



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

March 2024

April 30, 2024

Alberta Environment and Protected Areas

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

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

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of March 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 March 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:

- One dust fall sites were above the AAAQG for industrial limits. The Pipeline site was greater than the industrial AAAQG, monthly reading was 163.5 mg/100cm²/30day (AAAQG of 158 mg/100cm²/30day), reference #427210

Operational times less than 90 percent

Poplar CH₄/NMHC are not in operation.

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

Air Incidents

None were reported.

Deviations from Authorized Monitoring Methods

None were reported.

Passive Monitoring

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

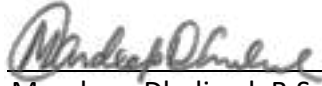
There were 20 duplicates sampled in the month of March:

- Eight SO₂ duplicates located at Boone Creek, Webber Creek, Smoky Heights, East Prairie, Duvernay 2, Kakwa 1, Milner Powerline, Jayar4 7-8 or 8-8 Pad
 - RPD ranging from 0% to 29% (Milner Pipeline had duplicates of 0.2ppb and <0.1ppb)
- One O₃ duplicate located at Bay Tree
 - RPD 11% (no fails)
- Seven NO₂ duplicates at Saddle Hills, Wembley, Fitzsimmons, Deer Mountain, Kakwa 2, Milner Pipeline, Jayar1 Plant
 - RPD ranging from 11% to 47% (no fails)
- Four H₂S duplicates at Guy, Duvernay 2, Kakwa 4, Jayar5 Camp
 - RPD 2% to 11% (Kakwa 4 had duplicates of 0.05ppb and <0.02ppb and Jayar5 Camp had duplicates of 0.02ppb and <0.02ppb)

Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- All sites were noted as almost dry (Wanyandie) or dry (all other sites)
- Total dustfall ranged from 21.5 to 163.5 mg/100cm²/30day.
- The Pipeline site was greater than the industrial AAAQG at 163.5mg/100cm²/30day (AAAQG of 158 mg/100cm²/30day), reference #427210

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.

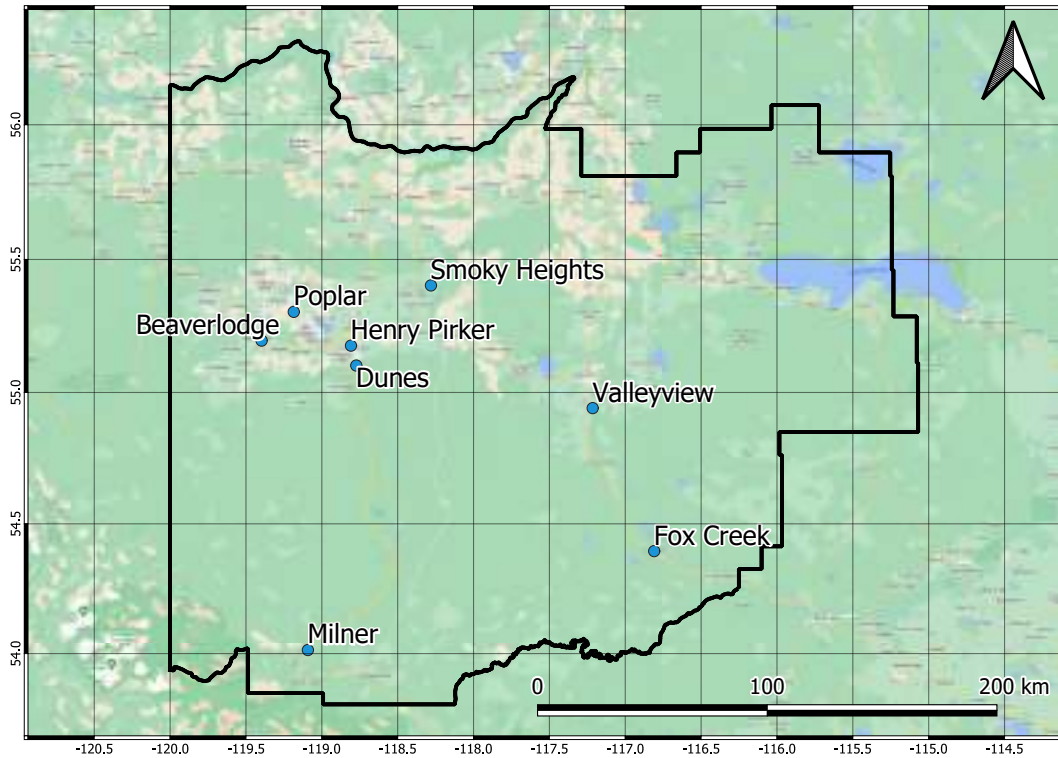


Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager

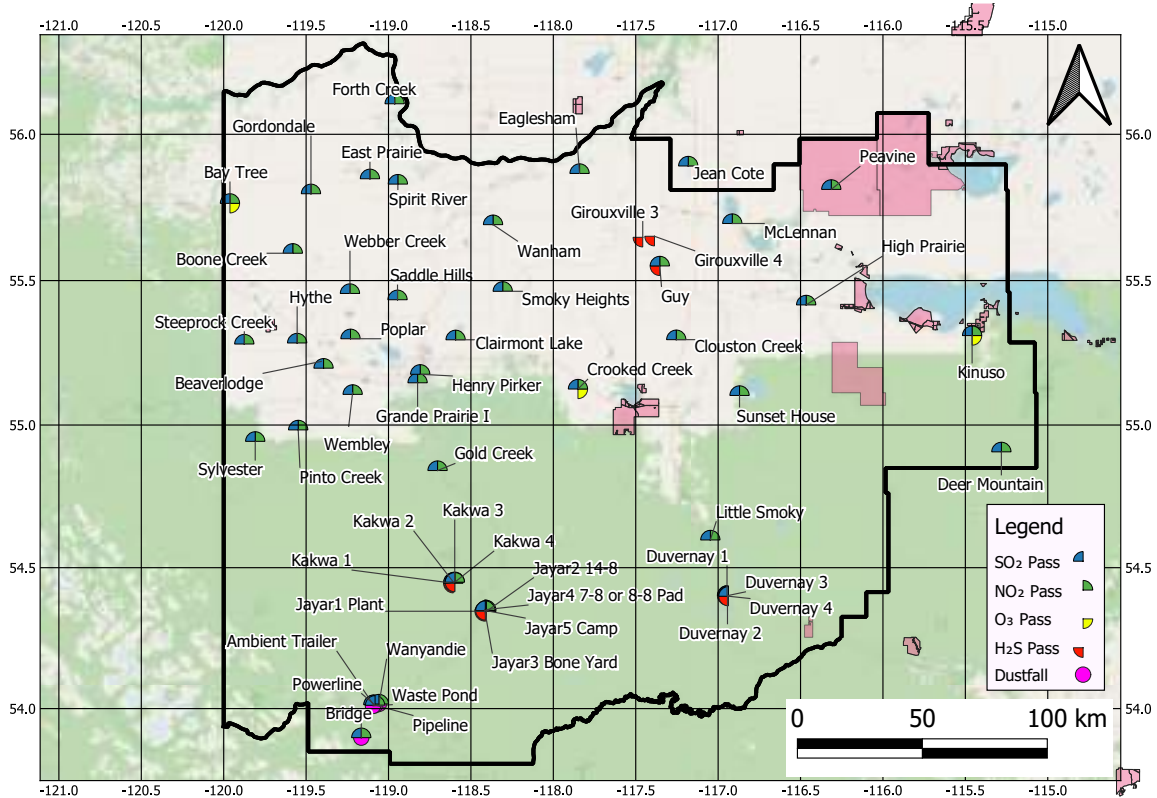
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PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 March 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 - March 2024 Beaverlodge Station Report

Parameter	March			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
SO ₂ (pph)	0.7	0.0	94.6%	99.6%	20.2	-	Mar-12 09:00	3.2	-	Mar-12	-	-	-	-	Mar-05, 2024
NO _x (pph)	4.4	0.4	94.6%	99.6%	25.9	159	Mar-05 06:00	11.3	-	Mar-12	0	-	-	-	Mar-05, 2024
NO _y (pph)	3.1	0.5	94.6%	99.6%	45.0	-	Mar-12 09:00	14.5	-	Mar-12	-	-	-	-	Mar-05, 2024
O ₃ (pph)	34.7	4.8	94.6%	99.6%	52.0	76	Mar-18 15:00	45.2	-	Mar-18	0	-	-	-	Mar-05, 2024
PM _{2.5} (µg/m ³)	3.5	0.1	99.3%	99.7%	14.7	80	Mar-05 01:00	6.4	25	Mar-23	0	-	0	-	Mar-06, 2024
SO _x (pph)	0.9	0.0	94.6%	99.3%	17.4	172	Mar-04 20:00	3.2	46	Mar-04	0	-	0	0	Mar-06, 2024
Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	-2.6	-23.9	93.3%	95.5%	20.1	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>									
RH (%)	60.6	17.3	100.0%	100.0%	97.5										
WS (m/s/hr)	9.8	0.2	100.0%	100.0%	45.0	<div style="border: 1px solid black; padding: 5px;"> Average Wind Direction: 326 MW </div>									
WD (deg)	326	1.3	100.0%	100.0%	358.3										

Update Summary:

Parameter	Make	Model	Equipment summary
NO _x /NO ₂ /NO _y	Thermo	42IQ	Mar 20 A EPA audit, 3hrs removed
O ₃	Thermo	89IQ	Mar 20 A EPA audit, 3hrs removed
PM _{2.5}	API	T640	Mar 20 A EPA audit, 2hrs removed
SO ₂	Thermo	43-TLE	Mar 3, 2hrs removed due to loss of air flow, Mar 20 A EPA audit, 3hrs removed
Met Equip	MetOne	50.5	For ET, daily drop removed every day 04:21-04:45 (25hrs); Mar 6-20 extreme data shifts (4hrs removed)

1.2 Dunes Air Monitoring Station

PAZA - March 2024 Dunes Station Report

Parameter	March			Operational	Max	1-hour		24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
PM _{2.5} (µg/m ³)	2.5	0.0	99.2%	99.7%	18.7	80	Mar-06 10:00	10.5	25	Mar-06	0	-	0	-	Mar-11-2024
SO ₂ (pph)	0.7	0.0	94.6%	99.6%	18.8	172	Mar-04 19:00	4.0	46	Mar-04	0	-	0	0	Mar-11-2024
TRs (pph)	0.4	0.0	94.6%	99.6%	3.0	10	Mar-14 10:00	0.8	5	Mar-08	0	-	0	-	Mar-11-2024
Average	Minimum	Valid	Operational	Maximum											
Temp (°C)	-3.2	-27.8	100.0%	100.0%	21.2	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 90% </div>									
RH (%)	59.9	15.0	100.0%	100.0%	97.0										
WS (m/s/hr)	4.1	0.1	100.0%	100.0%	14.2	<div style="border: 1px solid black; padding: 5px;"> Average Wind Direction: 343 NNW </div>									
WD (deg)	343	0.0	100.0%	100.0%	360.0										

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Thermo	SHARP 5030	March 20, A EPA Audit performed, 2hrs marked as maintenance
SO ₂	Thermo	43i	March 20, A EPA Audit performed, 3hrs marked as maintenance
TRs	Thermo	43i	March 20, A EPA Audit performed, 3hrs marked as maintenance
Met Equip	GI/RMYoung	MecPak/RMY86004	No Operational issues noted during the month

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - March 2024 Henry Pirker Station Report

Parameter	March				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)	5.6	0.0	93.0%	97.7%	103.6	-	Mar-07 09:00	36.0	-	Mar-06	-	-	-	-	Mar 05, 2024																																				
NO ₂ (ppb)	11.1	1.2	93.0%	97.7%	52.2	100	Mar-07 00:00	35.8	-	Mar-06	0	-	-	-	Mar 05, 2024																																				
NO _x (ppb)	16.8	1.4	93.0%	97.7%	152.1	-	Mar-08 23:00	71.8	-	Mar-06	-	-	-	-	Mar 05, 2024																																				
O ₃ (ppb)	27.1	0.3	93.2%	97.7%	50.6	78	Mar-18 16:00	57.3	-	Mar-31	0	-	-	-	Mar 05, 2024																																				
PM ₁₀ (µg/m ³)	5.0	0.5	93.5%	96.7%	40.6	80	Mar-28 23:00	13.6	25	Mar-06	0	-	0	-	Mar 06, 2024																																				
SO ₂ (ppb)	0.6	0.0	93.3%	97.7%	19.5	172	Mar-04 17:00	2.9	48	Mar-04	0	-	0	0	Mar 06, 2024																																				
H ₂ S (ppb)	0.2	0.0	93.2%	97.7%	1.5	30	Mar-06 14:00	0.6	5	Mar-06	0	-	0	-	Mar 06, 2024																																				
CH ₄ (ppm)	2.2	2.0	93.0%	97.6%	3.9	-	Mar-08 02:00	2.6	-	Mar-06	-	-	-	-	Mar 07, 2024																																				
THC (ppm)	2.2	2.0	93.0%	97.6%	6.4	-	Mar-06 13:00	3.0	-	Mar-06	-	-	-	-	Mar 07, 2024																																				
NMHC (ppm)	0.02	0.0	93.0%	97.6%	3.8	-	Mar-06 13:00	0.4	-	Mar-06	-	-	-	-	Mar 07, 2024																																				
CO (ppm)	0.2	0.1	94.2%	97.7%	1.1	33	Mar-08 22:00	0.5	9	Mar-08	0	0	-	-	Mar 07, 2024																																				
<table border="1"> <thead> <tr> <th>Parameter</th> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>-2.4</td> <td>-27.3</td> <td>100.0%</td> <td>100.0%</td> <td>23.9</td> </tr> <tr> <td>RH (%)</td> <td>56.4</td> <td>17.2</td> <td>100.0%</td> <td>100.0%</td> <td>85.7</td> </tr> <tr> <td>SR (W/m²)</td> <td>208.8</td> <td>0.0</td> <td>100.0%</td> <td>100.0%</td> <td>584.3</td> </tr> <tr> <td>WS (km/hr)</td> <td>5.9</td> <td>0.1</td> <td>100.0%</td> <td>100.0%</td> <td>30.9</td> </tr> <tr> <td>WD (deg)</td> <td>303</td> <td>0.7</td> <td>100.0%</td> <td>100.0%</td> <td>359.6</td> </tr> </tbody> </table>																Parameter	Average	Minimum	Valid	Operational	Maximum	Temp (°C)	-2.4	-27.3	100.0%	100.0%	23.9	RH (%)	56.4	17.2	100.0%	100.0%	85.7	SR (W/m ²)	208.8	0.0	100.0%	100.0%	584.3	WS (km/hr)	5.9	0.1	100.0%	100.0%	30.9	WD (deg)	303	0.7	100.0%	100.0%	359.6
Parameter	Average	Minimum	Valid	Operational	Maximum																																														
Temp (°C)	-2.4	-27.3	100.0%	100.0%	23.9																																														
RH (%)	56.4	17.2	100.0%	100.0%	85.7																																														
SR (W/m ²)	208.8	0.0	100.0%	100.0%	584.3																																														
WS (km/hr)	5.9	0.1	100.0%	100.0%	30.9																																														
WD (deg)	303	0.7	100.0%	100.0%	359.6																																														
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> <p>Average Wind Direction: 301 WNW</p>																																																			

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed
O ₃	TECO	49i	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed
PM ₁₀	API	T640	Mar 20 AEPA audit, 2hrs removed
SO ₂	Thermo	43i-TLE	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed
H ₂ S	TEI	45Di	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed
THC/CH ₄ /NMHC	TEI	55i	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed; March 26, 1hr removed due to excessive drift
CO	Thermo	48i-TLE	March 1 manifold flow was lost (10hrs removed); Mar 20 AEPA audit, 5hrs removed
Met Equip	MetOne	50.5	No operational issues

1.4 Smoky Heights Air Monitoring Station

PAZA - March 2024 Smoky Heights Station Report

Parameter	March				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 ₁₀ (µg/m ³)	3.4	0.0	98.4%	99.5%	18.6	80	Mar-30 23:00	8.1	25	Mar-25	0	-	0	-	Mar 04, 2024																								
SO ₂ (ppb)	0.3	0.0	94.5%	99.7%	4.6	172	Mar-15 02:00	0.8	48	Mar-06	0	-	0	0	Mar 04, 2024																								
FRS (ppb)	0.2	0.0	93.7%	98.5%	1.6	30	Mar-04 09:00	0.5	5	Mar-04	0	-	0	-	Mar 04, 2024																								
<table border="1"> <thead> <tr> <th>Parameter</th> <th>Average</th> <th>Minimum</th> <th>Valid</th> <th>Operational</th> <th>Maximum</th> </tr> </thead> <tbody> <tr> <td>Temp (°C)</td> <td>-3.7</td> <td>-31.2</td> <td>100.0%</td> <td>100.0%</td> <td>19.1</td> </tr> <tr> <td>WS (km/hr)</td> <td>10.8</td> <td>0.3</td> <td>100.0%</td> <td>100.0%</td> <td>47.8</td> </tr> <tr> <td>WD (deg)</td> <td>272</td> <td>0.3</td> <td>100.0%</td> <td>100.0%</td> <td>358.6</td> </tr> </tbody> </table>																Parameter	Average	Minimum	Valid	Operational	Maximum	Temp (°C)	-3.7	-31.2	100.0%	100.0%	19.1	WS (km/hr)	10.8	0.3	100.0%	100.0%	47.8	WD (deg)	272	0.3	100.0%	100.0%	358.6
Parameter	Average	Minimum	Valid	Operational	Maximum																																		
Temp (°C)	-3.7	-31.2	100.0%	100.0%	19.1																																		
WS (km/hr)	10.8	0.3	100.0%	100.0%	47.8																																		
WD (deg)	272	0.3	100.0%	100.0%	358.6																																		
<p>Note: Valid hours must be greater than 75% Operational hours must be greater than 90%</p> <p>Average Wind Direction: 272 WNW</p>																																							

Update Summary:

Parameter	Make	Model	Equipment summary
PM ₁₀	Sharp	5030	Mar 19 AEPA audit, 1hr removed; Mar 4 attempted to swap analyzer, leak check failed, analyzer not changed until Mar 28 (5hrs maintenance)
SO ₂	TECO	49i	Mar 19 AEPA audit, 2hrs removed
FRS	TEI	43i/APSA	Mar 15 removal cal for SOX swap and oxidizer temp adjust (9hrs maintenance); Mar 19 AEPA audit, 2hrs removed
Met Equip	MetOne	50.5	No Operational issues noted during the month

1.5 Valleyview Air Monitoring Station

PAZA - March 2024 Valleyview Station Report

Parameter	March				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
SO ₂ (ppb)	0.2	0.0	94.5%	99.6%	2.6	172	Mar-05 09:00	0.8	48	Mar-31	0	-	0	0	Mar-07, 2024
H ₂ S (ppb)	0.1	0.0	94.8%	99.6%	4.0	38	Mar-21 00:00	1.2	5	Mar-21	0	-	0	-	Mar-07, 2024
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	-3.2	-34.2	100.0%	100.0%	23.3	<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 (%)	65.6	21.0	100.0%	100.0%	97.8										
WS (m/s)	4.4	0.1	100.0%	100.0%	19.5										
WD (deg)	330	0.6	100.0%	100.0%	359.9	<div style="border: 1px solid black; padding: 2px;"> Average Wind Direction 330 MW </div>									

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	TEI	43-AFSCB	Mar 18 AEPA audit, 3hrs removed
H ₂ S	TEI	450-APHAA / 43C	Mar 18 AEPA audit, 3hrs removed
Mnt Equip	RMYoung	RMYB6004	No Operational issues noted

1.6 Fox Creek Air Monitoring Station

PAZA - March 2024 Fox Creek Station Report

Parameter	March				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		30d
NO (ppb)	6.6	0.0	94.5%	99.3%	83.2	-	Mar-07 07:00	21.3	-	Mar-06	-	-	-	-	Mar-21, 2024
NO ₂ (ppb)	10.1	0.2	94.5%	99.3%	55.0	150	Mar-07 06:00	20.6	-	Mar-06	0	-	-	-	Mar-21, 2024
NO _x (ppb)	16.9	0.3	94.5%	99.3%	133.7	-	Mar-07 07:00	42.3	-	Mar-06	-	-	-	-	Mar-21, 2024
O ₃ (ppb)	50.0	0.1	94.5%	99.2%	56.1	78	Mar-18 15:00	42.6	-	Mar-27	0	-	-	-	Mar-21, 2024
PM _{2.5} (µg/m ³)	8.1	0.6	99.5%	99.7%	56.0	80	Mar-07 09:00	17.3	25	Mar-06	0	-	0	-	Mar-21, 2024
SO ₂ (ppb)	0.5	0.0	94.6%	99.3%	29.7	172	Mar-31 08:00	2.5	48	Mar-31	0	-	0	0	Mar-21, 2024
H ₂ S (ppb)	0.2	0.0	89.8%	94.4%	1.0	38	Mar-05 07:00	0.4	5	Mar-08	0	-	0	-	Mar-22, 2024
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	-2.9	-27.4	100.0%	100.0%	22.9	<div style="border: 1px solid black; padding: 5px;"> Note: Valid hours must be greater than 75% Operational hours must be greater than 50% </div>									
WS (m/s)	6.4	0.2	100.0%	100.0%	19.4										
WD (deg)	170	0.1	100.0%	100.0%	359.8	<div style="border: 1px solid black; padding: 2px;"> Average Wind Direction 170 S </div>									

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42IQ	Mar 18 AEPA audit, 5hrs removed
O ₃	TECO	49I	Mar 18 AEPA audit, 5hrs removed, Mar 22 impacts from air flow in manifold (1hr removed)
PM _{2.5}	API	T640	Mar 18 AEPA audit, 2hrs removed
SO ₂	TEI	43I-TLE	Mar 18 AEPA audit, 5hrs removed
H ₂ S	TEI	45D	Mar 18 AEPA audit, 5hrs removed, Mar 25, daily span 49% low, troubleshooting found analog output issues, recalibration performed (32 hrs removed to last good span, 5hrs maintenance)
Mnt Equip	MetOne	50.5	No operational issues

1.7 Poplar Air Monitoring Station

PAZA - March 2024 Poplar Station Report

Parameter	March				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)	1.4	0.0	91.0%	95.0%	22.8	-	Mar-06 10:00	8.9	-	Mar-06	-	-	-	-	Mar 14, 2024
NO ₂ (ppb)	3.7	0.0	91.0%	95.0%	36.8	150	Mar-06 20:00	18.4	-	Mar-06	0	-	-	-	Mar 14, 2024
NO _x (ppb)	7.2	0.0	91.0%	95.0%	49.9	-	Mar-06 10:00	25.6	-	Mar-06	-	-	-	-	Mar 14, 2024
O ₃ (ppb)	51.3	2.0	91.1%	95.0%	52.2	78	Mar-18 15:00	40.0	-	Mar-18	0	-	-	-	Mar 14, 2024
PM _{2.5} (µg/m ³)	3.7	0.2	95.7%	95.0%	13.1	80	Mar-24 08:00	9.2	29	Mar-25	0	-	0	-	Mar 22, 2024
SO ₂ (ppb)	0.9	0.0	91.1%	95.0%	12.3	172	Mar-05 04:00	2.2	48	Mar-01	0	-	0	0	Mar 14, 2024
TRS (ppb)	0.5	0.1	90.7%	95.4%	1.6	10	Mar-16 12:00	0.7	5	Mar-11	0	-	0	-	Mar 13, 2024
CH ₄ (ppm)	removed Dec 12, 2022														
THC (ppm)	2.5	2.0	88.6%	92.0%	3.5	-	Mar-07 12:00	2.7	-	Mar-06	-	-	-	-	Mar 22, 2024
NMHC (ppm)	removed Dec 12, 2022														
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	-4.7	-29.2	96.1%	96.1%	18.7										
WS (m/s/hr)	11.7	0.1	96.2%	96.2%	47.4										
WD (deg)	289	1.4	96.2%	96.2%	358.9										
											Note: Valid hours must be greater than 75% Operational hours must be greater than 90%				
											Average Wind Direction: 289 WNW				

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	TEI	421	Mar 13 communications fail (7hrs); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (21hrs)
O ₃	TEI	401	Mar 13 communications fail (7hrs); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (21hrs)
PM _{2.5}	API	T640	Mar 13 communications fail (7hrs); Mar 13 data shift invalid following communication re-connection (2hrs); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (22hrs)
SO ₂	TEI	431	Mar 13 communications fail (7hrs); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (21hrs)
TRS	TEI	431	Mar 13 communications fail (7hrs); Mar 14 impact from air flow (1hr); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (21hrs)
THC	TEI	55i / 51E-LT	Mar 13 communications fail (7hrs); Mar 19 AEPa audit (5hrs); Mar 20-21, power failure (21hrs); Mar 22 span fail, Mar 22 calibration performed, data removed from calibration to end of power failure (20hrs)
Met Equip	MetOne	50.5	Mar 13 communications fail (7hrs); Mar 20-21, power failure (21hrs)

1.8 Milner Air Monitoring Station

PAZA - March 2024 Milner Station Report

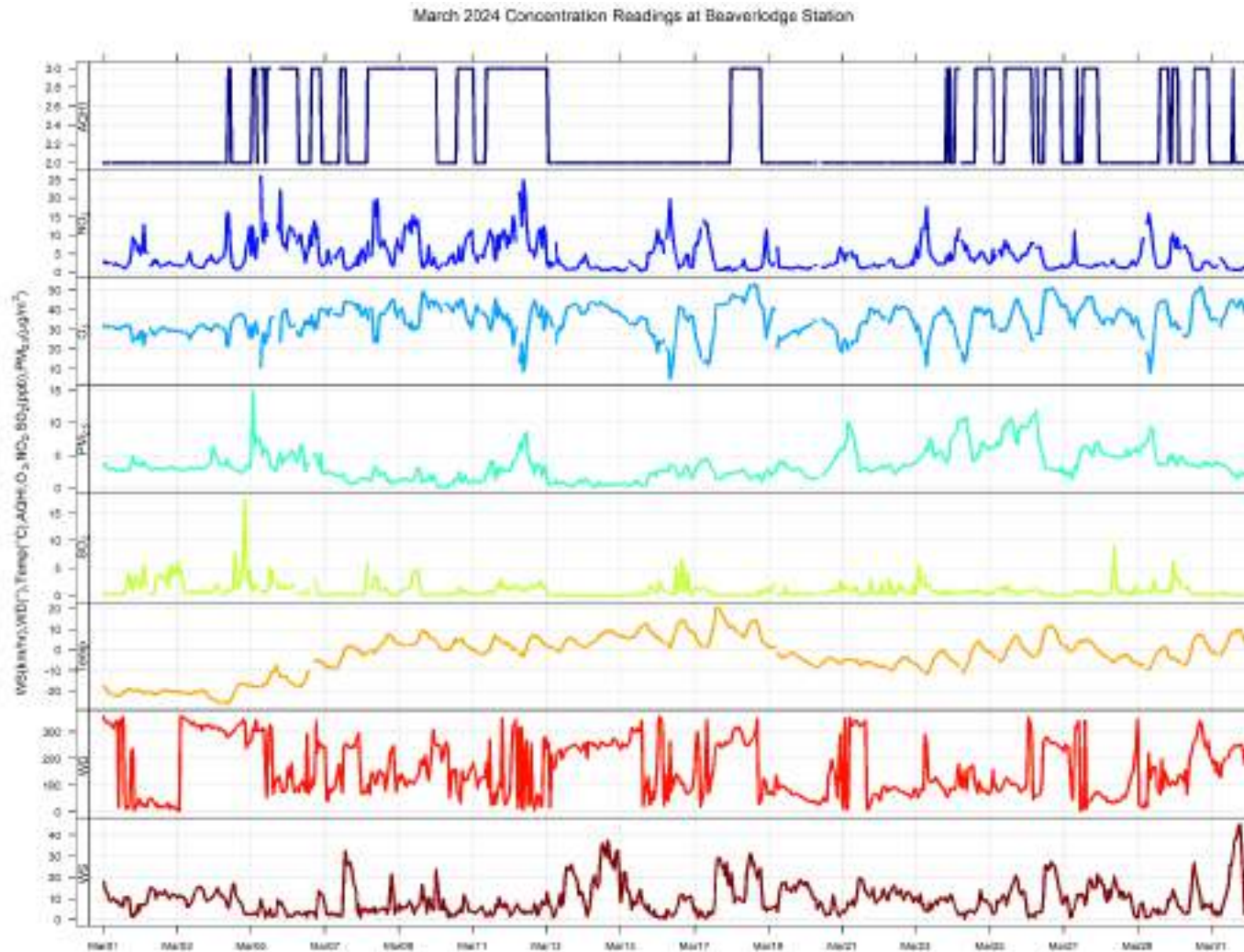
Parameter	March				1-hour			24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.5	0.0	95.2%	100.0%	11.0	-	Mar-11 10:00	1.6	-	Mar-11	-	-	-	-	Mar 27, 2024
NO ₂ (ppb)	2.7	0.0	95.2%	100.0%	21.2	150	Mar-05 07:00	7.0	-	Mar-30	0	-	-	-	Mar 27, 2024
NO _x (ppb)	3.5	0.0	95.2%	100.0%	28.0	-	Mar-26 08:00	8.5	-	Mar-30	-	-	-	-	Mar 27, 2024
PM _{2.5} (µg/m ³)	4.1	0.2	99.7%	100.0%	11.5	80	Mar-30 13:00	14.9	29	Mar-30	0	-	0	-	Mar 27, 2024
	Average	Minimum	Valid	Operational	Maximum										
WS (m/s/hr)	8.4	0.0	100.0%	100.0%	30.4										
WD (deg)	257	0.9	100.0%	100.0%	357.2										
											Note: Valid hours must be greater than 75% Operational hours must be greater than 90%				
											Average Wind Direction: 257 WSW				

Update Summary:

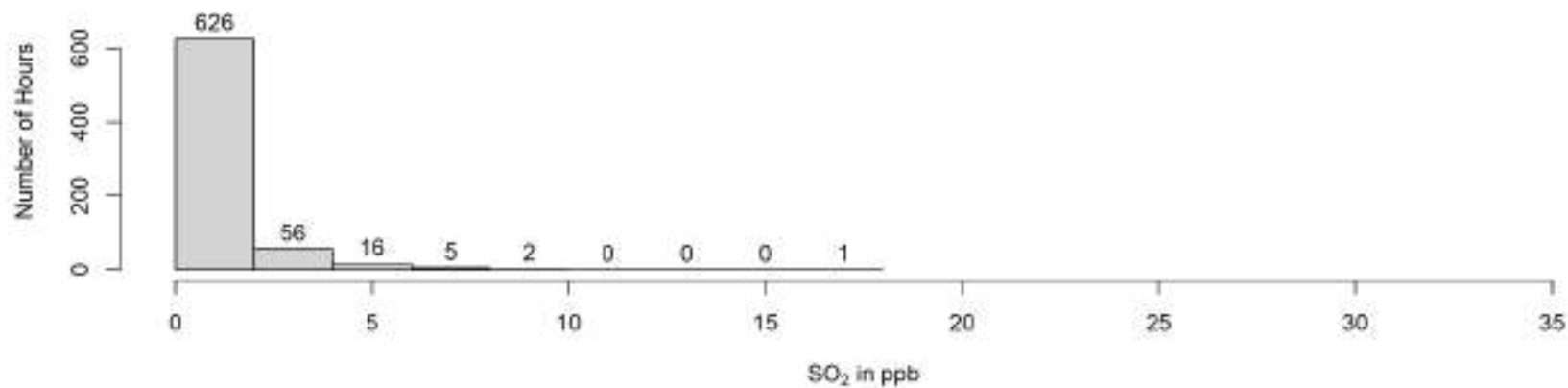
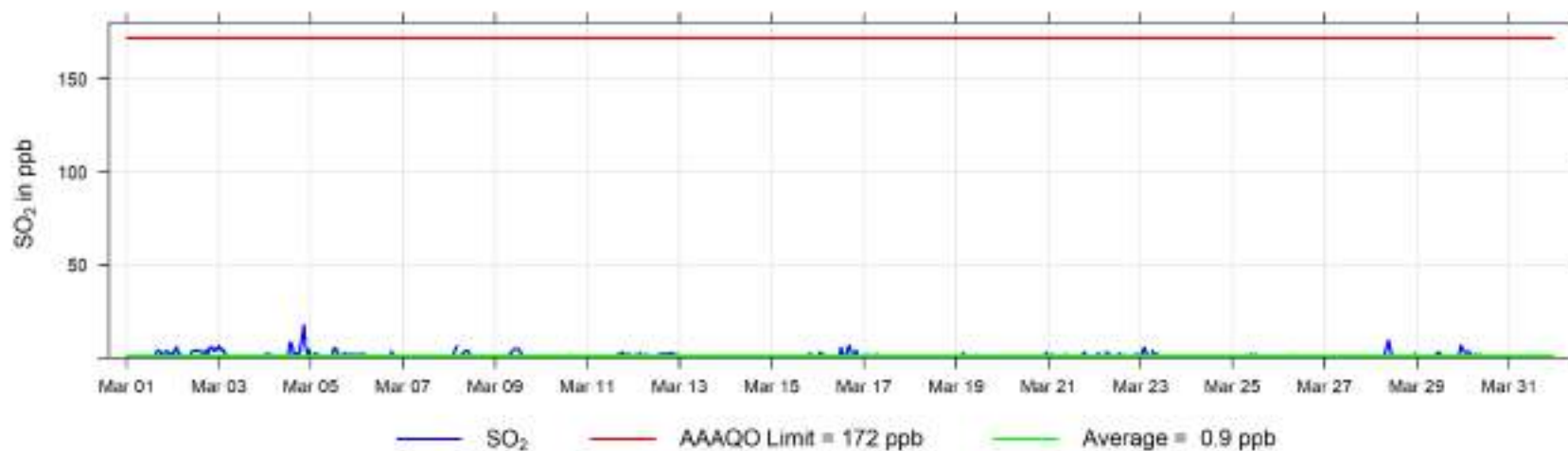
Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	421	No Operational issues noted
PM _{2.5}	API	T640	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

2 Beaverlodge Charts

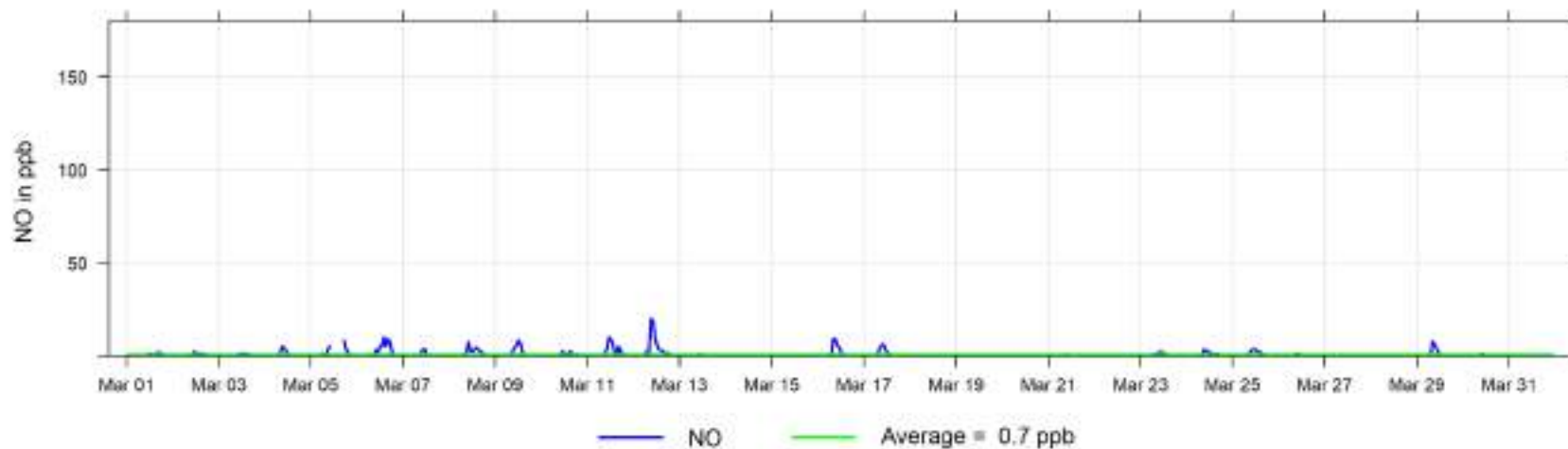
The following pages include the charts and histograms for Beaverlodge Station



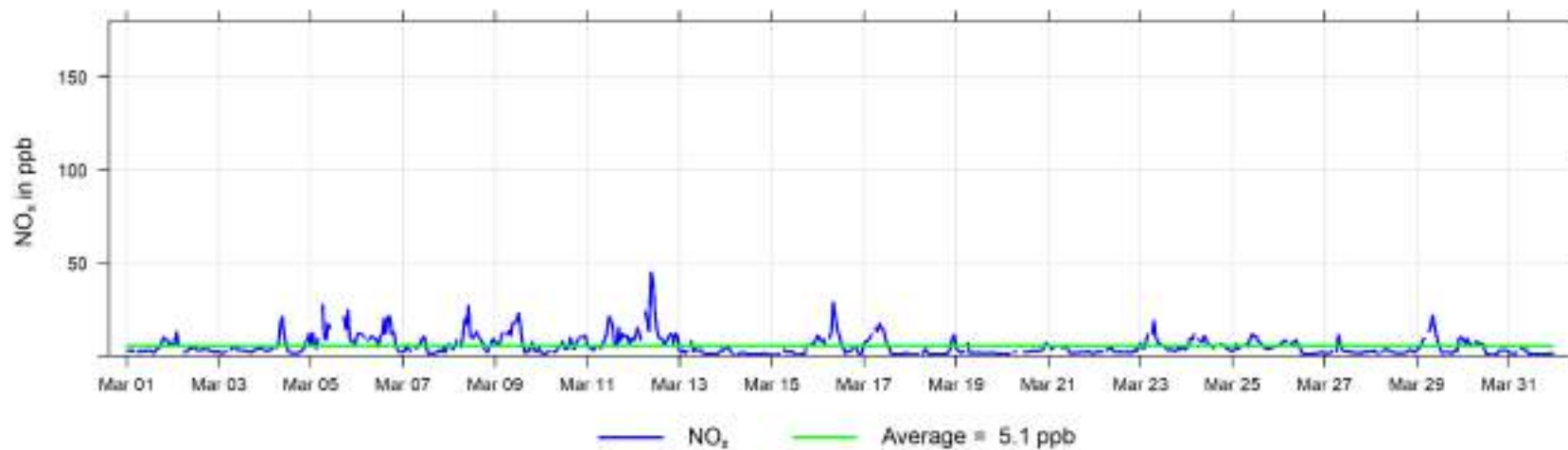
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Beaverlodge



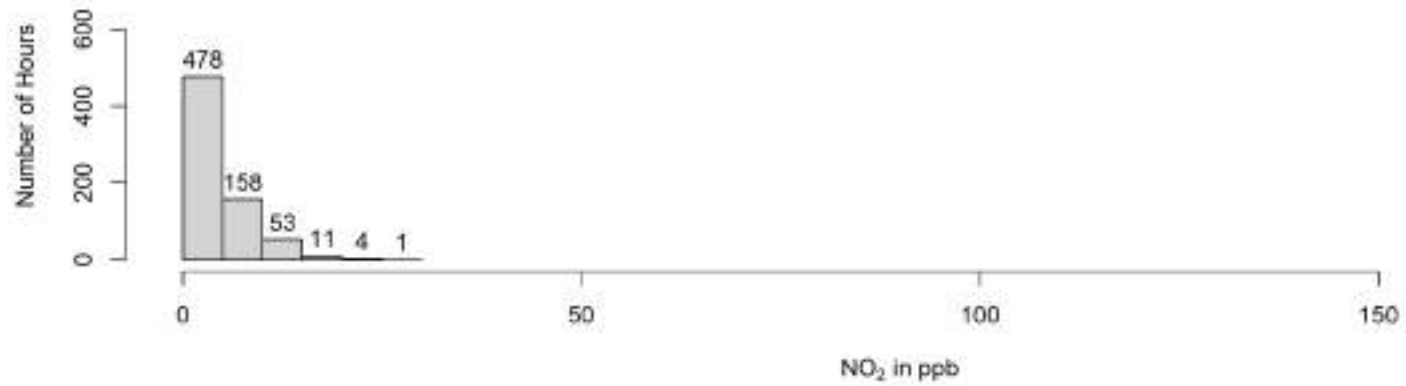
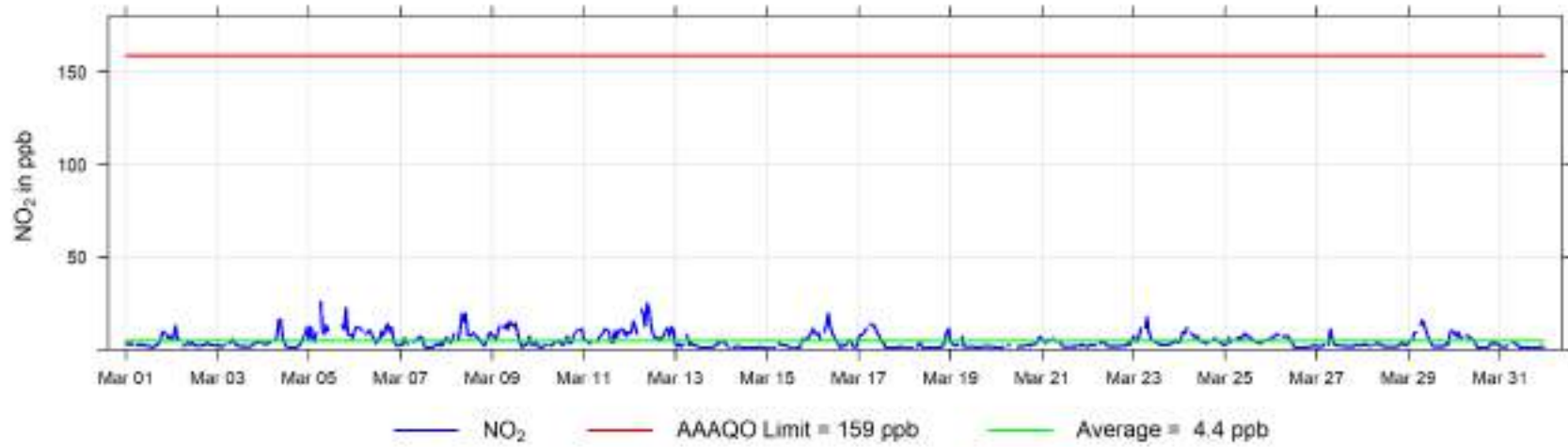
March 2024 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



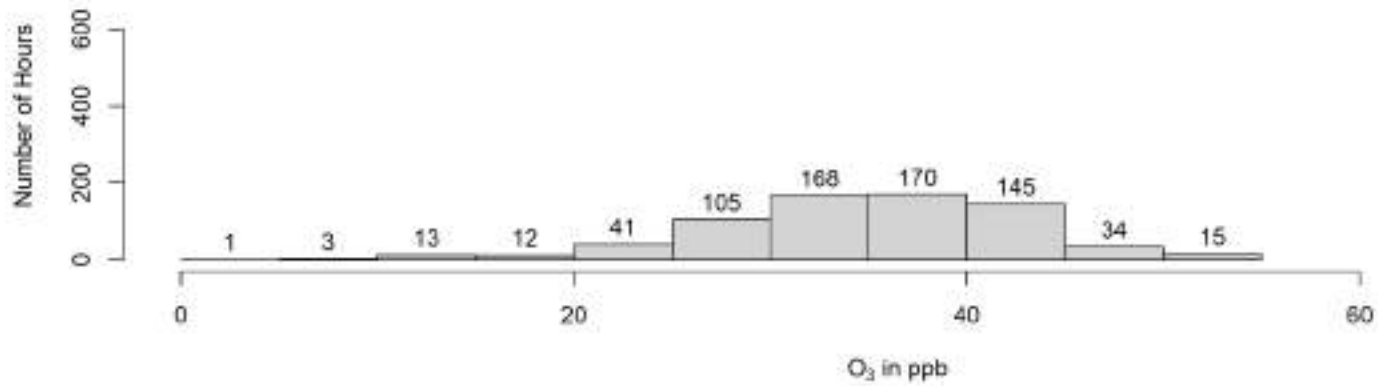
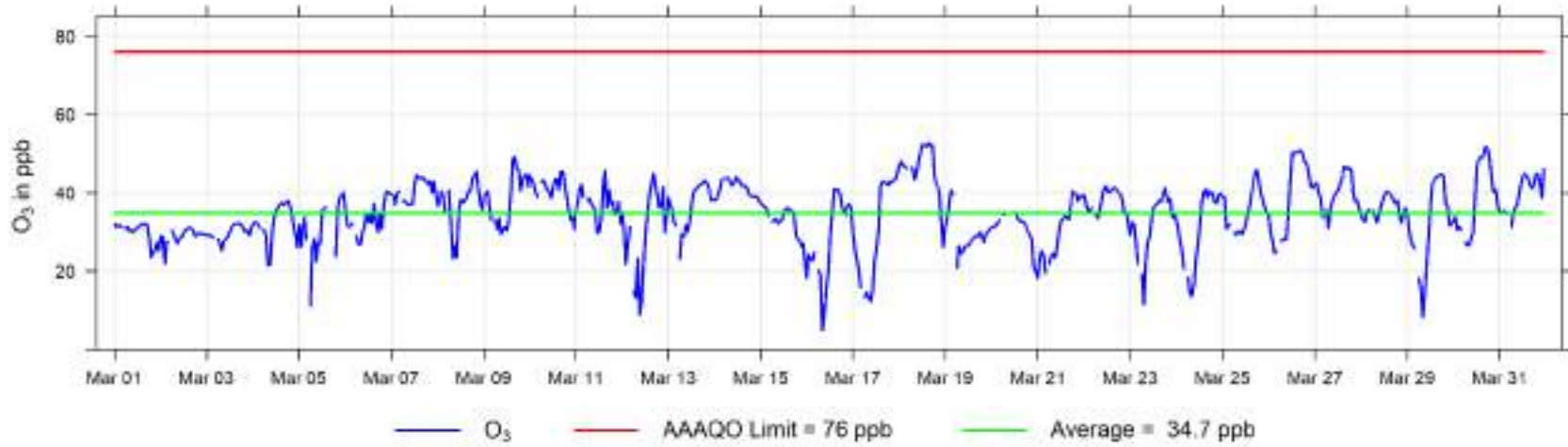
March 2024 Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge



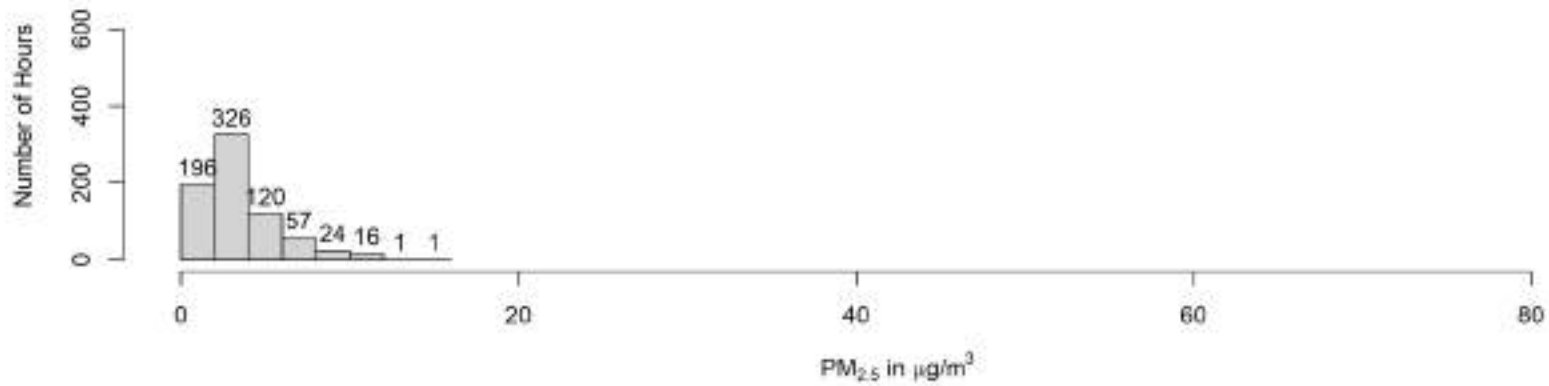
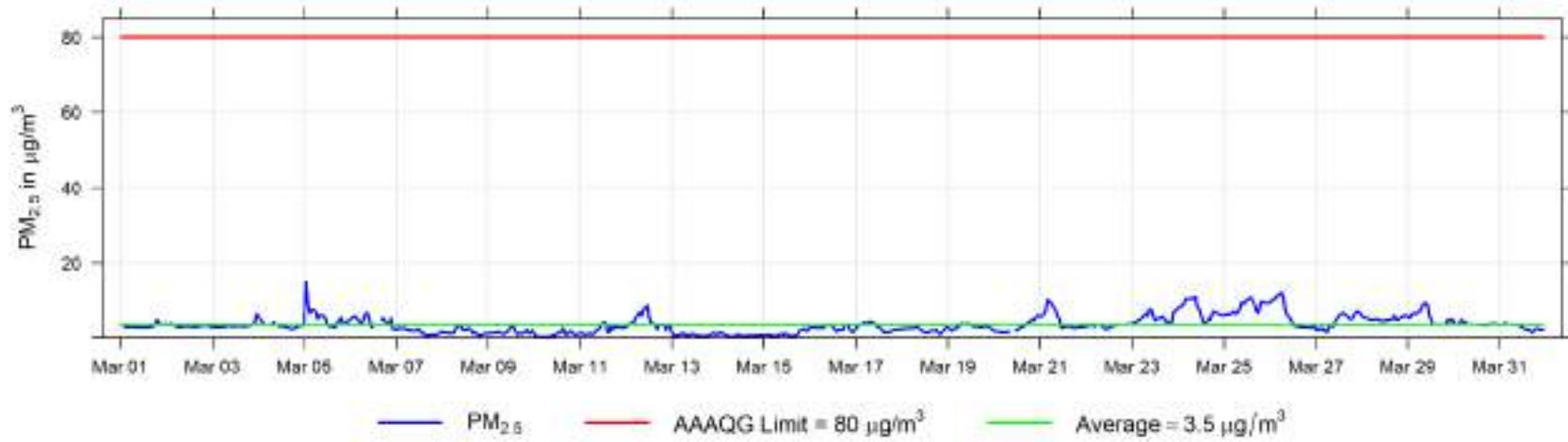
March 2024 Hourly Concentration Readings of NO₂ (in ppb) at Beaverlodge



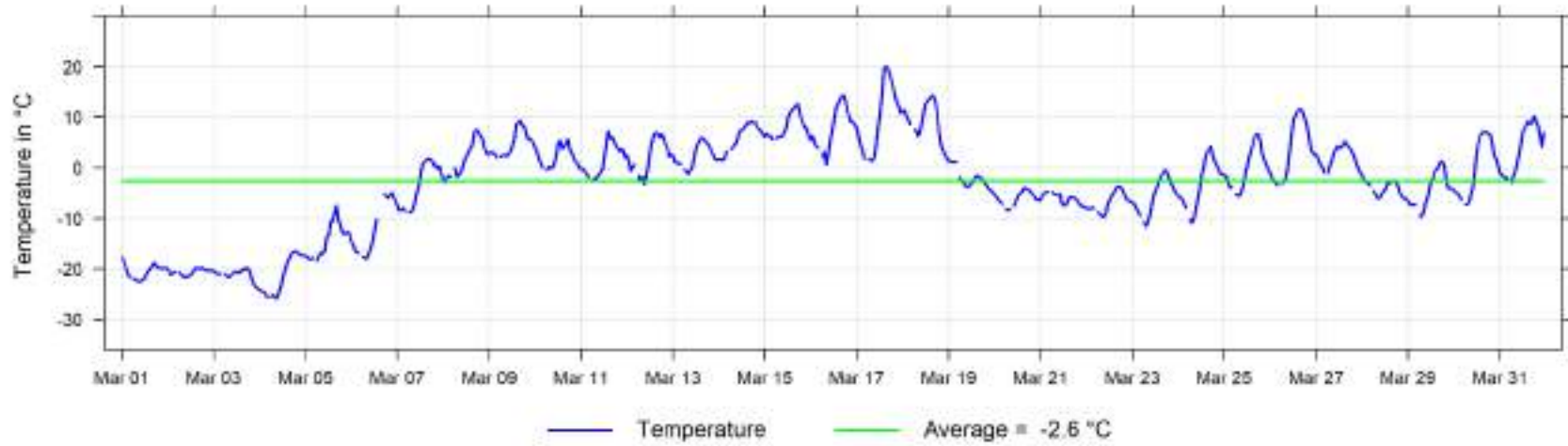
March 2024 Hourly Concentration Readings of O₃ (in ppb) at Beaverlodge



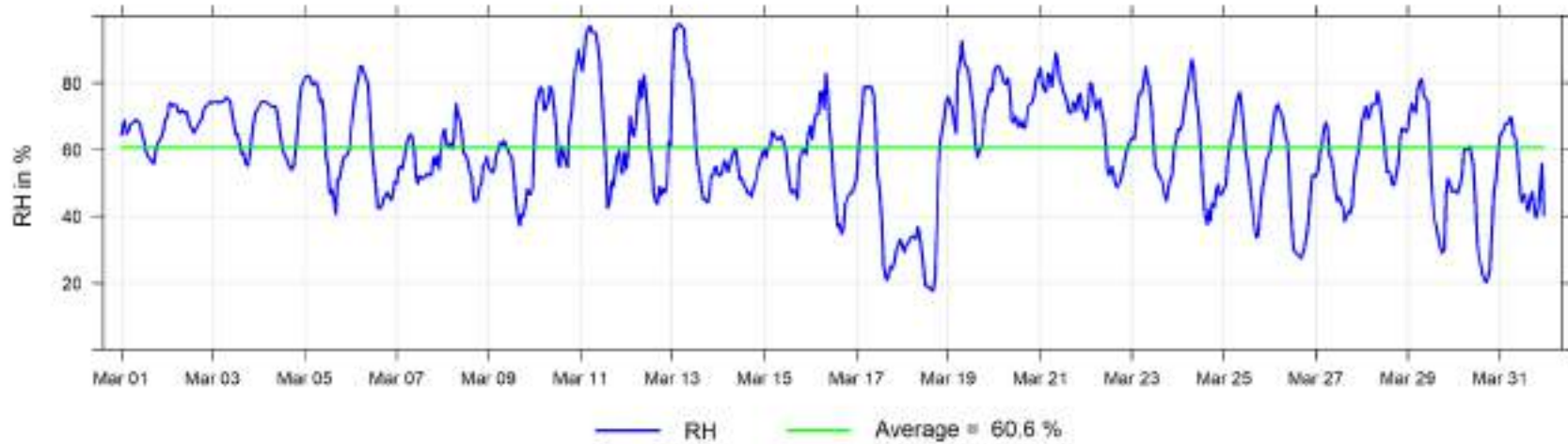
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Beaverlodge



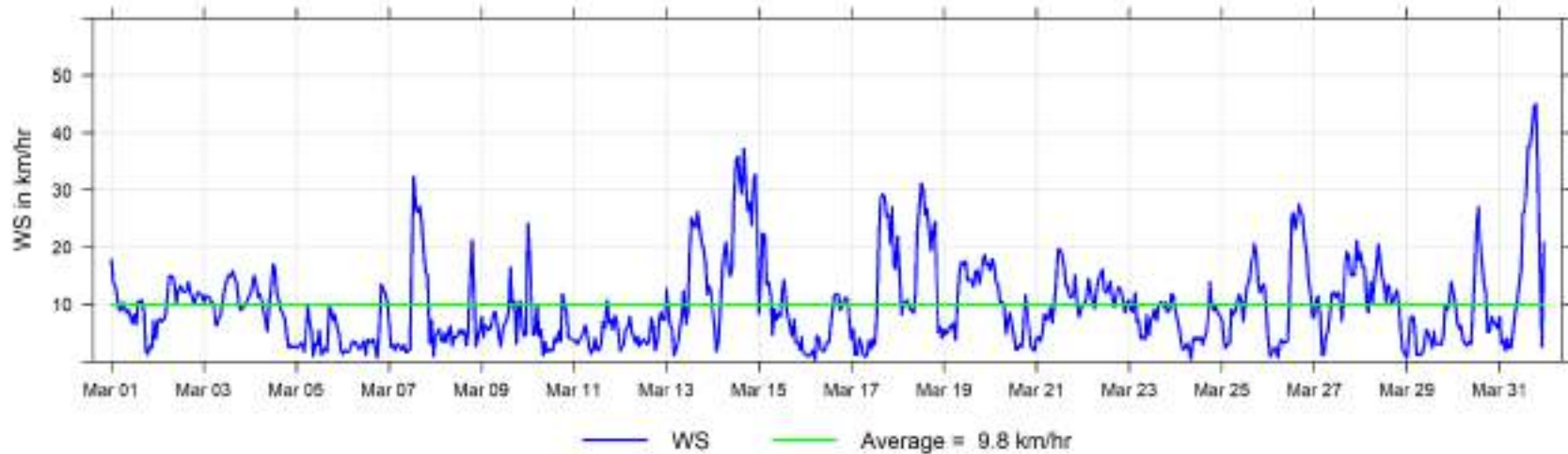
March 2024 Hourly Temperature Readings (in °C) at Beaverlodge



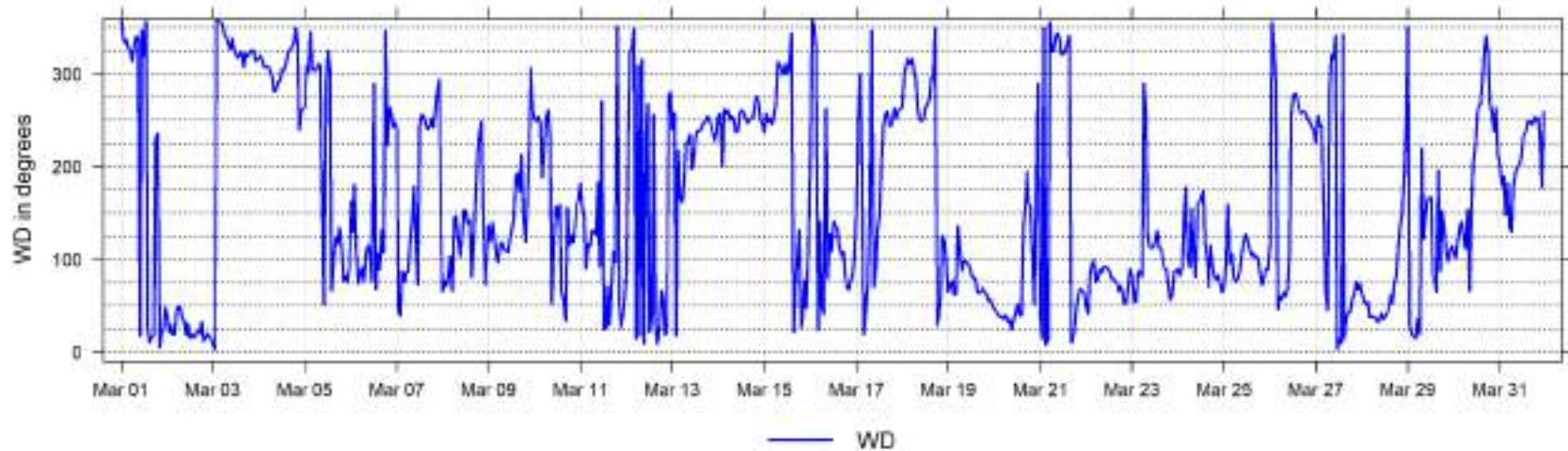
March 2024 Hourly Readings of Relative Humidity (in %) at Beaverlodge



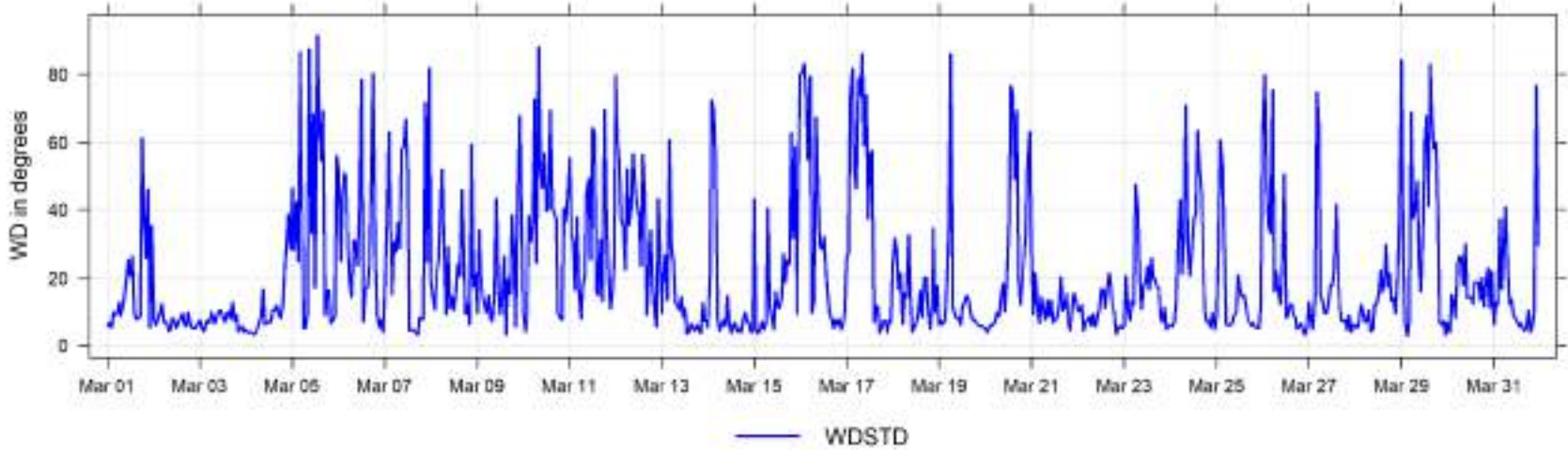
March 2024 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

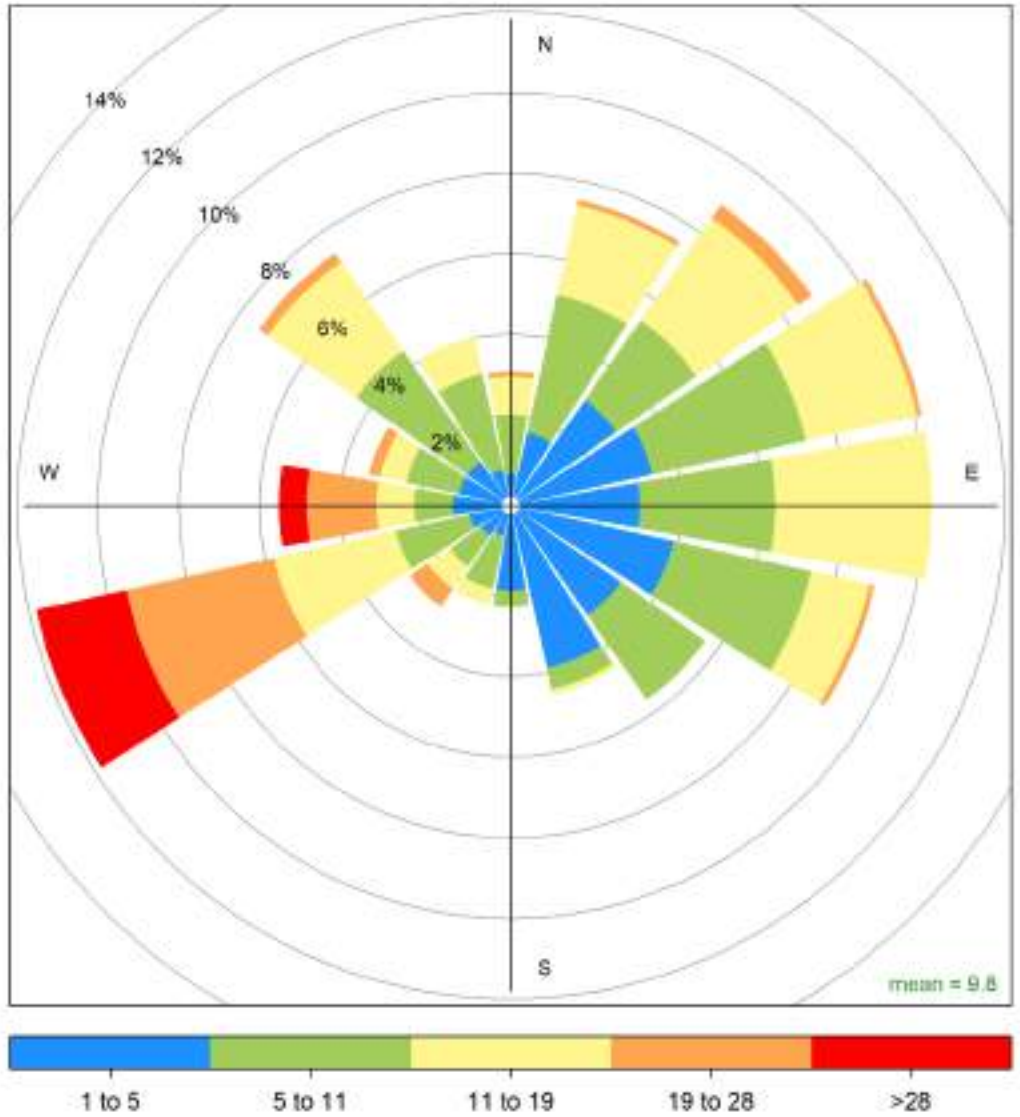


March 2024 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



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

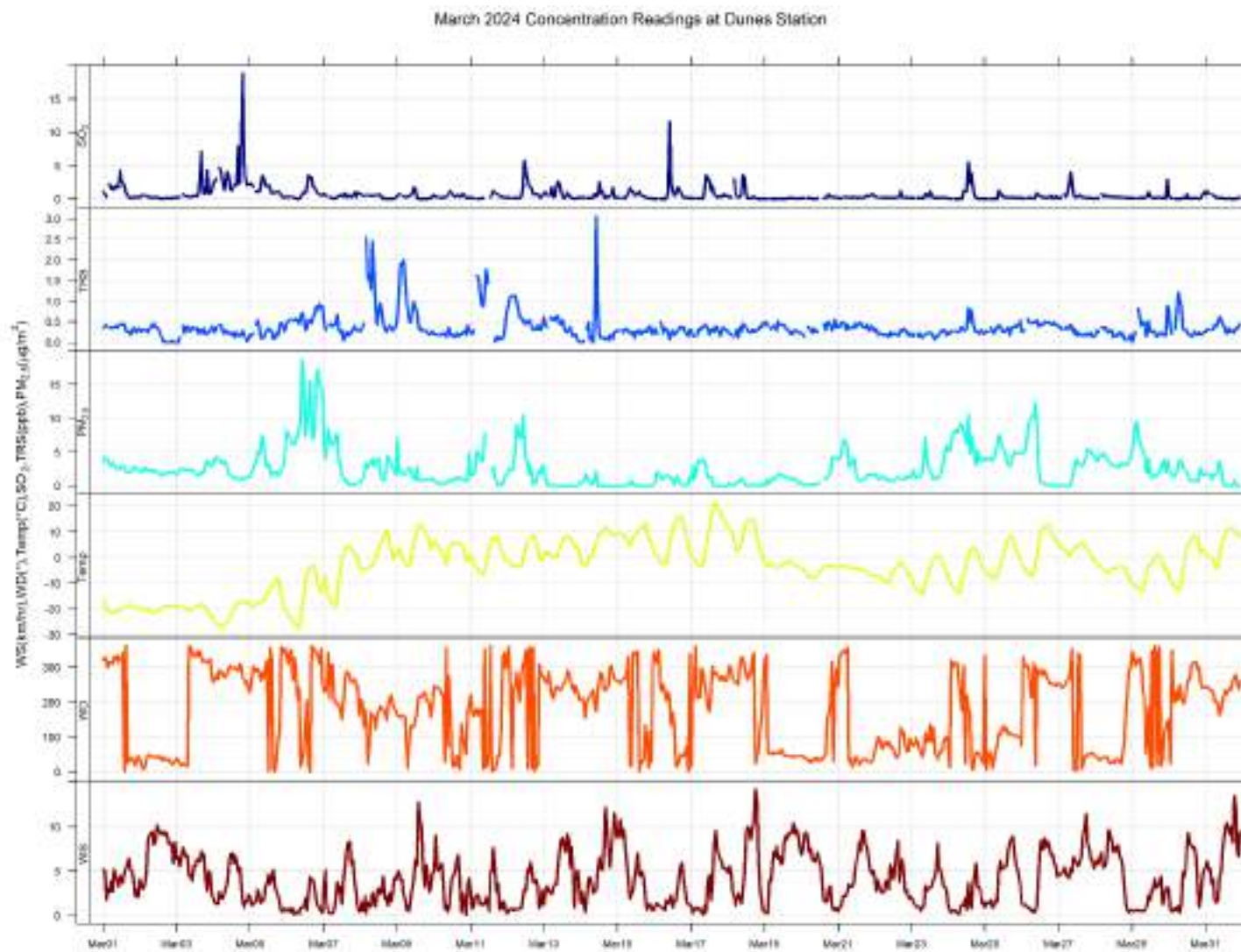




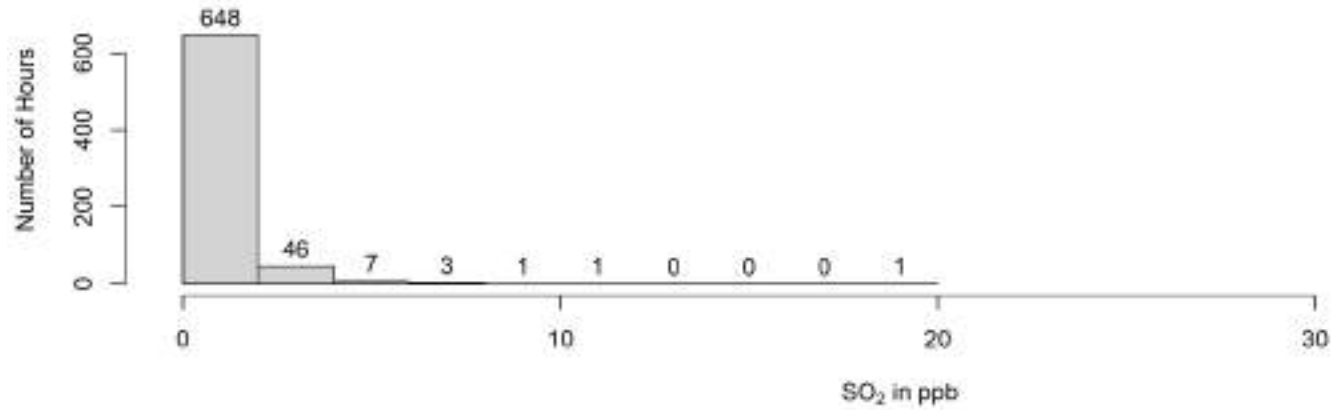
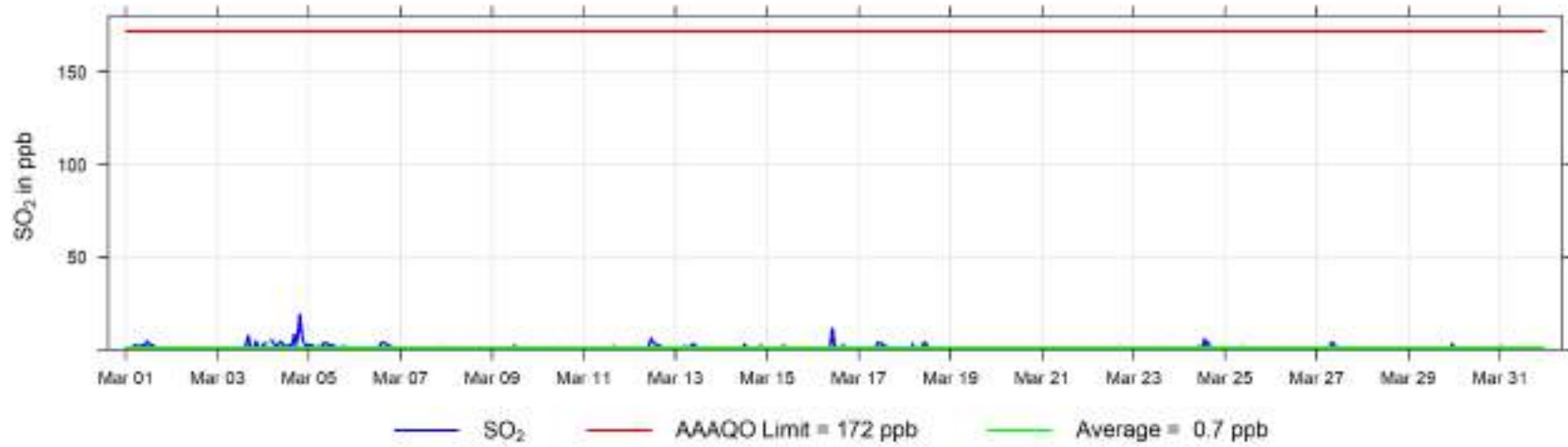
Beaverlodge March 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 1.5 %

3 Dunes Charts

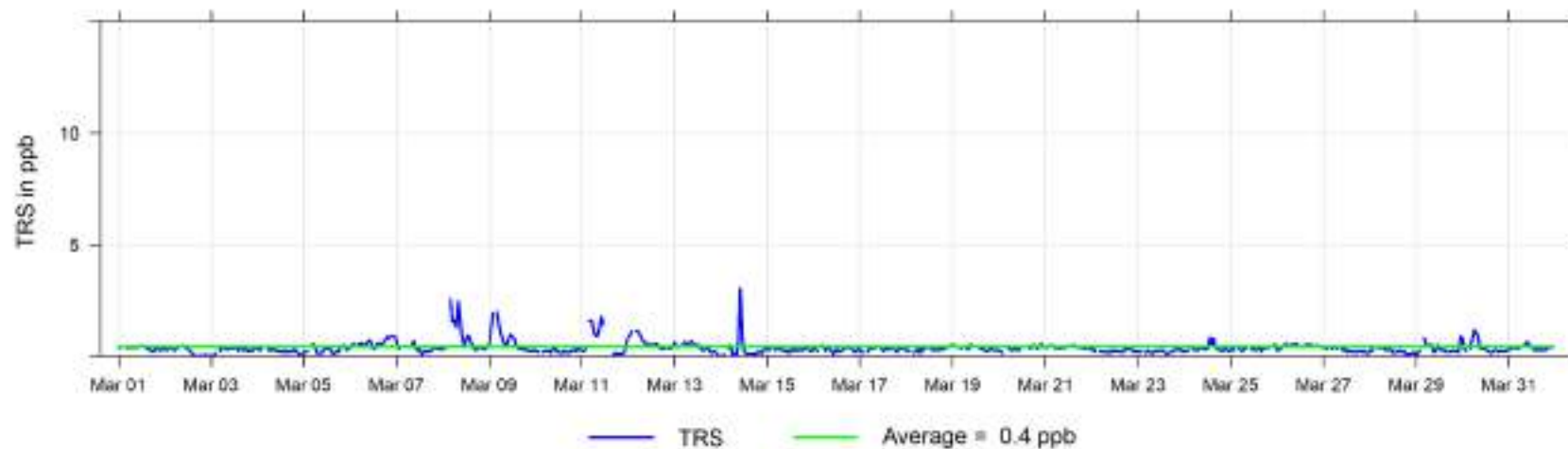
The following pages include the charts and histograms for Dunes Station



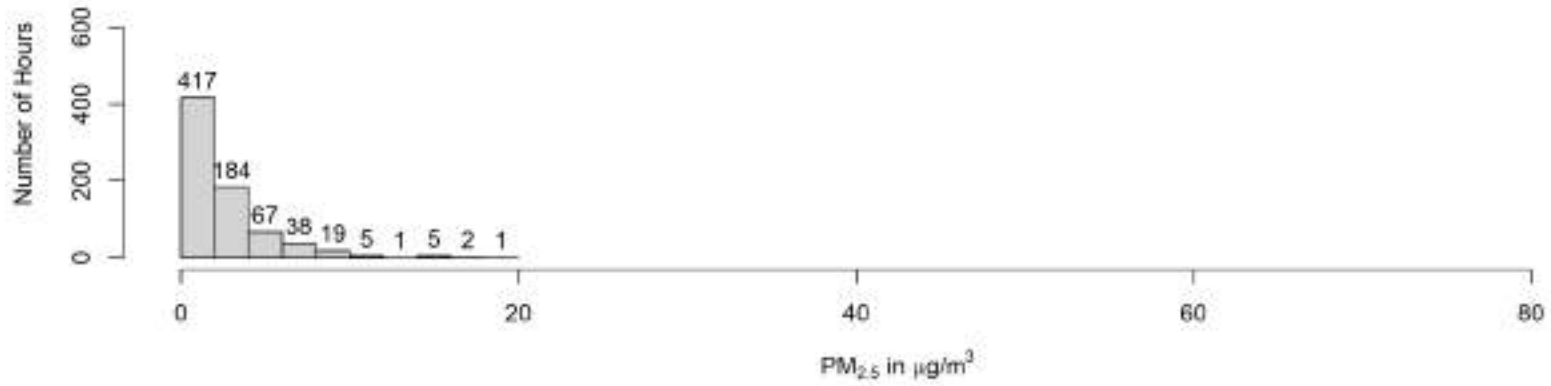
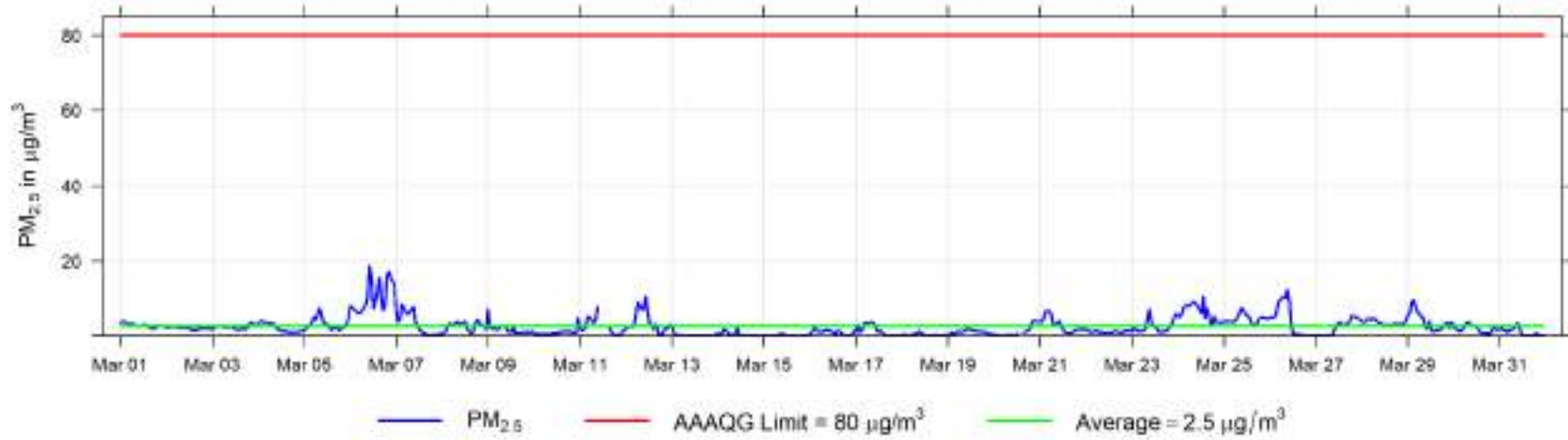
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Dunes



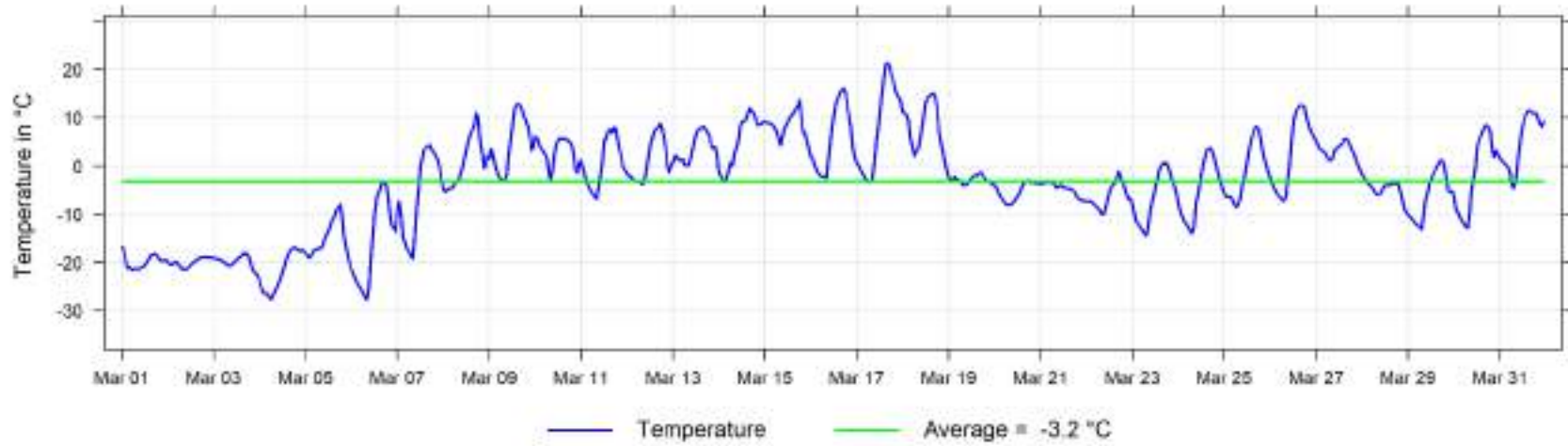
March 2024 Hourly Concentration Readings of TRS (in ppb) at Dunes



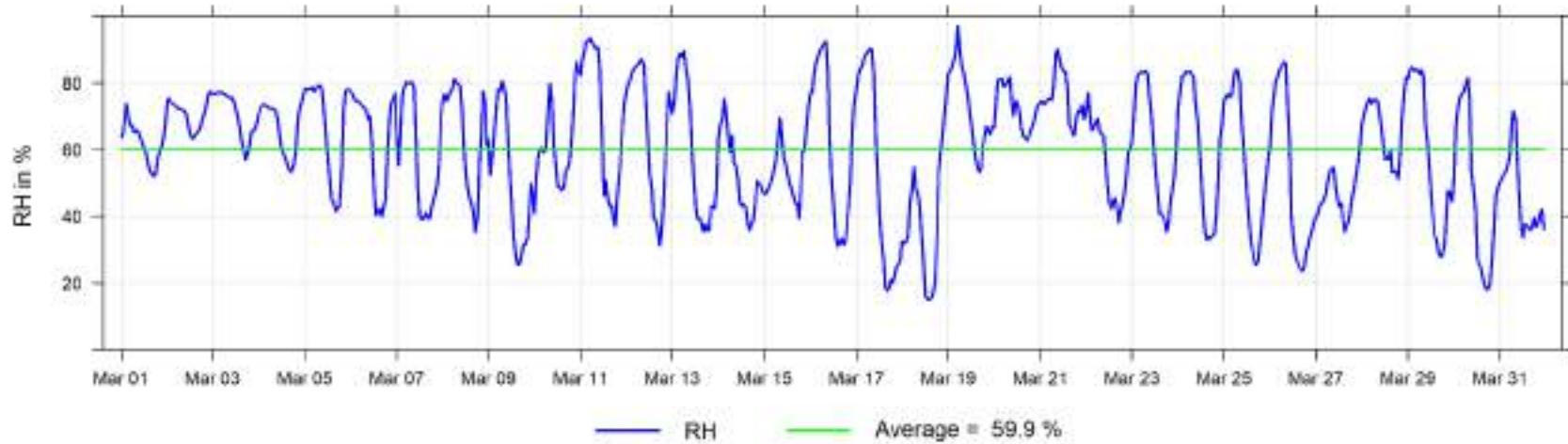
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Dunes



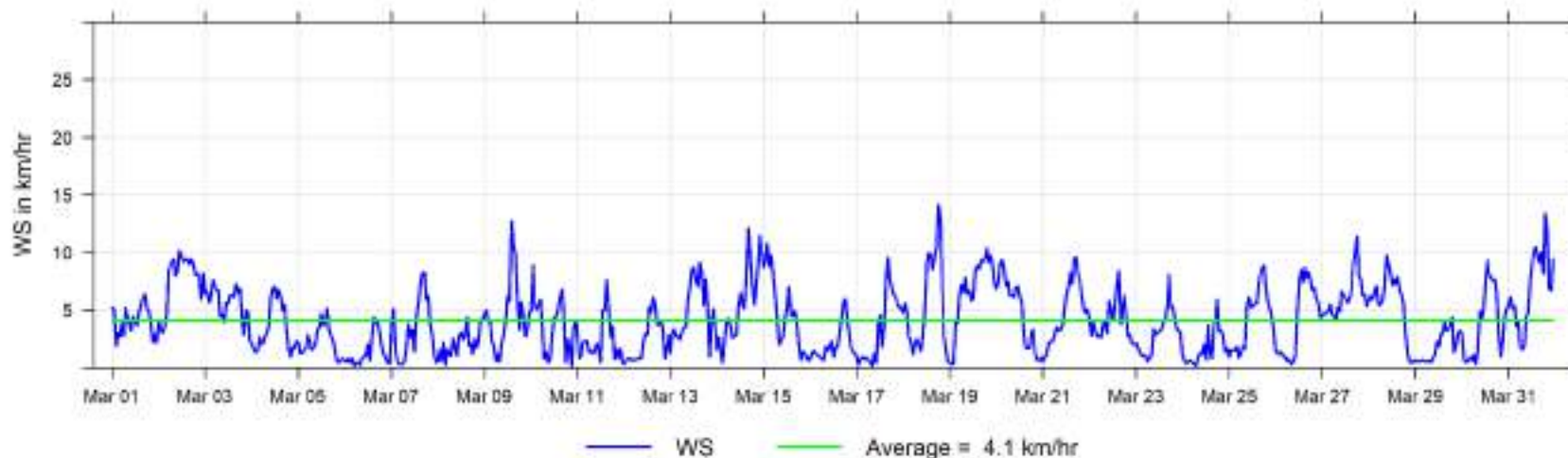
March 2024 Hourly Temperature Readings (in °C) at Dunes



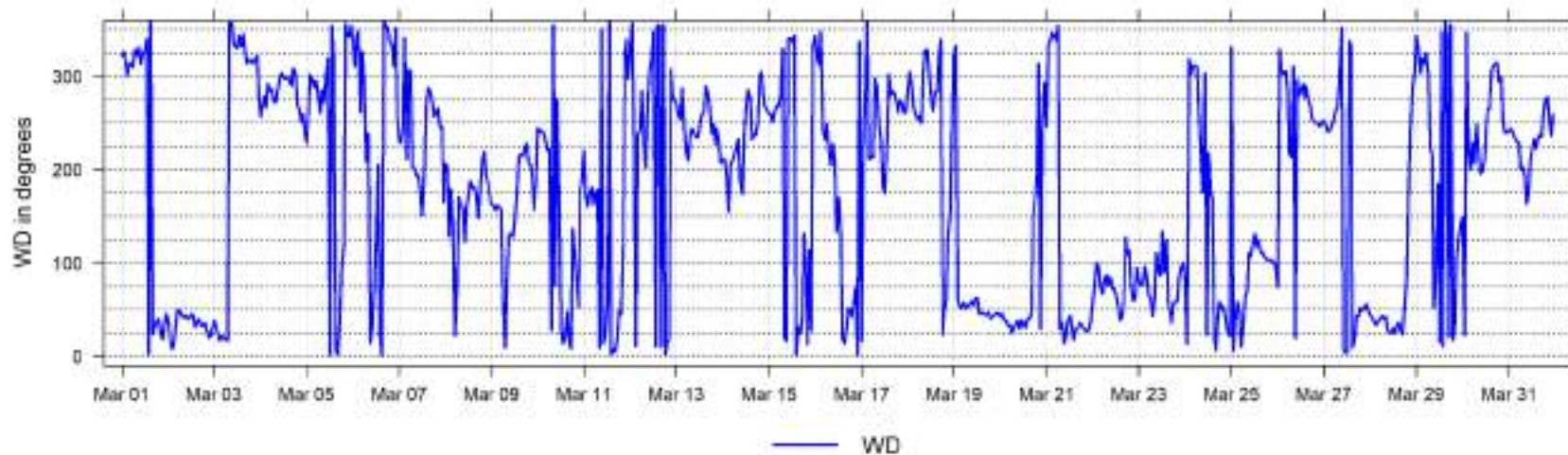
March 2024 Hourly Readings of Relative Humidity (in %) at Dunes



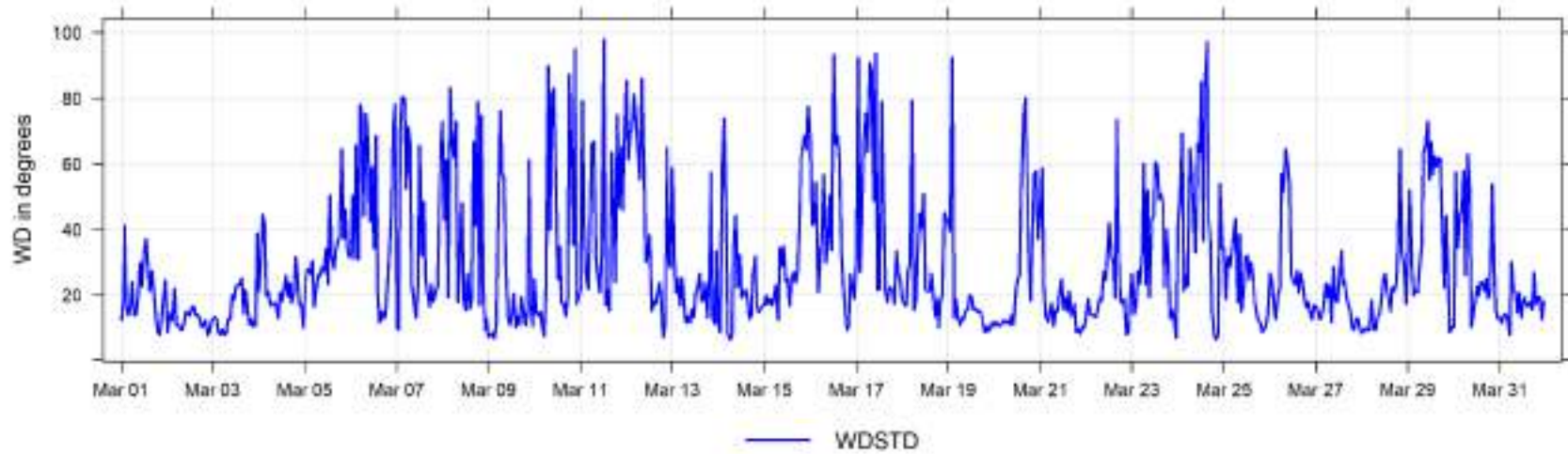
March 2024 Hourly Readings of Wind Speed (in km/hr) at Dunes

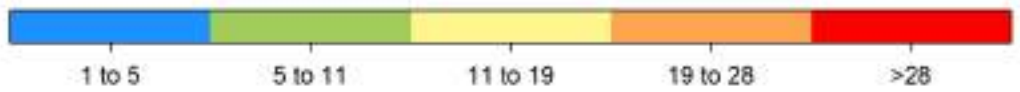
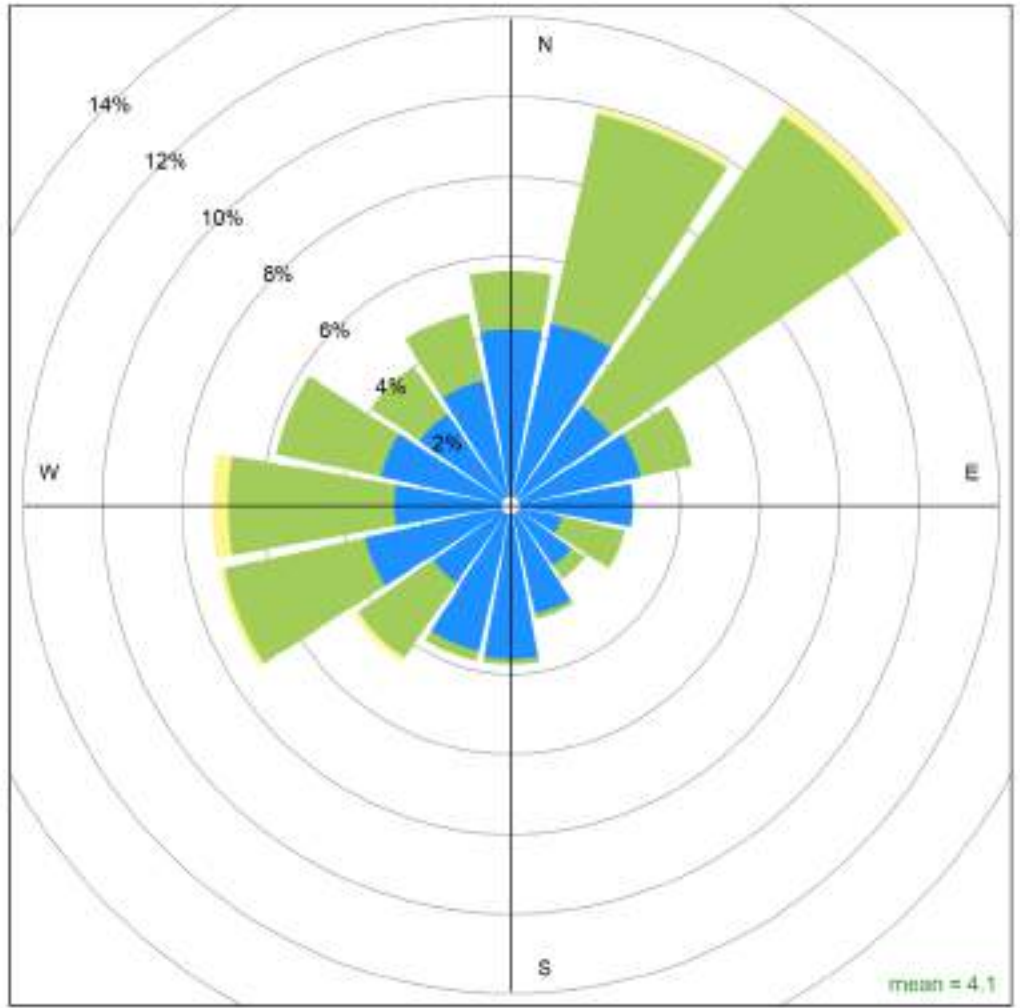


March 2024 Hourly Readings of Wind Direction (in degrees) at Dunes



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



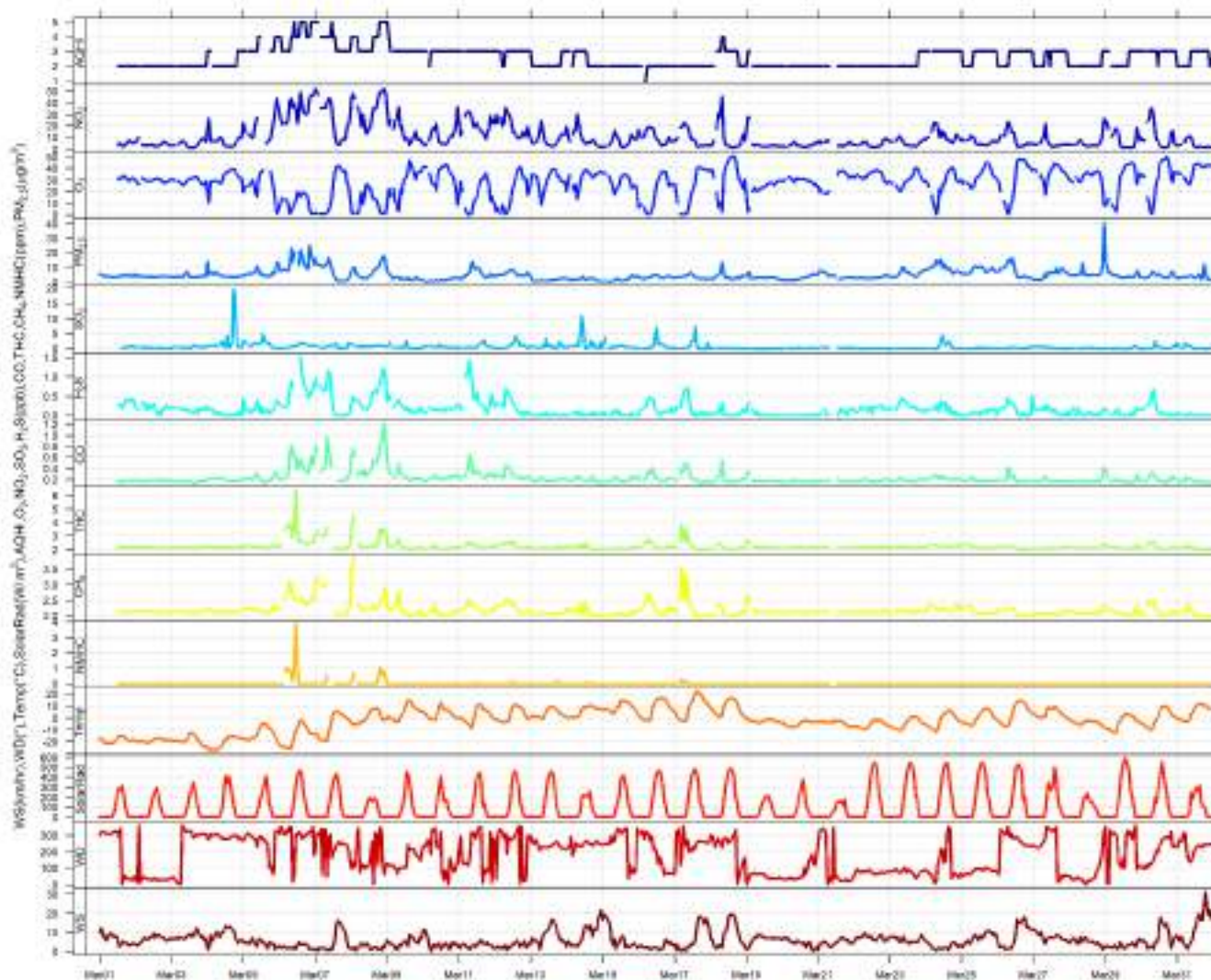


Dunes March 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 16.8 %

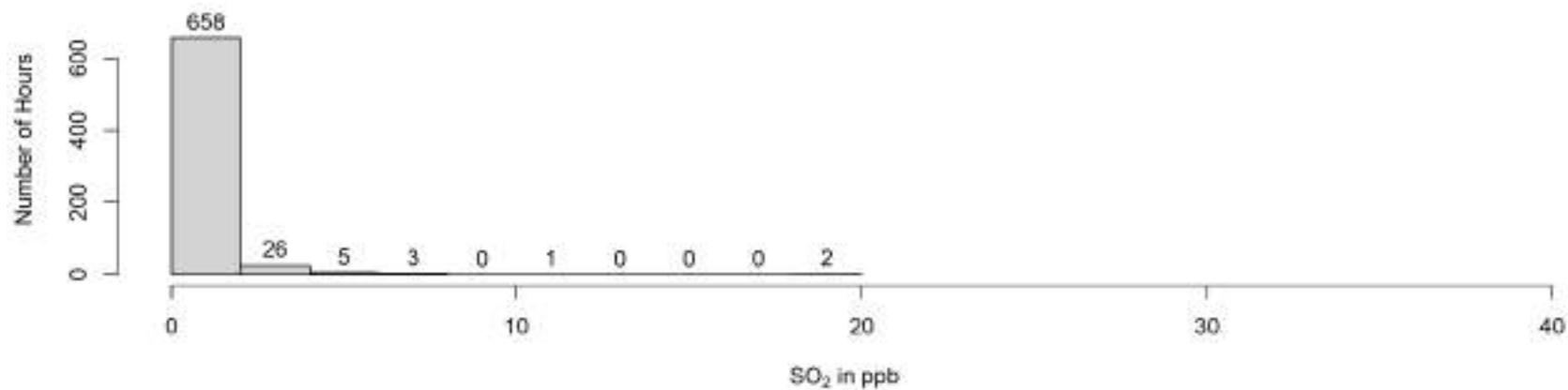
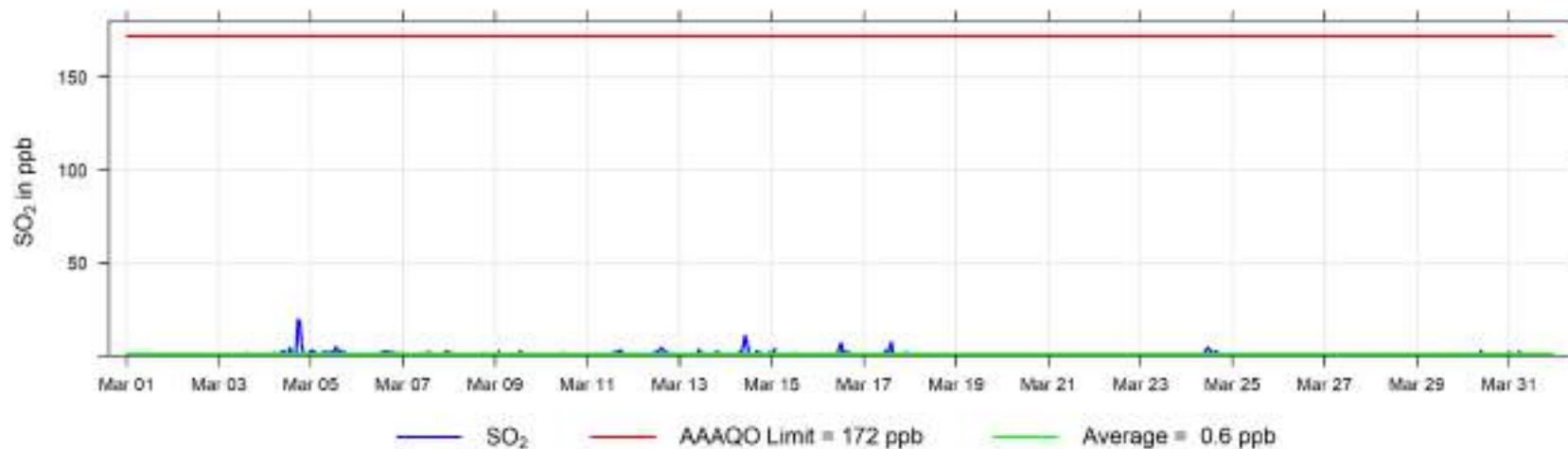
4 Grande Prairie - Henry Pirker Charts

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

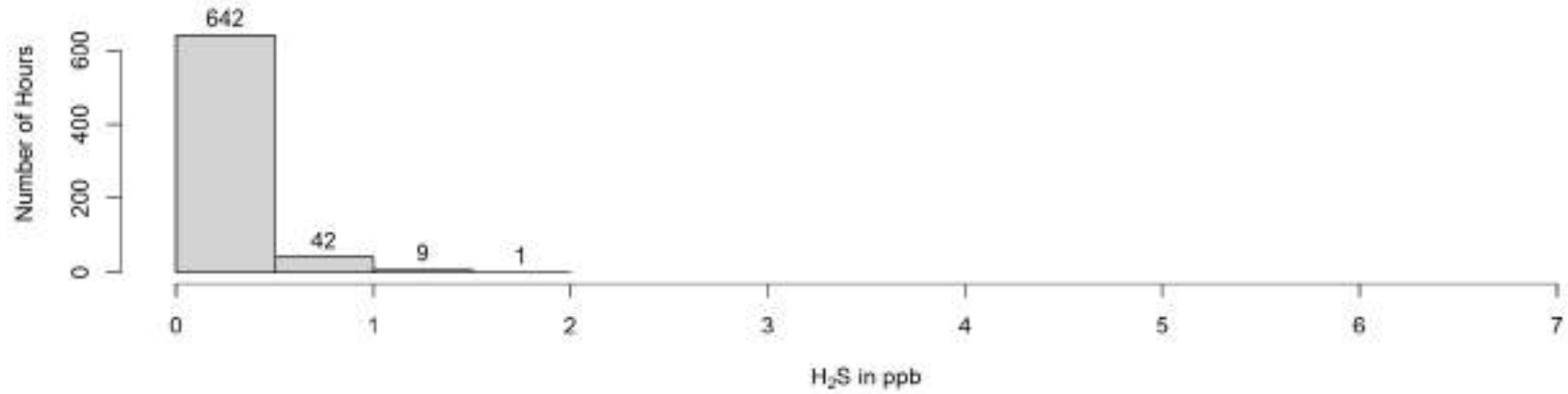
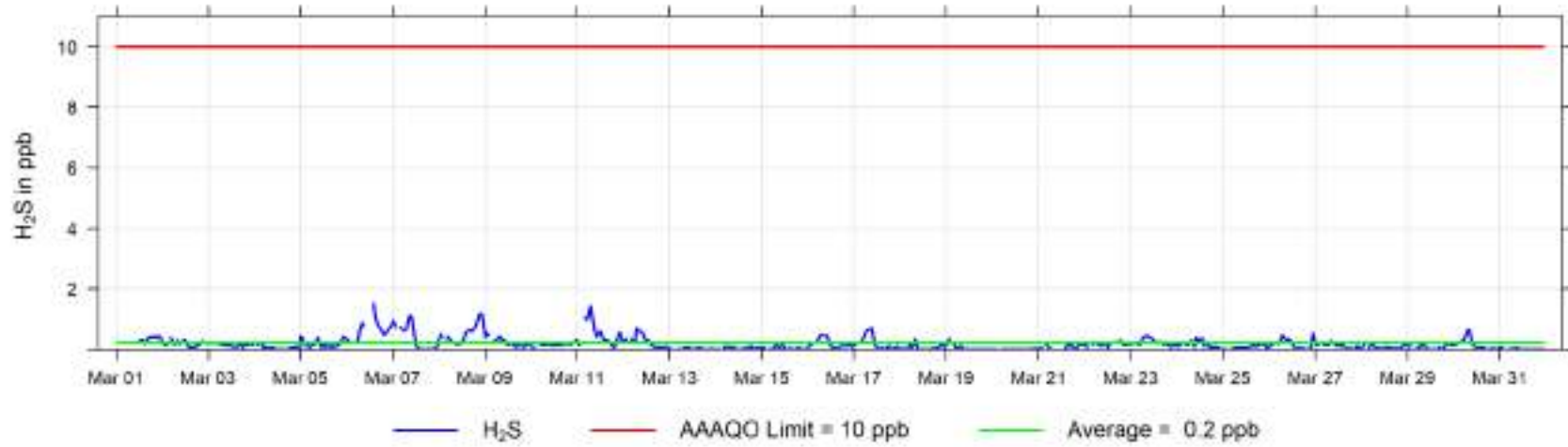
March 2024 Concentration Readings at Henry Pirker Station



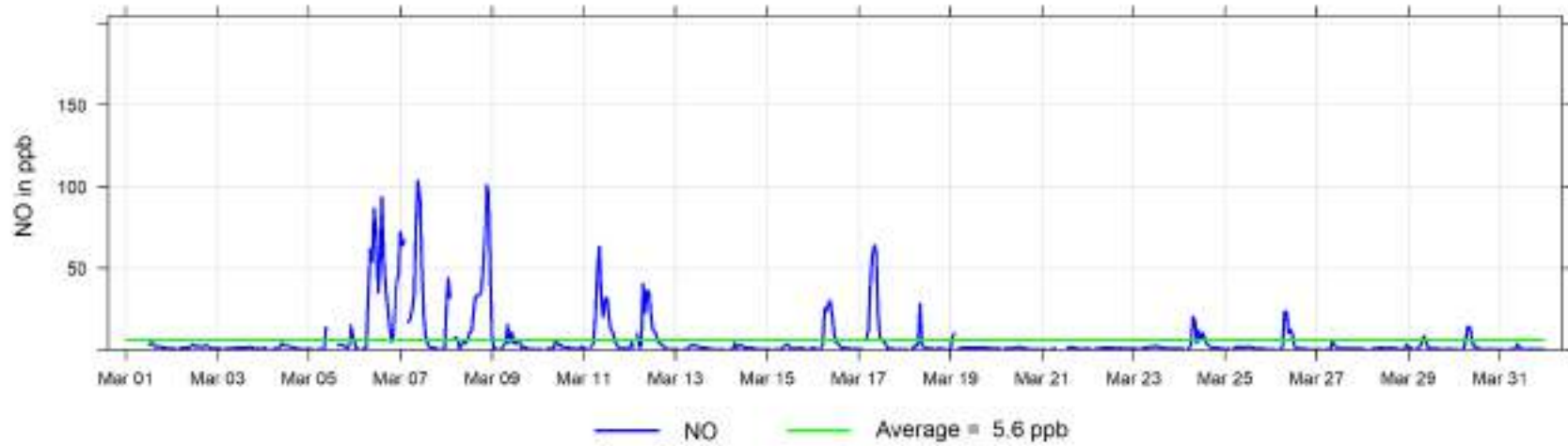
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Henry Pirker



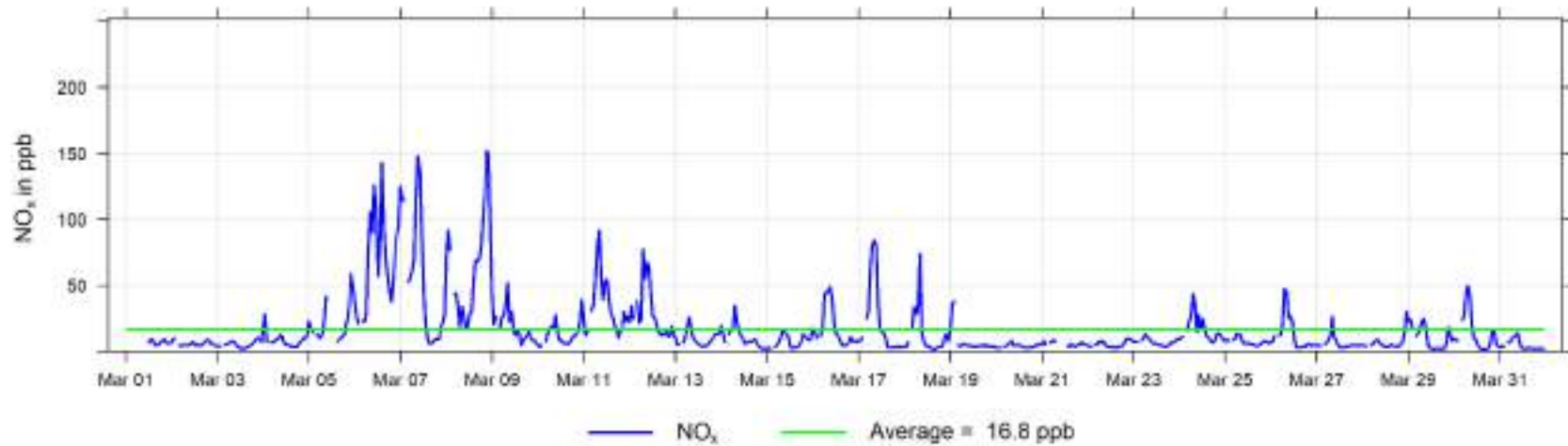
March 2024 Hourly Concentration Readings of H₂S (in ppb) at Henry Pirker



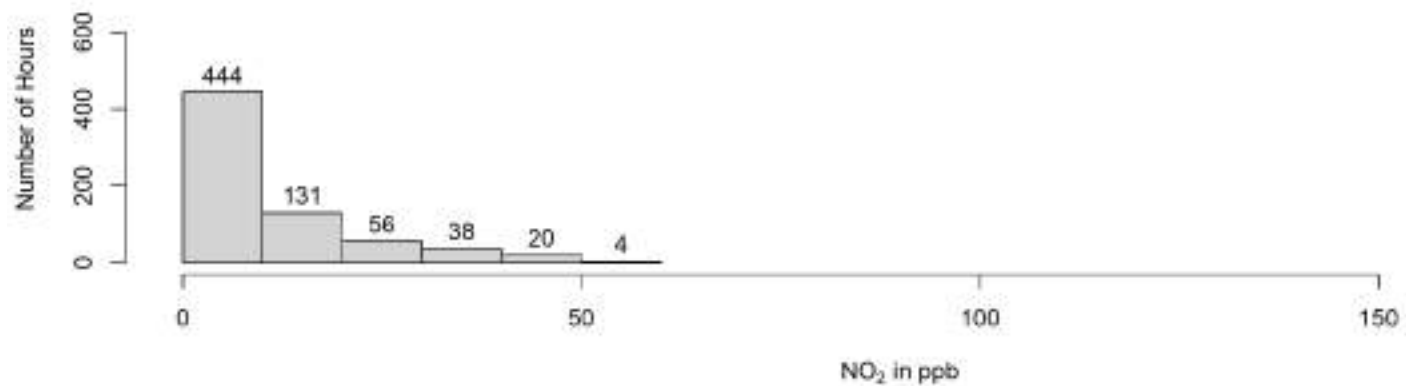
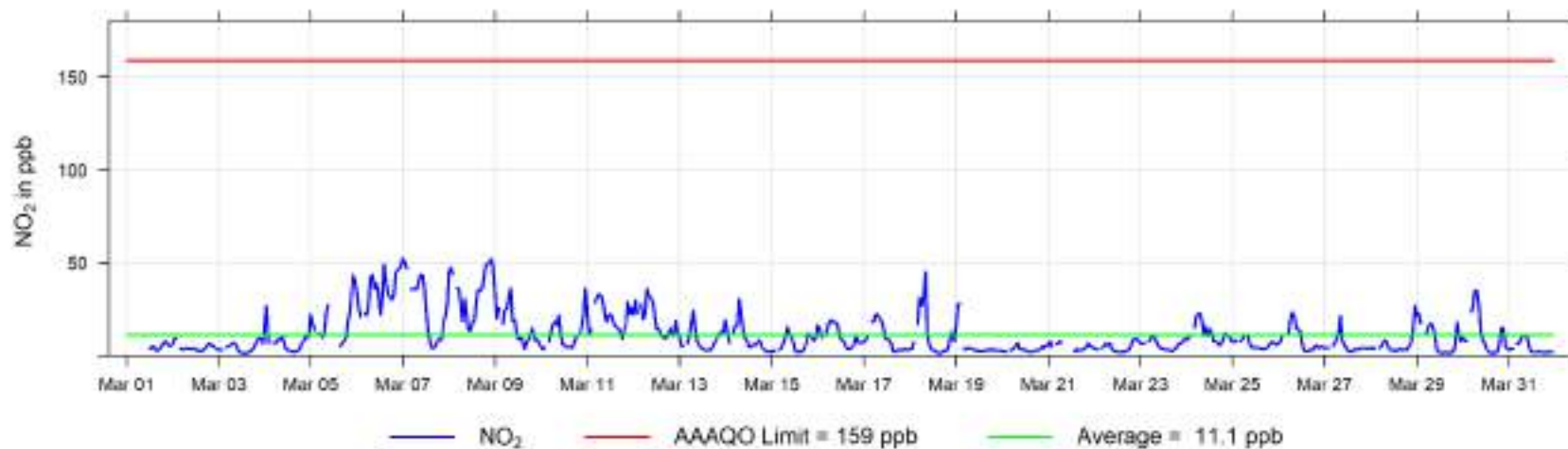
March 2024 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



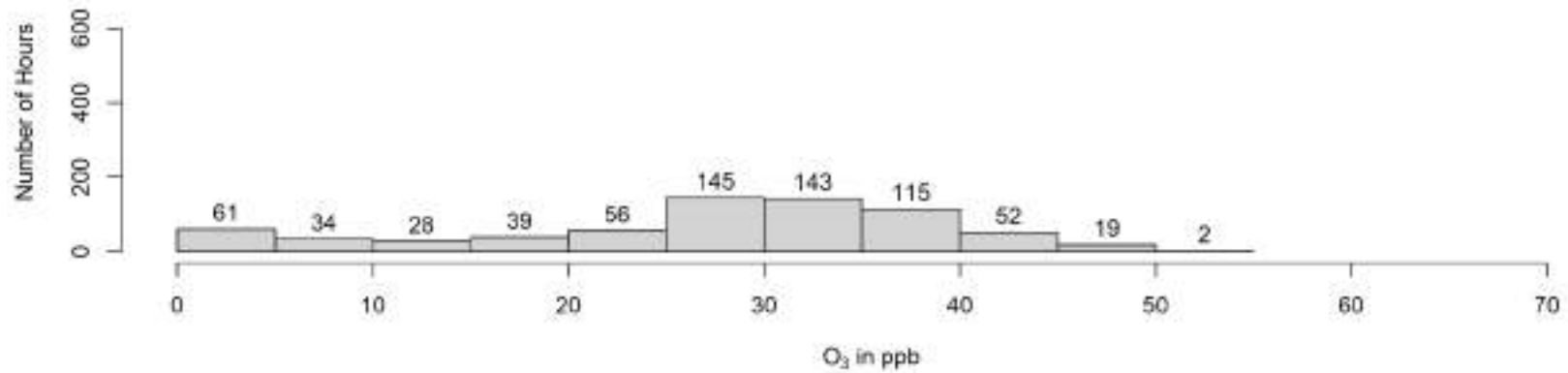
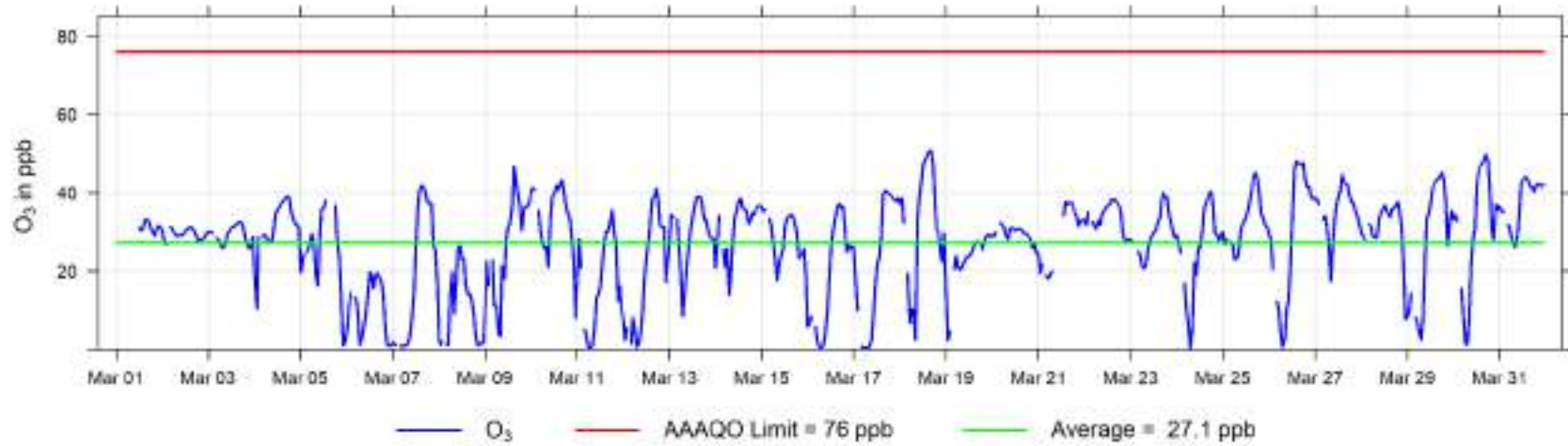
March 2024 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



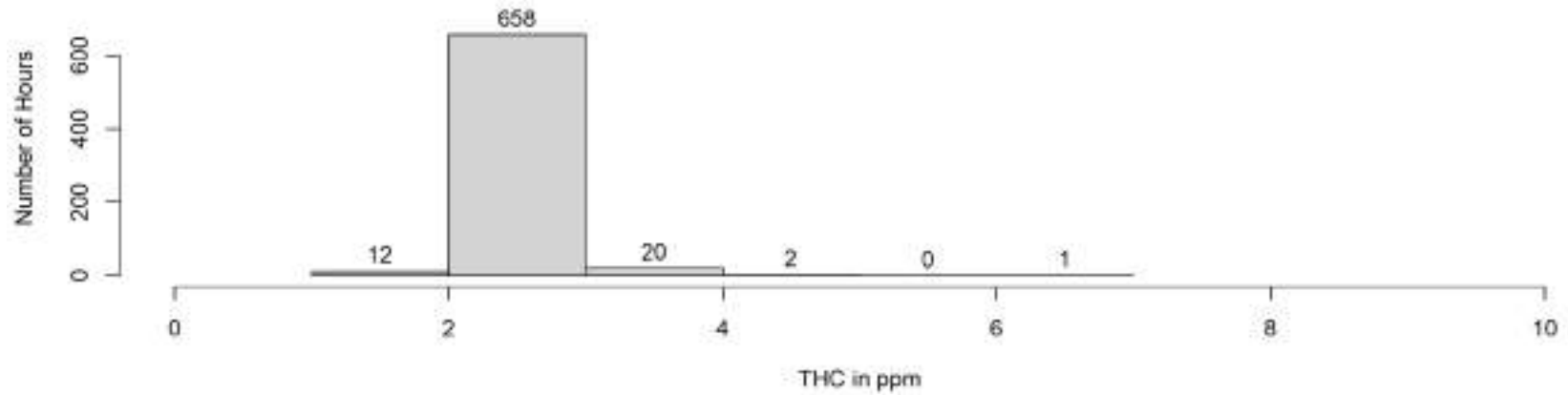
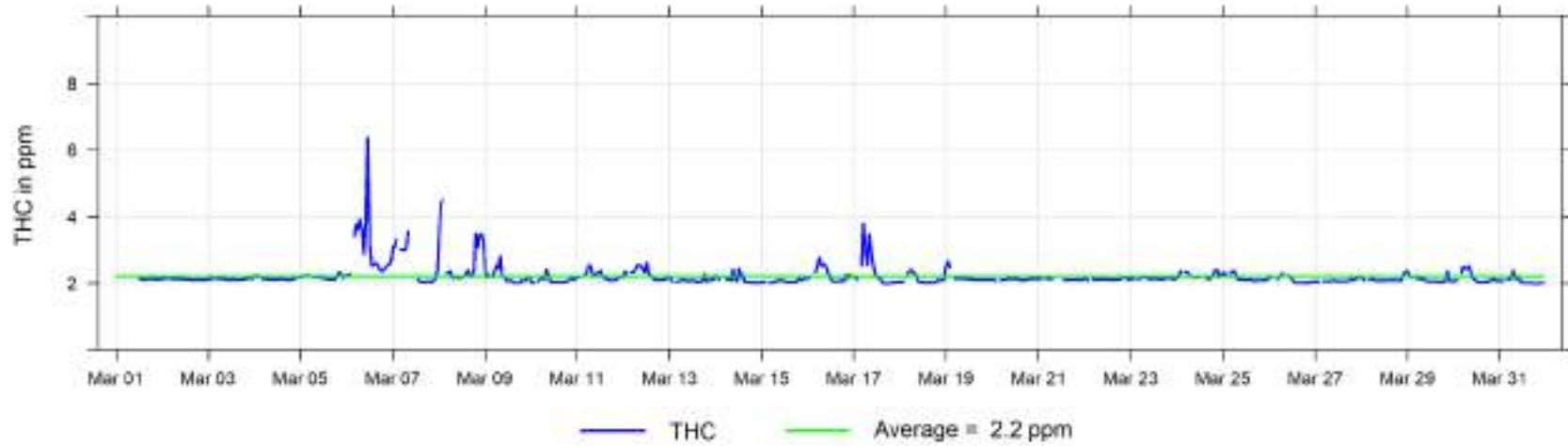
March 2024 Hourly Concentration Readings of NO₂ (in ppb) at Henry Pirker



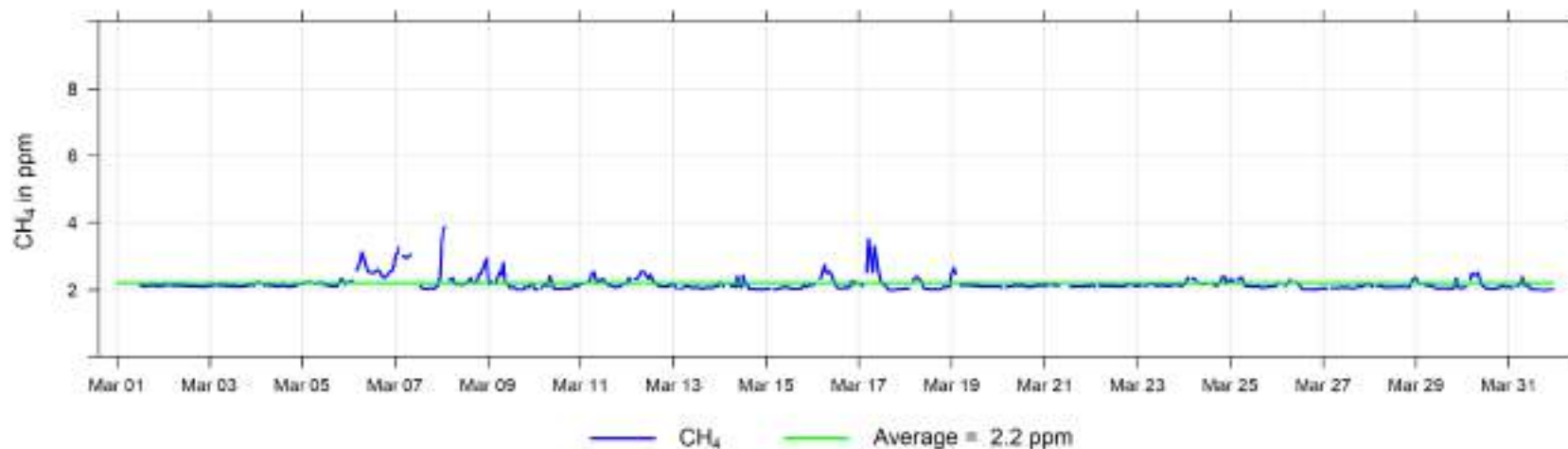
March 2024 Hourly Concentration Readings of O₃ (in ppb) at Henry Pirker



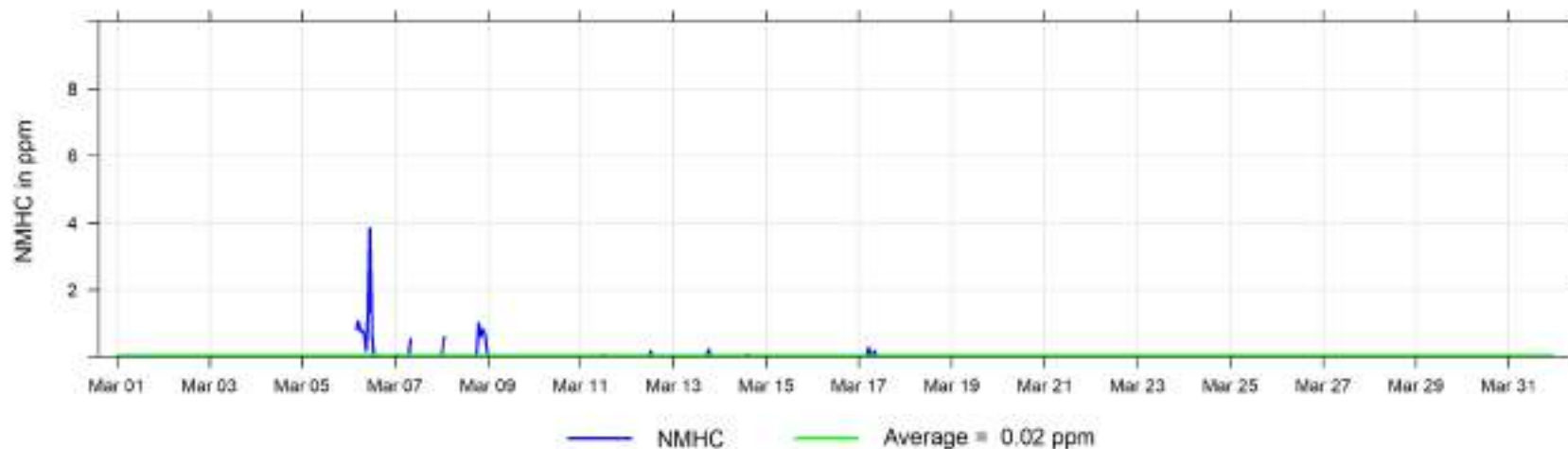
March 2024 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



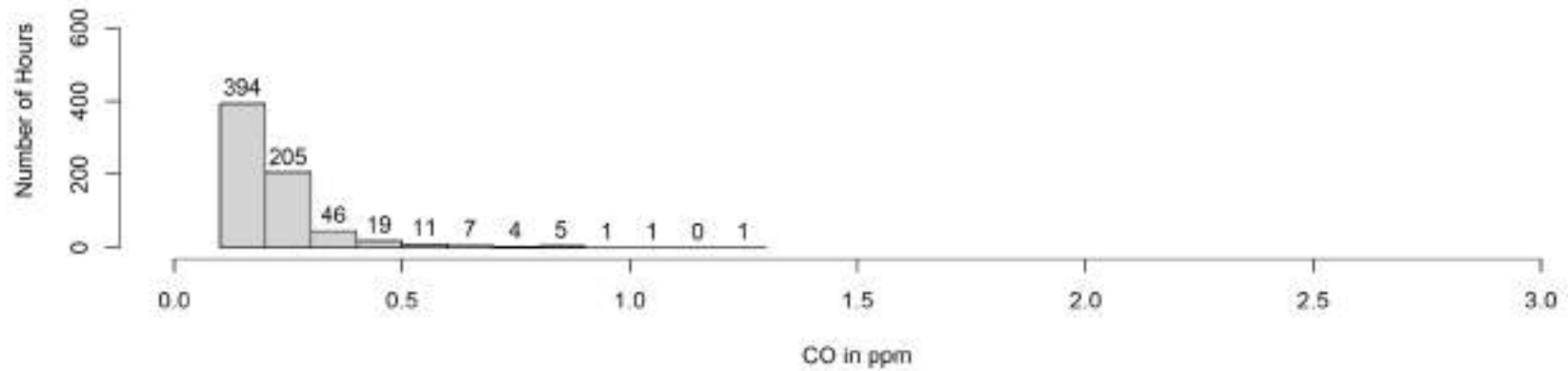
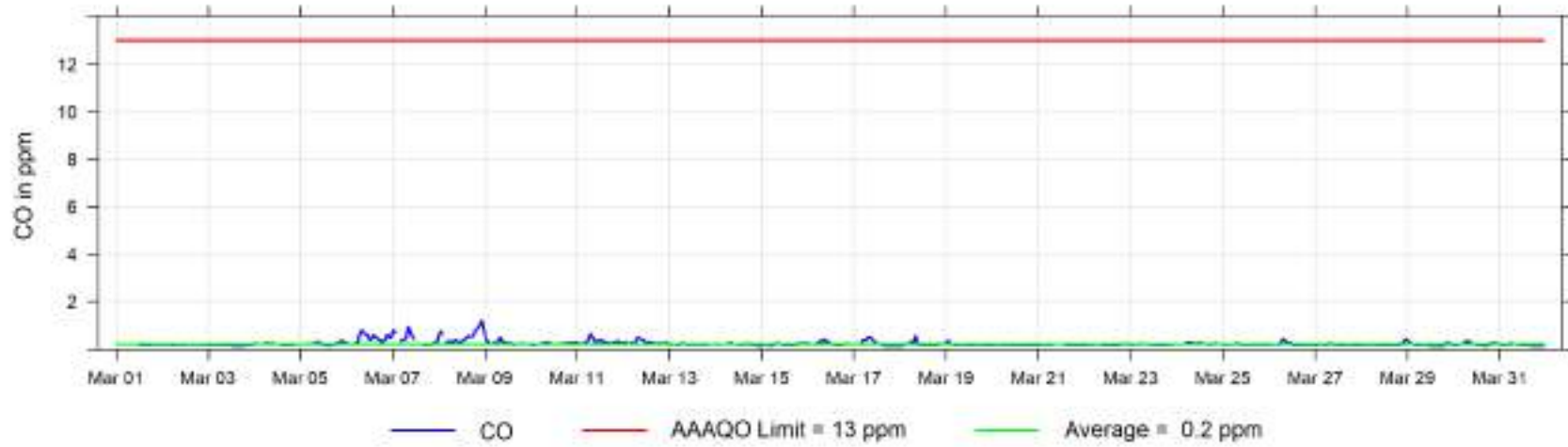
March 2024 Hourly Concentration Readings of CH₄ (in ppm) at Henry Pirker



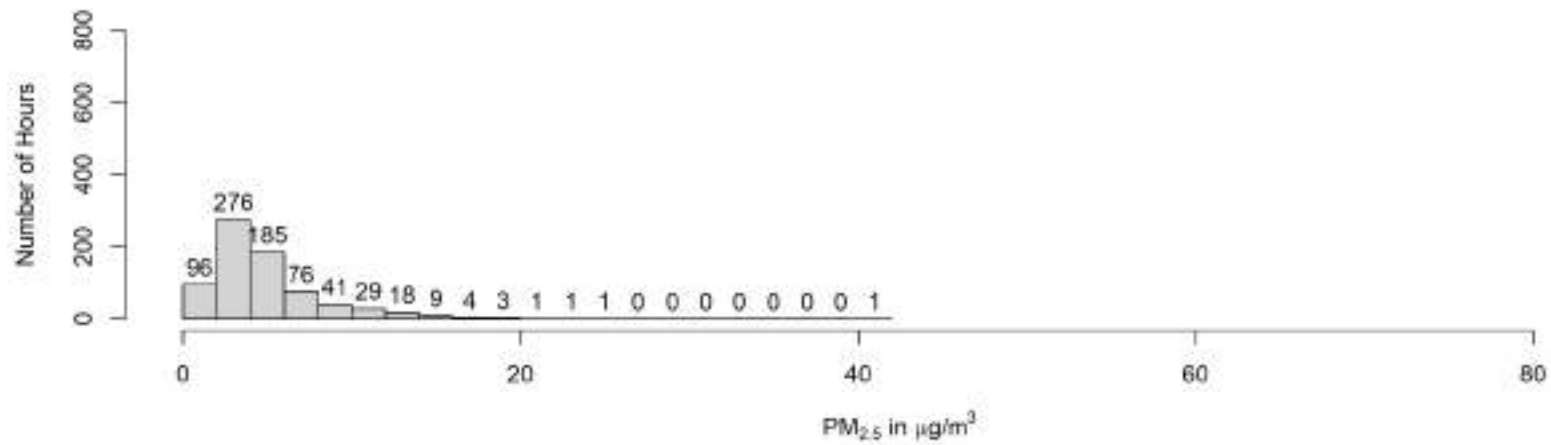
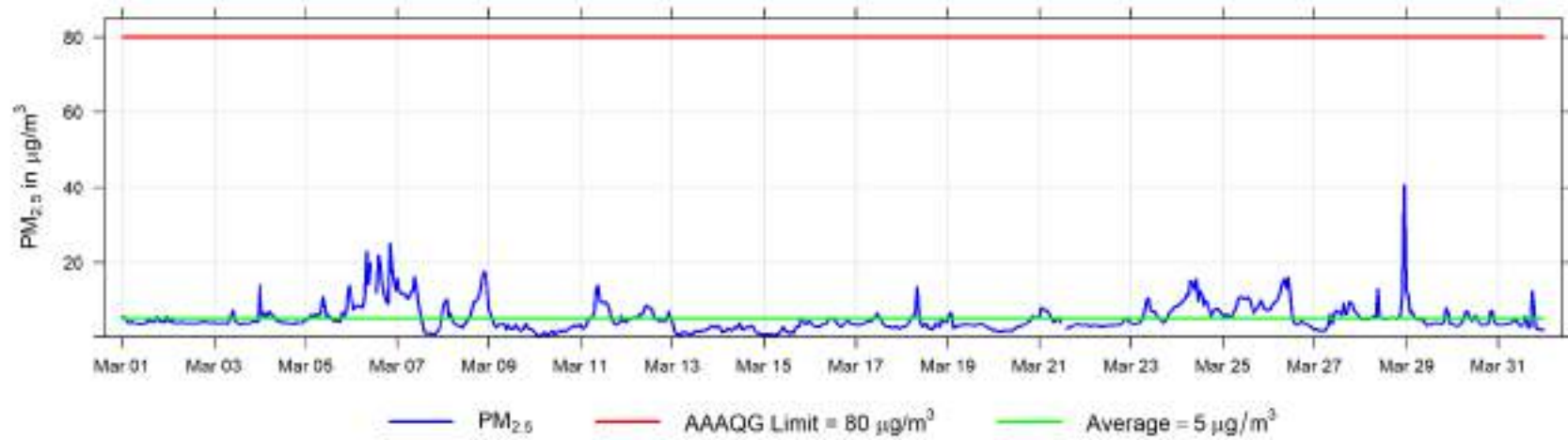
March 2024 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



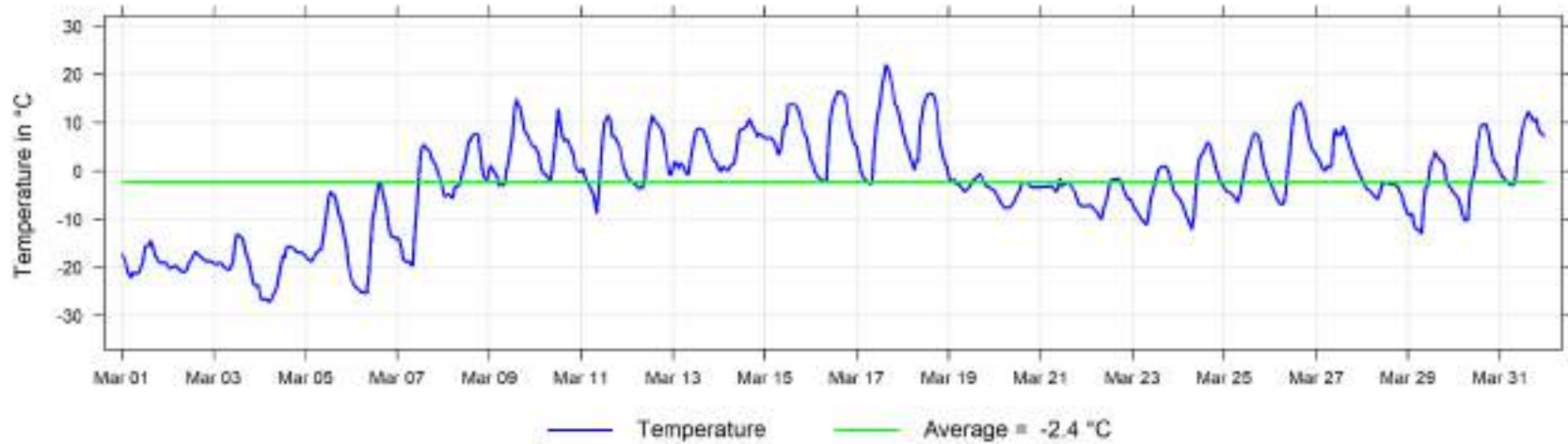
March 2024 Hourly Concentration Readings of CO (in ppm) at Henry Pirker



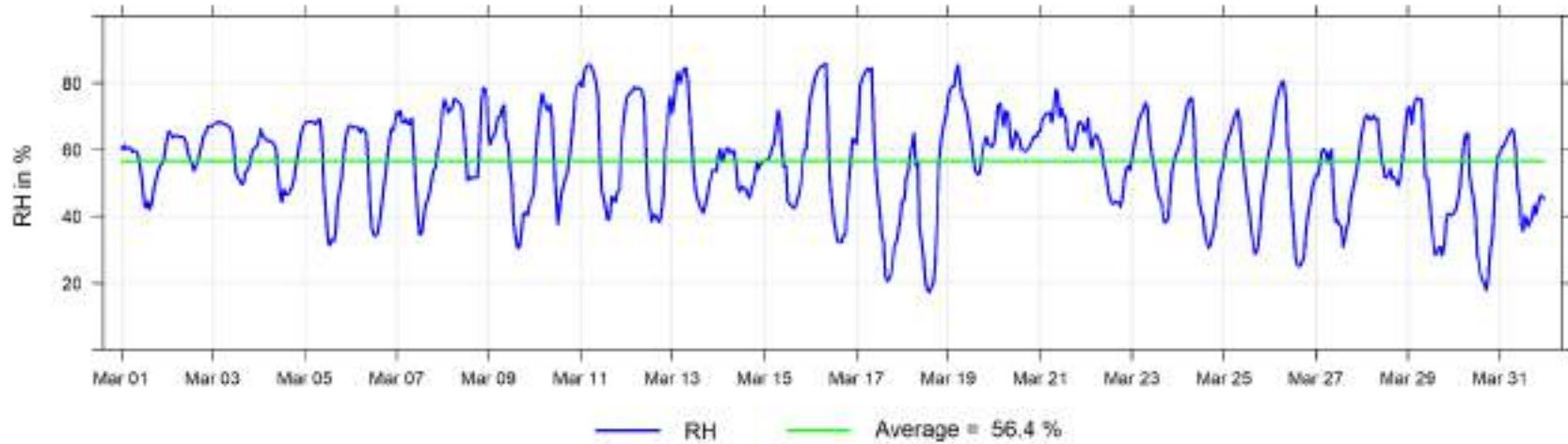
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Henry Pirker



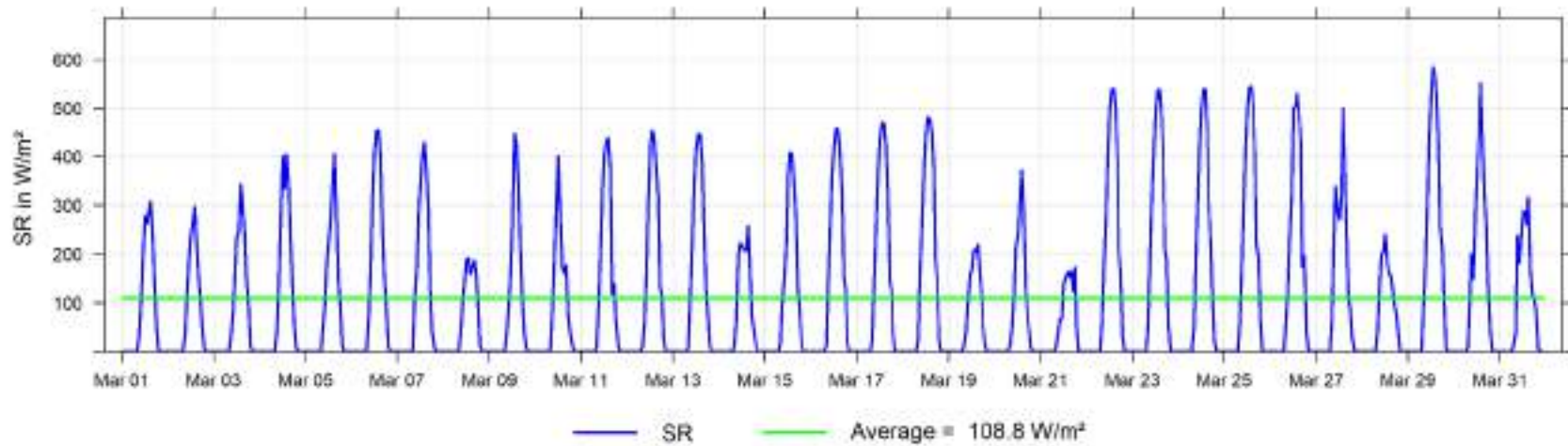
March 2024 Hourly Temperature Readings (in °C) at Henry Pirker



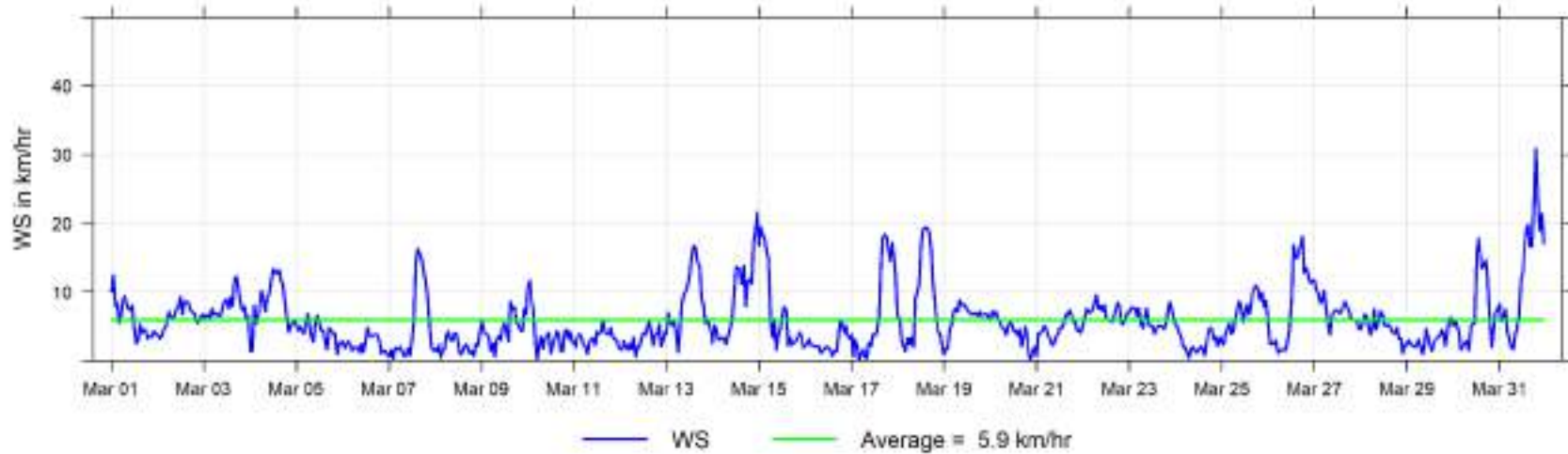
March 2024 Hourly Readings of Relative Humidity (in %) at Henry Pirker



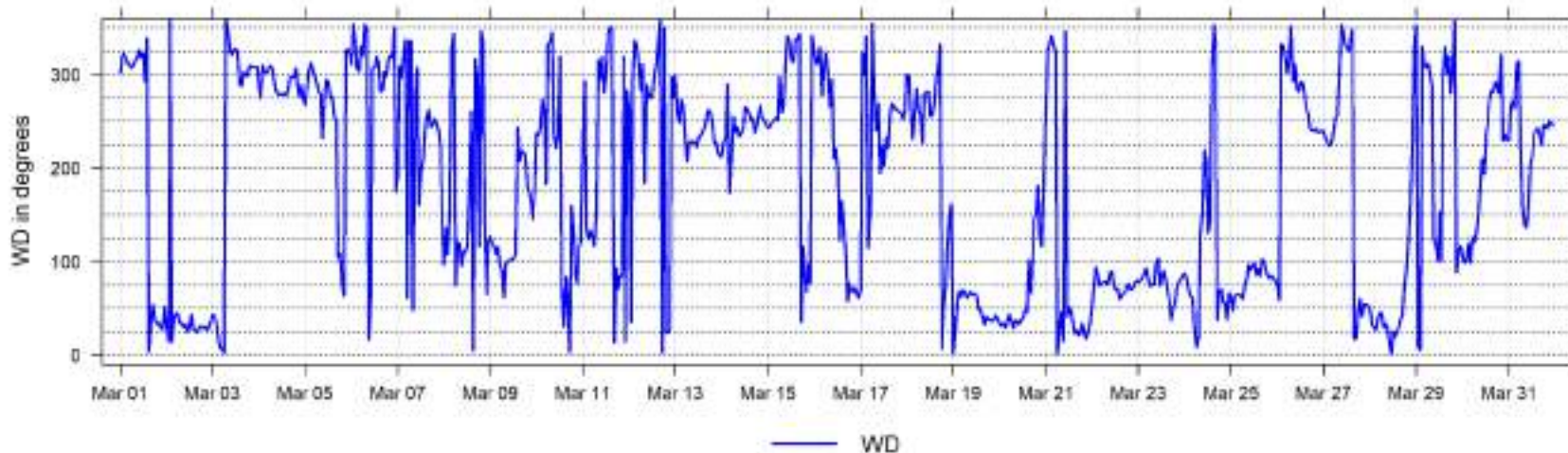
March 2024 Hourly Readings of Solar Radiation (in W/m²) at Henry Pirker



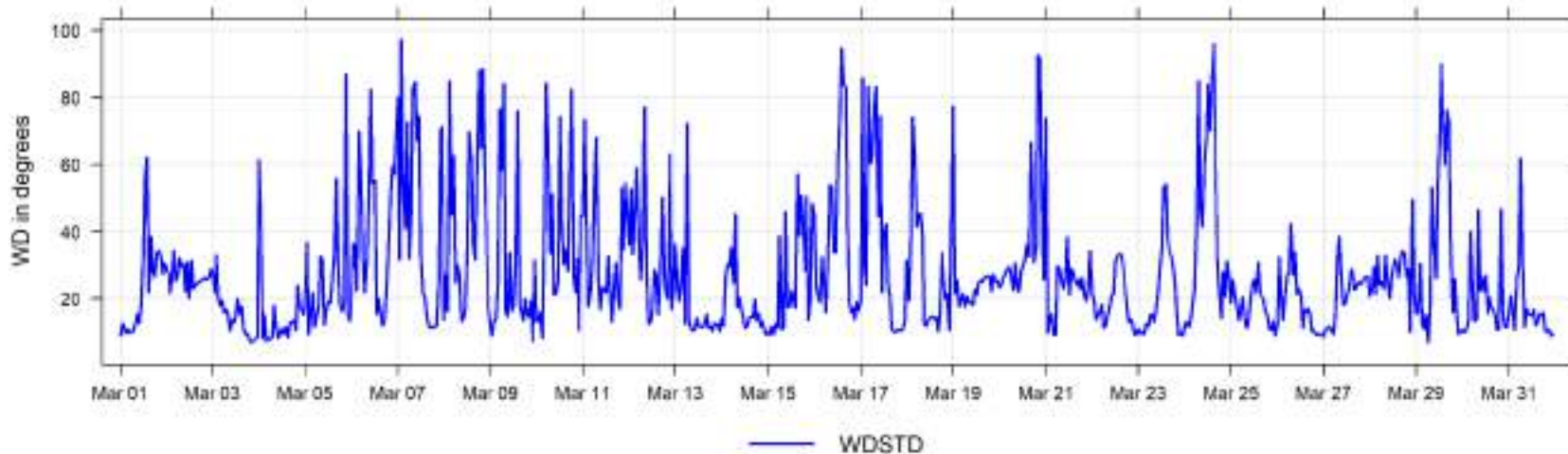
March 2024 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker

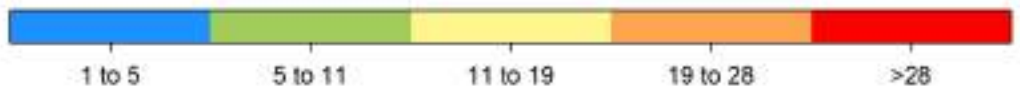
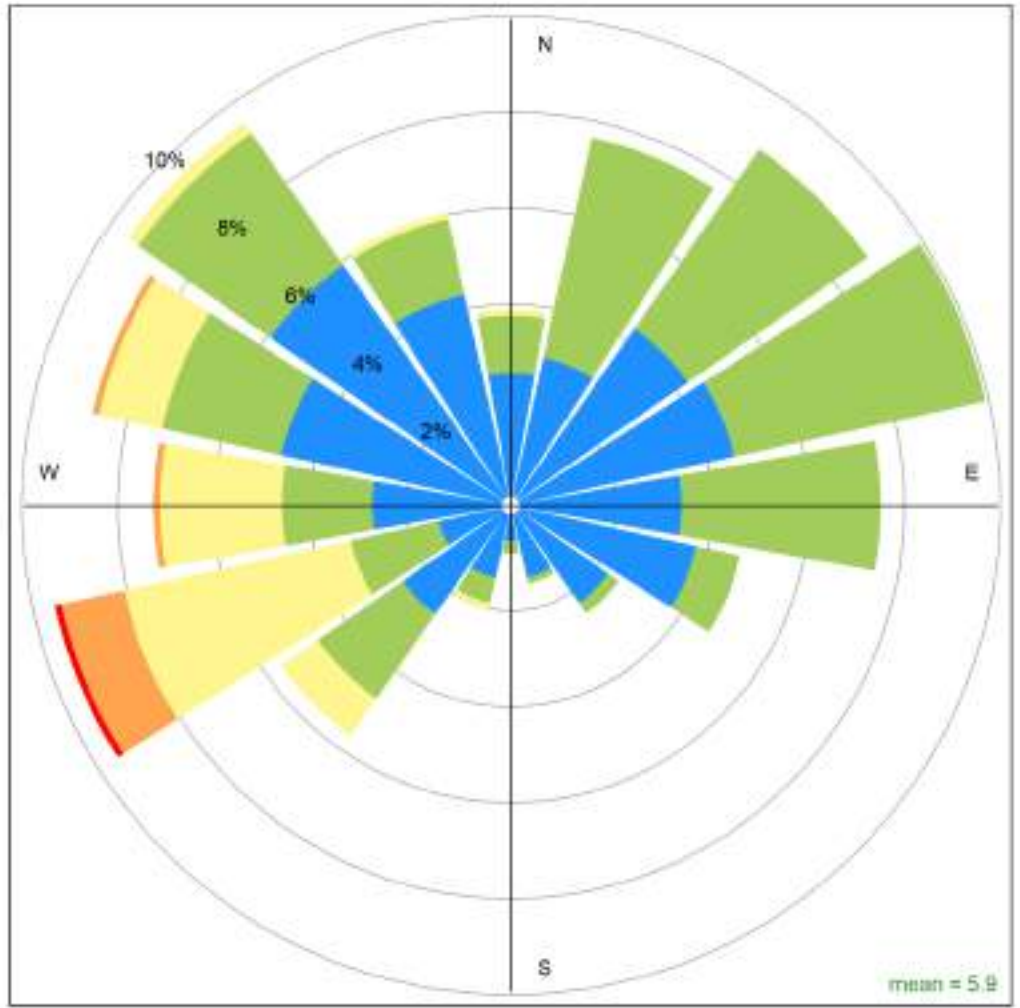


March 2024 Hourly Readings of Wind Direction (in degrees) at Henry Pirker



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



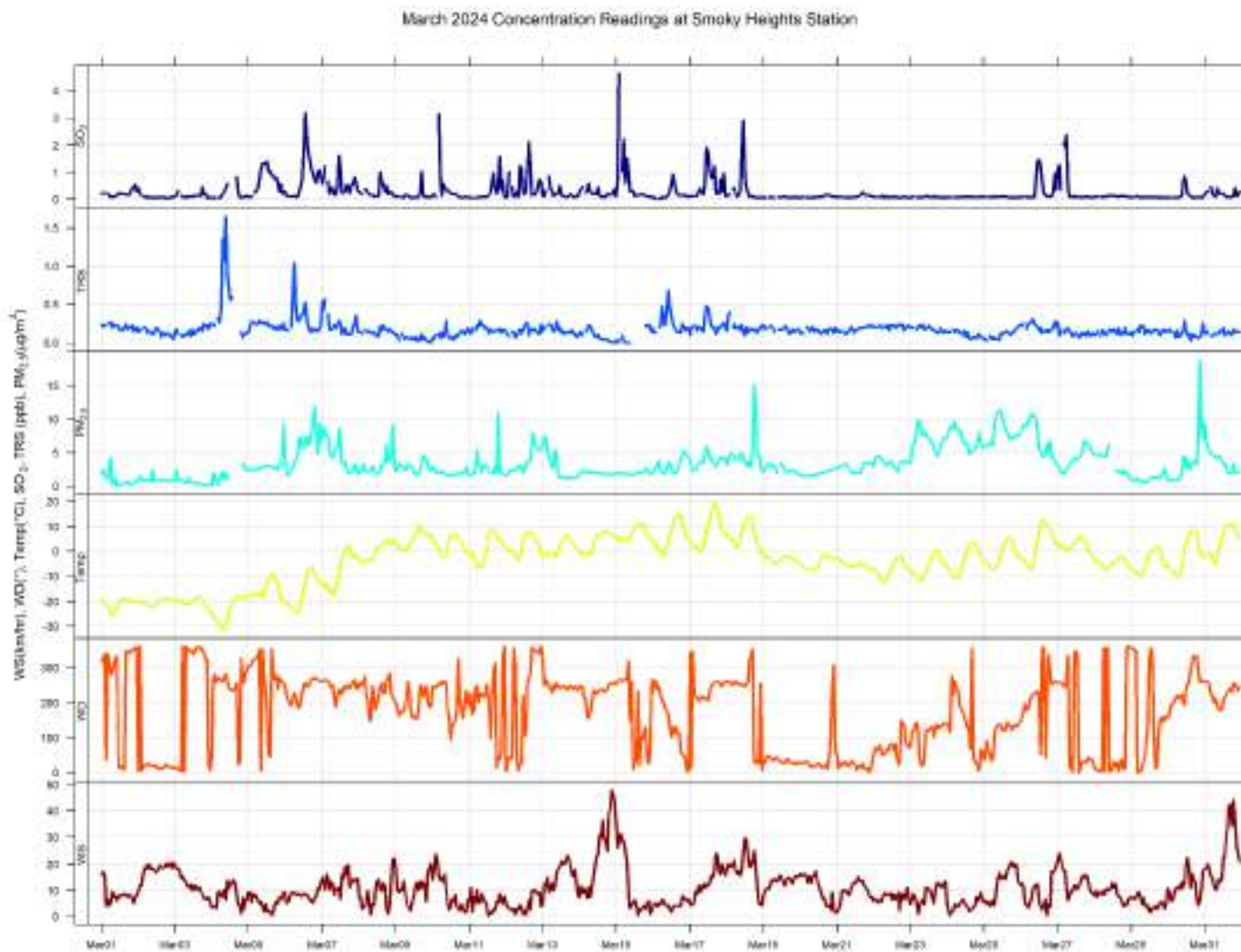


Henry Pirker March 2024 Wind Rose, wind speed in km/hr

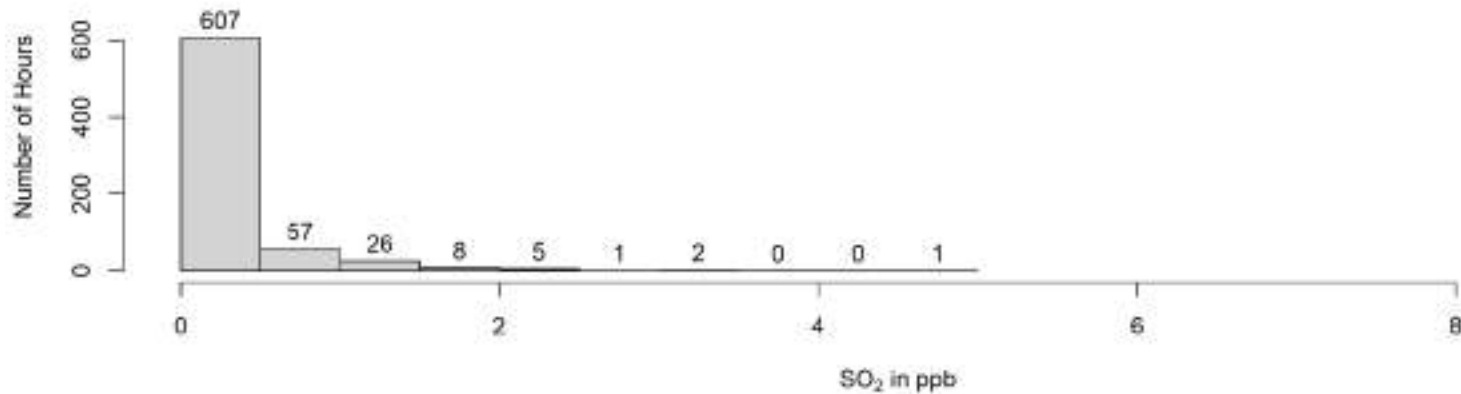
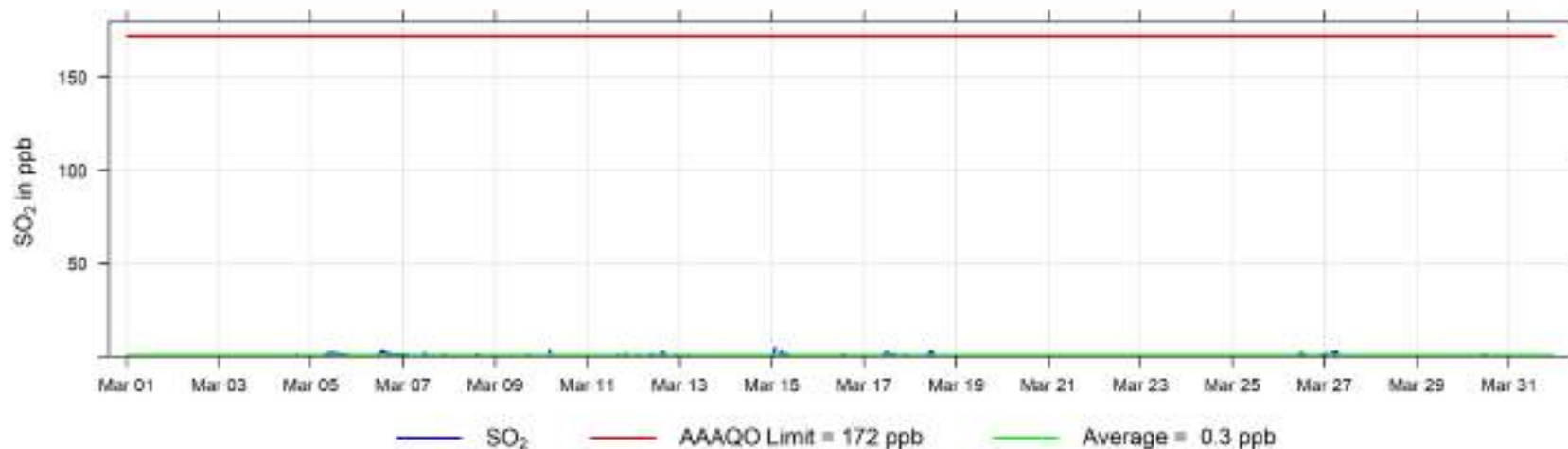
Calms (<1km/hr) = 3.9 %

5 Smoky Heights Charts

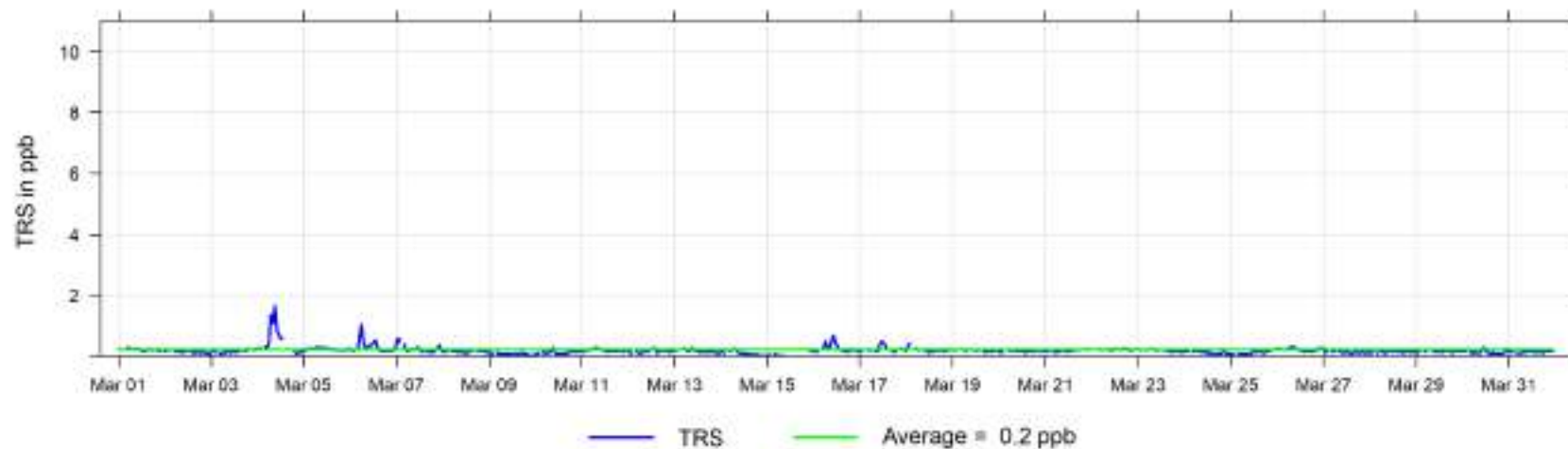
The following pages include the charts and histograms for Smoky Heights Station



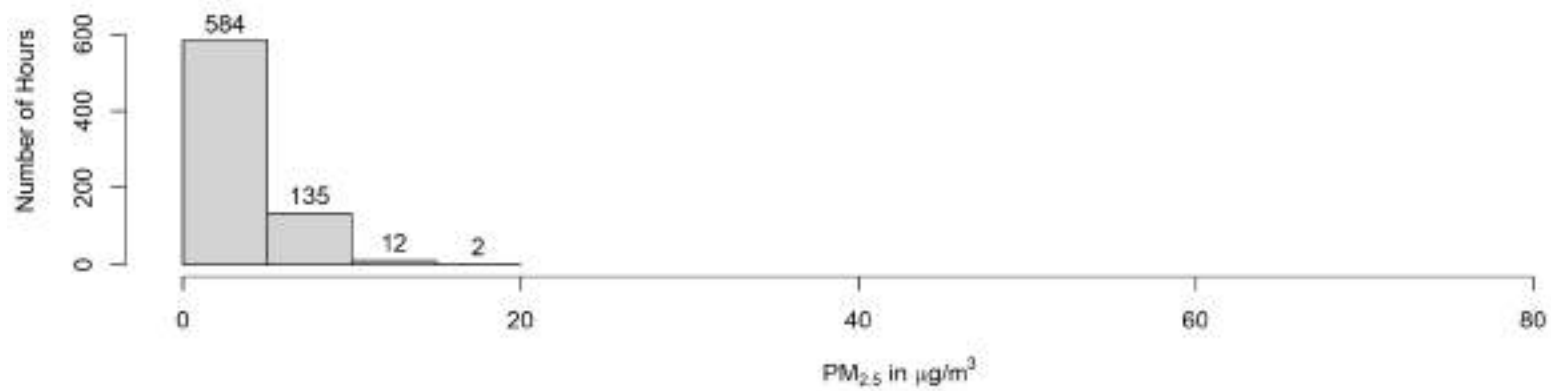
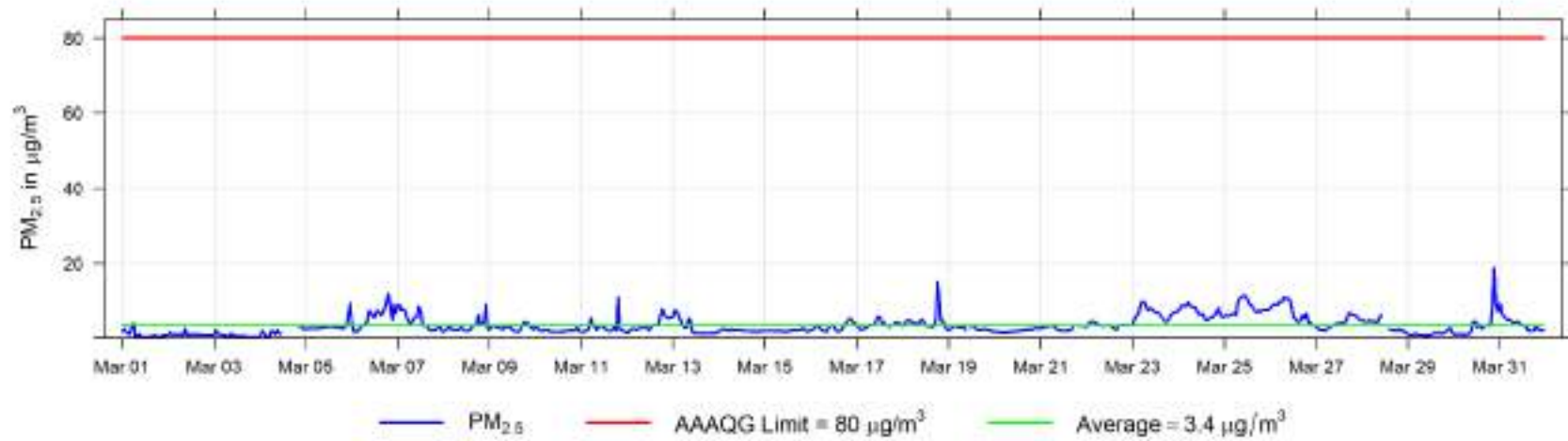
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights



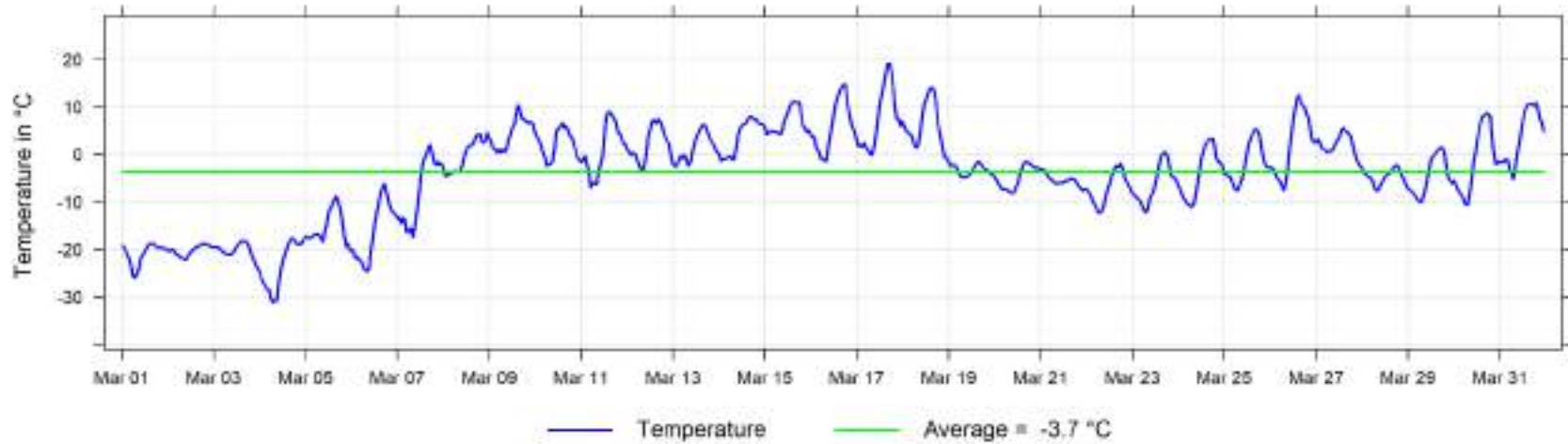
March 2024 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights



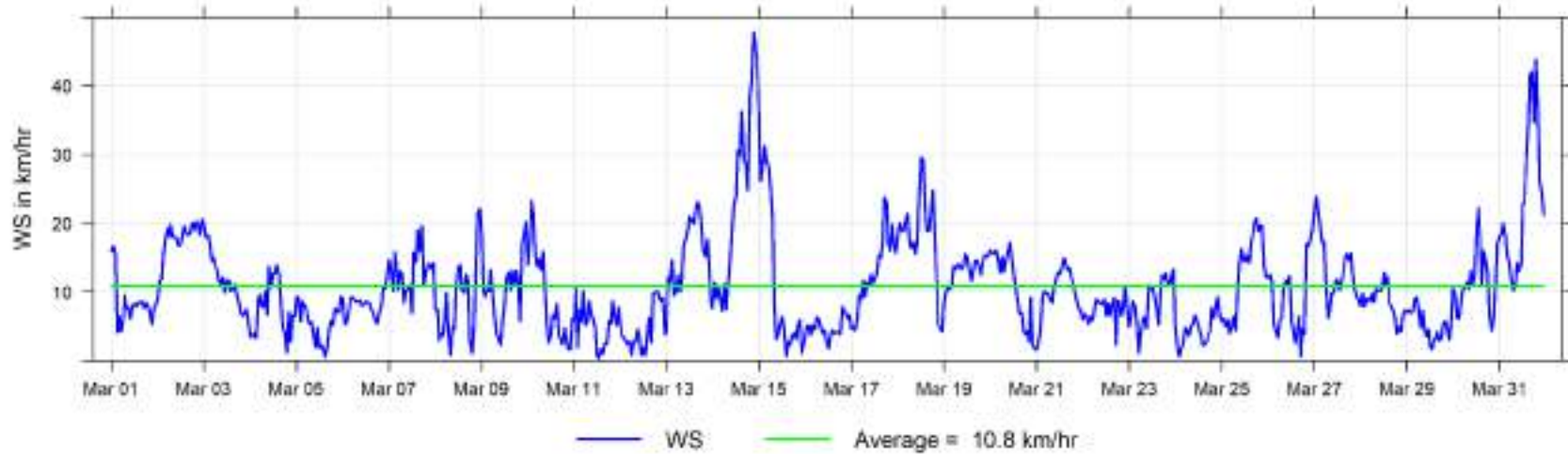
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



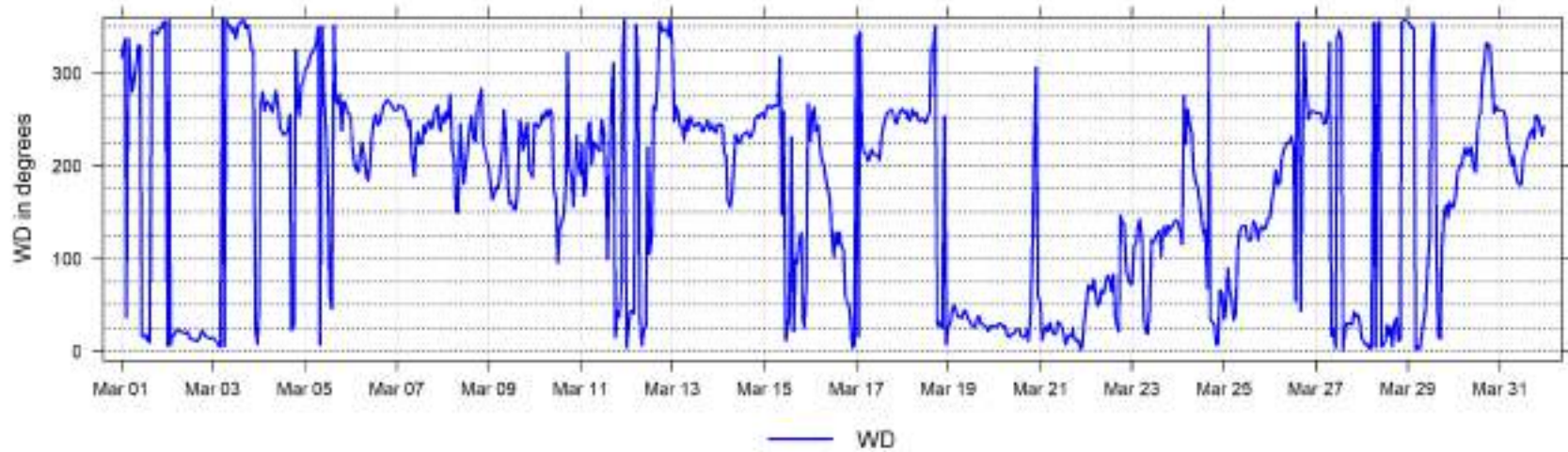
March 2024 Hourly Temperature Readings (in °C) at Smoky Heights



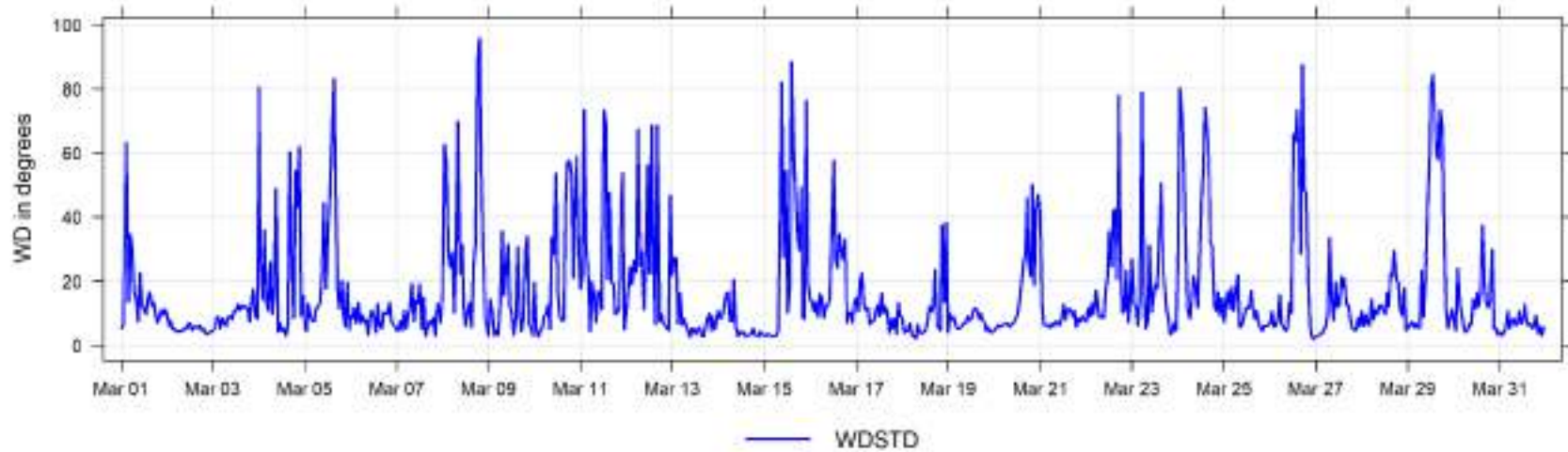
March 2024 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

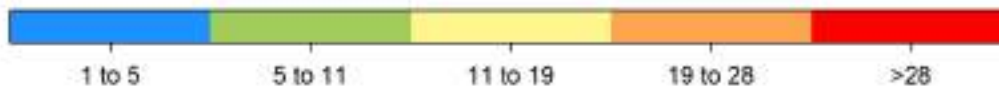
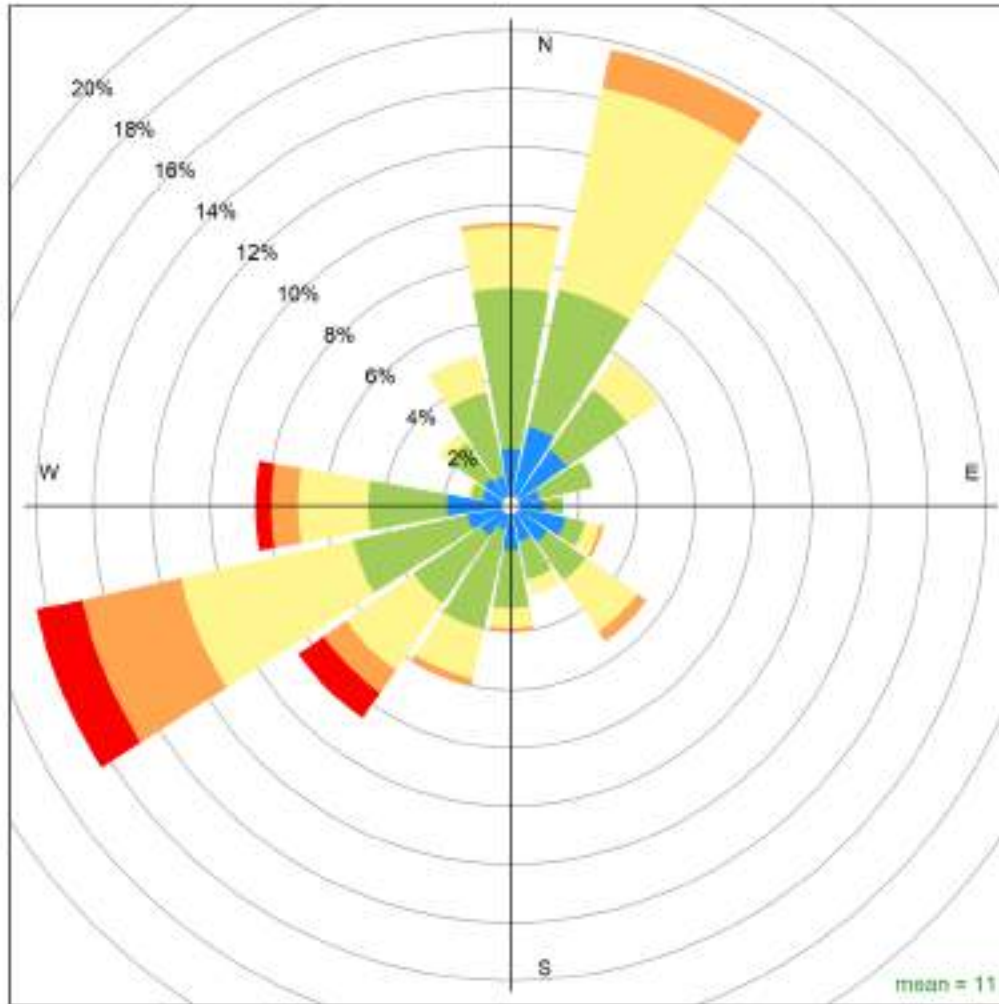


March 2024 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



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

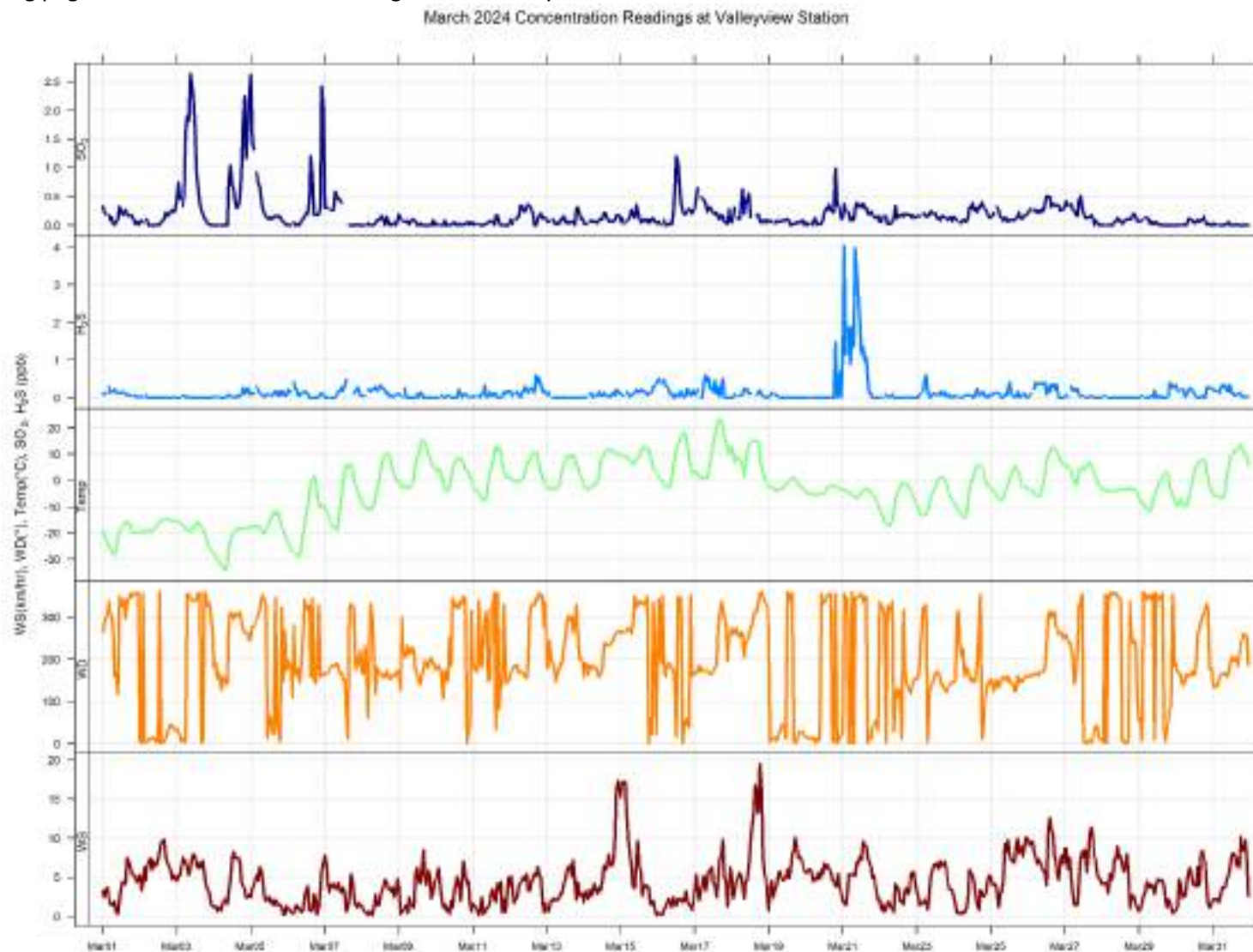




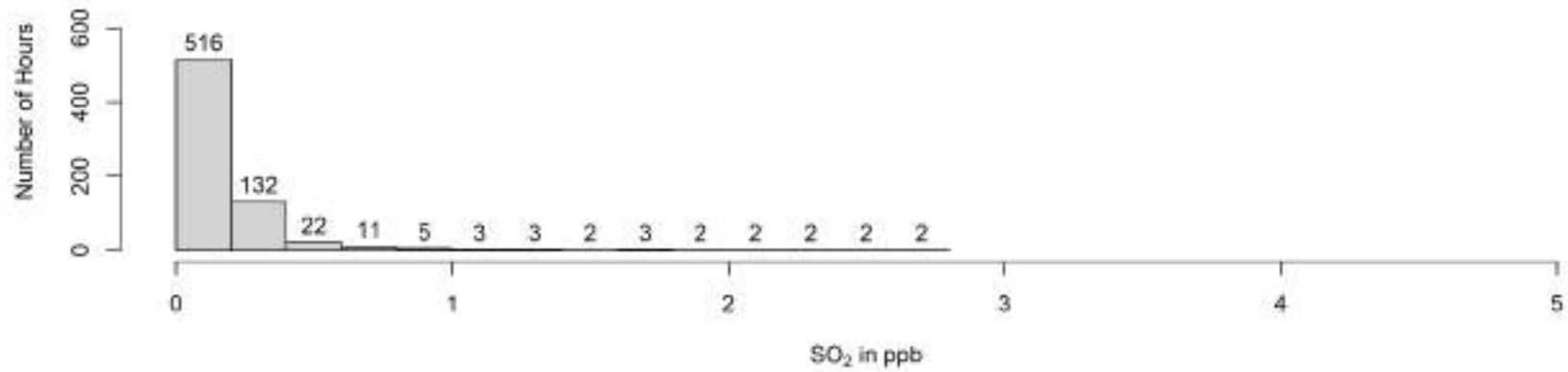
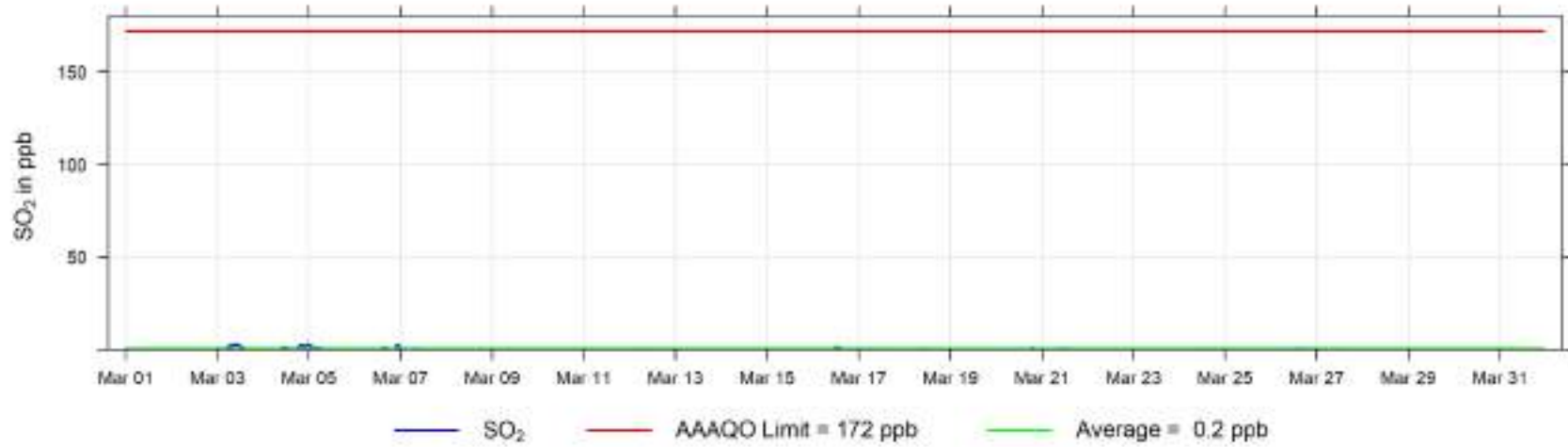
Smoky Heights March 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 1.5 %

6 Valleyview Charts

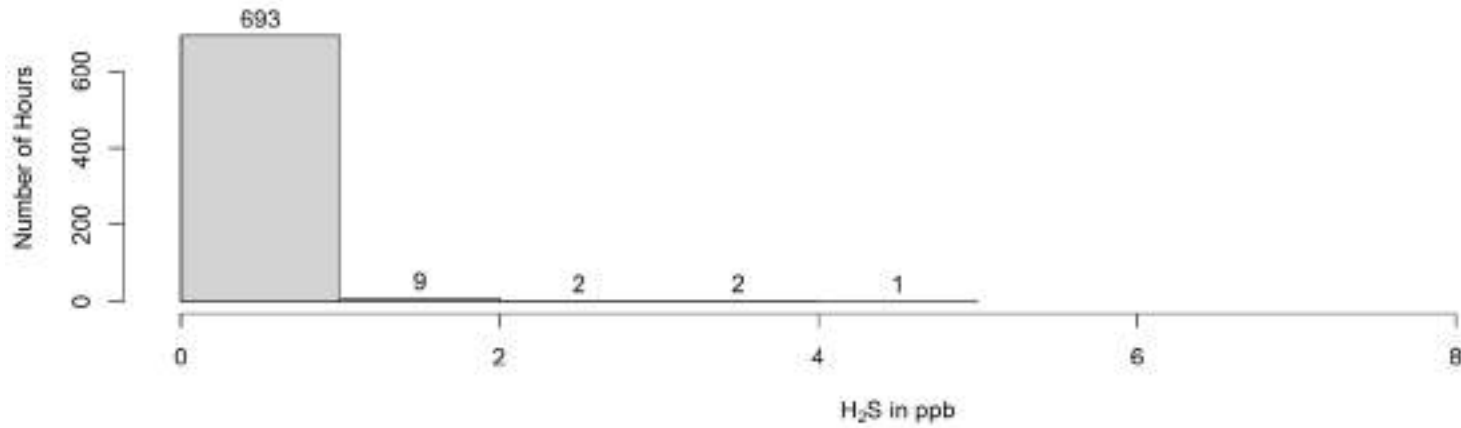
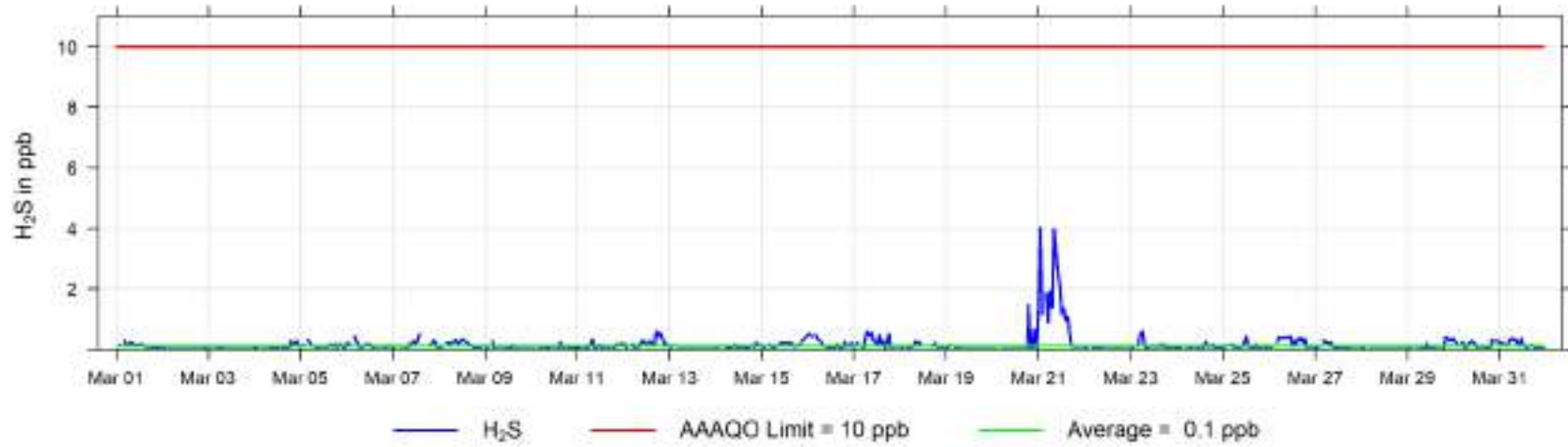
The following pages include the charts and histograms for Valleyview Station



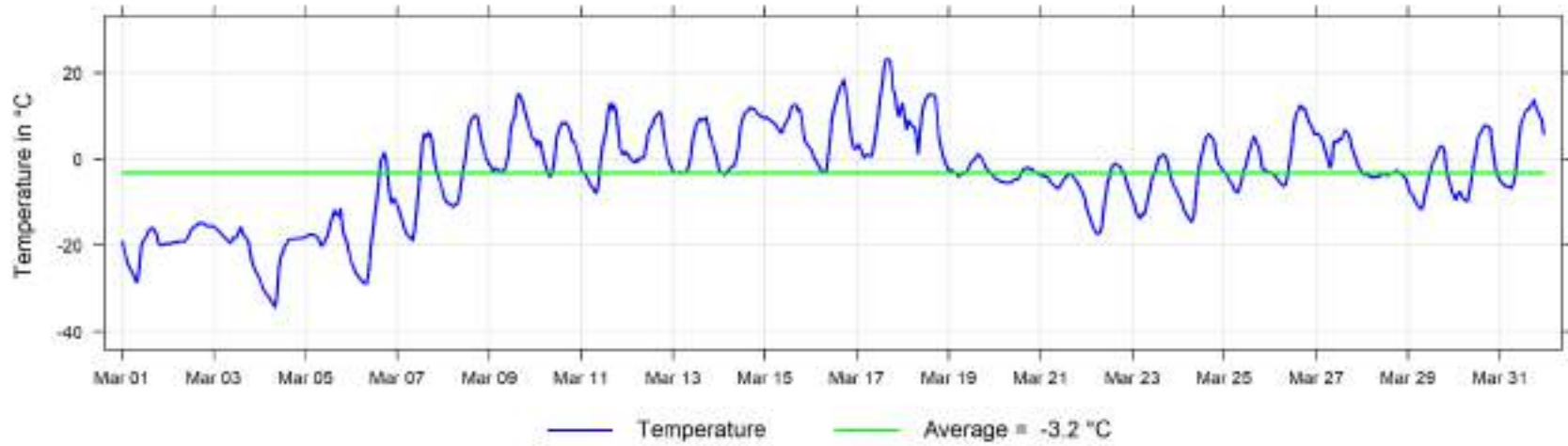
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview



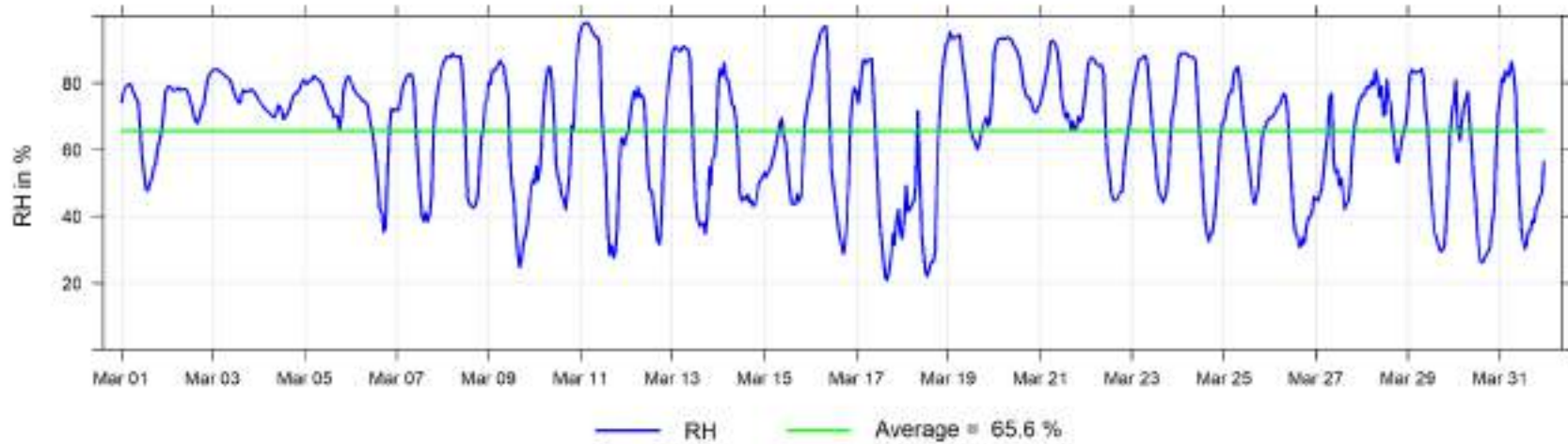
March 2024 Hourly Concentration Readings of H₂S (in ppb) at Valleyview



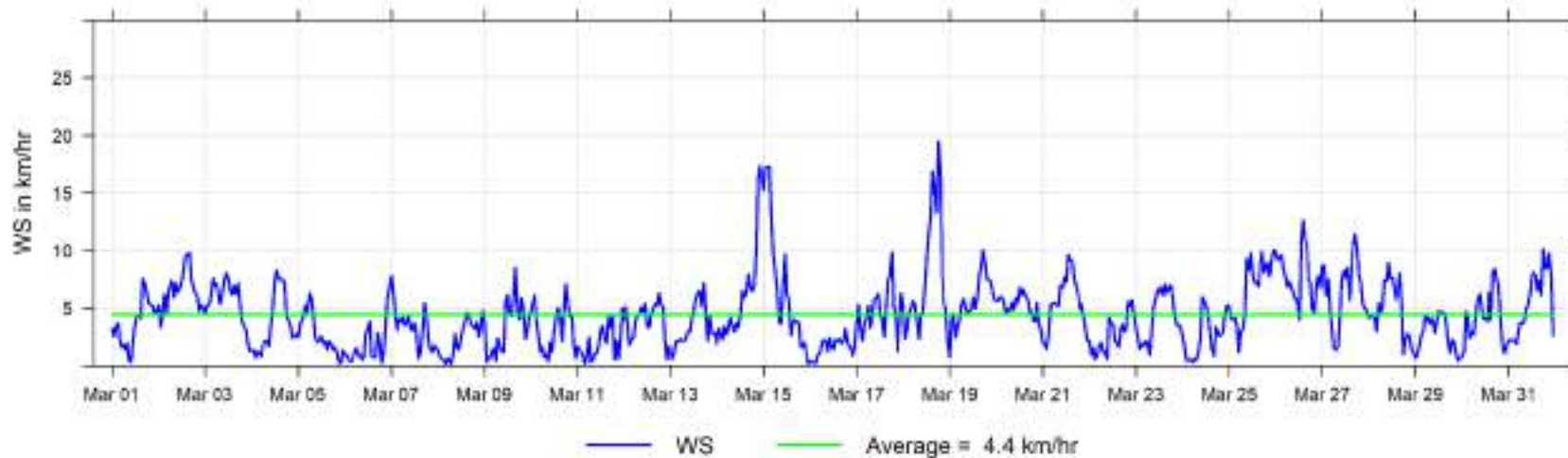
March 2024 Hourly Temperature Readings (in °C) at Valleyview



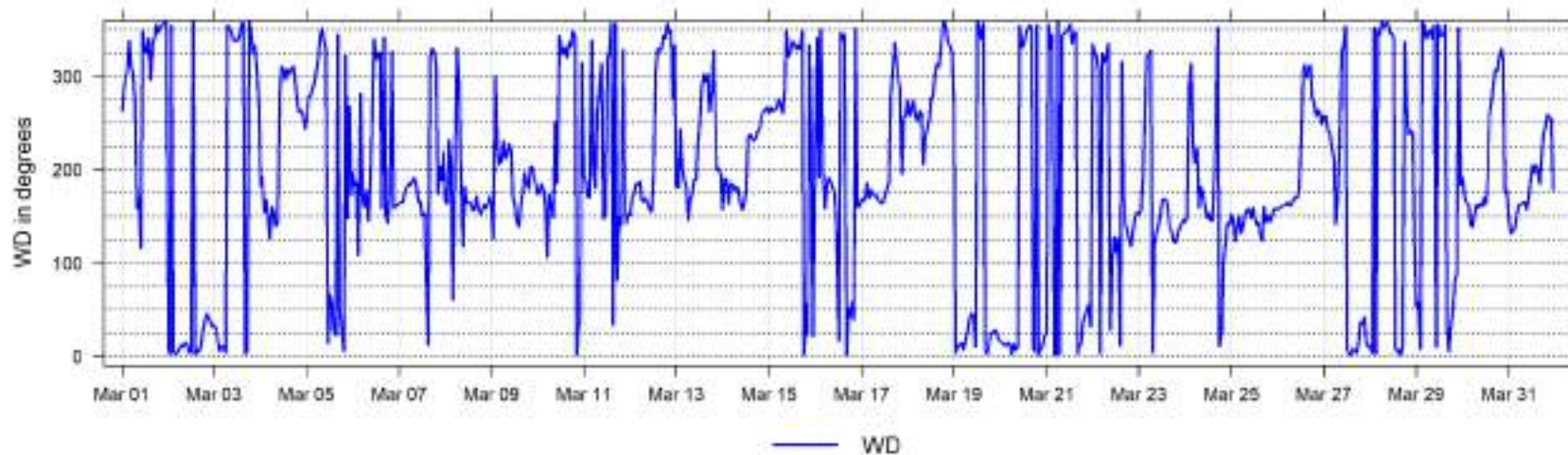
March 2024 Hourly Readings of Relative Humidity (in %) at Valleyview



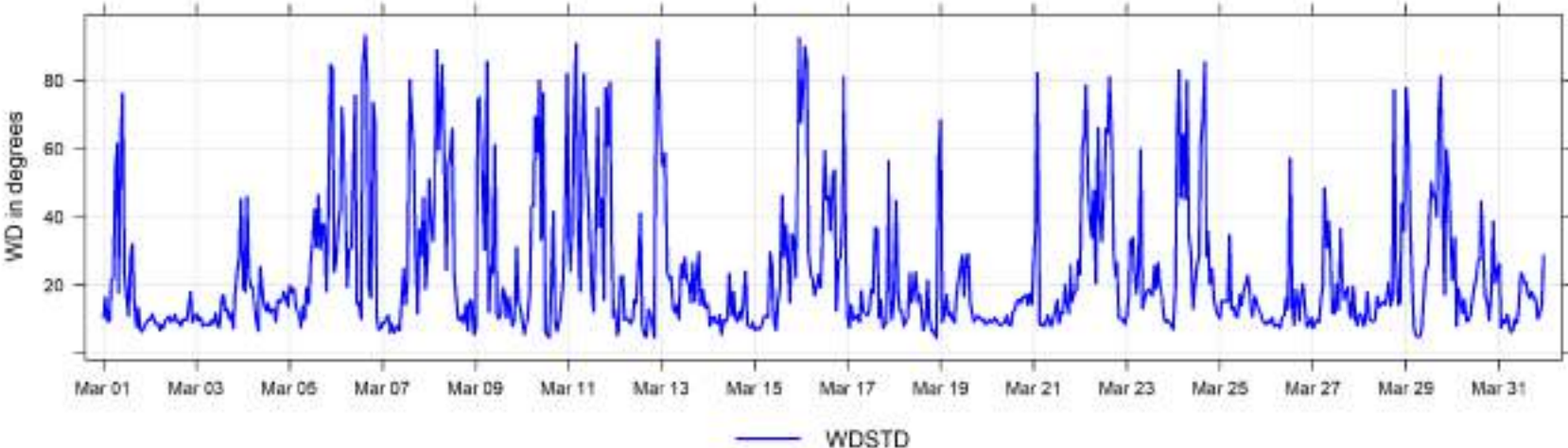
March 2024 Hourly Readings of Wind Speed (in km/hr) at Valleyview

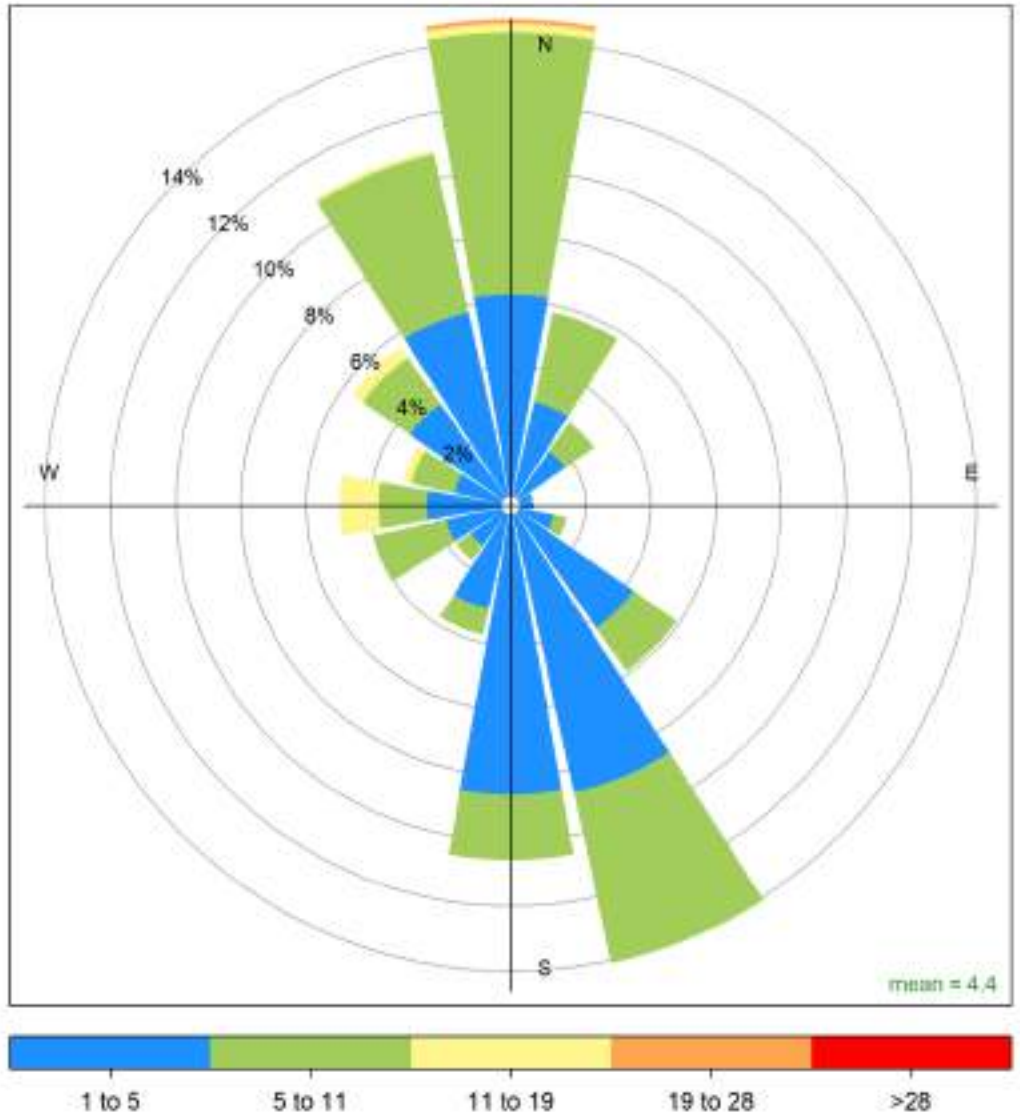


March 2024 Hourly Readings of Wind Direction (in degrees) at Valleyview



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



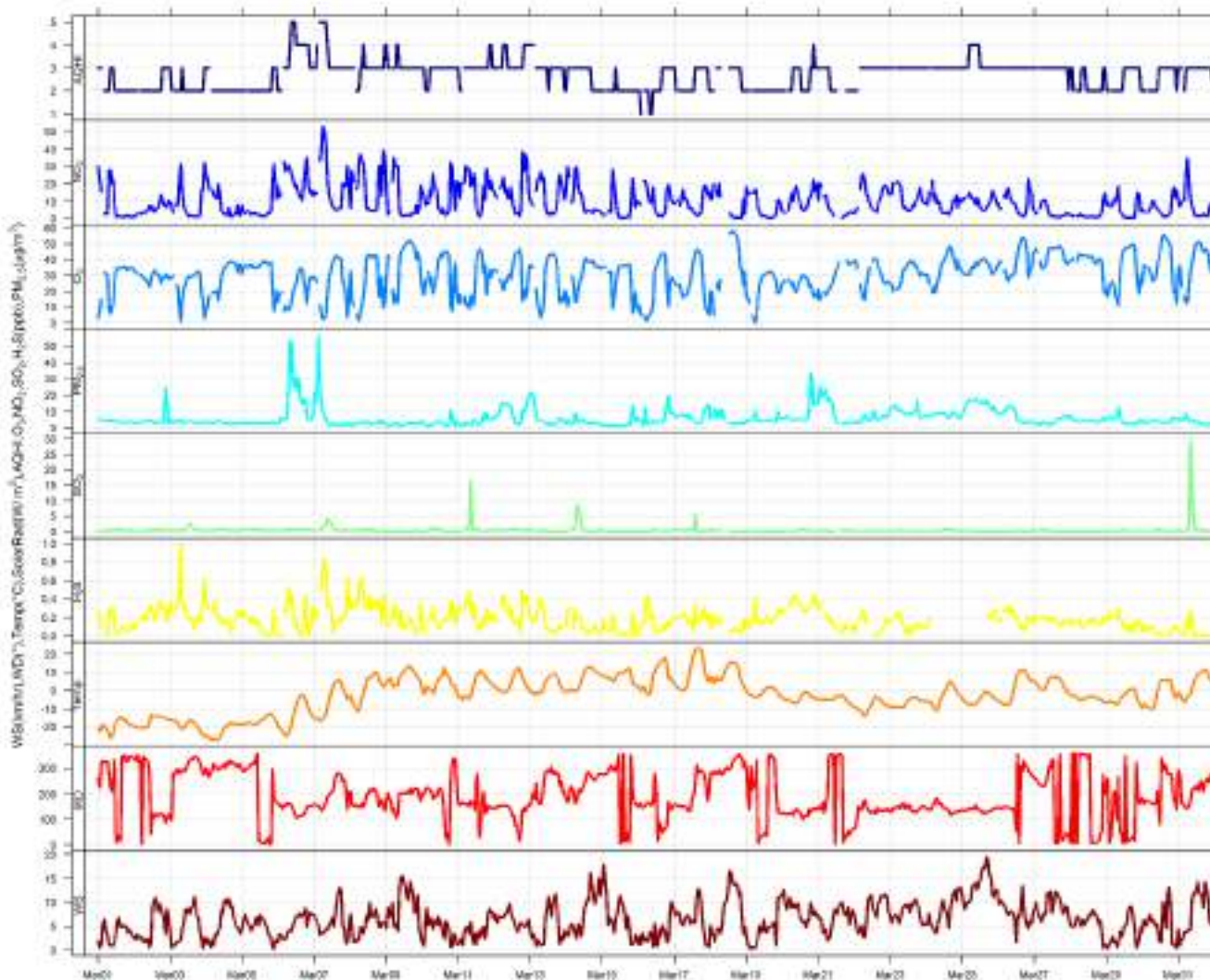


Valleyview March 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 9.8 %

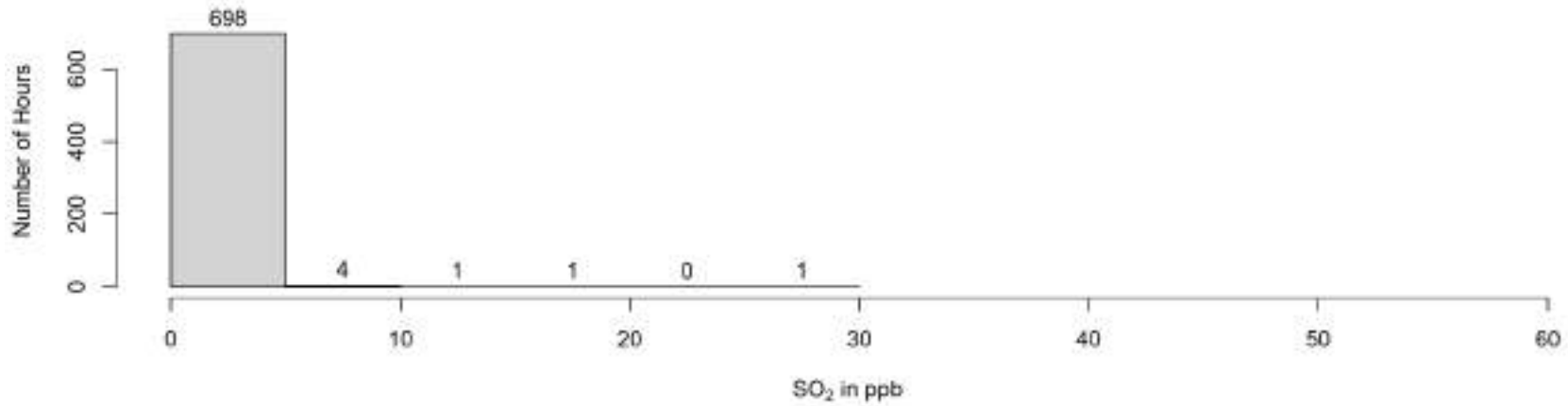
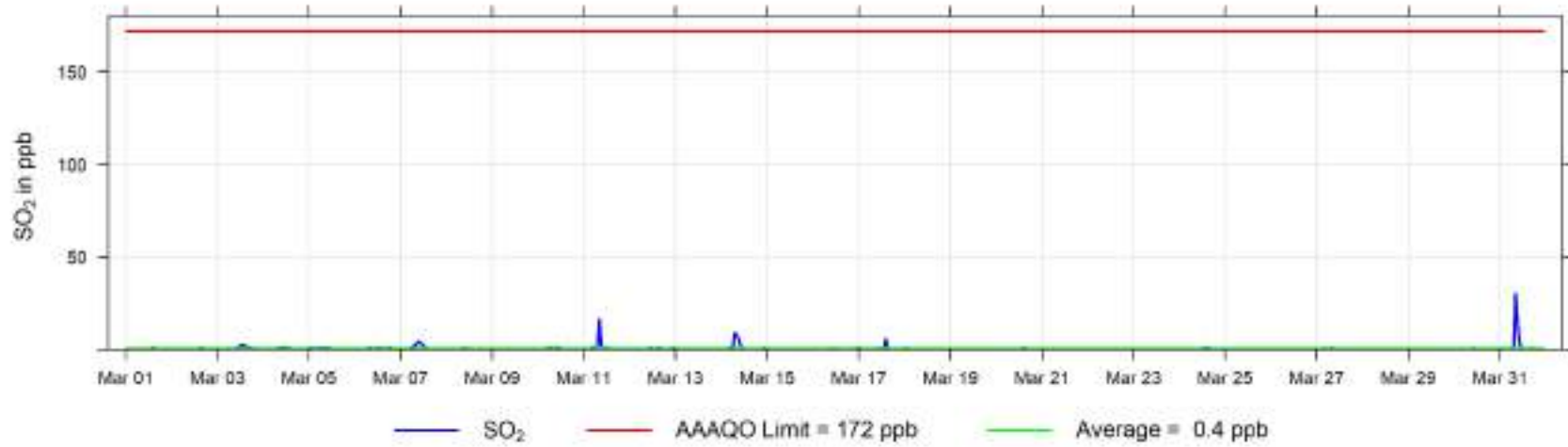
7 Fox Creek Charts

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

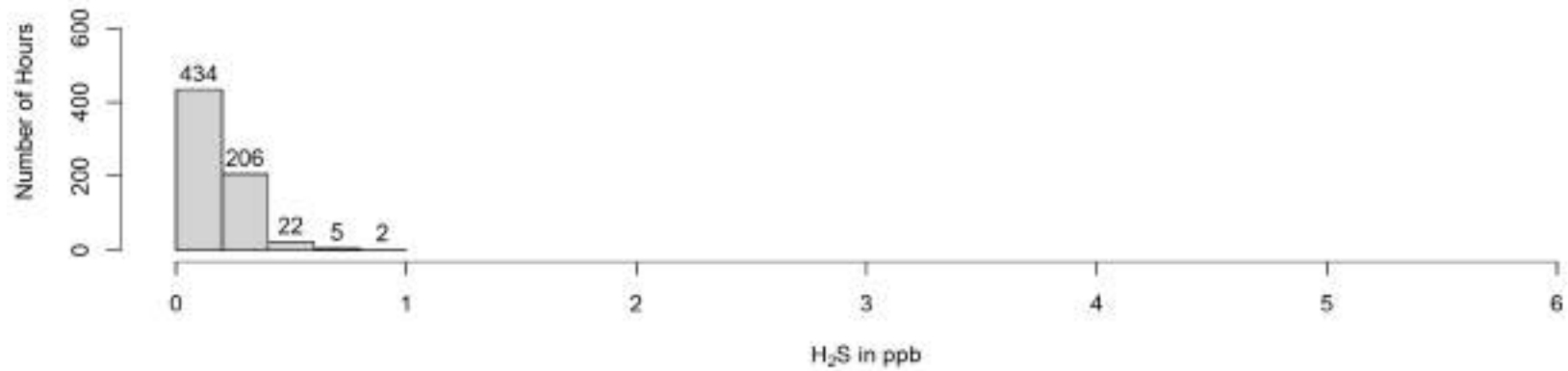
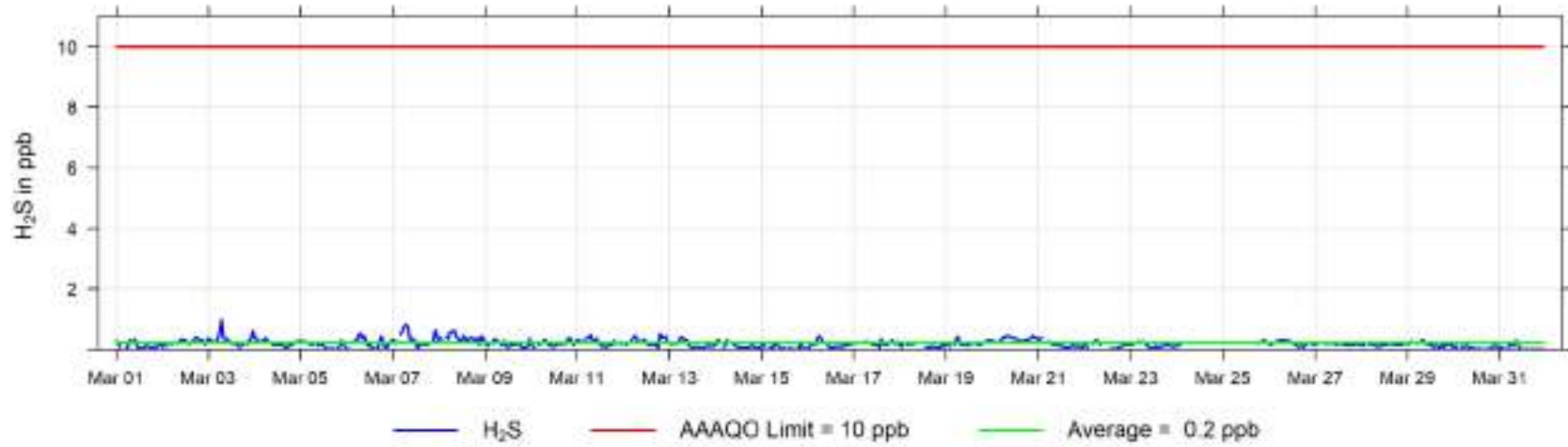
March 2024 Concentration Readings at Fox Creek Station



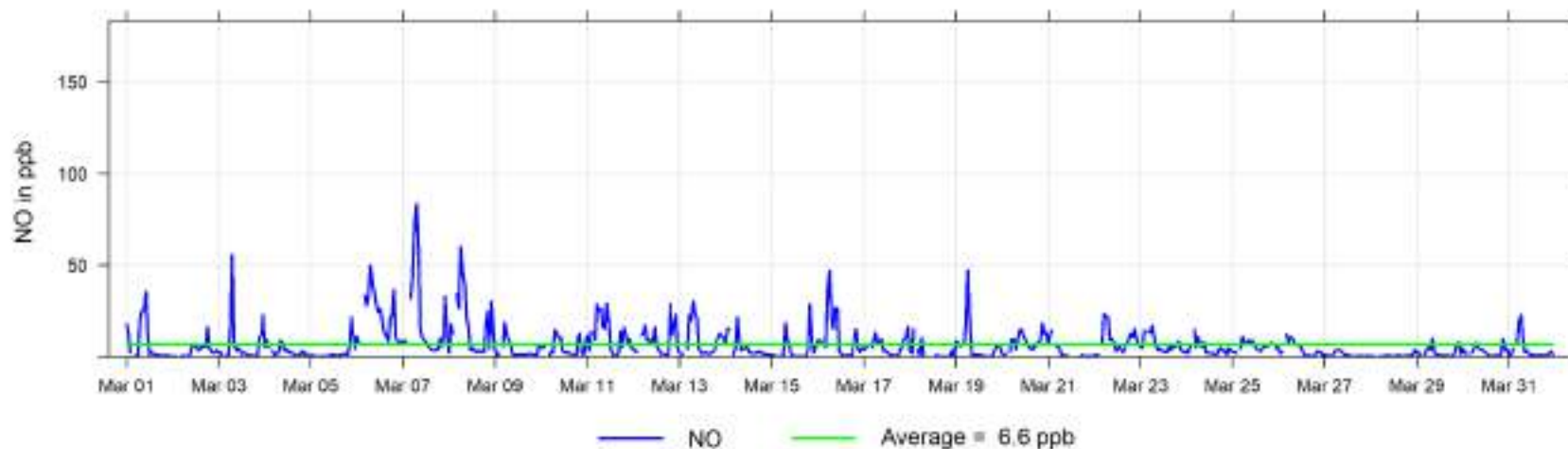
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Fox Creek



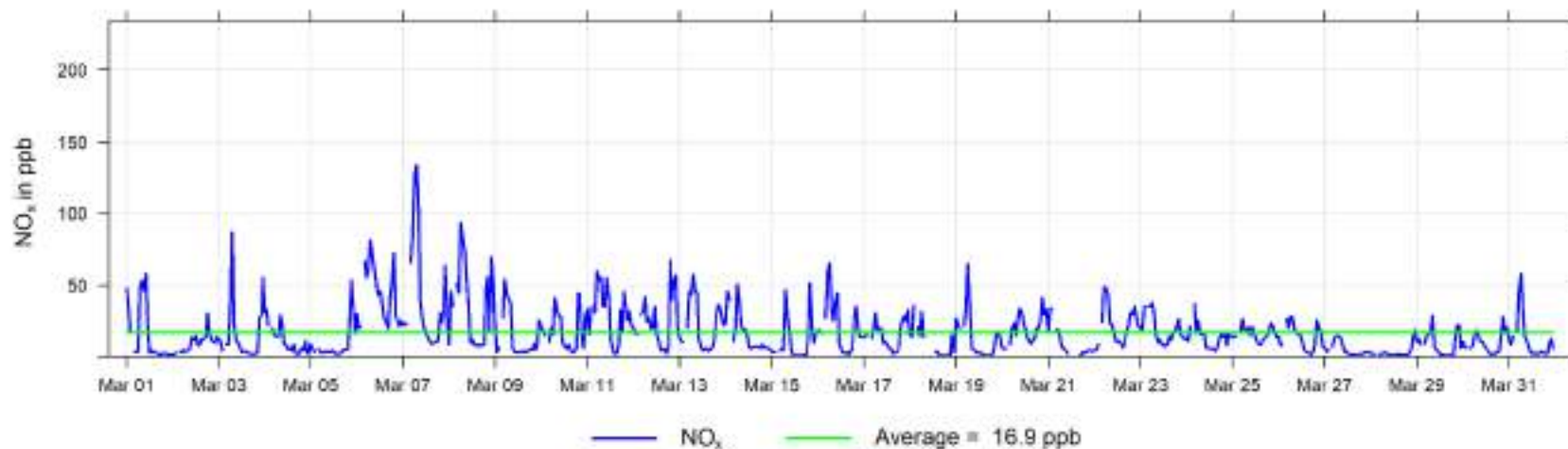
March 2024 Hourly Concentration Readings of H₂S (in ppb) at Fox Creek



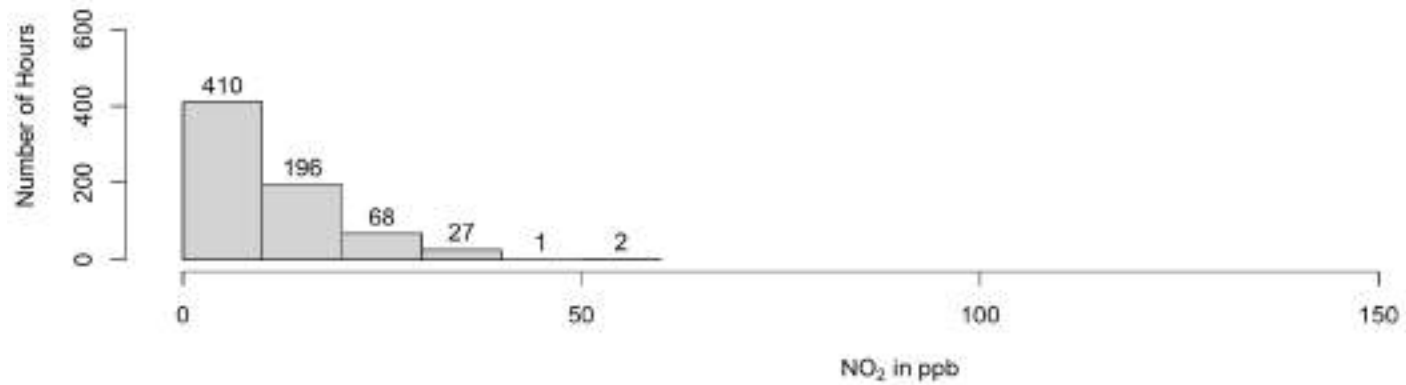
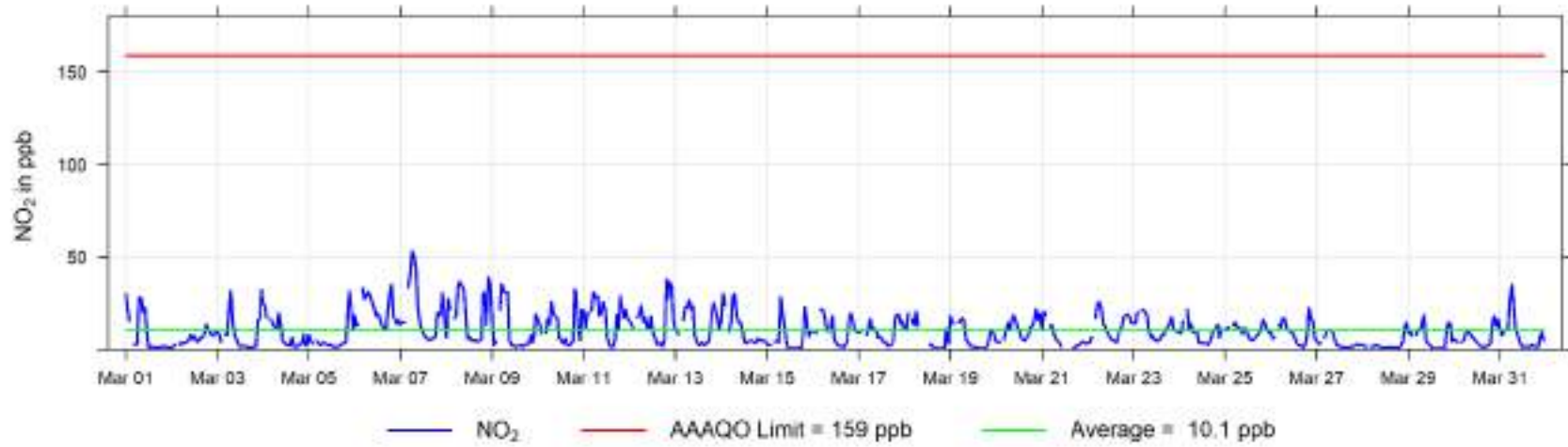
March 2024 Hourly Concentration Readings of NO (in ppb) at Fox Creek



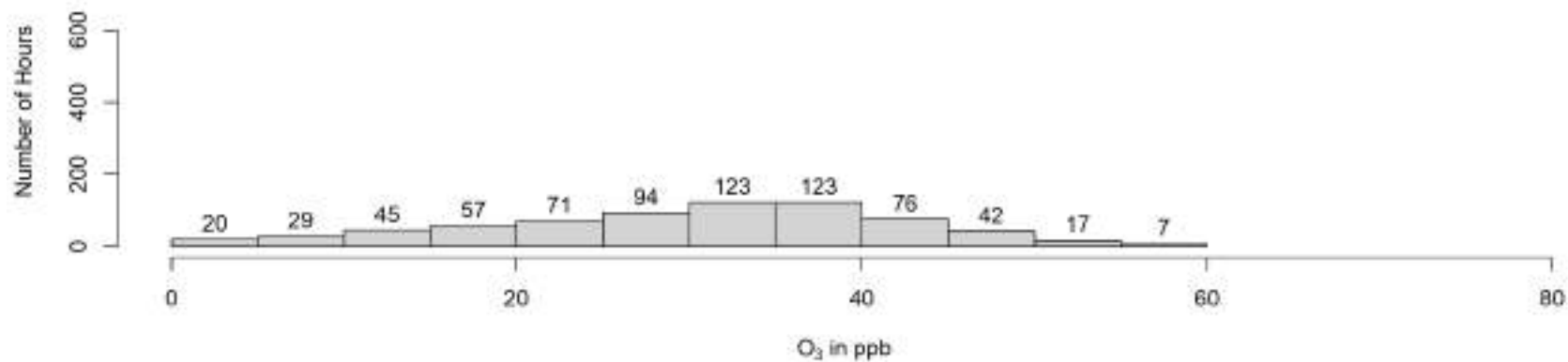
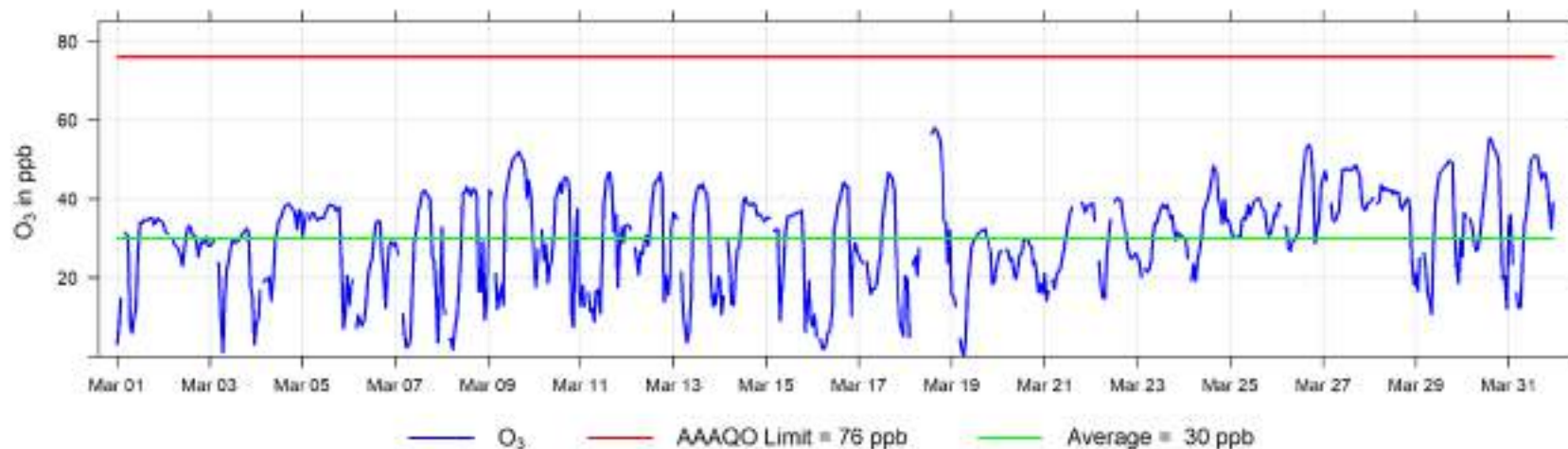
March 2024 Hourly Concentration Readings of NO_x (in ppb) at Fox Creek



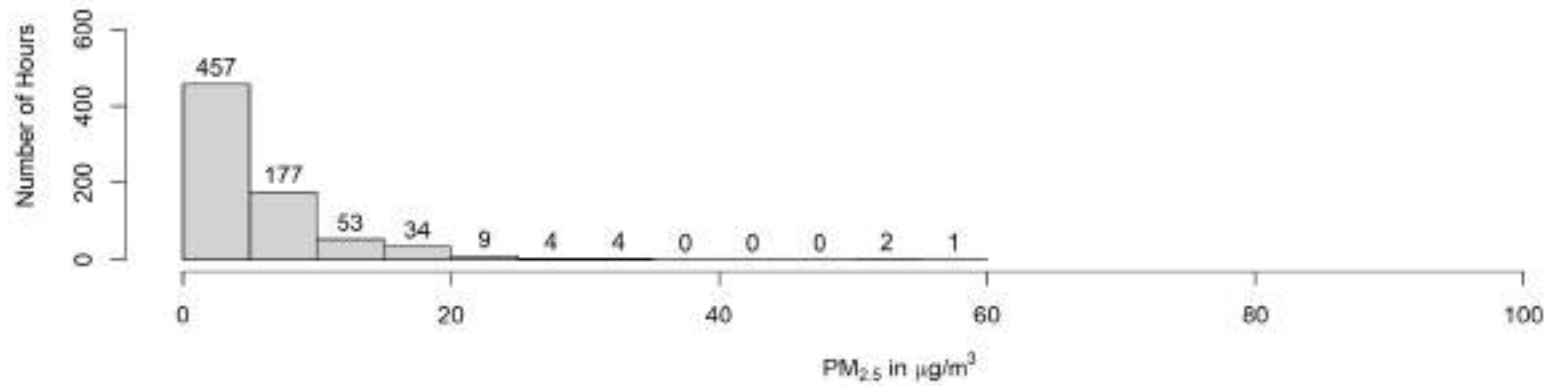
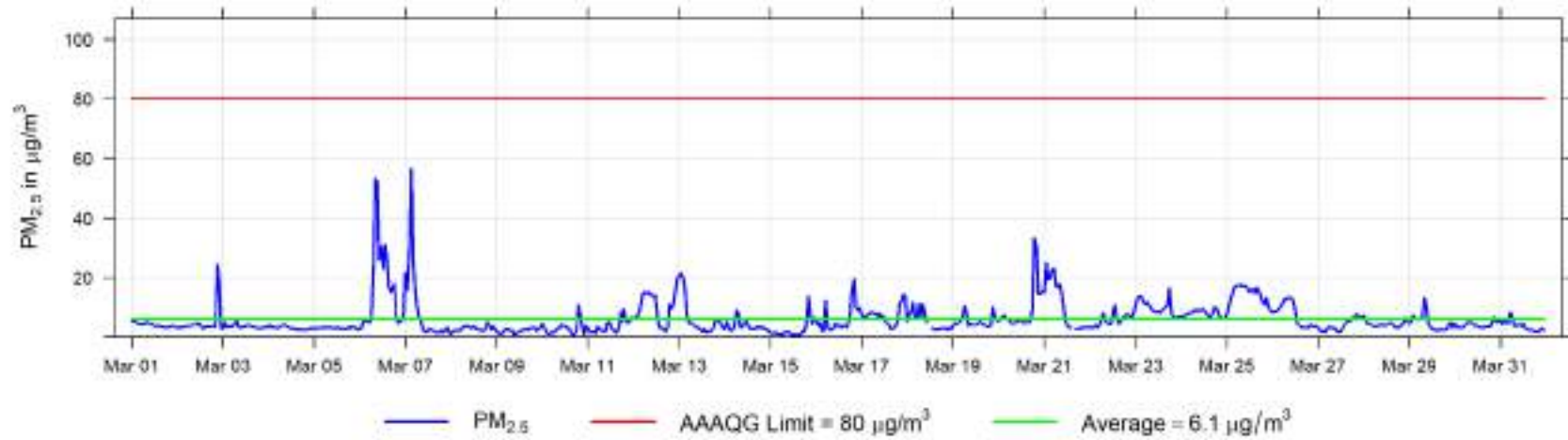
March 2024 Hourly Concentration Readings of NO₂ (in ppb) at Fox Creek



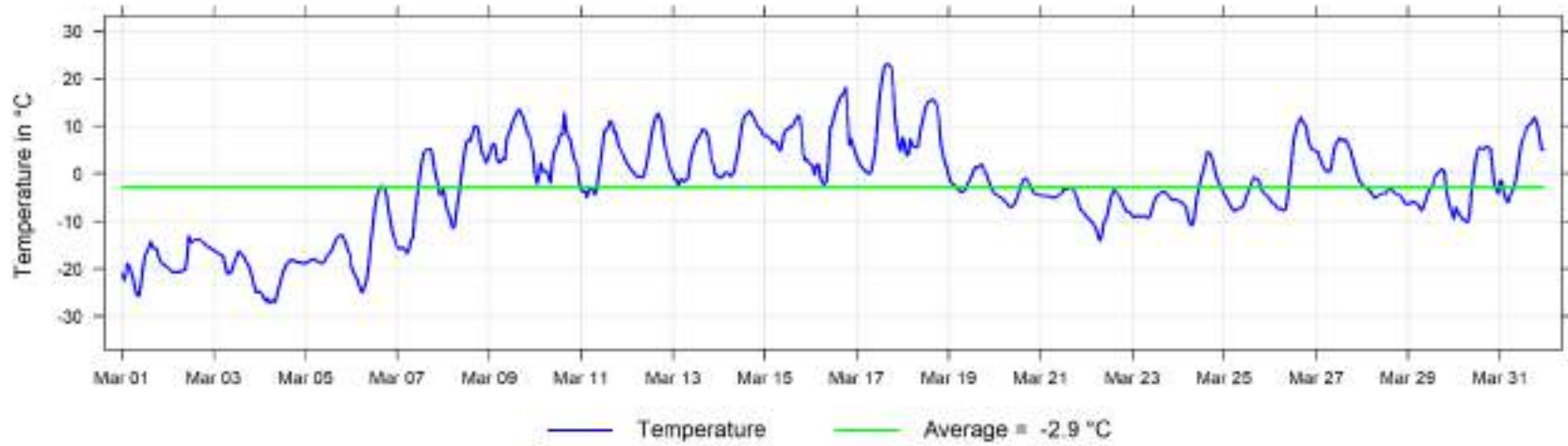
March 2024 Hourly Concentration Readings of O₃ (in ppb) at Fox Creek



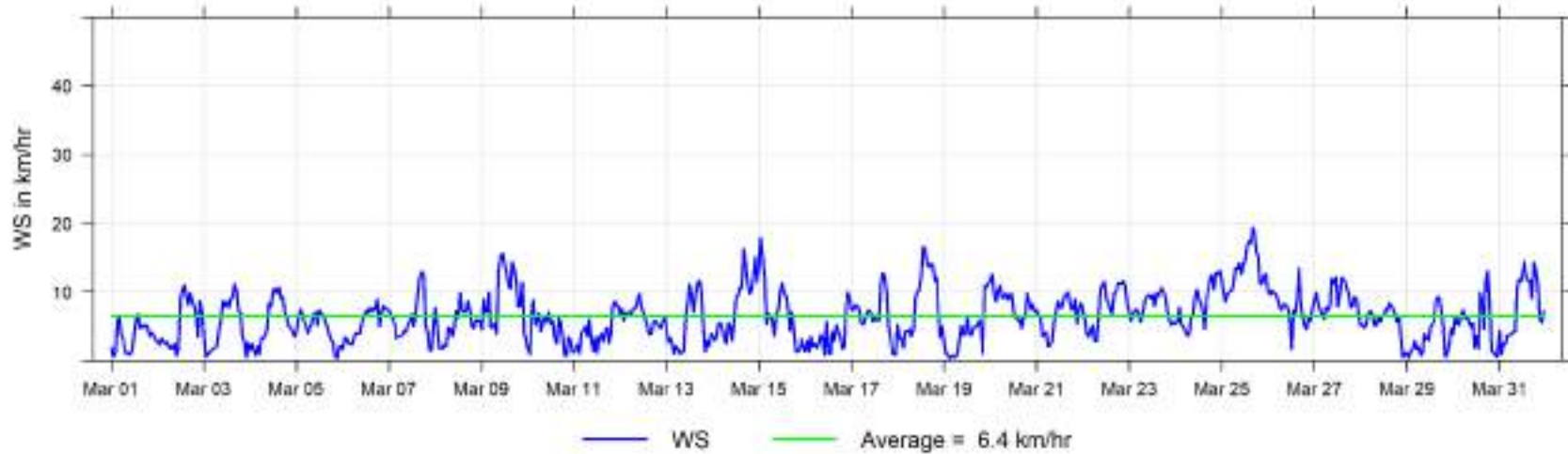
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Fox Creek



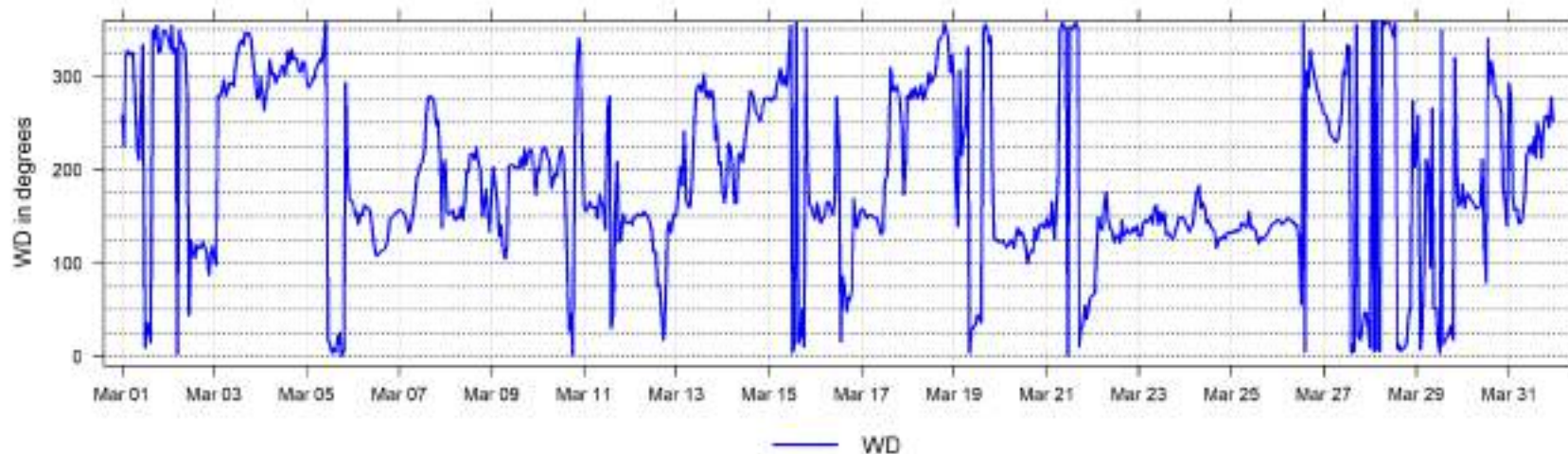
March 2024 Hourly Temperature Readings (in °C) at Fox Creek



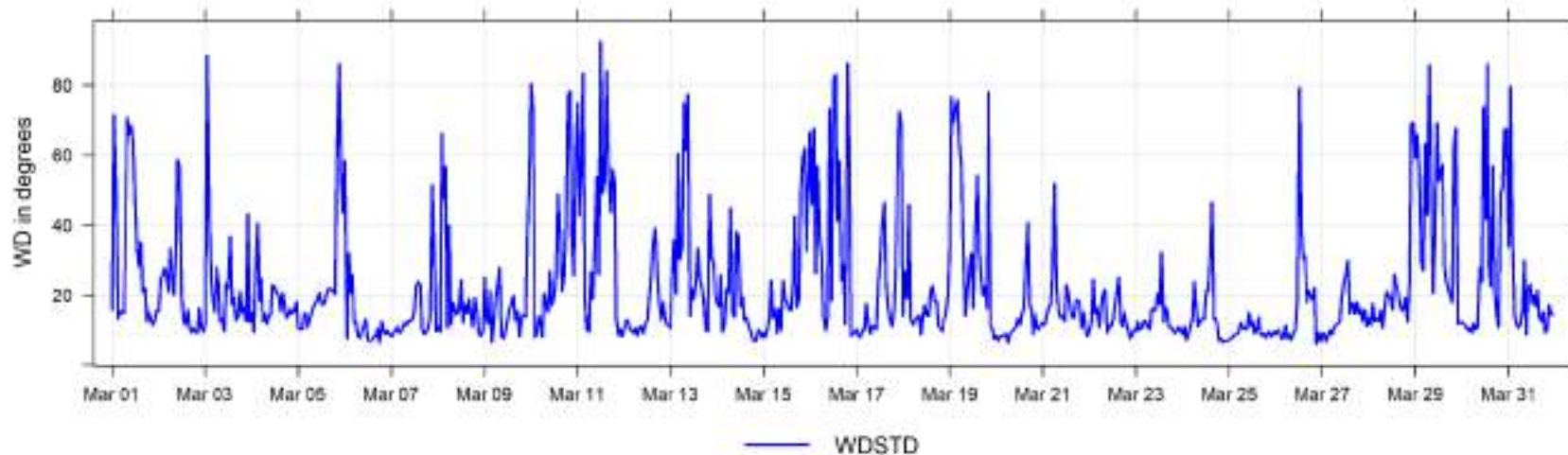
March 2024 Hourly Readings of Wind Speed (in km/hr) at Fox Creek



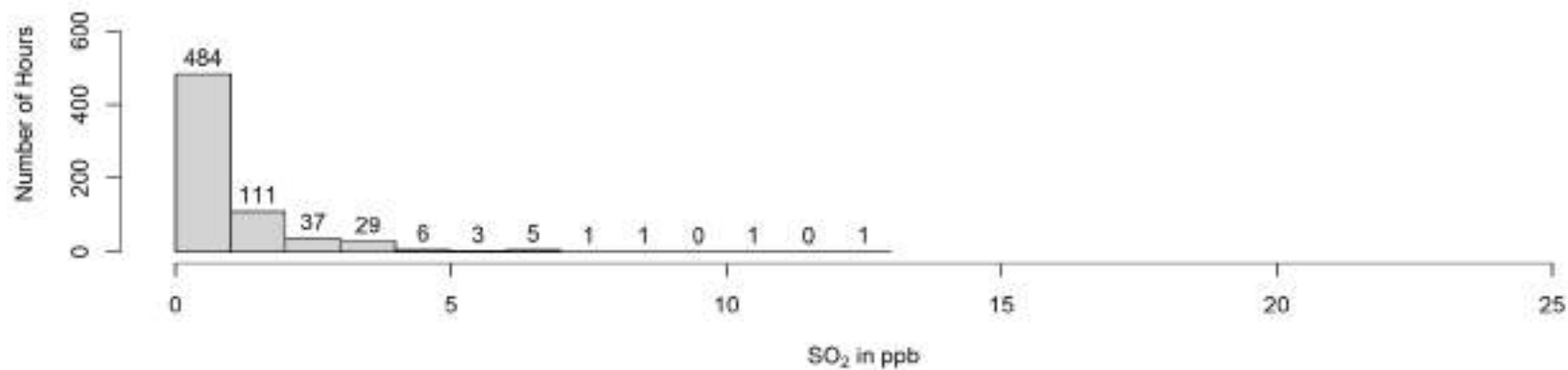
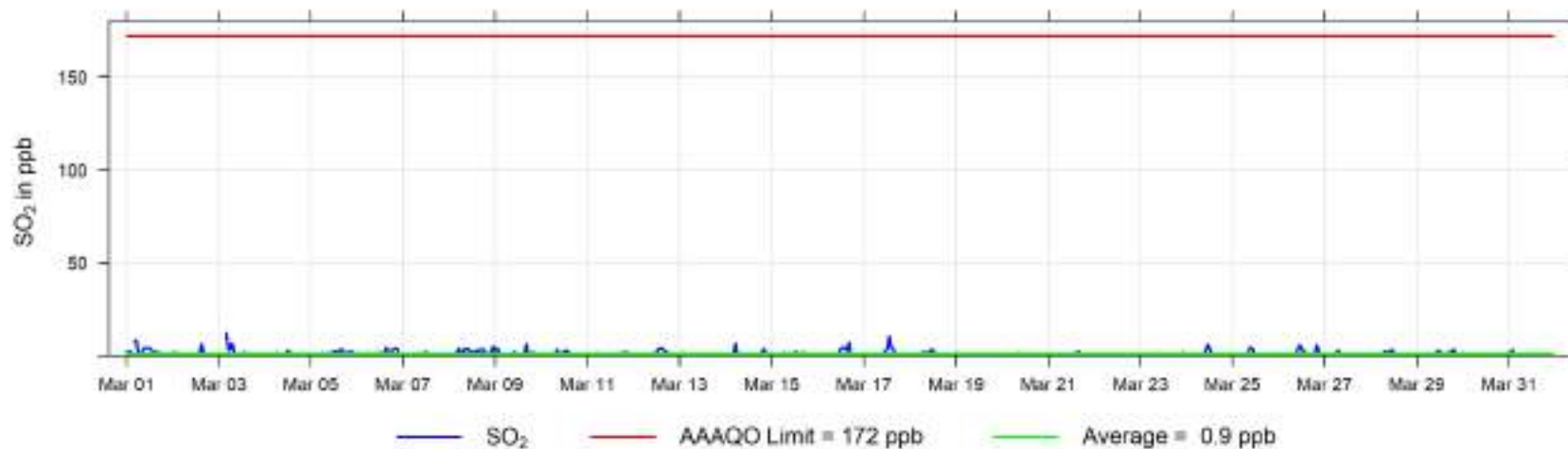
March 2024 Hourly Readings of Wind Direction (in degrees) at Fox Creek



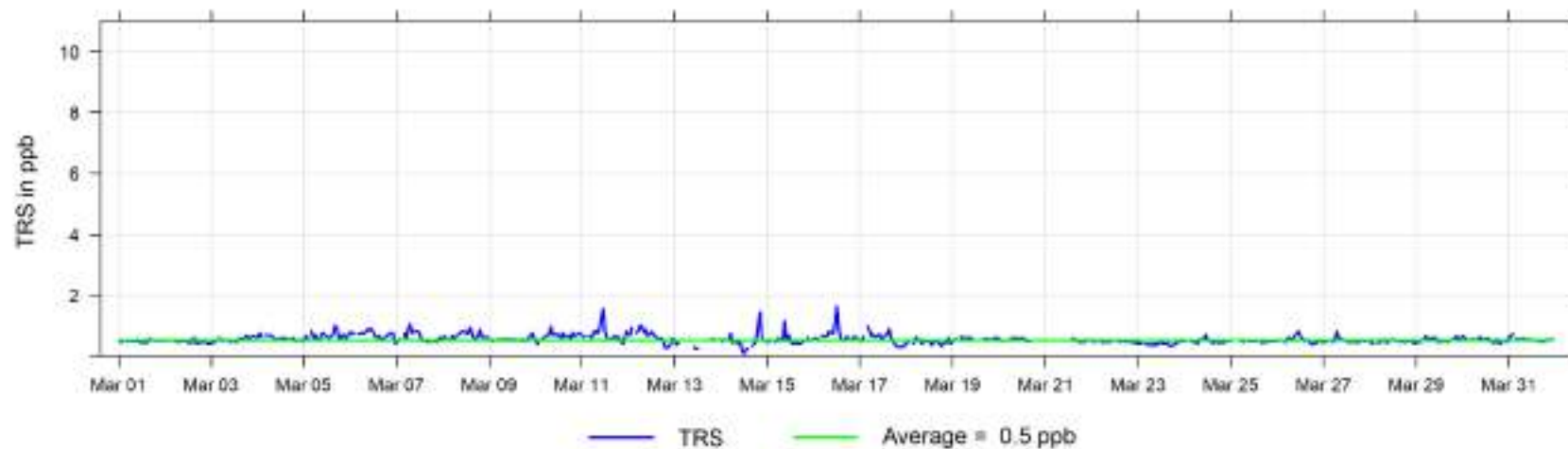
March 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Fox Creek



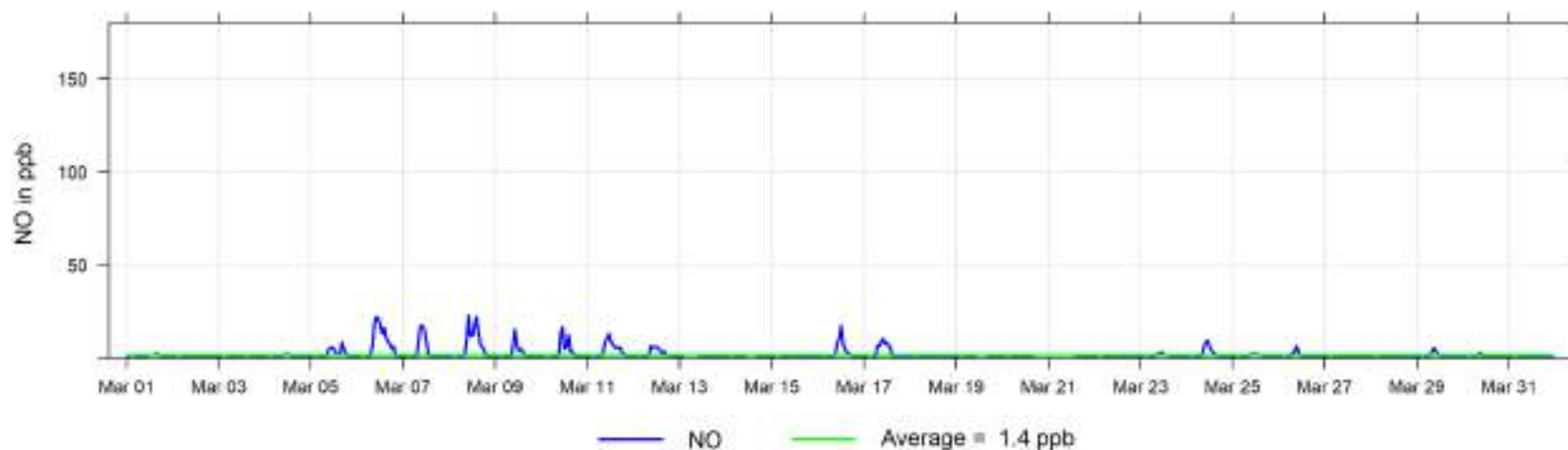
March 2024 Hourly Concentration Readings of SO₂ (in ppb) at Poplar



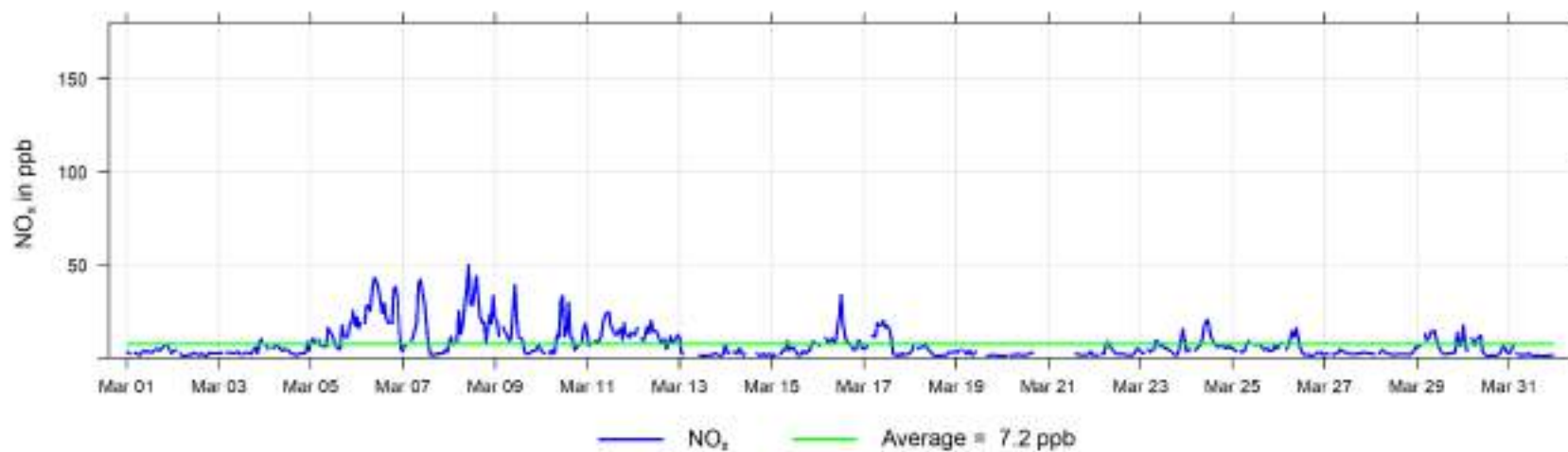
March 2024 Hourly Concentration Readings of TRS (in ppb) at Poplar



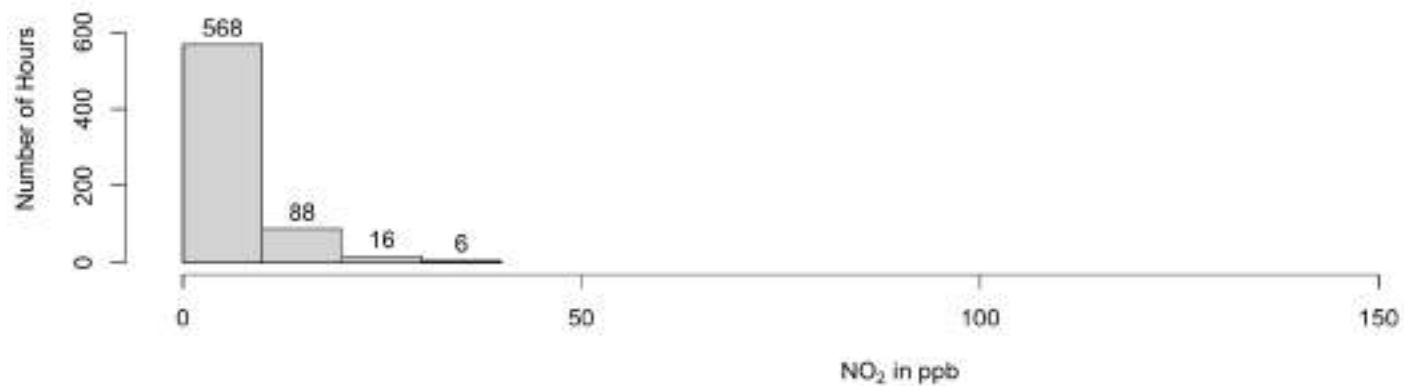
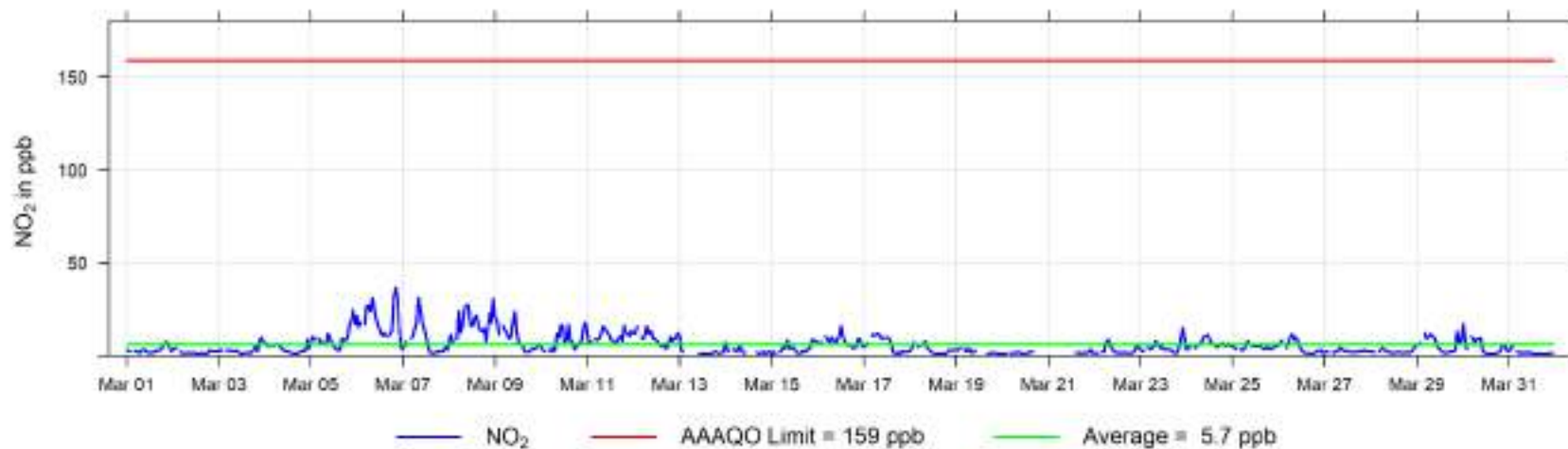
March 2024 Hourly Concentration Readings of NO (in ppb) at Poplar



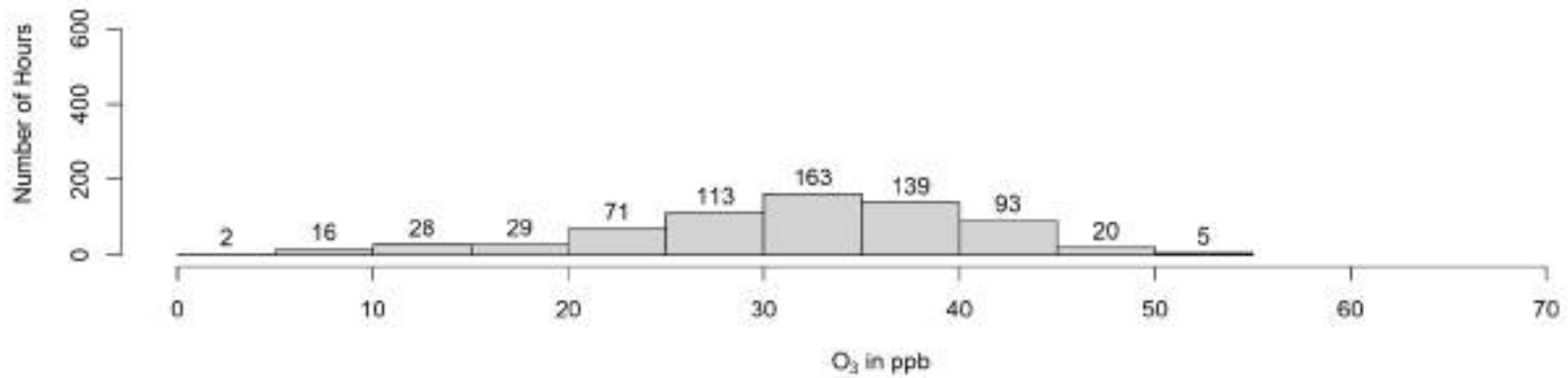
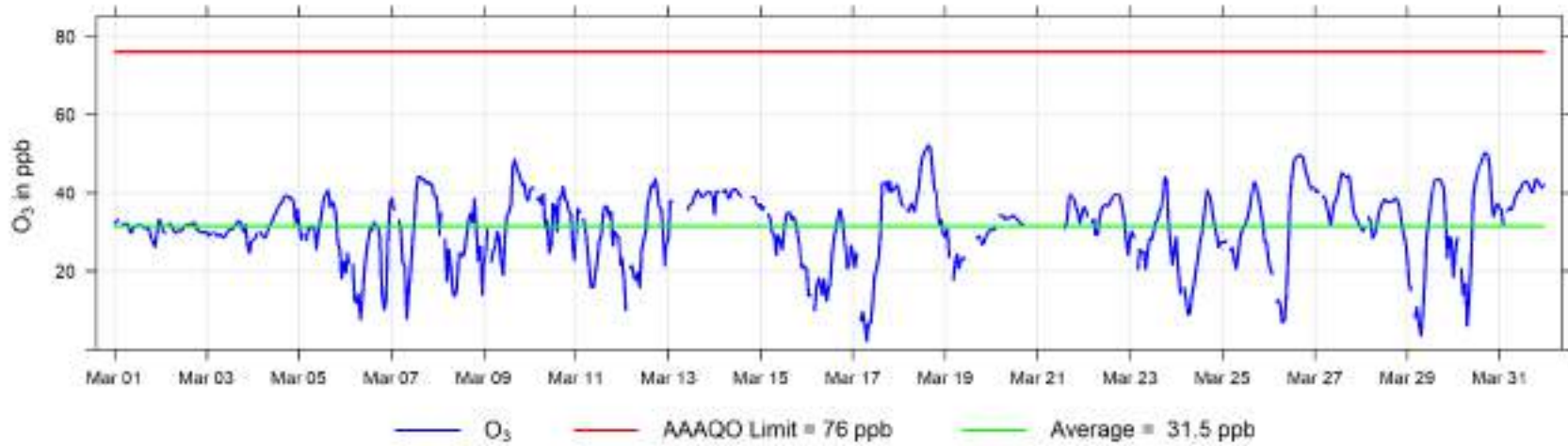
March 2024 Hourly Concentration Readings of NO_x (in ppb) at Poplar



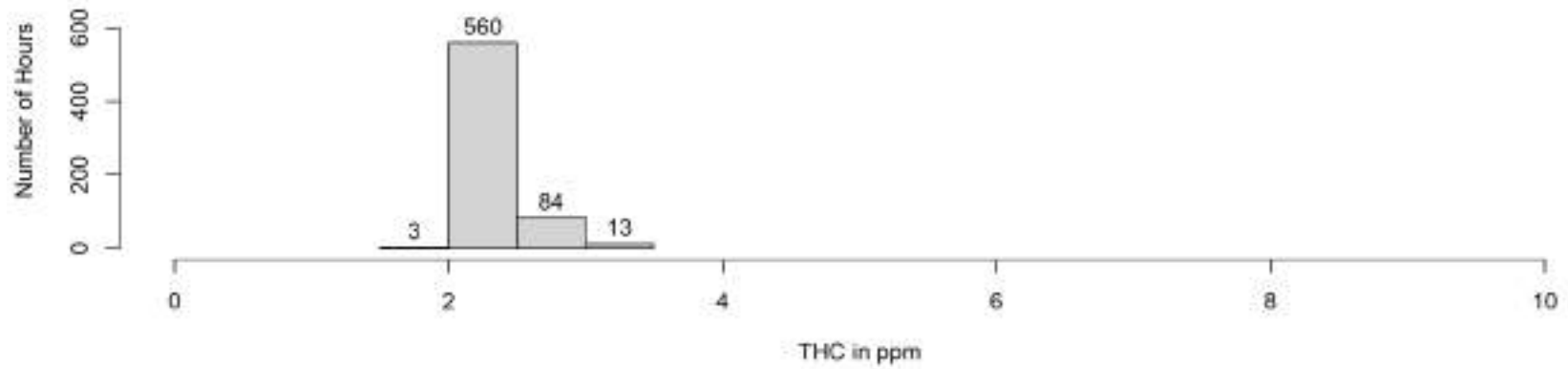
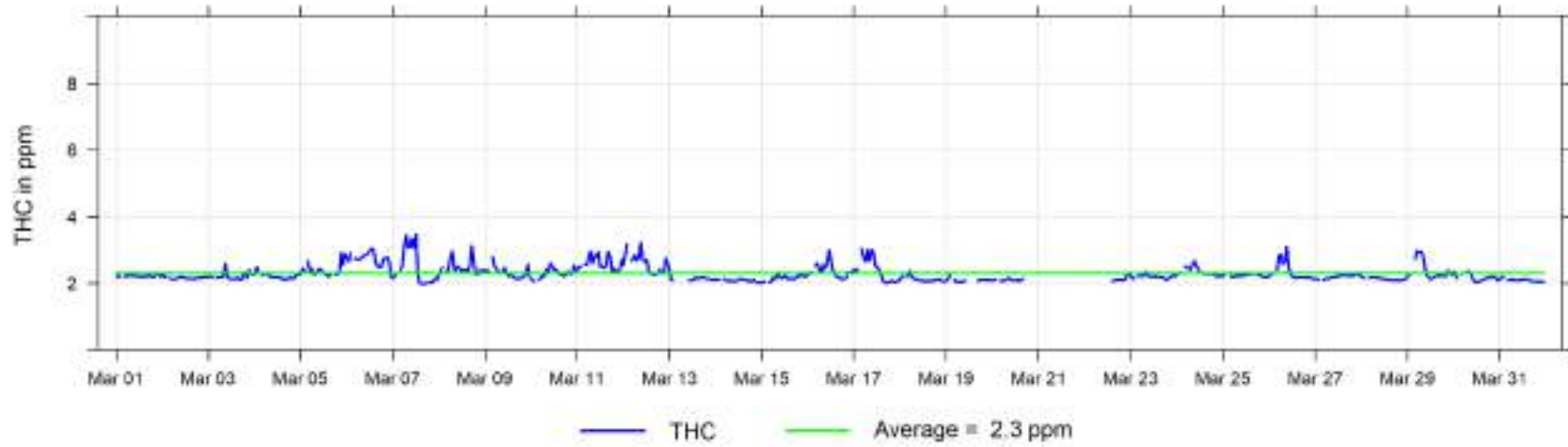
March 2024 Hourly Concentration Readings of NO₂ (in ppb) at Poplar



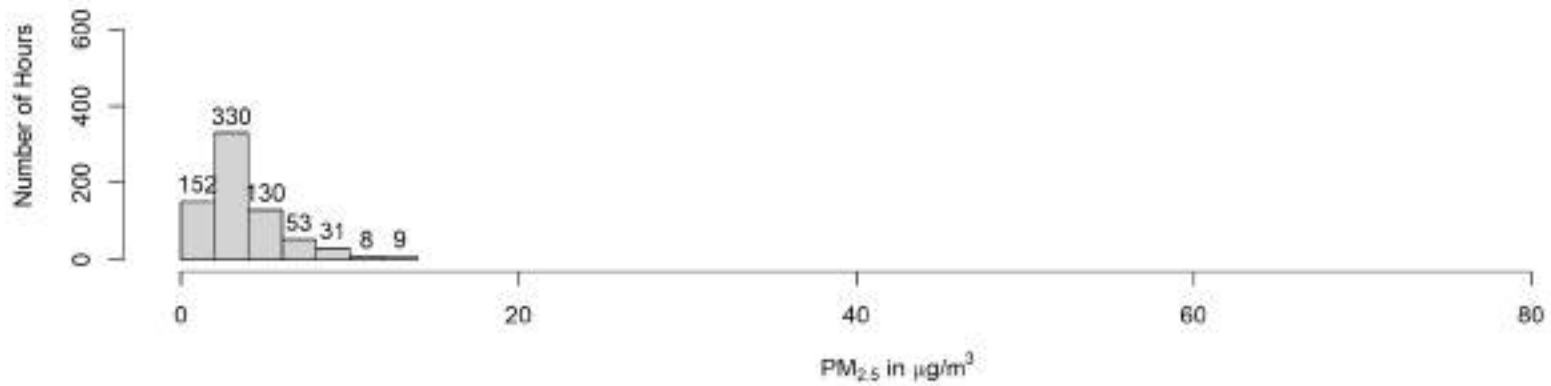
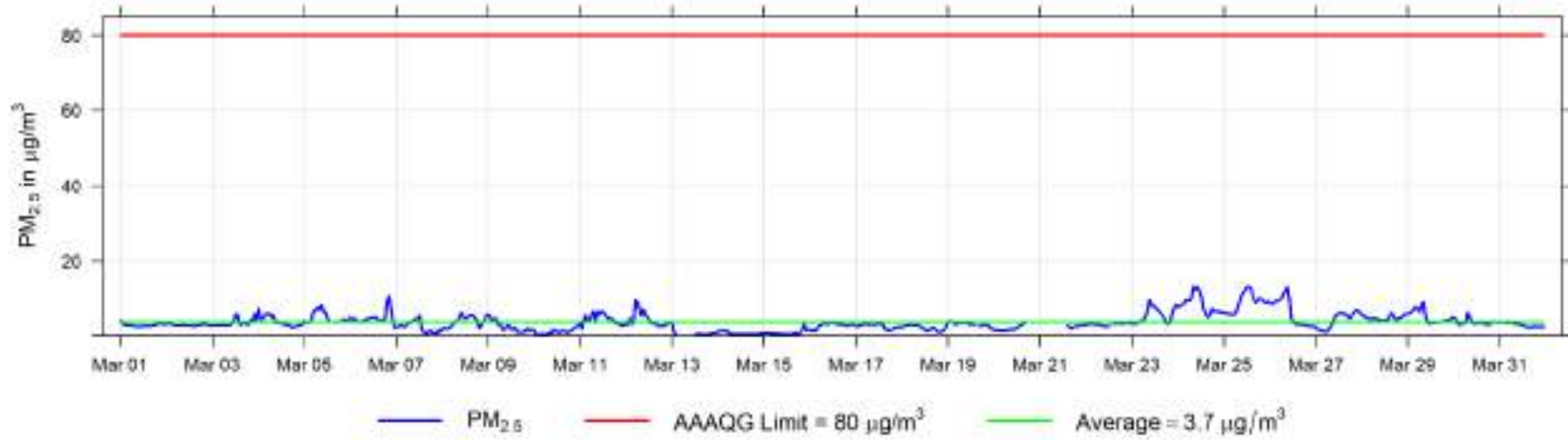
March 2024 Hourly Concentration Readings of O₃ (in ppb) at Poplar



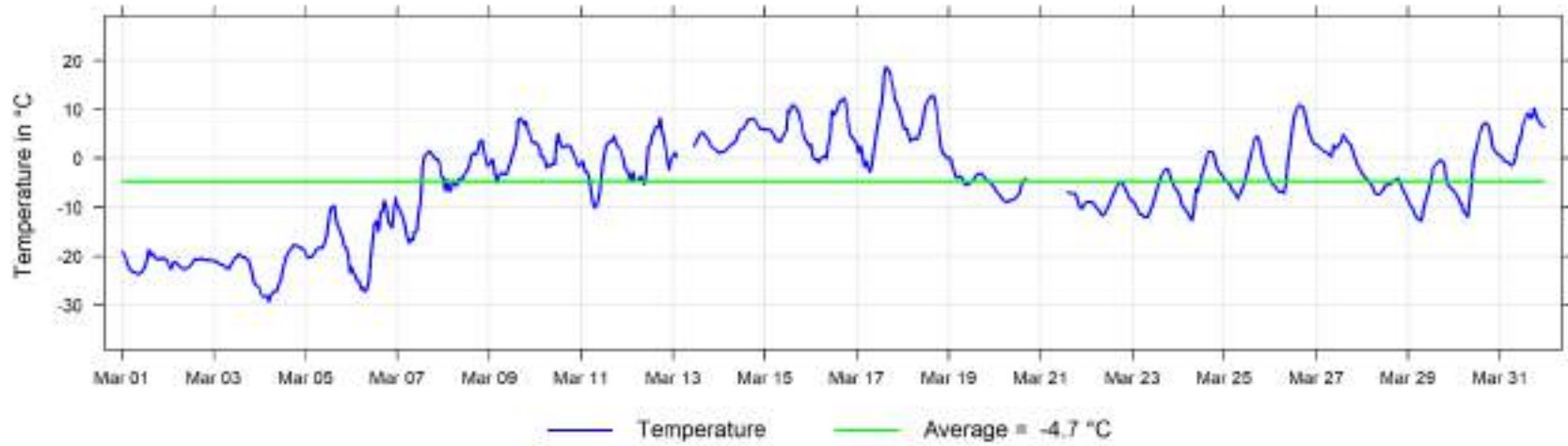
March 2024 Hourly Concentration Readings of THC (in ppm) at Poplar



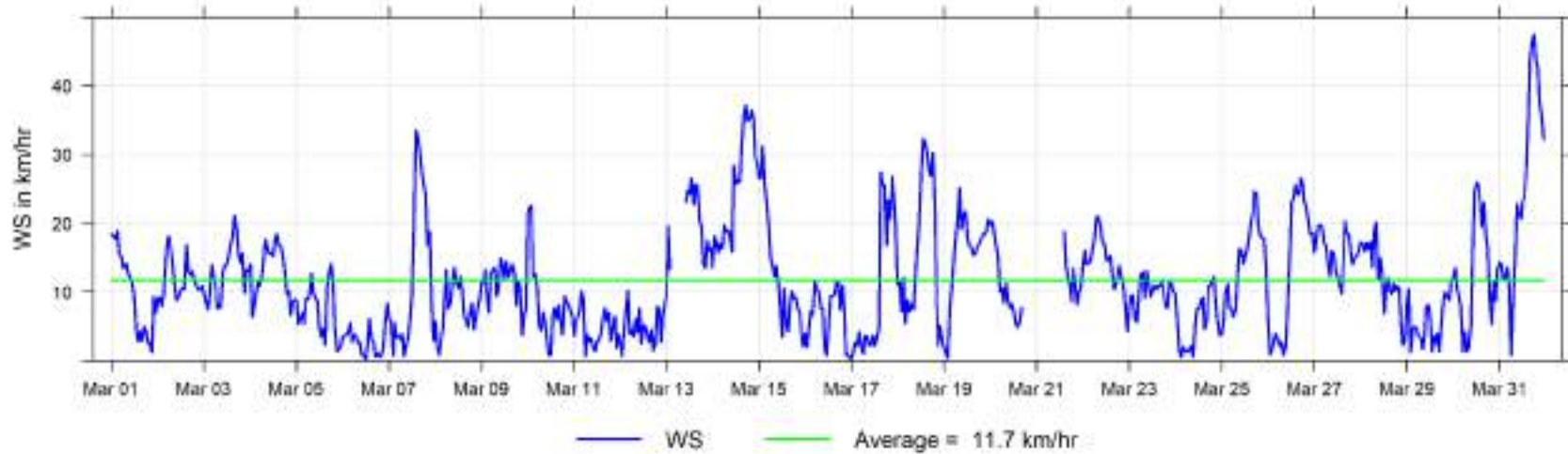
March 2024 Hourly Concentration Readings of PM_{2.5} in µg/m³ at Poplar



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



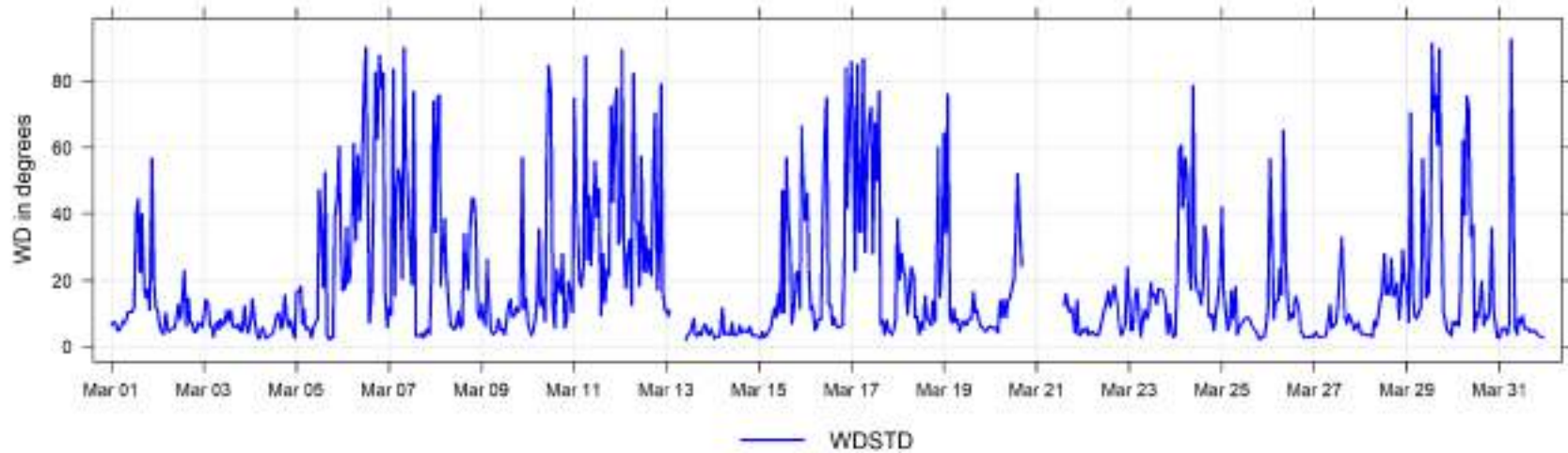
March 2024 Hourly Readings of Wind Speed (in km/hr) at Poplar

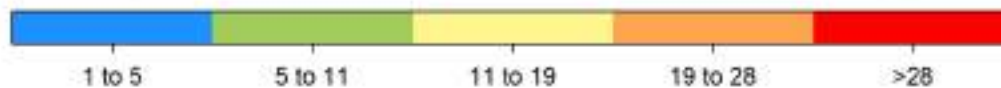
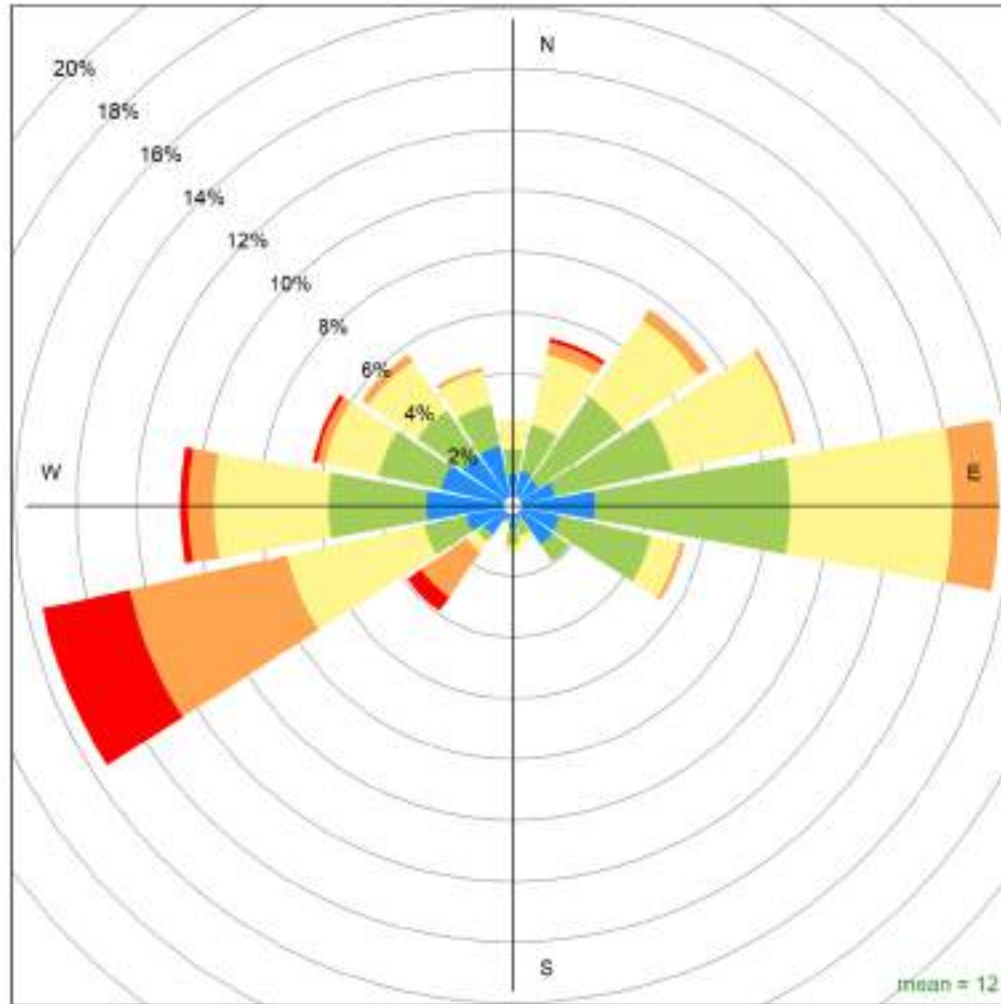


March 2024 Hourly Readings of Wind Direction (in degrees) at Poplar



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



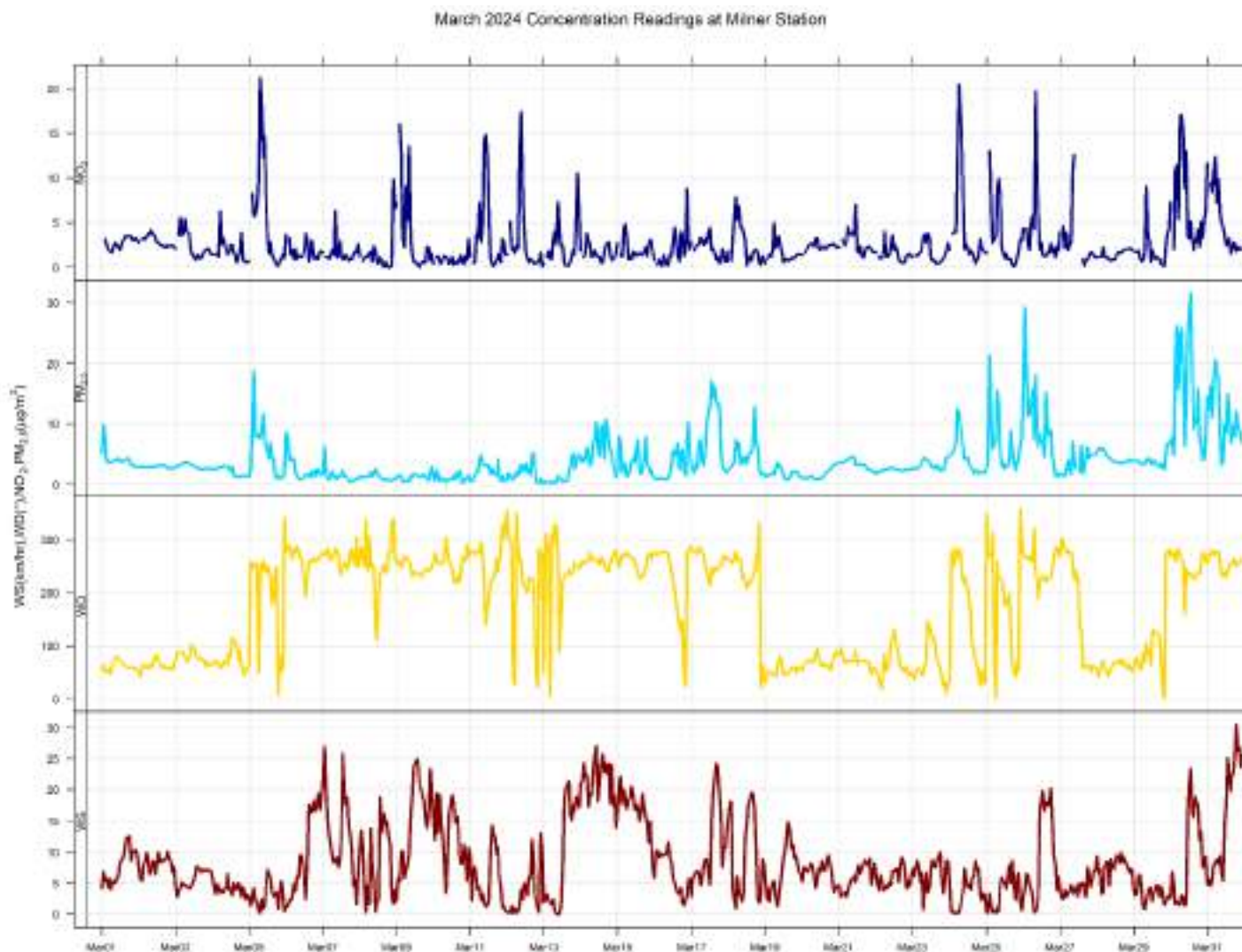


Poplar March 2024 Wind Rose, wind speed in km/hr

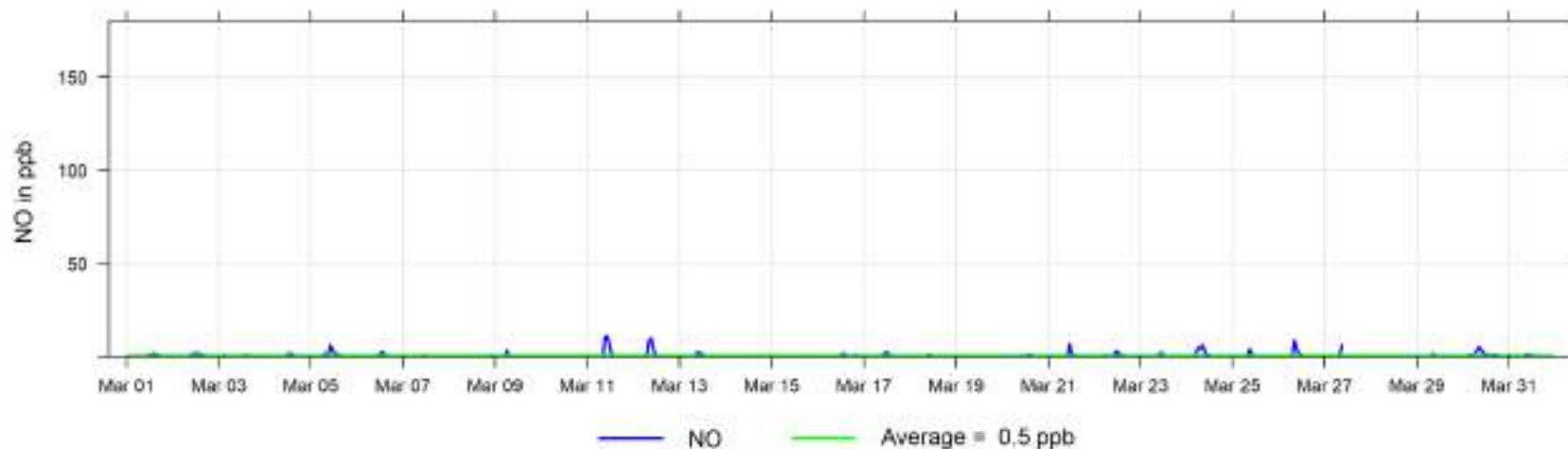
Calms (<1km/hr) = 3.5 %

9 Milner Charts

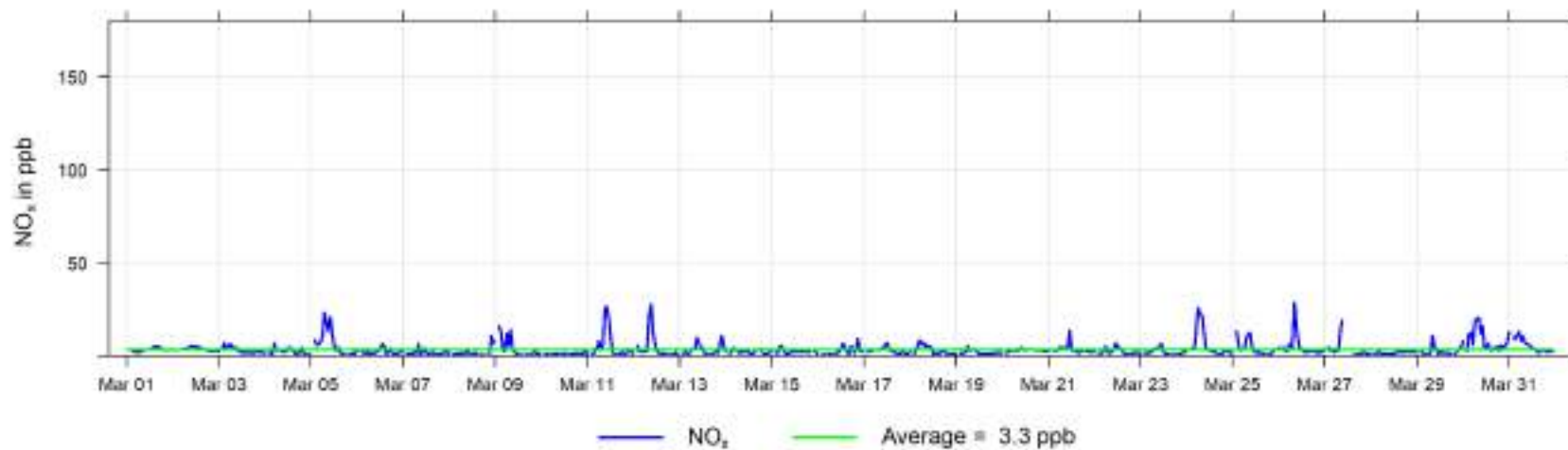
The following pages include the charts and histograms for Milner Station



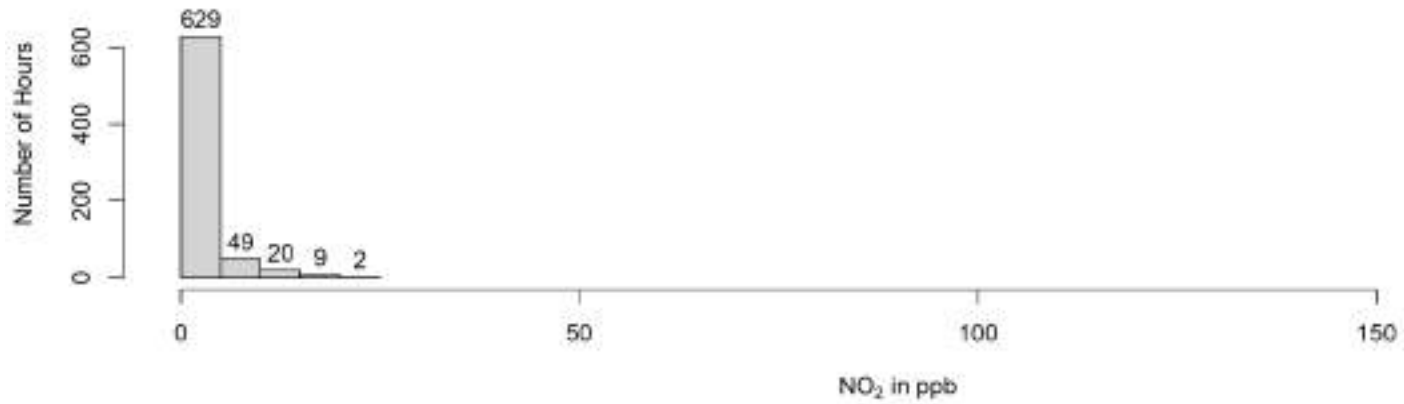
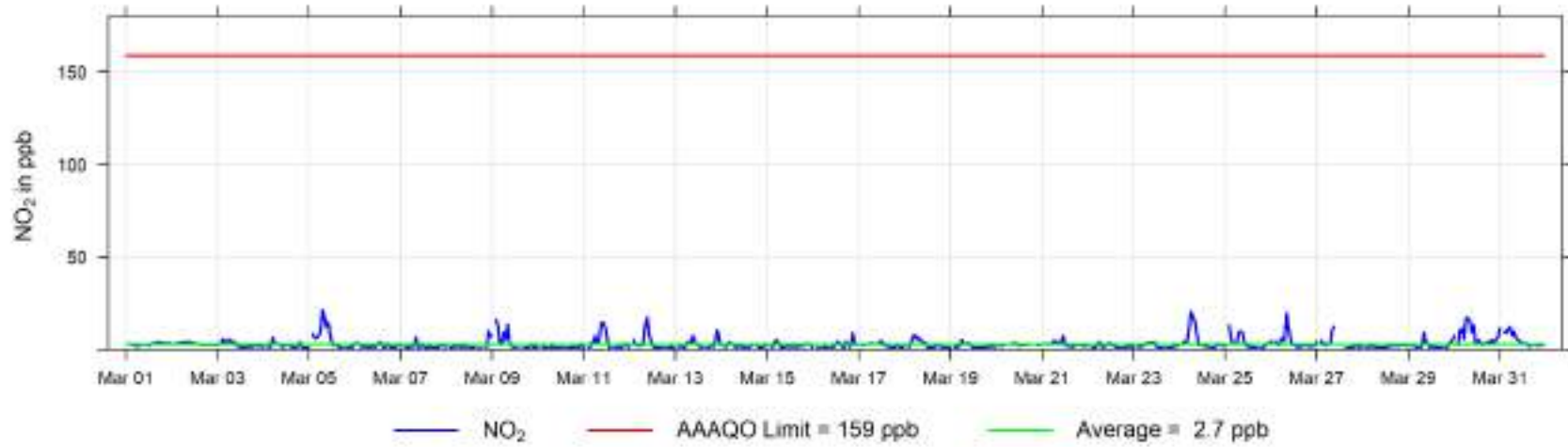
March 2024 Hourly Concentration Readings of NO (in ppb) at Milner



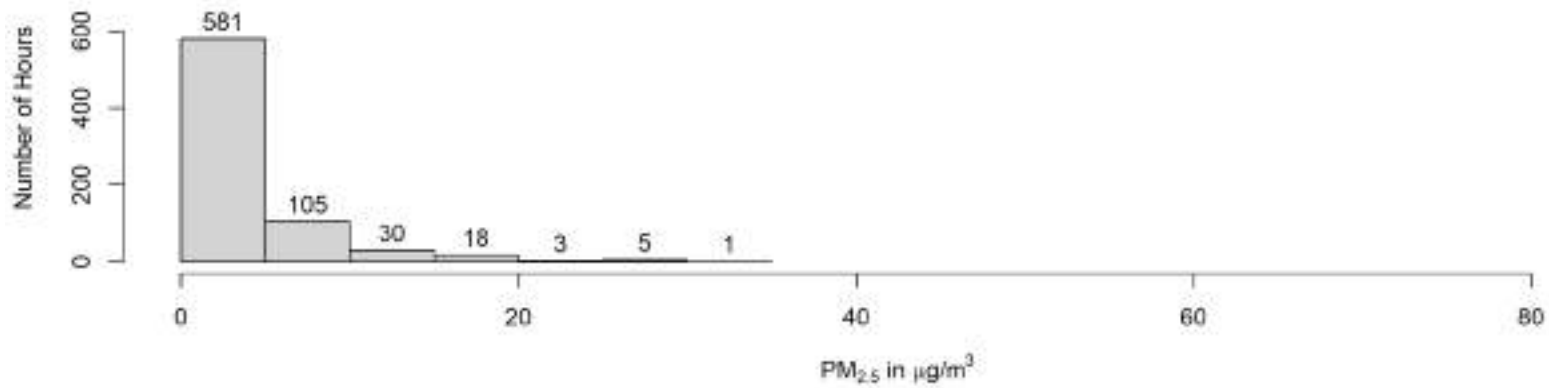
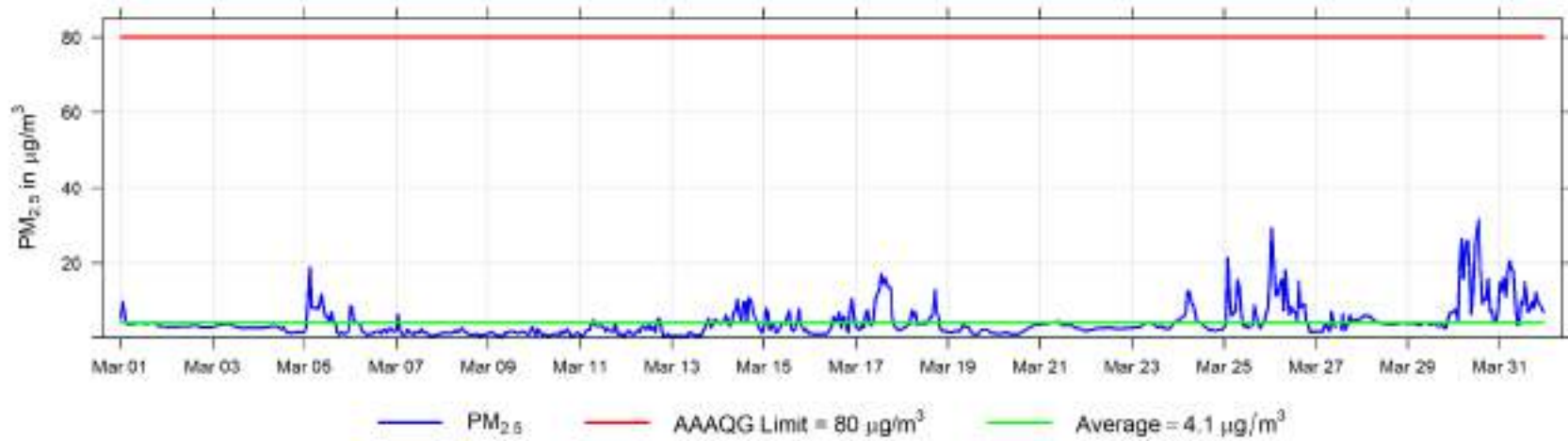
March 2024 Hourly Concentration Readings of NO_x (in ppb) at Milner



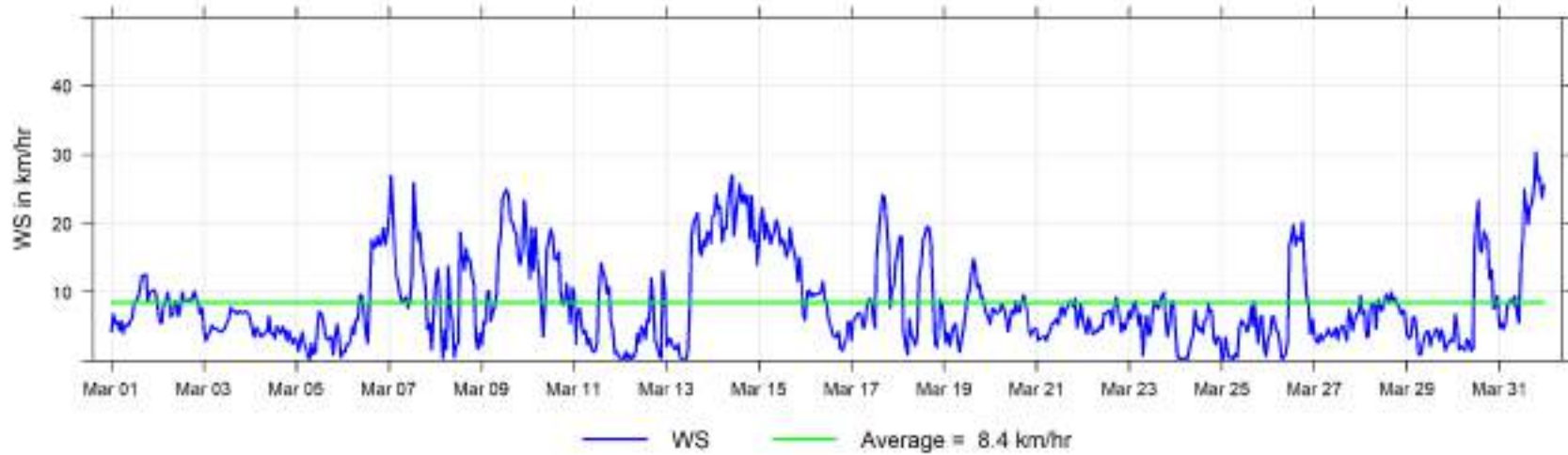
March 2024 Hourly Concentration Readings of NO₂ (in ppb) at Milner



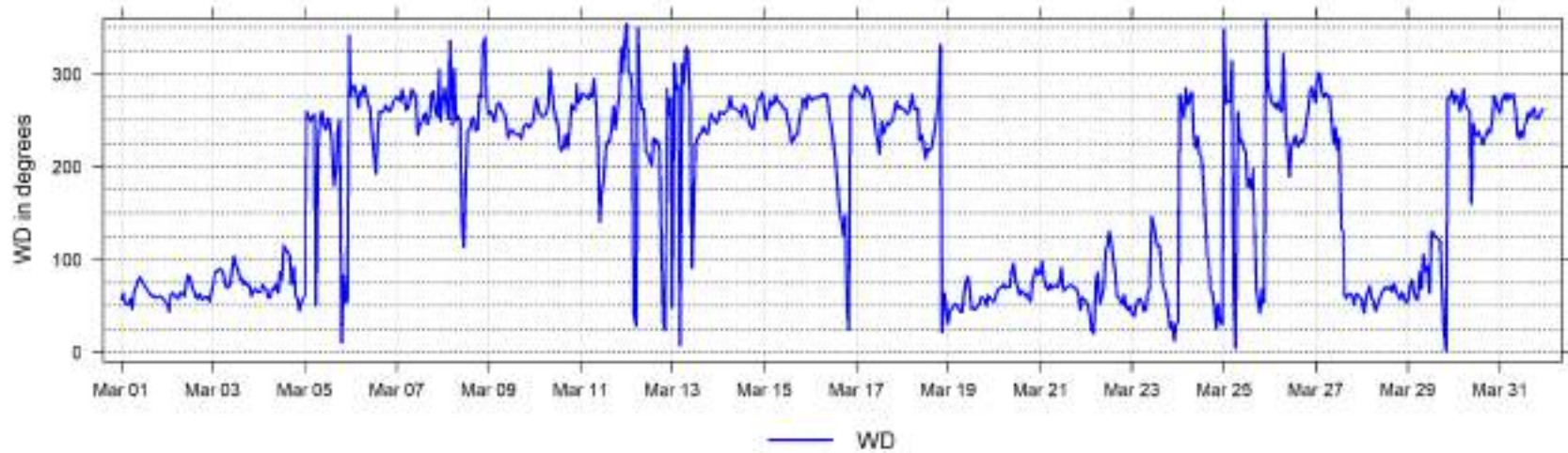
March 2024 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner



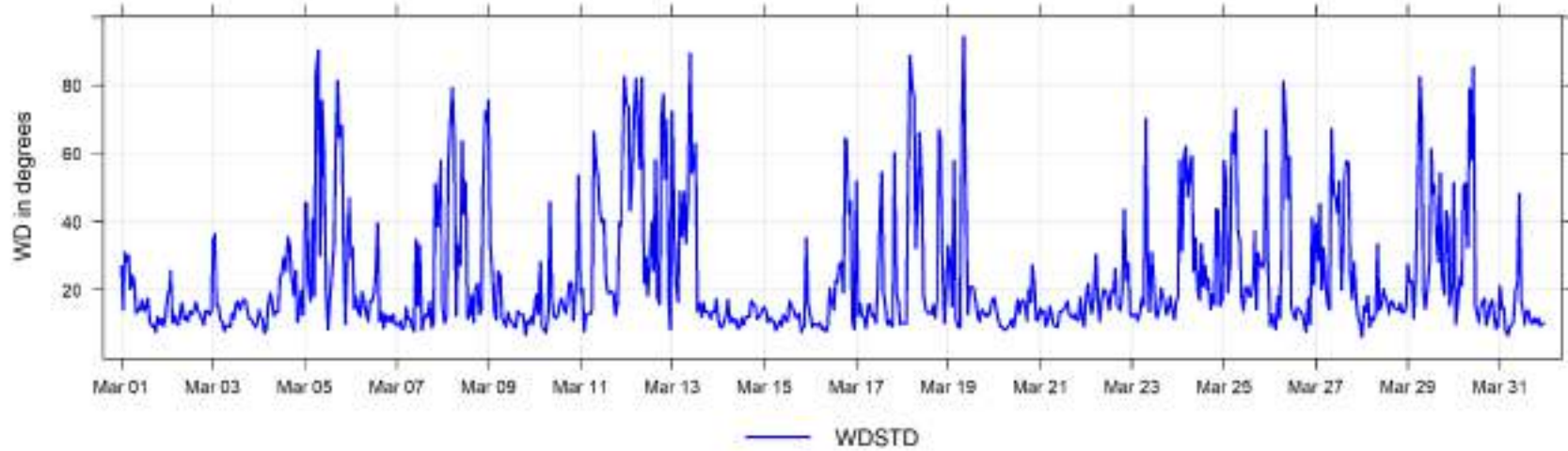
March 2024 Hourly Readings of Wind Speed (in km/hr) at Milner

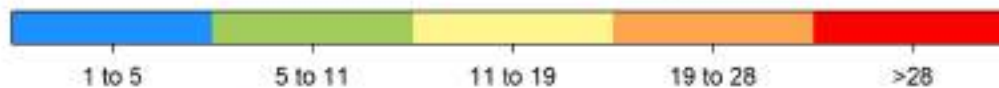
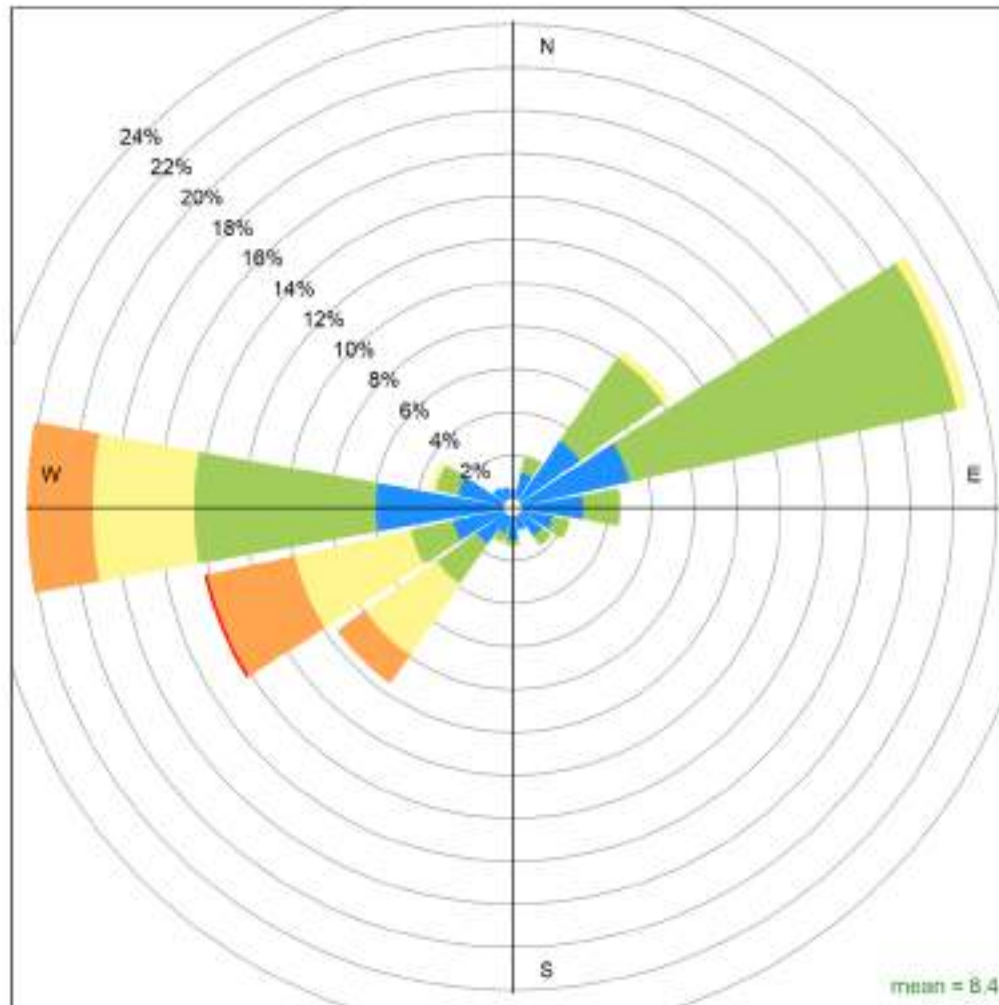


March 2024 Hourly Readings of Wind Direction (in degrees) at Milner



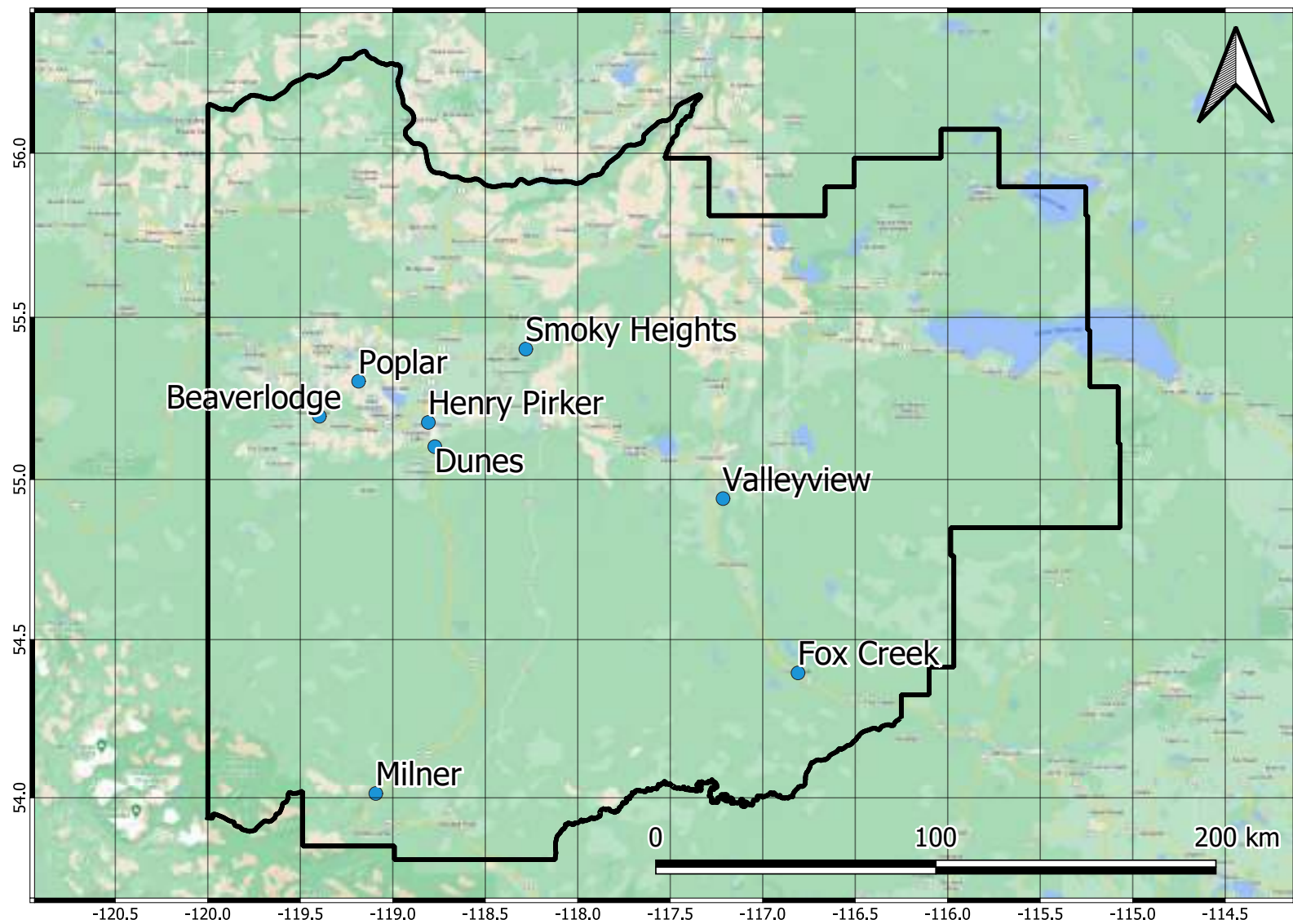
March 2024 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Milner



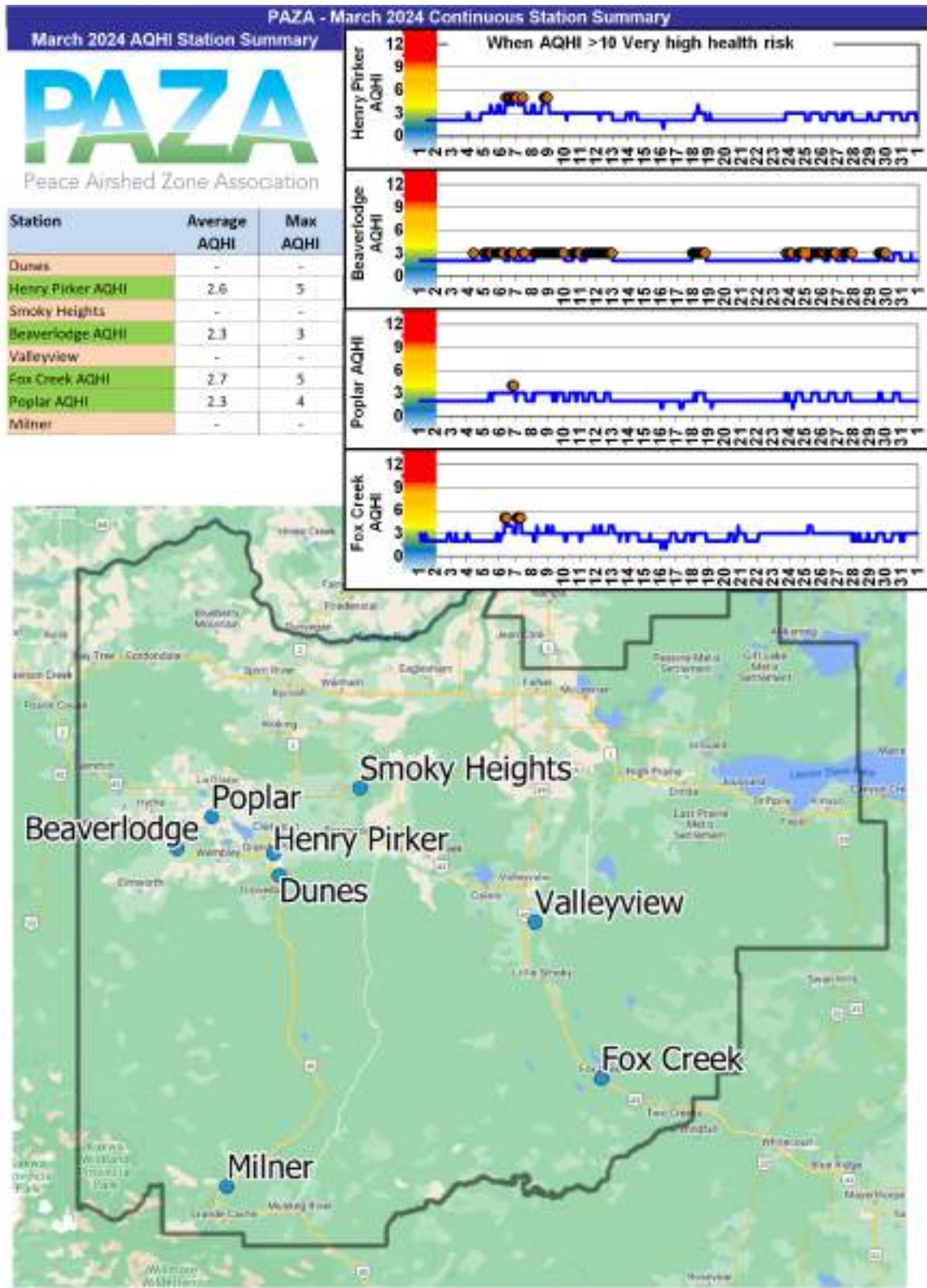


Milner March 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 5.4 %

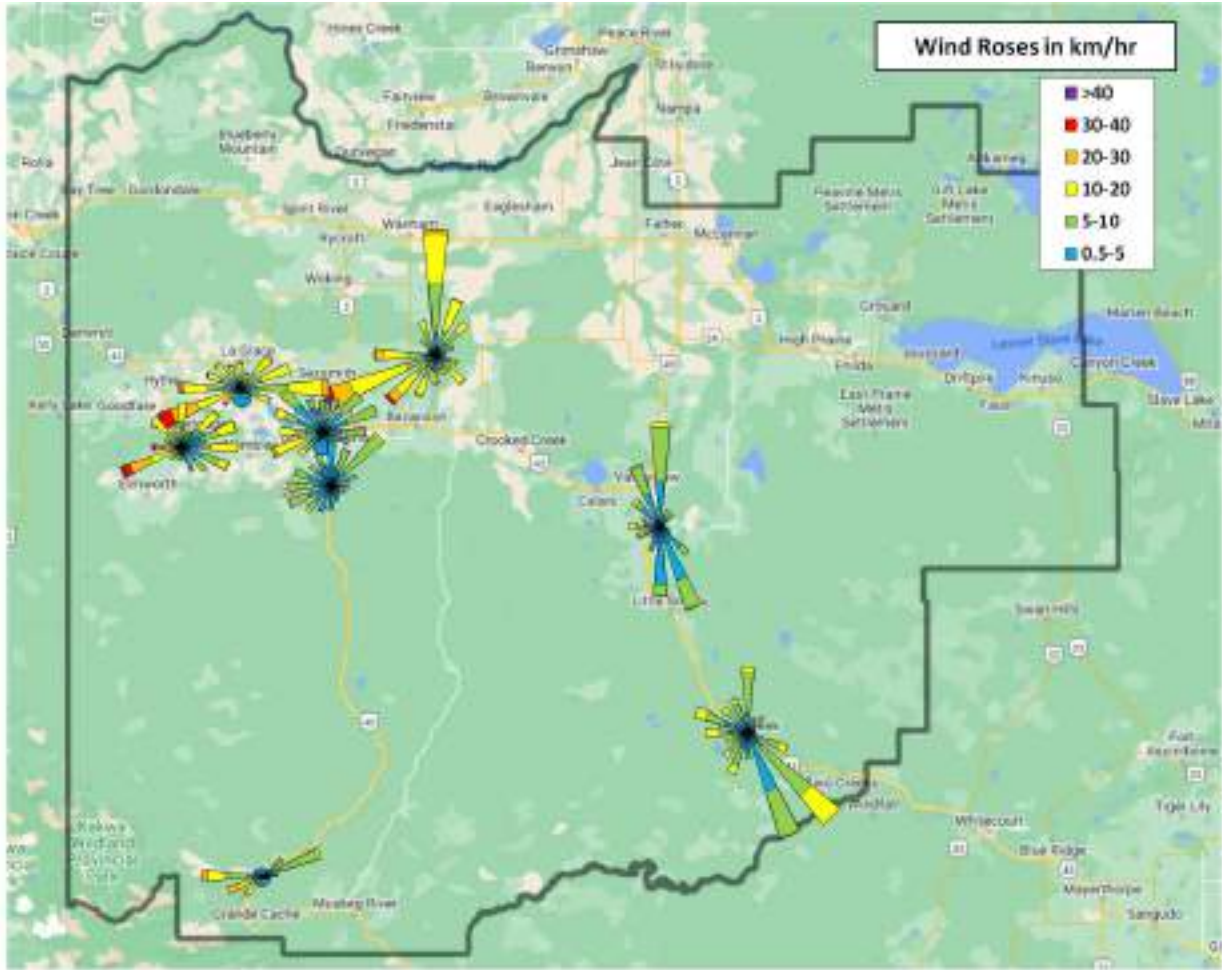
10 Concentration Summaries and Roses for PAZA



10.1 Air Quality Health Index (AQHI) Plots

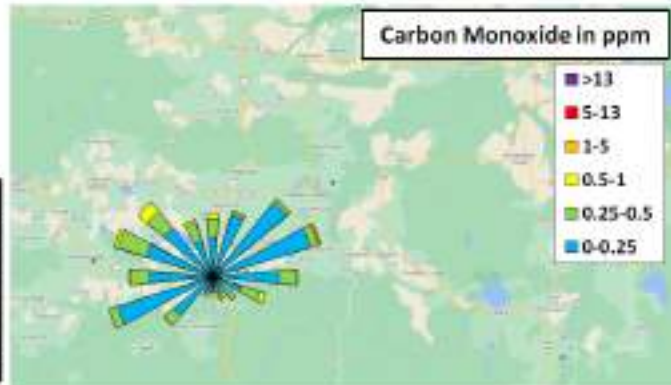


10.2 Wind Roses



10.3 Carbon Monoxide (CO) Plots

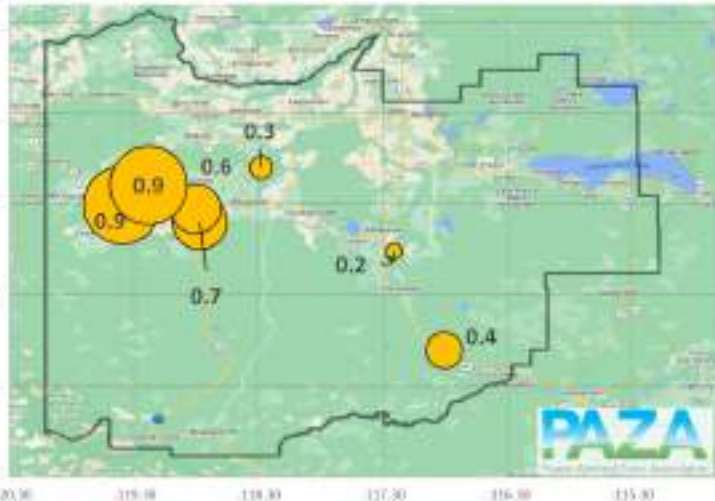
March 2024 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.23	1.21



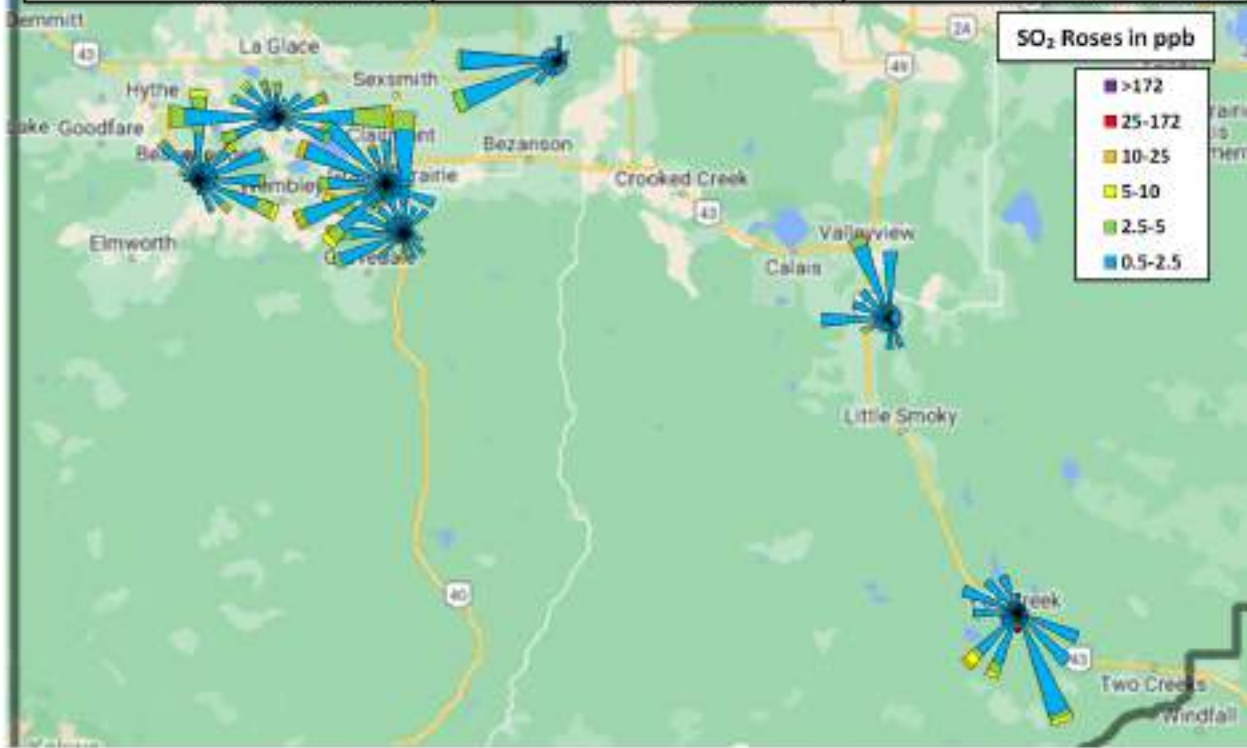
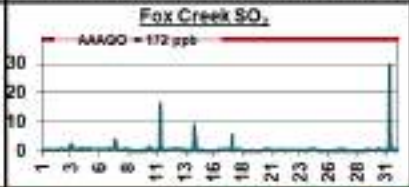
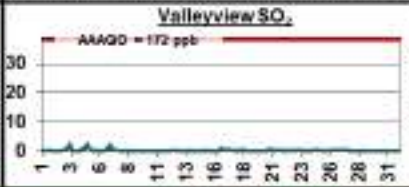
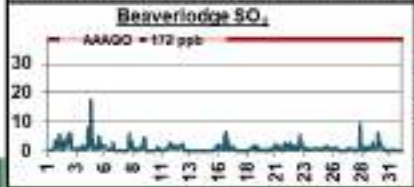
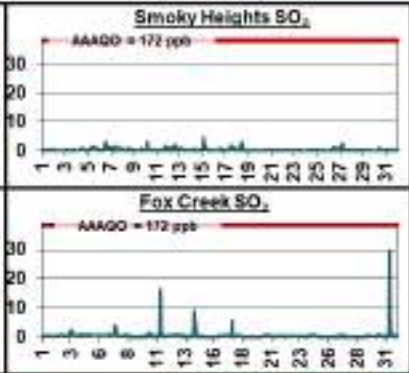
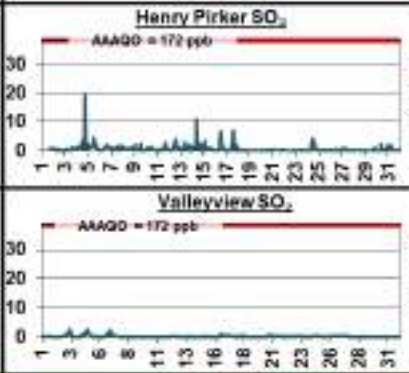
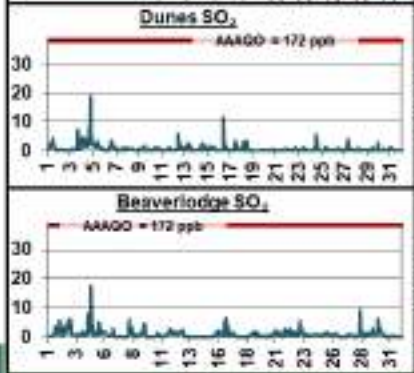
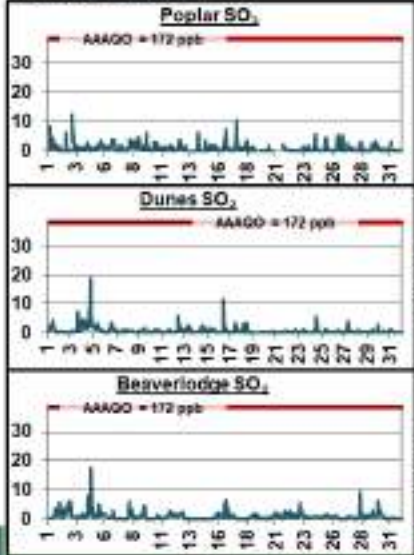
10.4 Sulphur Dioxide (SO₂) Plots

March 2024 SO₂ Station Summary

Station	Avg (ppb)	Max (ppb)
Dunes SO ₂	0.7	18.8
Henry Pirkler SO ₂	0.6	19.5
Smoky Heights SO ₂	0.3	4.6
Beaverlodge SO ₂	0.9	17.4
Valleyview SO ₂	0.2	2.6
Fox Creek SO ₂	0.4	29.7
Poplar SO ₂	0.9	12.3
Milner SO ₂	*	*



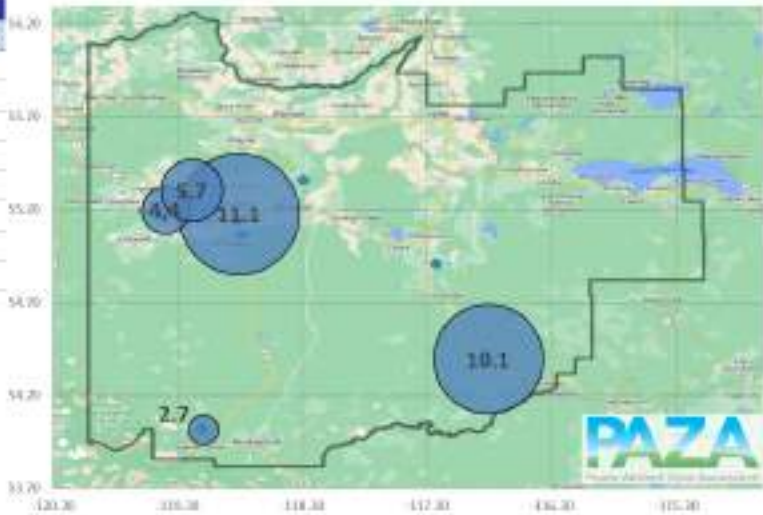
Sulphur Dioxide in ppb



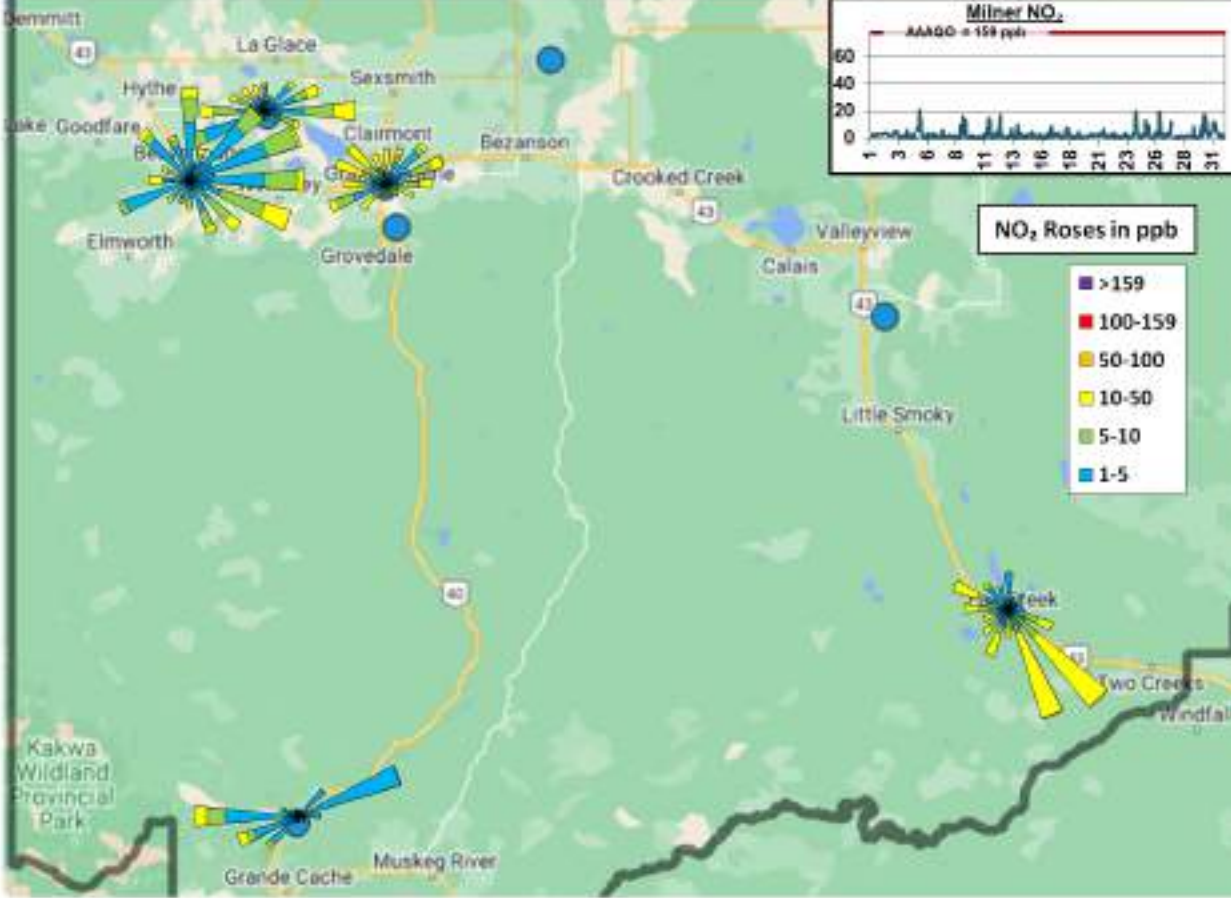
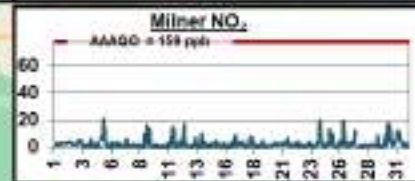
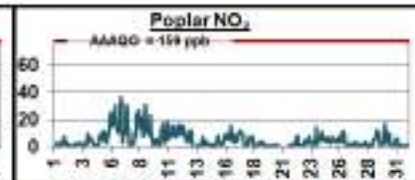
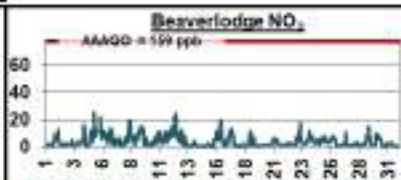
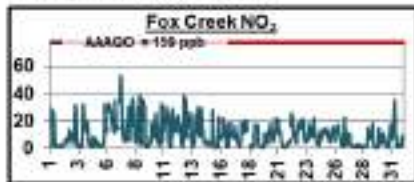
10.5 Nitrogen Dioxide (NO₂) Plots

March 2024 NO₂ Station Summary

Station	Avg (ppb)	Max (ppb)
Dunes NO ₂	-	-
Henry Pirkler NO ₂	11.1	52.2
Smoky Heights NO ₂	-	-
Beaverlodge NO ₂	4.4	25.9
Valleyview NO ₂	-	-
Fox Creek NO ₂	10.1	53.0
Poplar NO ₂	5.7	36.8
Milner NO ₂	2.7	21.2

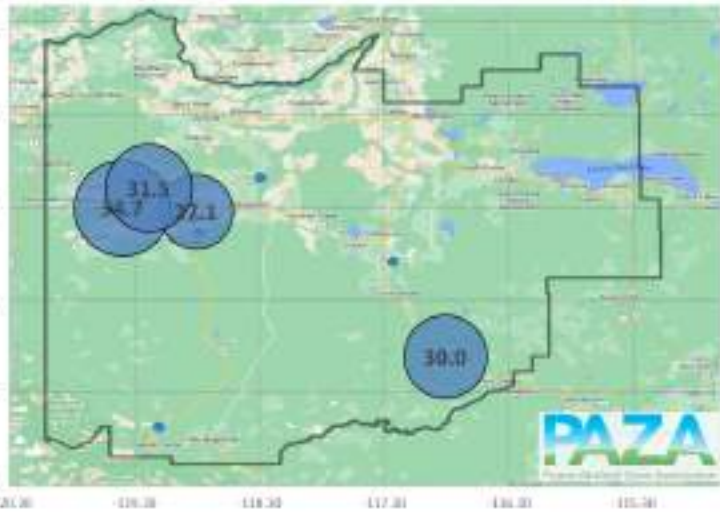


Nitrogen Dioxide in ppb

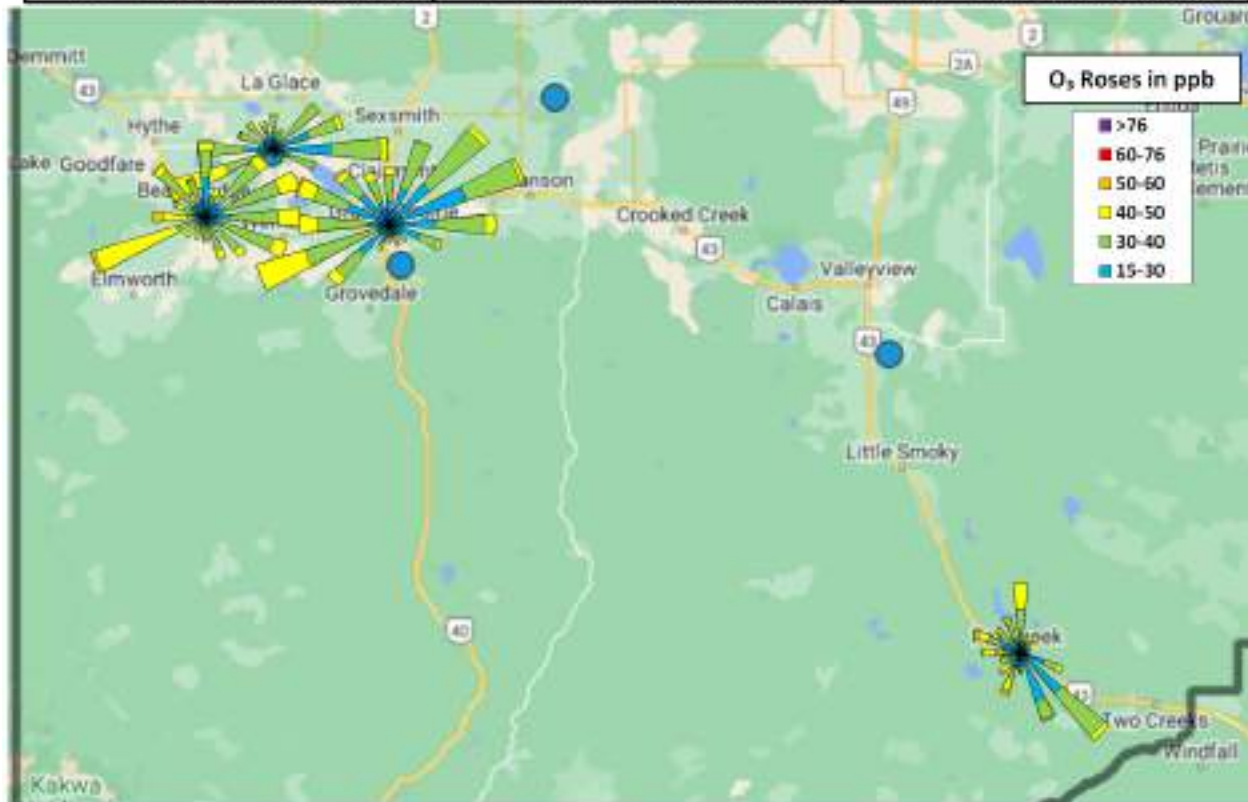
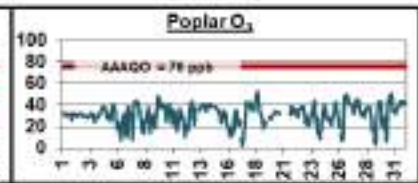
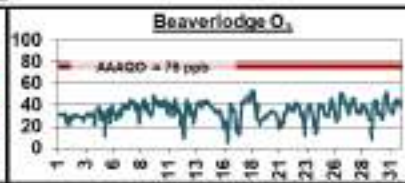
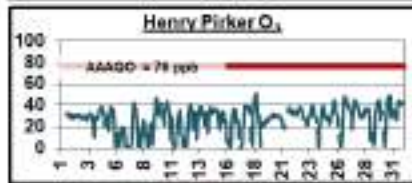
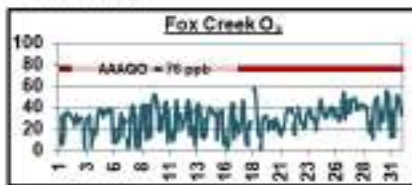


10.6 Ozone (O₃) Plots

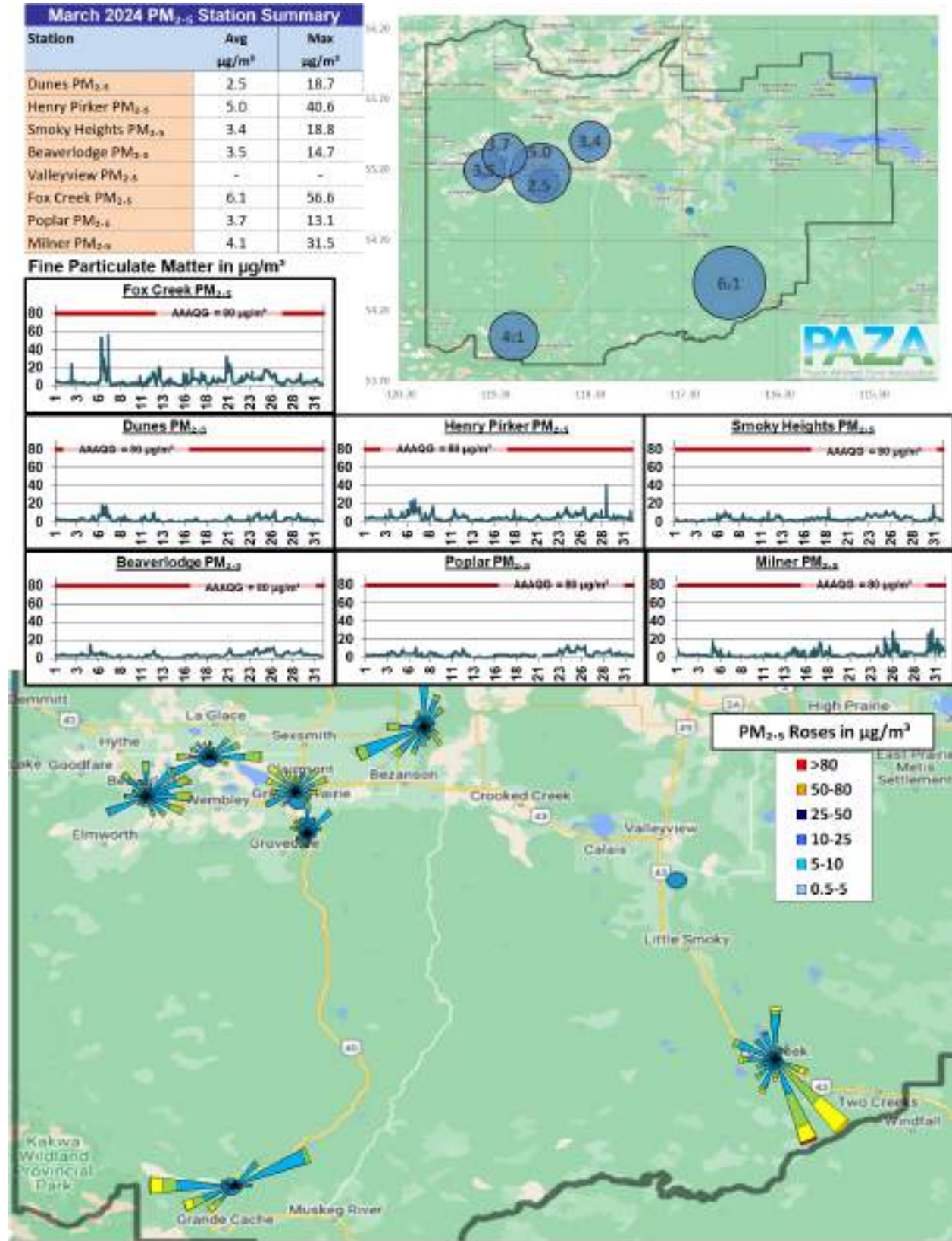
March 2024 O ₃ Station Summary		
Station	Aug (ppb)	Max (ppb)
Dunes O ₃	-	-
Henry Pirkler O ₃	27.1	50.6
Smoky Heights O ₃	-	-
Beaverlodge O ₃	34.7	52.9
Valleyview O ₃	-	-
Fox Creek O ₃	30.0	58.1
Poplar O ₃	31.5	52.2
Milner O ₃	-	-



Ozone in ppb

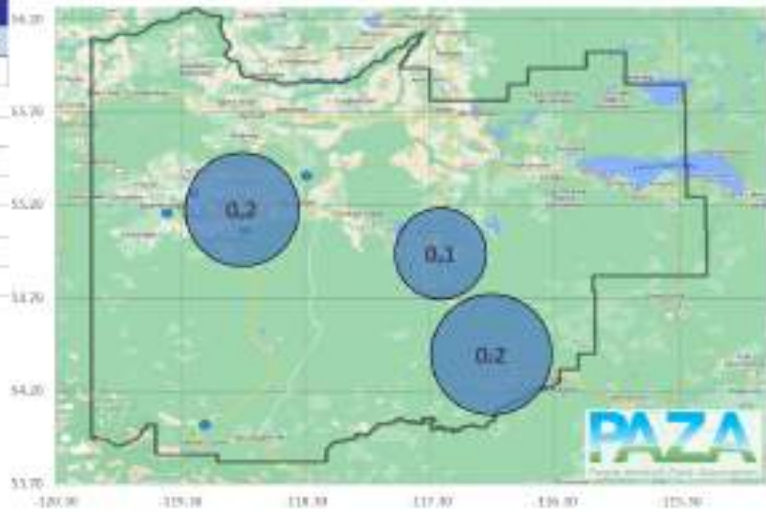


10.7 Fine Particulate Matter (PM_{2.5}) Plots

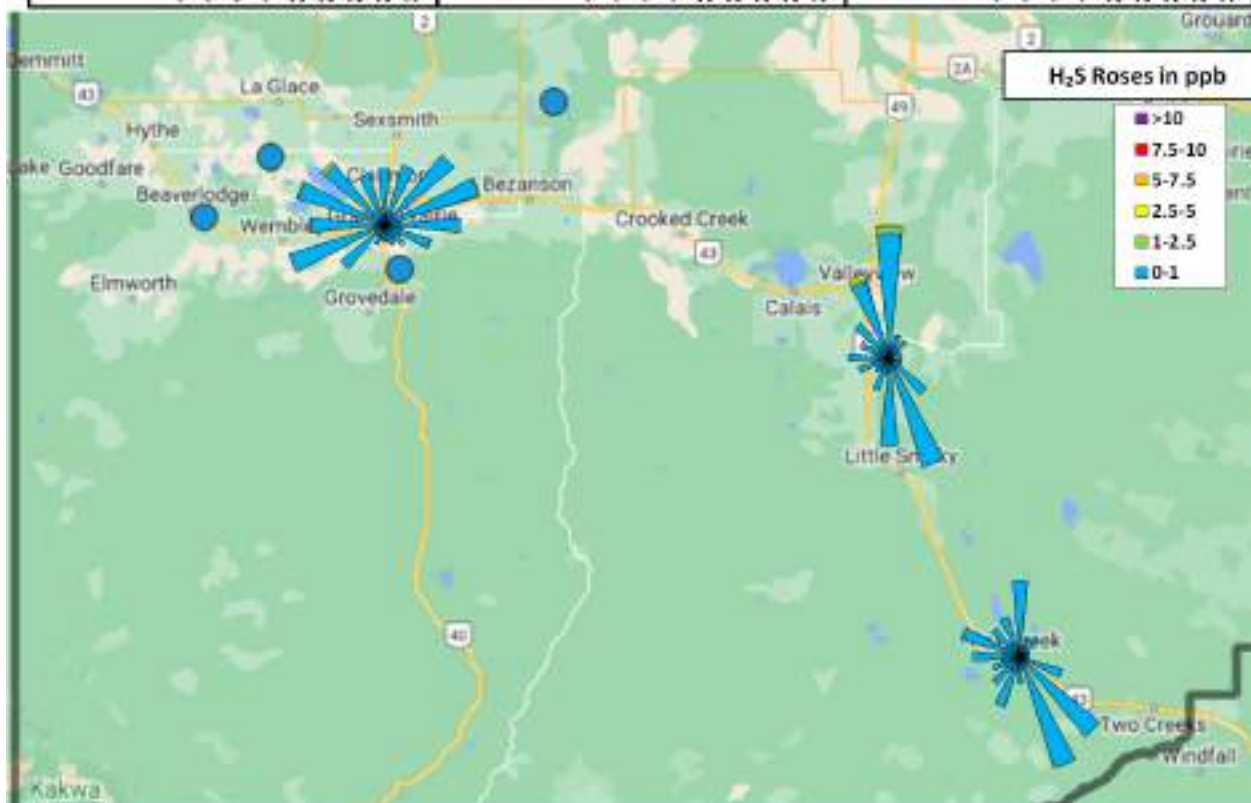
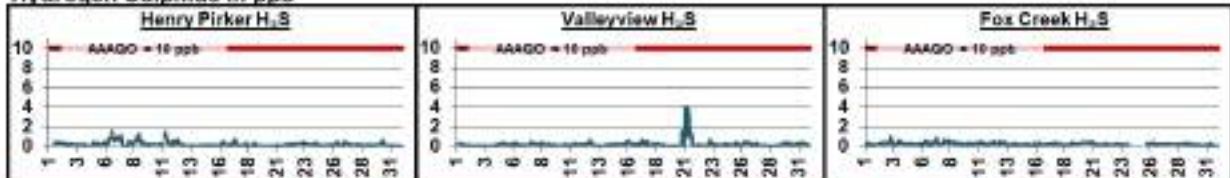


10.8 Hydrogen Sulphide (H₂S) Plots

March 2024 H ₂ S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H ₂ S	-	-
Henry Pirkler H ₂ S	0.2	1.5
Smoky Heights H ₂ S	-	-
Beaverlodge H ₂ S	-	-
Valleyview H ₂ S	0.1	4.0
Fox Creek H ₂ S	0.2	1.0
Poplar H ₂ S	-	-
Milner H ₂ S	-	-

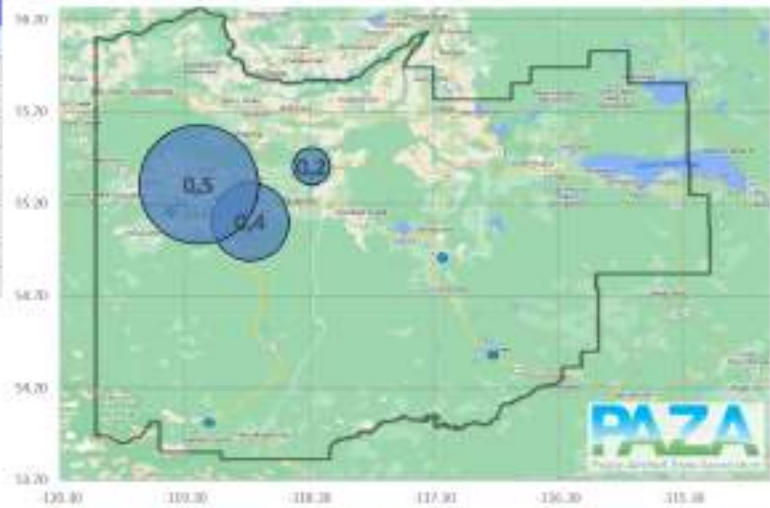


Hydrogen Sulphide in ppb

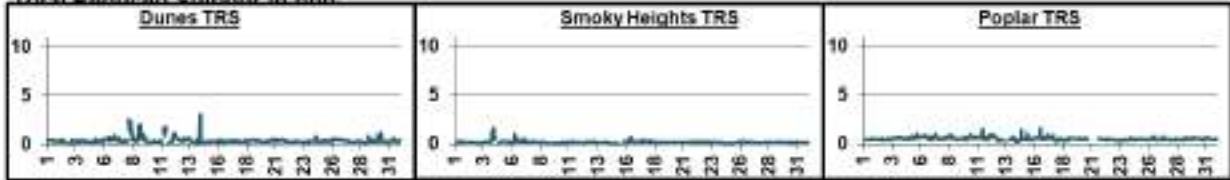


10.9 Total Reduced Sulphur (TRS) Plots

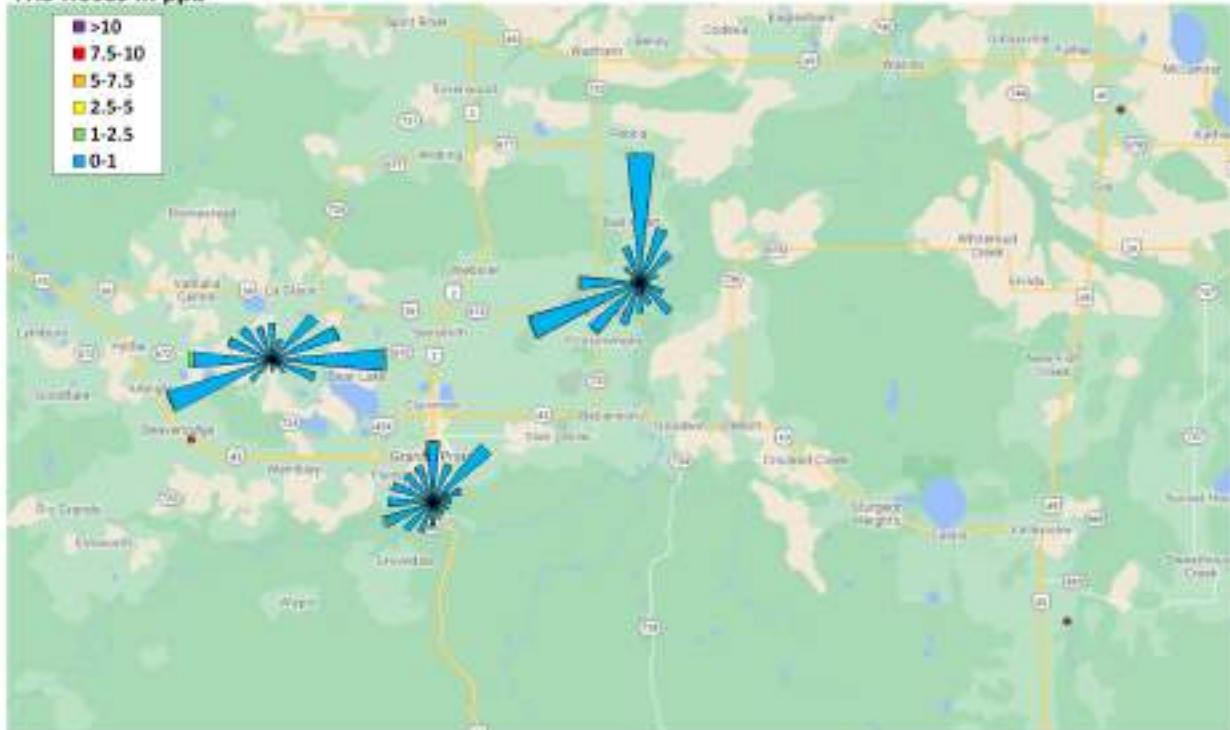
March 2024 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.4	3.0
Henry Pirkler TRS	-	-
Smoky Heights TRS	0.2	1.6
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Fox Creek TRS	-	-
Poplar TRS	0.5	1.6
Milner TRS	-	-



Total Reduced Sulphur in ppb



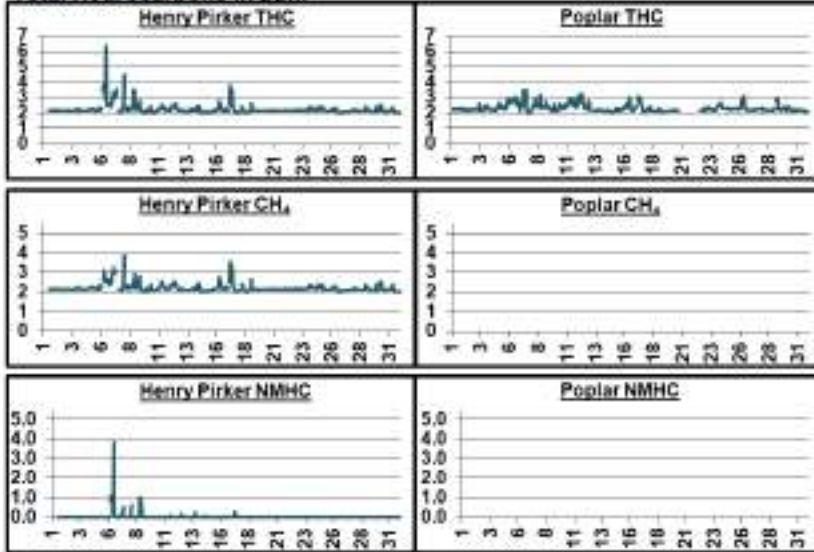
TRS Roses in ppb



10.10 Total Hydrocarbon (THC) Plots

March 2024 THC Station Summary						
Station	Total Hydrocarbons		Methane		Non-Methane HCs	
	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)
Dunes THC	-	-	-	-	-	-
Henry Pirkler THC	2.2	6.4	2.2	3.9	0.02	3.83
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Fox Creek THC	-	-	-	-	-	-
Poplar THC	2.3	3.5	-	-	-	-

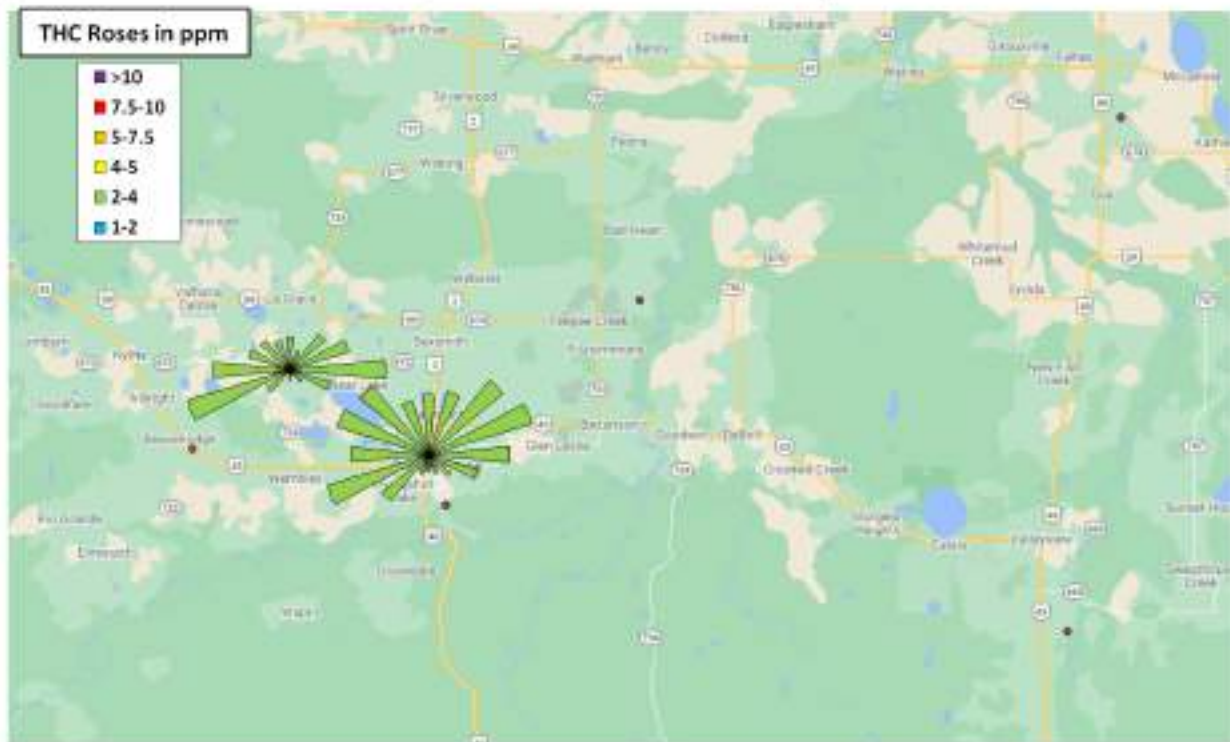
Total Hydrocarbons in ppm



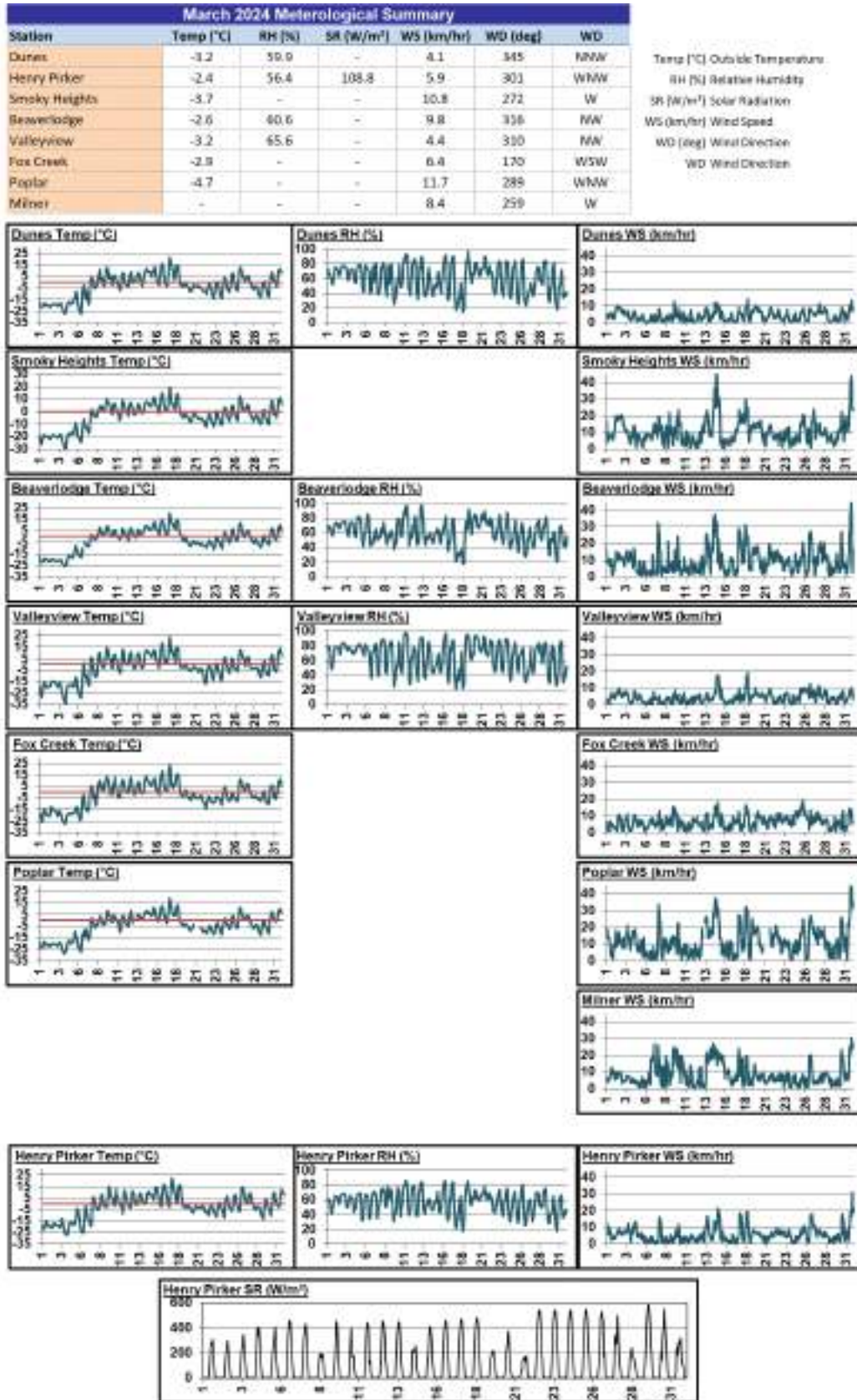
Total Hydrocarbons (THC)

Methane (CH₄)

Non-Methane Hydrocarbons (NMHC)



10.11 Meteorology Summary



11 Passive Monitoring Data

Peace Airshed Zone Association - PAZA Passive Stations for March 2024

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
2a	Bay Tree		41.8			13-16-078-13 W6M
2b	Bay Tree		46.5			
5a	Boone Creek	0.4				01-23-076-11 W6M
5b	Boone Creek	0.3				
11a	Webber Creek	0.6				09-36-074-09 W6M
11b	Webber Creek	0.5				
18a	Saddle Hills			0.9		04-25-074-07 W6M
18b	Saddle Hills			0.6		
24a	Wembley			2.0		12-31-070-08 W6M
24b	Wembley			1.8		
29a	Smoky Heights	0.4				04-06-075-02 W6M
29b	Smoky Heights	0.3				
30a	Fitzsimmons			0.9		15-36-072-03 W6M
30b	Fitzsimmons			0.7		
36a	Guy				0.24	03-04-076-22 W5M
36b	Guy				0.21	
48a	Deer Mountain			0.9		15-22-068-09 W5M
48b	Deer Mountain			0.8		
50a	East Prairie	0.2				11-13-079-08 W6M
50b	East Prairie	0.1				
D2a	Duvernay 2	0.5			0.06	04-33-062-20 W5M
D2b	Duvernay 2	0.4			0.06	
K2a	Kakwa 2			2.1		08-13-063-05 W6M
K2b	Kakwa 2			1.8		
K1a	Kakwa 1	0.5				01-13-063-05 W6M
K1b	Kakwa 1	0.5				
K4a	Kakwa 4				0.05	06-18-063-04 W6M
K4b	Kakwa 4				<0.02	
M9Aa	Milner Pipeline			1.3		12-14-058-08 W6M
M9Ab	Milner Pipeline			1.6		
M10a	Milner Powerline	0.2				06-14-058-08 W6M
M10b	Milner Powerline	<0.1				
J1a	Jayar1 Plant			1.6		06-08-062-03 W6M
J1b	Jayar1 Plant			1.4		
J4a	Jayar4 7-8 or 8-8 Pad	0.5				10-08-062-03 W6M
J4b	Jayar4 7-8 or 8-8 Pad	0.6				
J5a	Jayar5 Camp				0.02	11-08-062-03 W6M
J5b	Jayar5 Camp				<0.02	

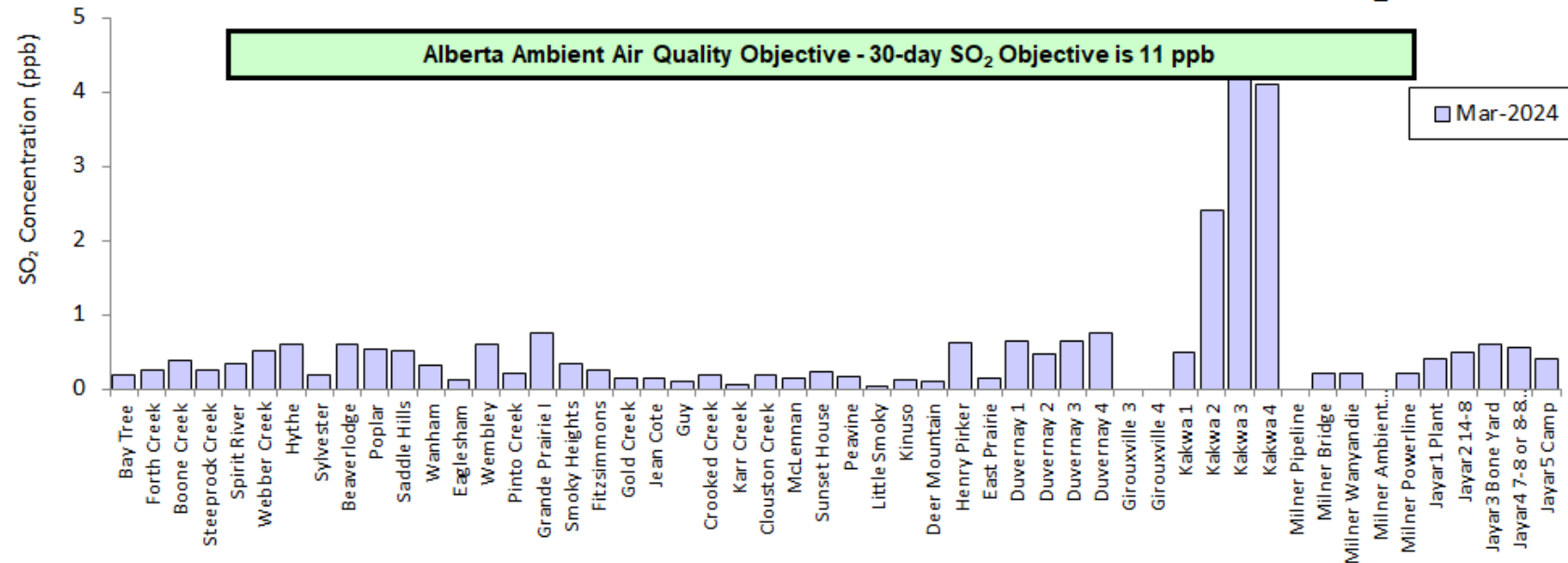
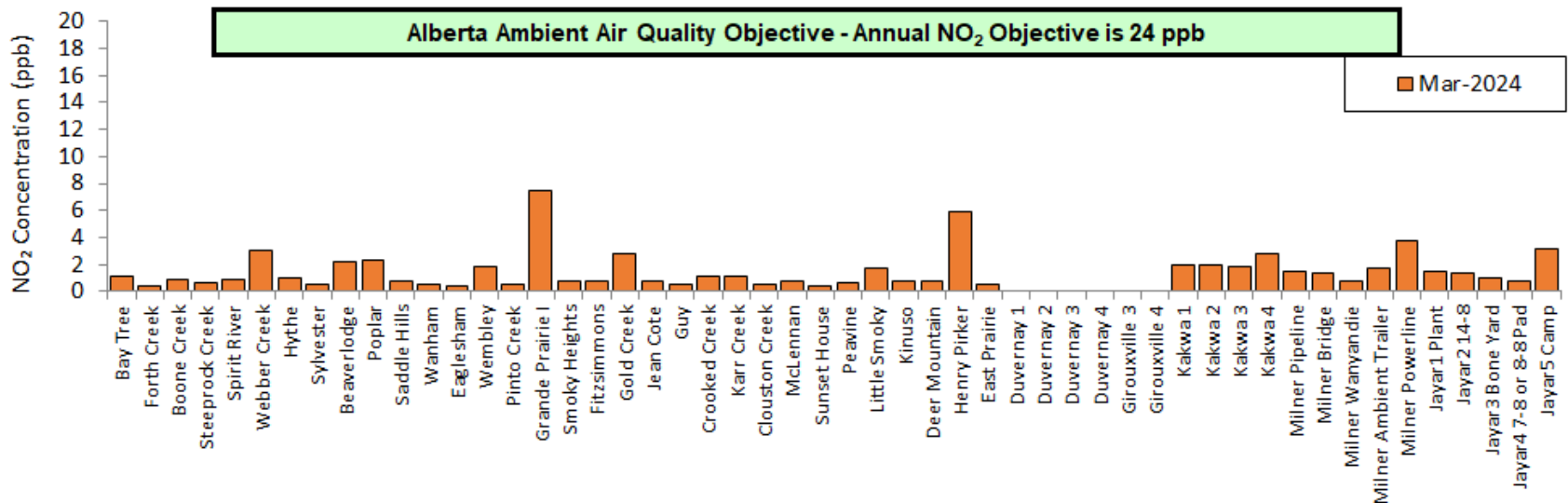
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.2	44.2	1.2	-	13-16-078-13 W6M
3	Forth Creek	0.2	-	0.4	-	04-13-082-07 W6M
5	Boone Creek	0.4	-	0.8	-	01-23-076-11 W6M
7	Steeprock Creek	0.3	-	0.6	-	09-35-072-13 W6M
9	Spirit River	0.3	-	0.8	-	08-12-079-07 W6M
11	Webber Creek	0.5	-	3.1	-	09-36-074-09 W6M
12	Hythe	0.6	-	1.0	-	14-36-072-11 W6M
14	Sylvester	0.2	-	0.6	-	08-06-069-12 W6M
16	Beaverlodge	0.6	-	2.2	-	15-36-071-10 W6M
17	Poplar	0.5	-	2.4	-	13-06-073-08 W6M
18	Saddle Hills	0.5	-	0.7	-	04-25-074-07 W6M
19	Wanham	0.3	-	0.5	-	16-22-077-03 W6M
21	Eaglesham	0.1	-	0.4	-	16-21-079-25 W5M
24	Wembley	0.6	-	1.9	-	12-31-070-08 W6M
25	Pinto Creek	0.2	-	0.5	-	04-24-069-11 W6M
27	Grande Prairie I	0.7	-	7.4	-	08-15-071-06 W6M
29	Smoky Heights	0.3	-	0.8	-	04-06-075-02 W6M
30	Fitzsimmons	0.2	-	0.8	-	15-36-072-03 W6M
32	Gold Creek	0.1	-	2.8	-	06-33-067-05 W6M
35	Jean Cote	0.1	-	0.8	-	12-35-079-21 W5M
36	Guy	0.1	-	0.5	0.23	03-04-076-22 W5M
37	Crooked Creek	0.2	41.3	1.1	-	16-01-071-26 W5M
38	Karr Creek	0.1	-	1.1	-	10-16-065-02 W6M
39	Clouston Creek	0.2	-	0.5	-	12-01-073-22 W5M
40	McLennan	0.2	-	0.8	-	03-29-077-19 W5M
42	Sunset House	0.2	-	0.4	-	05-32-070-19 W5M
44	Peavine	0.2	-	0.7	-	03-05-079-15 W5M
46	Little Smoky	0.0	-	1.7	-	12-01-065-21 W5M
47	Kinuso	0.1	31.9	0.8	-	12-10-073-10 W5M
48	Deer Mountain	0.1	-	0.8	-	15-22-068-09 W5M
49	Henry Pirker	0.6	-	5.9	-	17-26-071-06 W6M
50	East Prairie	0.1	-	0.5	-	11-13-079-08 W6M
D1	Duvernay 1	0.6	-	-	0.04	04-33-062-20 W5M
D2	Duvernay 2	0.5	-	-	0.06	04-33-062-20 W5M
D3	Duvernay 3	0.6	-	-	0.06	04-33-062-20 W5M
D4	Duvernay 4	0.8	-	-	0.06	04-33-062-20 W5M
G3	Girouxville 3	-	-	-	0.54	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.33	04-08-077-22 W5M
K1	Kakwa 1	0.5	-	2.0	<0.02	01-13-063-05 W6M
K2	Kakwa 2	2.4	-	2.0	<0.02	08-13-063-05 W6M
K3	Kakwa 3	4.2	-	1.8	<0.02	12-18-063-04 W6M
K4	Kakwa 4	4.1	-	2.8	0.05	06-18-063-04 W6M
M1	Milner Pipeline	<0.1	-	1.5	-	12-14-058-08 W6M
M2	Milner Bridge	0.2	-	1.3	-	08-06-057-08 W6M
M3	Milner Wanyandie	0.2	-	0.7	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	<0.1	-	1.7	-	09-15-058-08 W6M
M5	Milner Powerline	0.2	-	3.8	-	06-14-058-08 W6M
J1	Jayar1 Plant	0.4	-	1.5	<0.02	06-08-062-03 W6M
J2	Jayar2 14-8	0.5	-	1.3	<0.02	07-08-062-03 W6M
J3	Jayar3 Bone Yard	0.6	-	1.0	<0.02	14-08-062-03 W6M
J4	Jayar4 7-8 or 8-8 Pad	0.6	-	0.8	<0.02	10-08-062-03 W6M
J5	Jayar5 Camp	0.4	-	3.1	0.02	11-08-062-03 W6M

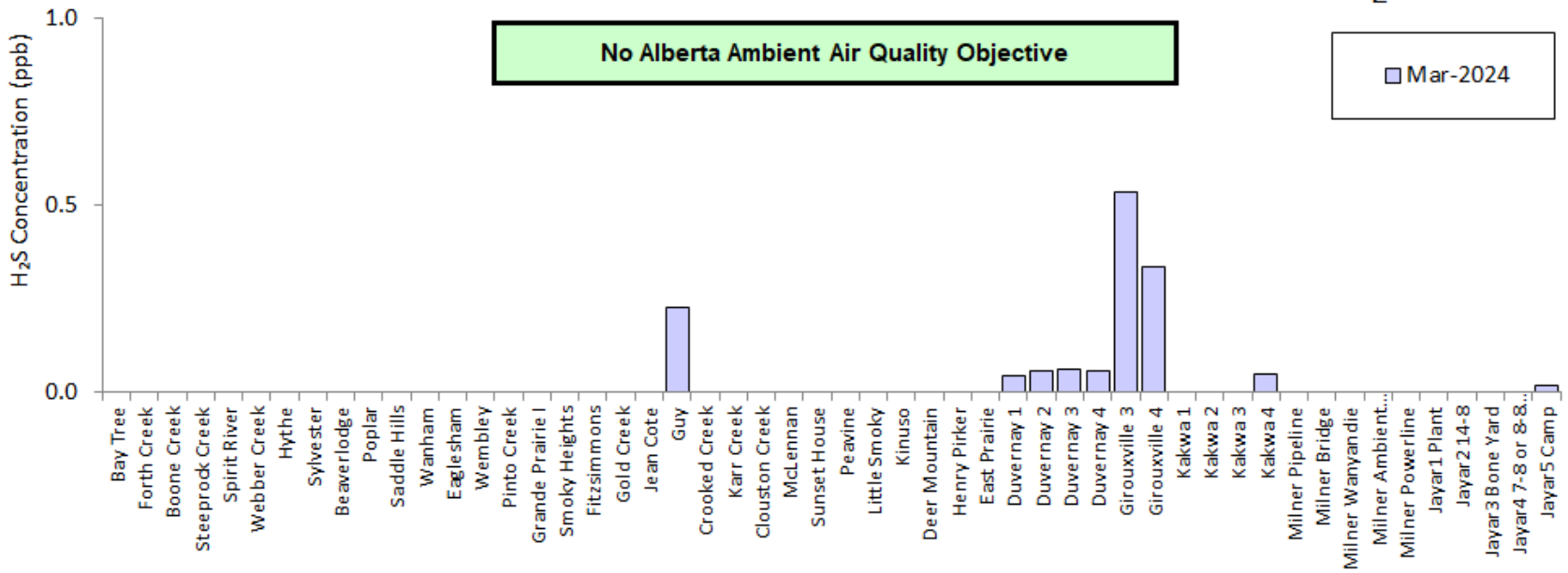
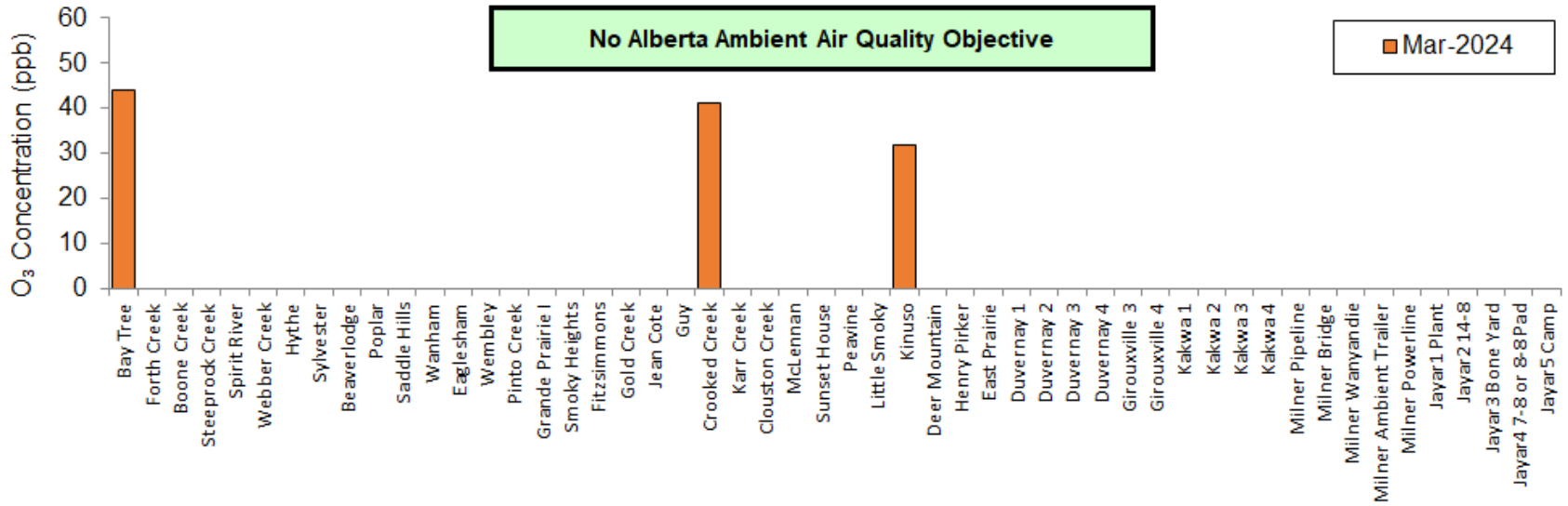
Passive Summary for March 2024

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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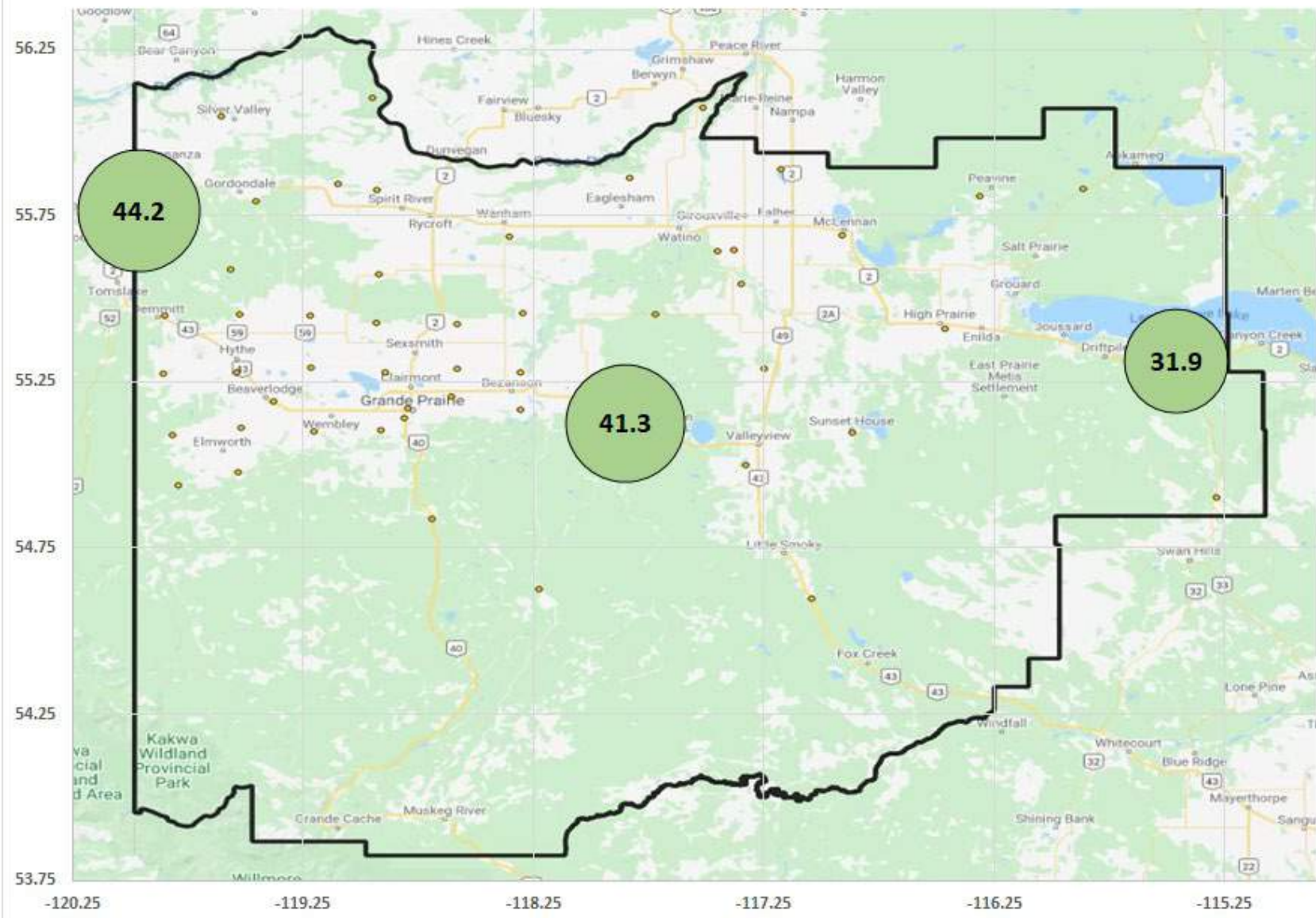
Passive Summary for March 2024 (PAZA)				
Mean	0.5	39.1	1.5	0.2
Standard Deviation	0.8	6.4	1.4	0.2
Minimum	0.0	31.9	0.4	0.0
	Little Smoky (#46)	Kinuso (#47)	Forth Creek (#3)	Jayar5 Camp (#J5)
Maximum	4.2	44.2	7.4	0.5
	Kakwa 3 (#K3)	Bay Tree (#2)	Grande Prairie I (#27)	Girouxville 3 (#G3)

Continuous and Passive Monitoring Comparison				
PAZA Beaverlodge Station	0.9	34.7	4.4	-
Beaverlodge Passive (#16)	0.6	-	2.2	-
PAZA Henry Pirker Station	0.6	27.1	11.1	0.2
Henry Pirker passive (#49)	0.6	-	5.9	-
Milner Station	-	-	2.7	-
Milner passive	<0.1	-	1.7	-

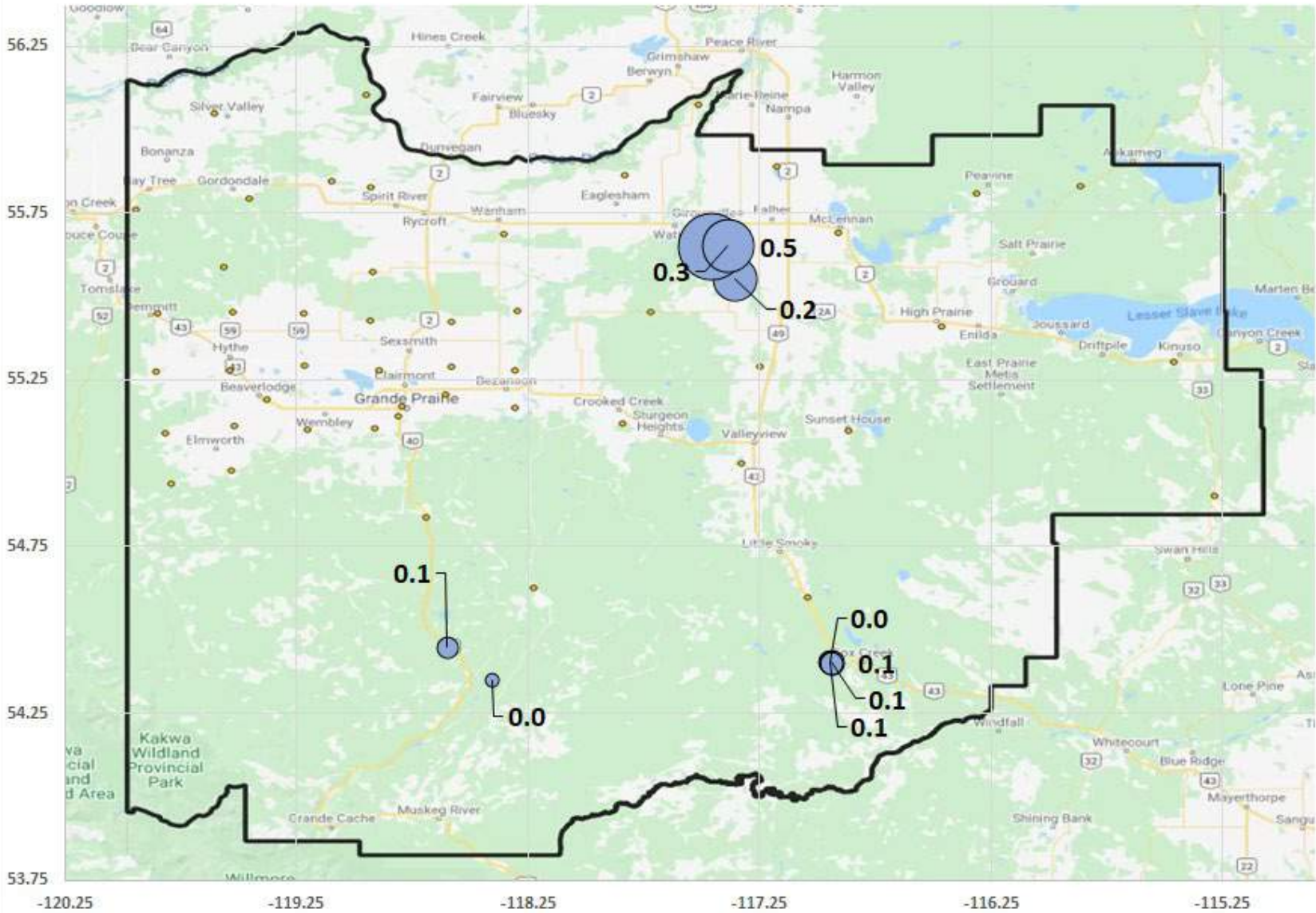




O₃ Monthly Average (units in ppb)



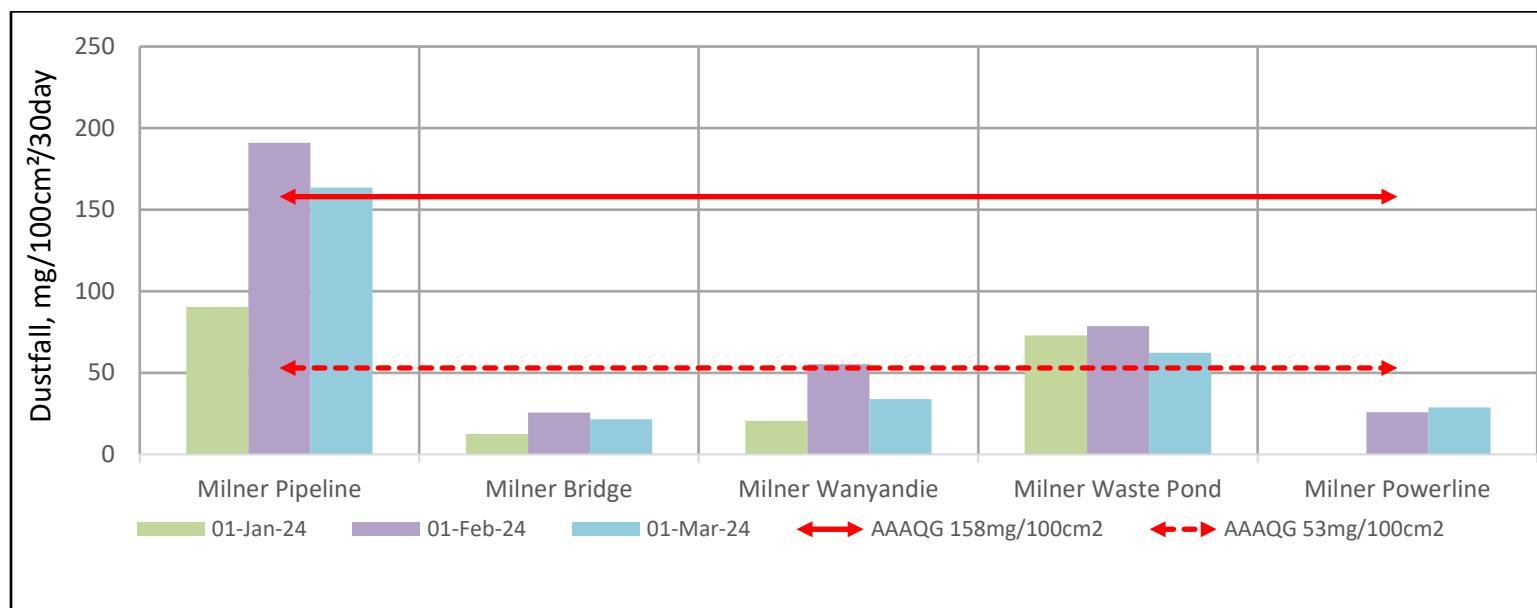
H₂S Monthly Average (units in ppb)



12 Dustfall Monitoring Data

Milner Dustfall Samples March 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
March	2024	Milner Pipeline	163.5	56.8	30	Dustfall dry / ref#427210
March	2024	Milner Bridge	21.5	18.7	30	Dustfall dry
March	2024	Milner Wanyandie	34.0	16.6	30	Dustfall almost dry
March	2024	Milner Waste Pond	62.4	25.6	30	Dustfall dry
March	2024	Milner Powerline	28.8	13.9	30	Dustfall dry
March	2024	Milner Powerline Dup	24.3	12.5	30	RPD, 17% / 11%



End of Report



Peace Airshed Zone Association

Ambient Air Monitoring Report

March 2024