃	-	-
Beaverlodge O ₃	18.6	48.5
Valleyview O ₃	-	-
Fox Creek O ₃	14.6	49.9
Poplar O ₃	19.2	48.5
Milner O ₃	-	-



Ozone in ppb

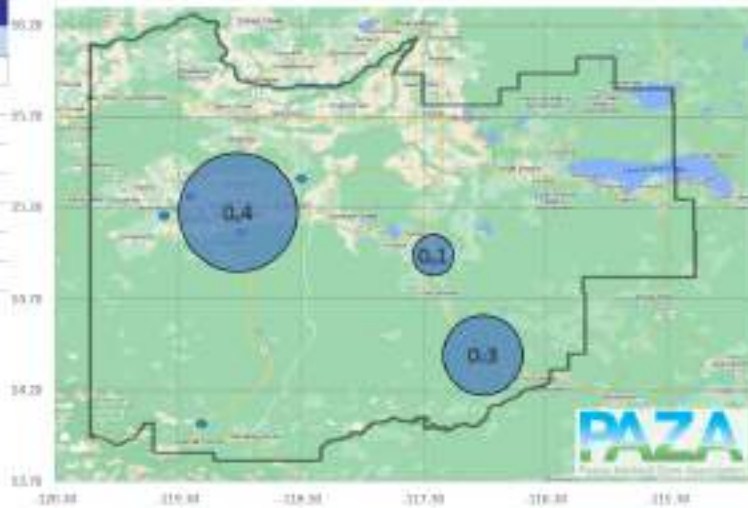


10.7 Fine Particulate Matter (PM_{2.5}) Plots

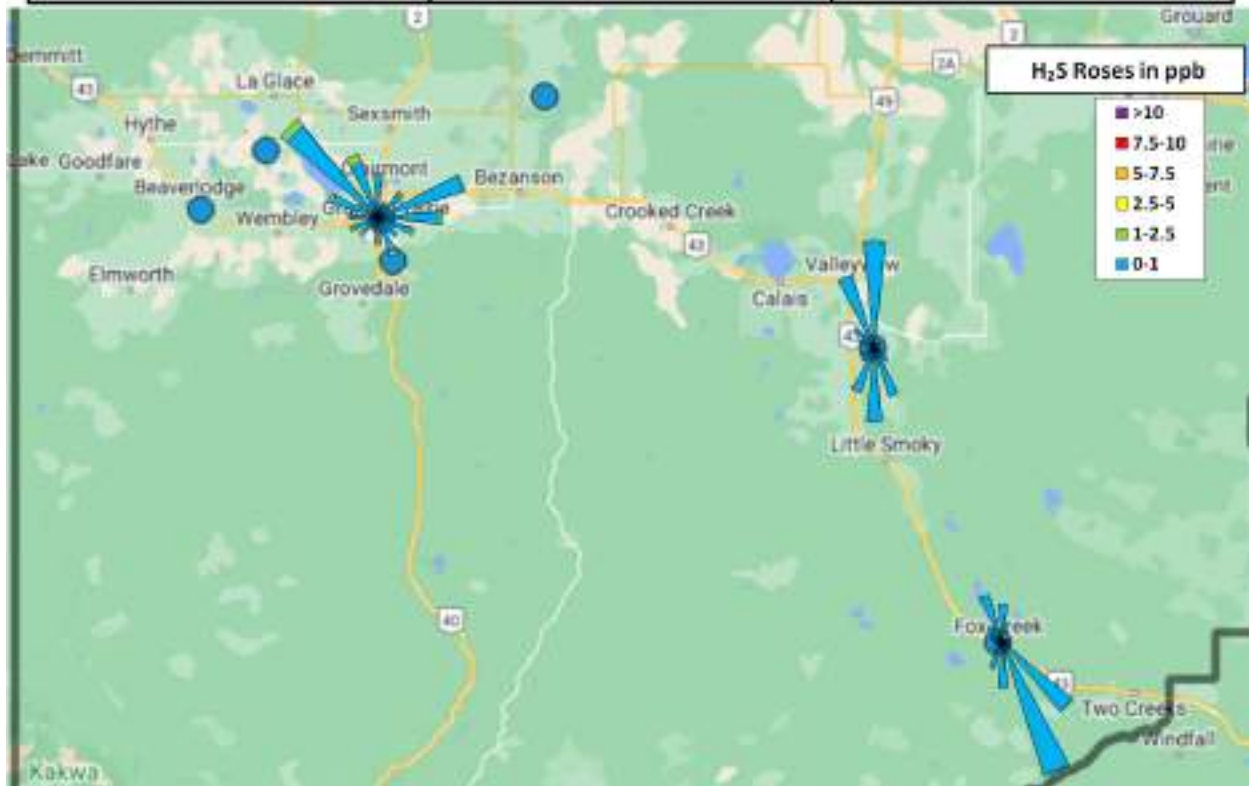
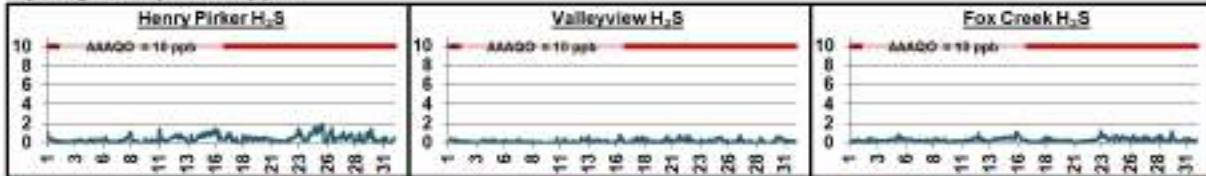


10.8 Hydrogen Sulphide (H₂S) Plots

January 2024 H ₂ S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H ₂ S	-	-
Henry Pirkar H ₂ S	0.4	1.8
Smoky Heights H ₂ S	-	-
Beaverlodge H ₂ S	-	-
Valleyview H ₂ S	0.1	0.8
Fox Creek H ₂ S	0.3	1.2
Poplar H ₂ S	-	-
Milner H ₂ S	-	-

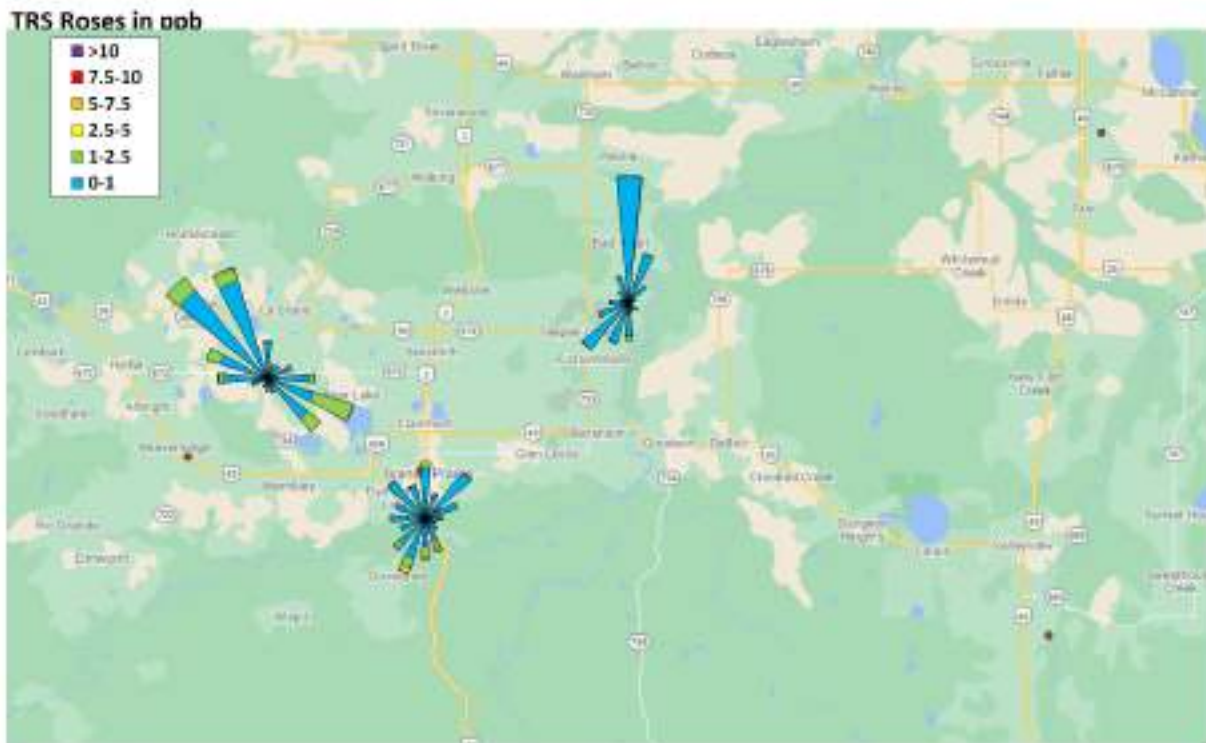
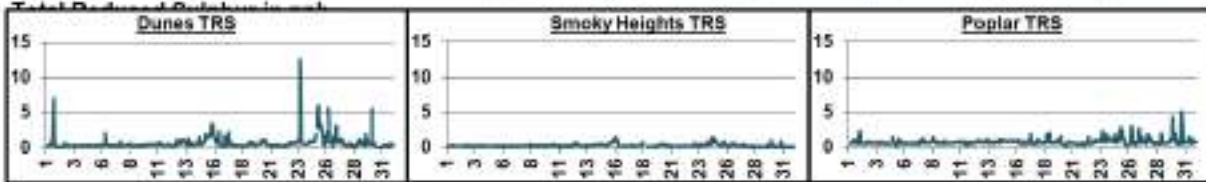
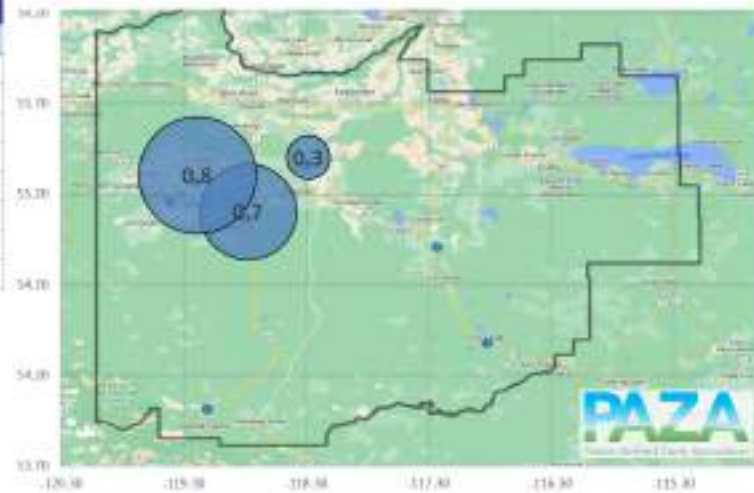


Hydrogen Sulphide in ppb



10.9 Total Reduced Sulphur (TRS) Plots

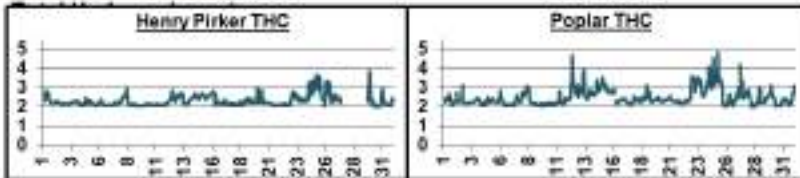
January 2024 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.7	12.5
Henry Pirkler TRS	-	-
Smoky Heights TRS	0.3	1.5
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Fox Creek TRS	-	-
Poplar TRS	0.8	5.2
Milner TRS	-	-



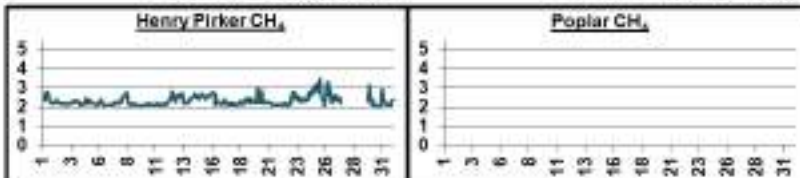
10.10 Total Hydrocarbon (THC) Plots

January 2024 THC Station Summary

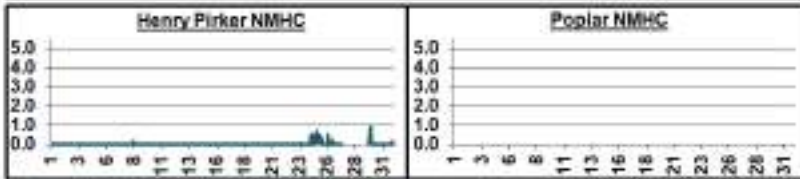
Station	Total Hydrocarbons		Methane		Non-Methane HCs	
	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)
Dunes THC	-	-	-	-	-	-
Henry Pirker THC	2.3	3.9	2.3	3.4	0.01	0.93
Smoky Heights THC	-	-	-	-	-	-
Beaveridge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Fox Creek THC	-	-	-	-	-	-
Poplar THC	2.5	4.8	-	-	-	-



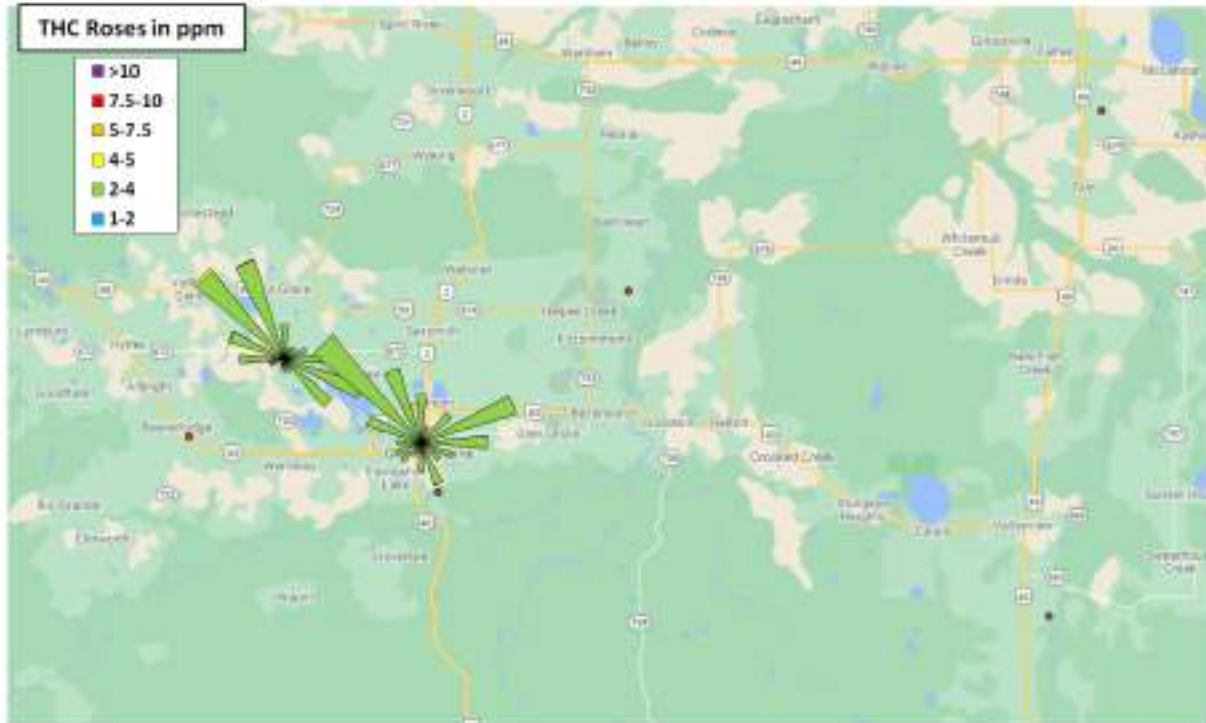
Total Hydrocarbons (THC)



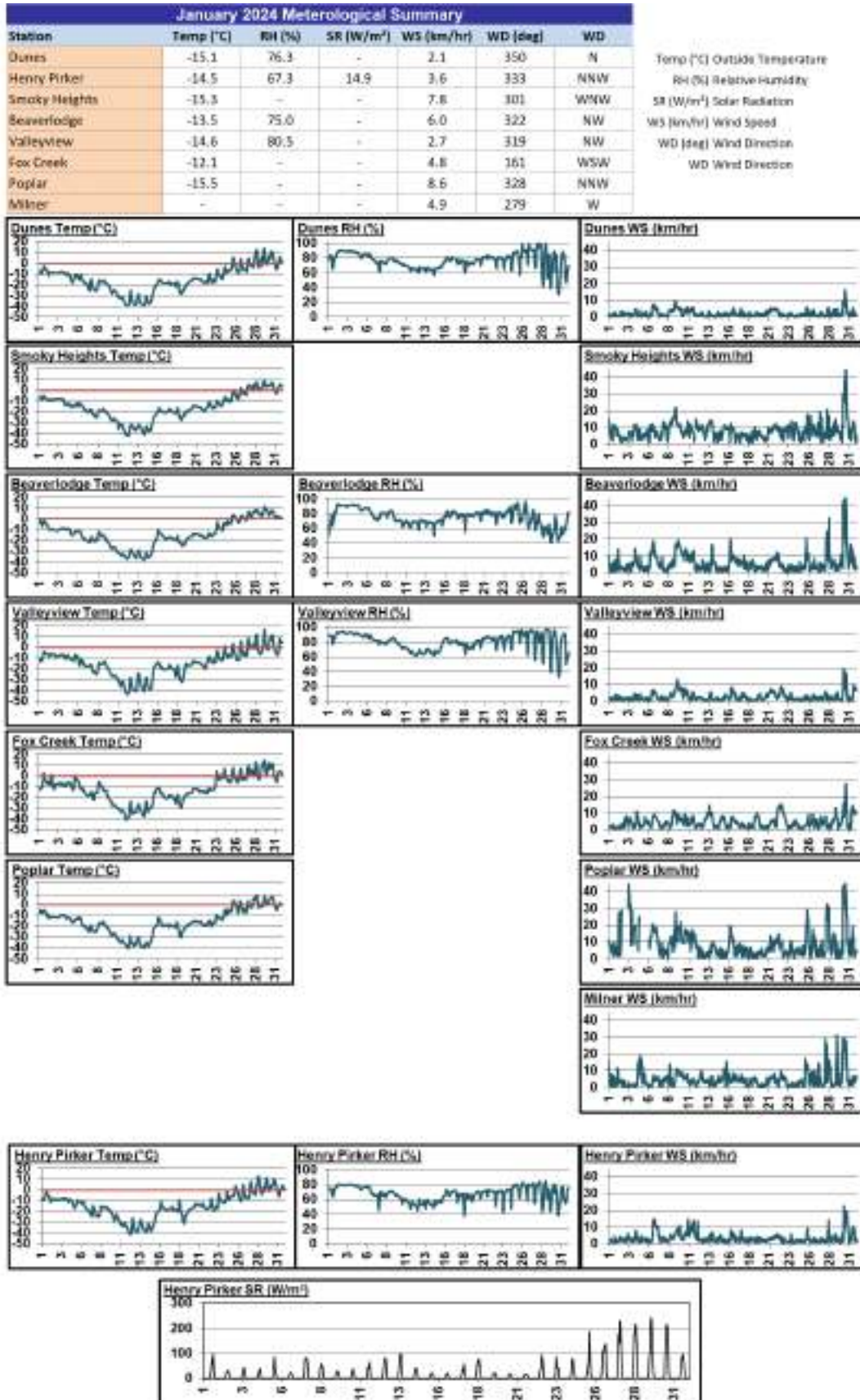
Methane (CH₄)



Non-Methane Hydrocarbons (NMHC)



10.11 Meteorology Summary



11 Passive Monitoring Data

Peace Airshed Zone Association - PAZA Passive Stations for January 2024

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
7a	Steepprock Creek			1.9		09-35-072-13 W6M
7b	Steepprock Creek			2.2		
11a	Webber Creek	0.7				09-36-074-09 W6M
11b	Webber Creek	0.8				
17a	Poplar			6.0		13-06-073-08 W6M
17b	Poplar			5.5		
30a	Fitzsimmons	0.4				15-36-072-03 W6M
30b	Fitzsimmons	0.5				
42a	Sunset House			1.1		05-32-070-19 W5M
42b	Sunset House			1.1		
47a	Kinuso		28.5	2.1		12-10-073-10 W5M
47b	Kinuso		26.4	2.3		
48a	Deer Mountain	0.2				15-22-068-09 W5M
48b	Deer Mountain	0.2				
50a	East Prairie	0.1				11-13-079-08 W6M
50b	East Prairie	0.2				
D4a	Duvernay 4	0.6			0.29	04-33-062-20 W5M
D4b	Duvernay 4	0.8			0.26	
G3a	Girouxville 3				0.55	14-02-077-23 W5M
G3b	Girouxville 3				0.53	
K1a	Kakwa 1			4.7		01-13-063-05 W6M
K1b	Kakwa 1			4.8		
K2a	Kakwa 2	0.5				08-13-063-05 W6M
K2b	Kakwa 2	0.5				
K4a	Kakwa 4				0.18	06-18-063-04 W6M
K4b	Kakwa 4				0.15	
M5a	Milner Bridge			2.5		08-06-057-08 W6M
M5b	Milner Bridge			3.3		
M7a	Milner Wanyandie	0.1				11-13-058-08 W6M
M7b	Milner Wanyandie	0.1				
J4a	Jayar4 7-8 or 8-8 Pad			2.0		10-08-062-03 W6M
J4b	Jayar4 7-8 or 8-8 Pad			2.1		
J5a	Jayar5 Camp	0.4				11-08-062-03 W6M
J5b	Jayar5 Camp	0.4				
J1a	Jayar1 Plant				0.18	06-08-062-03 W6M
J1b	Jayar1 Plant				0.15	

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.3	27.8	3.2	-	13-16-078-13 W6M
3	Forth Creek	0.2	-	0.7	-	04-13-082-07 W6M
5	Boone Creek	0.5	-	3.0	-	01-23-076-11 W6M
7	Steeprock Creek	0.4	-	2.1	-	09-35-072-13 W6M
9	Spirit River	0.4	-	-	-	08-12-079-07 W6M
11	Webber Creek	0.8	-	6.4	-	09-36-074-09 W6M
12	Hythe	1.1	-	3.8	-	14-36-072-11 W6M
14	Sylvester	-	-	1.9	-	08-06-069-12 W6M
16	Beaverlodge	1.2	-	8.7	-	15-36-071-10 W6M
17	Poplar	1.1	-	5.7	-	13-06-073-08 W6M
18	Saddle Hills	0.4	-	2.2	-	04-25-074-07 W6M
19	Wanham	0.4	-	1.2	-	16-22-077-03 W6M
21	Eaglesham	0.3	-	1.0	-	16-21-079-25 W5M
24	Wembley	1.7	-	5.5	-	12-31-070-08 W6M
25	Pinto Creek	0.5	-	2.7	-	04-24-069-11 W6M
27	Grande Prairie I	0.9	-	15.2	-	08-15-071-06 W6M
29	Smoky Heights	0.5	-	3.4	-	04-06-075-02 W6M
30	Fitzsimmons	0.4	-	3.2	-	15-36-072-03 W6M
32	Gold Creek	0.3	-	6.6	-	06-33-067-05 W6M
35	Jean Cote	0.3	-	1.7	-	12-35-079-21 W5M
36	Guy	0.2	-	1.3	0.22	03-04-076-22 W5M
37	Crooked Creek	0.4	26.9	2.7	-	16-01-071-26 W5M
38	Karr Creek	0.2	-	2.6	-	10-16-065-02 W6M
39	Clouston Creek	0.3	-	1.9	-	12-01-073-22 W5M
40	McLennan	0.2	-	1.4	-	03-29-077-19 W5M
42	Sunset House	0.3	-	1.1	-	05-32-070-19 W5M
44	Peavine	0.1	-	1.3	-	03-05-079-15 W5M
46	Little Smoky	0.2	-	5.6	-	12-01-065-21 W5M
47	Kinuso	0.2	27.4	2.2	-	12-10-073-10 W5M
48	Deer Mountain	0.2	-	1.7	-	15-22-068-09 W5M
49	Henry Pirker	0.8	-	12.8	-	17-26-071-06 W6M
50	East Prairie	0.1	-	1.3	-	11-13-079-08 W6M
D1	Duvernay 1	0.4	-	-	0.17	04-33-062-20 W5M
D2	Duvernay 2	0.3	-	-	0.17	04-33-062-20 W5M
D3	Duvernay 3	0.3	-	-	0.21	04-33-062-20 W5M
D4	Duvernay 4	0.7	-	-	0.27	04-33-062-20 W5M
G3	Girouxville 3	-	-	-	0.54	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.25	04-08-077-22 W5M
K1	Kakwa 1	0.4	-	4.8	0.14	01-13-063-05 W6M
K2	Kakwa 2	0.5	-	5.0	0.14	08-13-063-05 W6M
K3	Kakwa 3	1.3	-	5.1	0.21	12-18-063-04 W6M
K4	Kakwa 4	3.5	-	5.0	0.17	06-18-063-04 W6M
M1	Milner Pipeline	0.1	-	3.6	-	12-14-058-08 W6M
M2	Milner Bridge	0.2	-	2.9	-	08-06-057-08 W6M
M3	Milner Wanyandie	0.1	-	1.9	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	0.2	-	3.9	-	09-15-058-08 W6M
M5	Milner Powerline	NA	-	NA	-	06-14-058-08 W6M
J1	Jayar1 Plant	0.4	-	2.7	0.17	06-08-062-03 W6M
J2	Jayar2 14-8	0.6	-	3.9	0.22	07-08-062-03 W6M
J3	Jayar3 Bone Yard	0.5	-	2.0	0.17	14-08-062-03 W6M
J4	Jayar4 7-8 or 8-8 Pad	0.5	-	2.1	0.16	10-08-062-03 W6M
J5	Jayar5 Camp	0.4	-	5.3	0.18	11-08-062-03 W6M

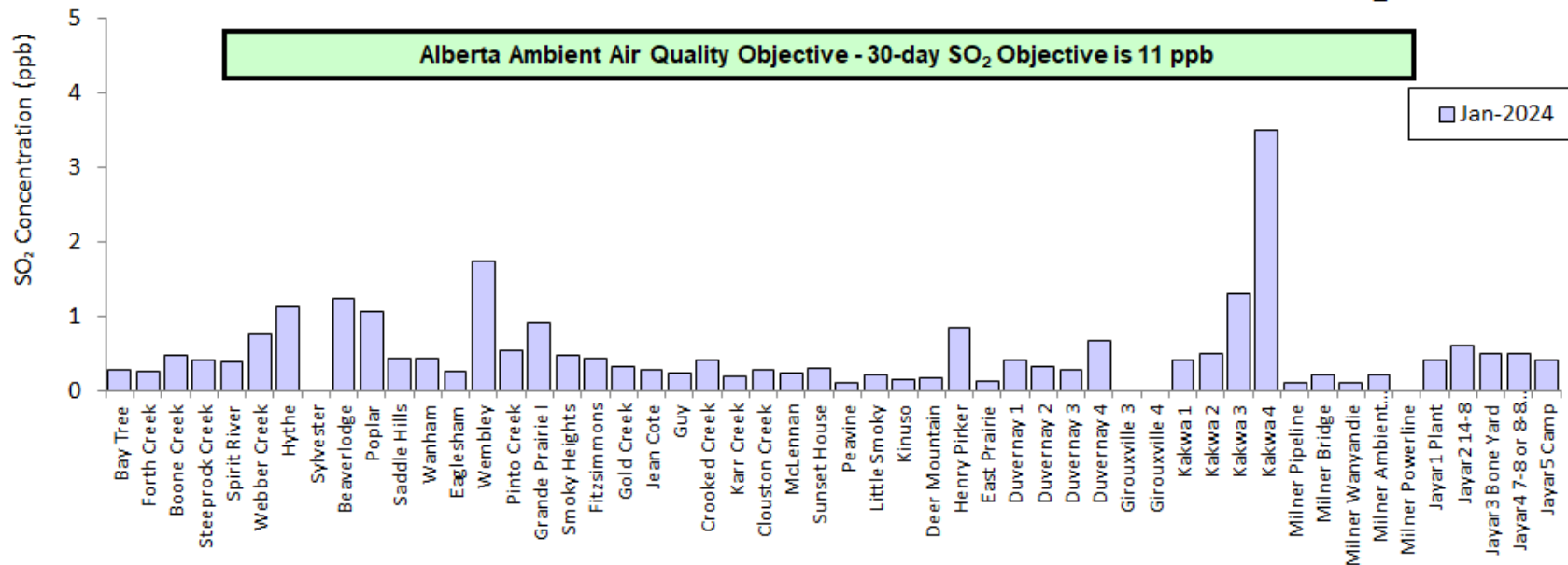
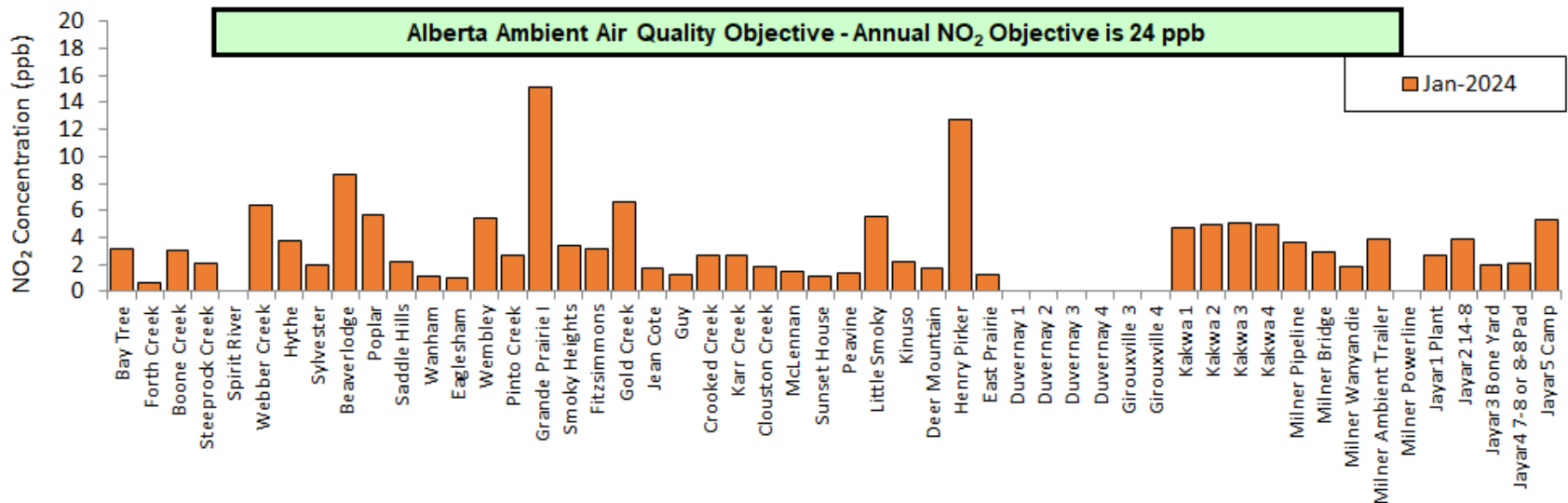
Note: Duplicate Milner Powerline not collected due to site access

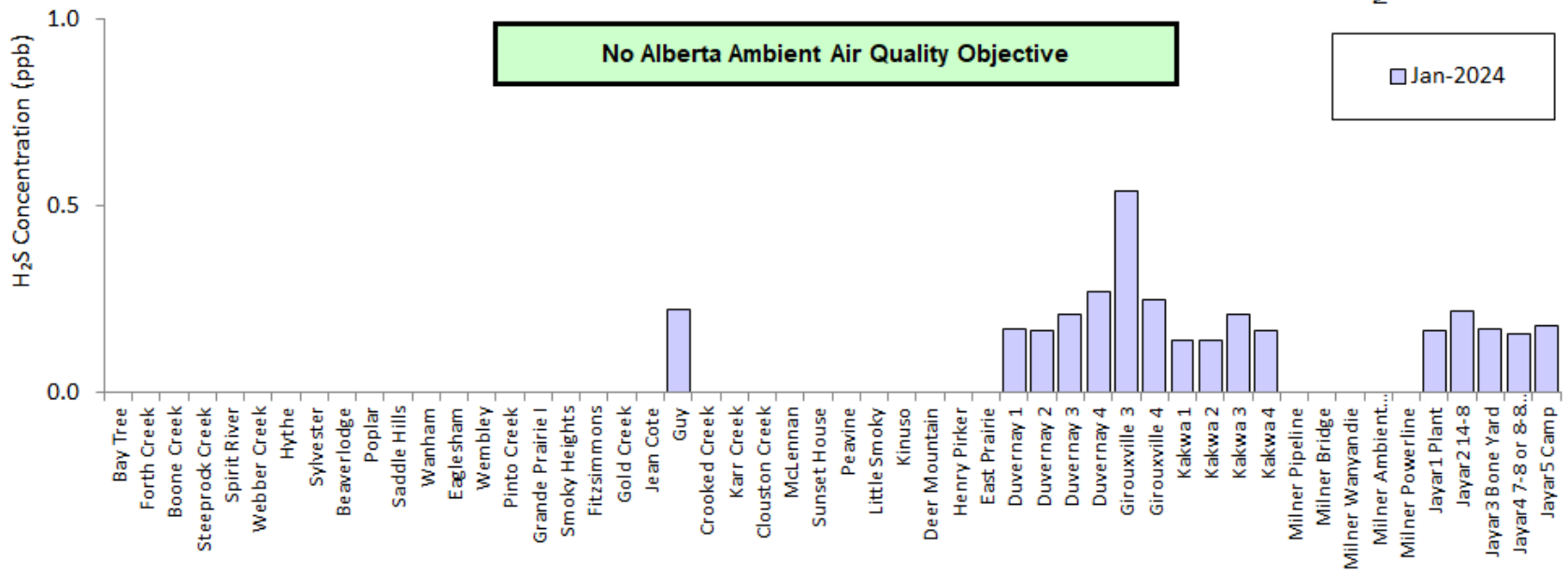
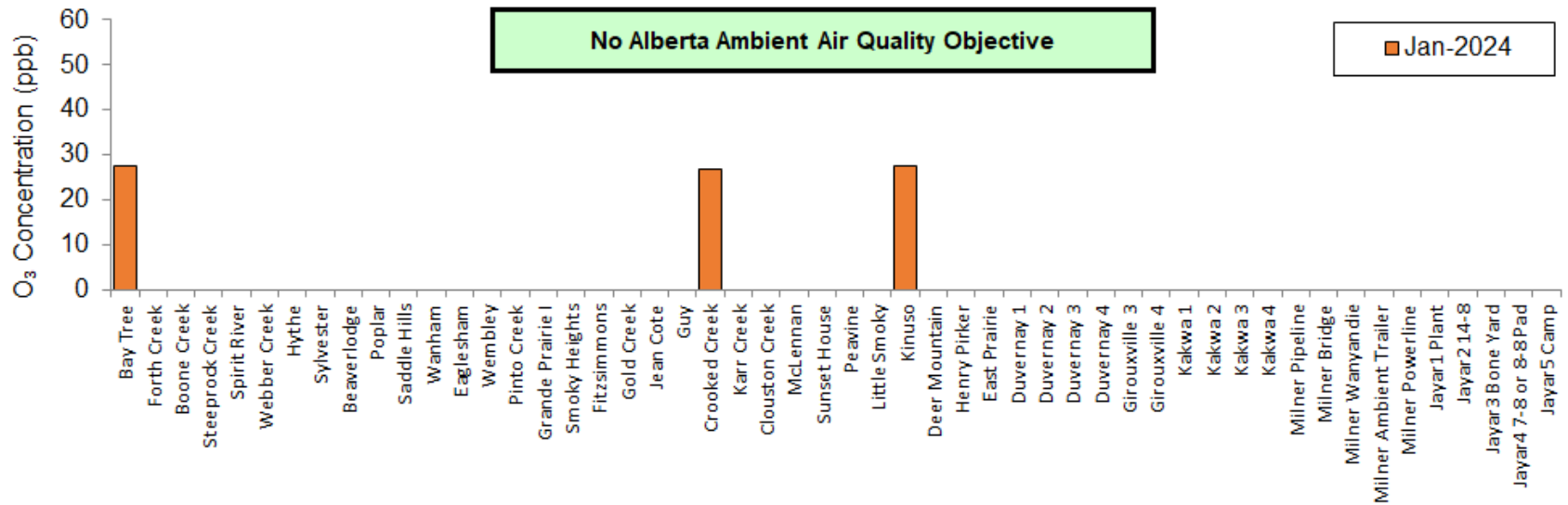
Passive Summary for January 2024

Stats	Sulphur Dioxide SO ₂ ppb	Ozone O ₃ ppb	Nitrogen Dioxide NO ₂ ppb	Hydrogen Sulphide H ₂ S ppb
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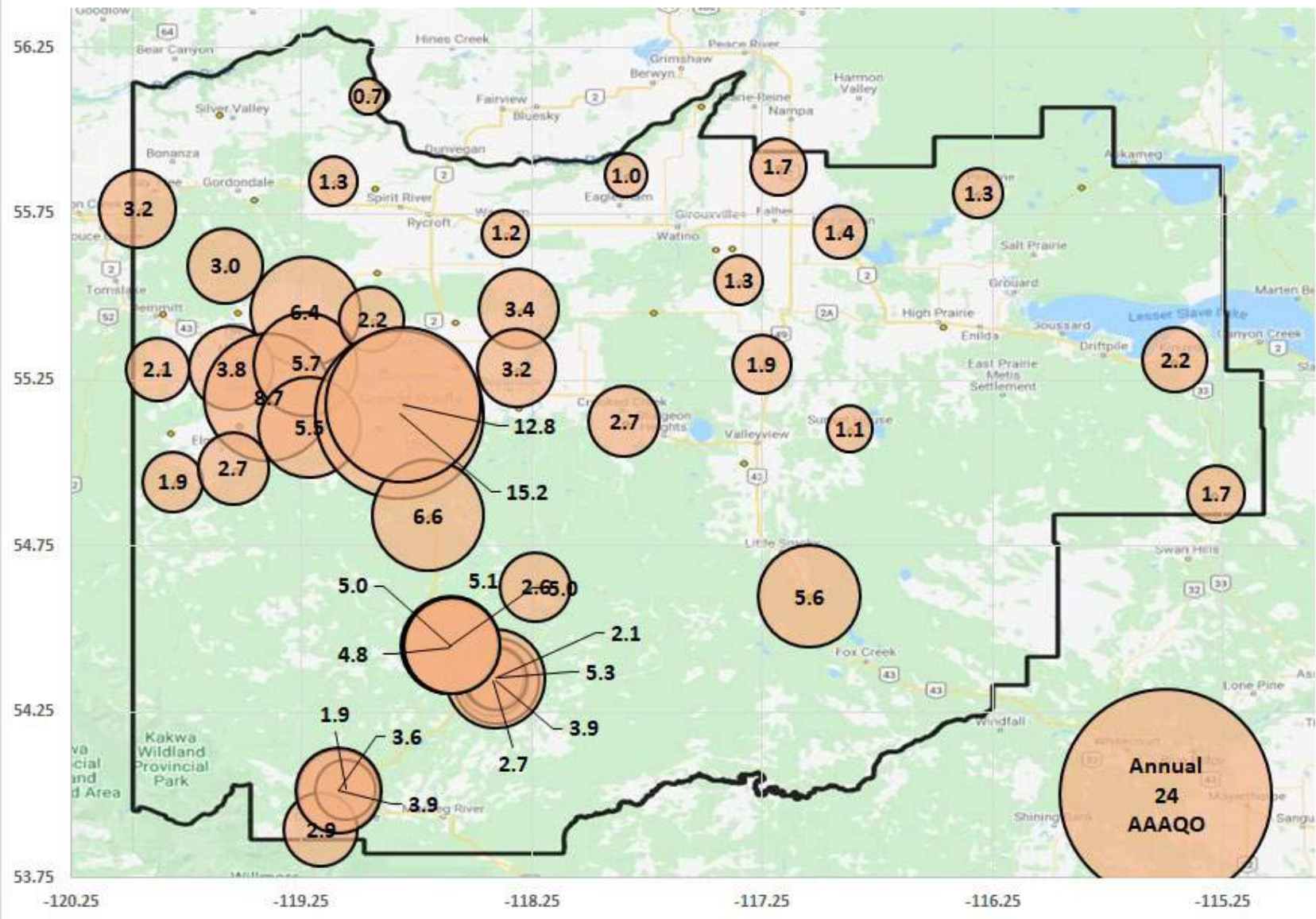
Passive Summary for January 2024 (PAZA)				
Mean	0.5	27.4	3.7	0.2
Standard Deviation	0.6	0.4	2.9	0.1
Minimum	0.1	26.9	0.7	0.1
	Milner Pipeline (#M1)	Crooked Creek (#37)	Forth Creek (#3)	Kakwa 1 (#K1)
Maximum	3.5	27.8	15.2	0.5
	Kakwa 4 (#K4)	Bay Tree (#2)	Grande Prairie I (#27)	Girouxville 3 (#G3)

Continuous and Passive Monitoring Comparison				
PAZA Beaverlodge Station	1.5	18.6	11.3	-
Beaverlodge Passive (#16)	1.2	-	8.7	-
PAZA Henry Pirker Station	1.1	12.5	19.7	0.4
Henry Pirker passive (#49)	0.8	-	12.8	-
Milner Station	-	-	5.3	-
Milner passive	0.2	-	3.9	-

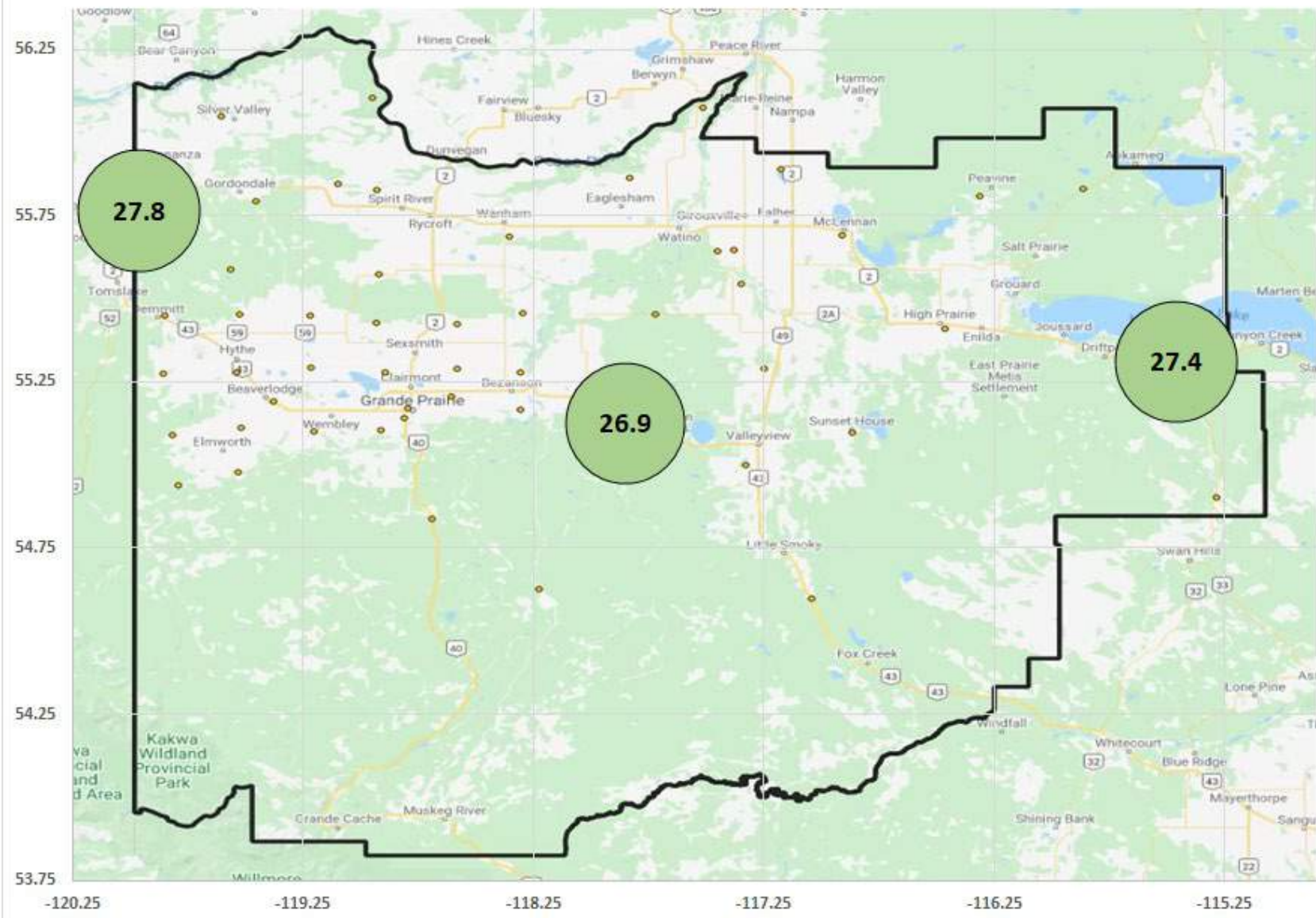




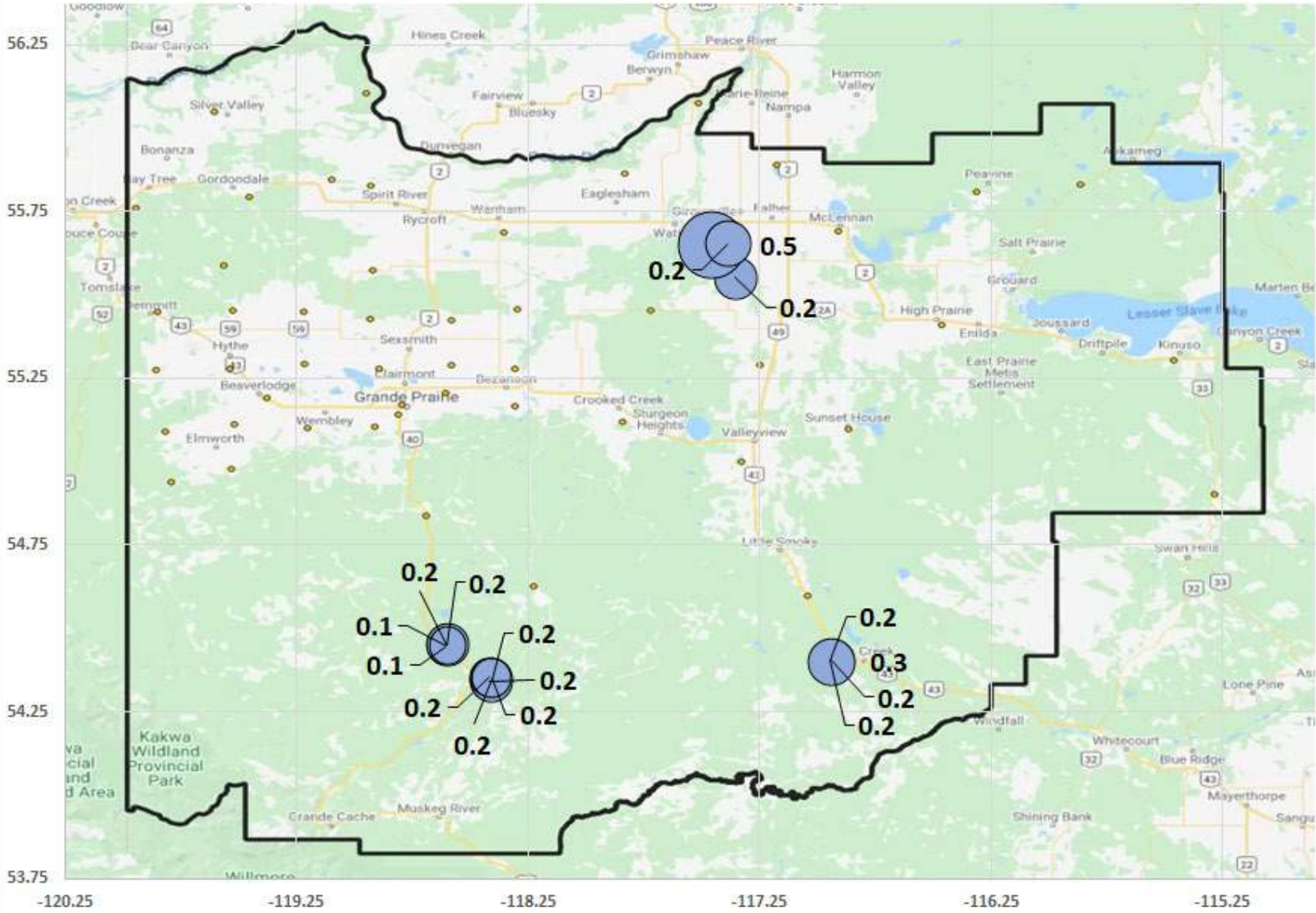
NO₂ Monthly Average (units in ppb)



O₃ Monthly Average (units in ppb)



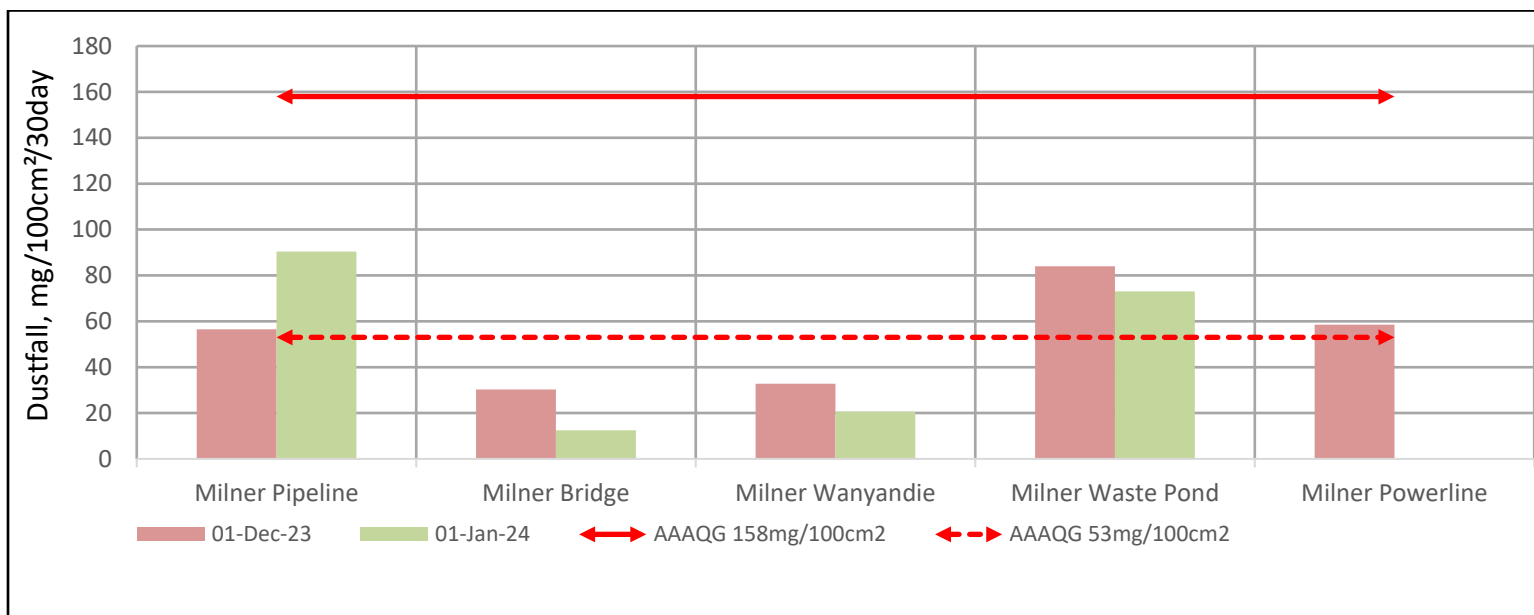
H₂S Monthly Average (units in ppb)



12 Dustfall Monitoring Data

Milner Dustfall Samples January 2024

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm ² /30day	Fixed Dustfall (30 day) mg/100cm ² /30day	Exposure days	Field Notes
January	2024	Milner Pipeline	90.4	18.6	29	
January	2024	Milner Bridge	12.5	1.1	29	
January	2024	Milner Wanyandie	20.6	1.6	29	
January	2024	Milner Waste Pond	73.0	15.2	29	
January	2024	Milner Powerline	not collected	not collected	-	Train blocking the tracks - no access
January	2024	Milner Powerline Dup	not collected	not collected	-	Train blocking the tracks - no access



End of Report



Peace Airshed Zone Association

Ambient Air Monitoring Report

January 2024