



Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

July 2025

August 31, 2025

Alberta Environment and Protected Areas

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

Subject: **Peace Airshed Zone Association (PAZA)**
July 2025 Ambient Air Quality Monitoring Report

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of July 2025.

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, Happy Valley-Portable and Milner.
Detailed Summaries are included in the report.

Calibration and Data Submission:

Monthly report, hourly data and calibration reports for July 2025 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
Longview Oil Corp.	Sunset House	06-22-070-20-W5	00138884-01-00
Milner Power Limited Partnership	H.R. Milner thermal electric power plant	SE-15-058-08-W6	00009814-03-03
NorthRiver Midstream Inc.	Fourth Creek	16-11-082-09-W6	00000263-01-00
	Gordondale	11-26-079-09-W6	00011495-01-01
	Pouce Coupe/Bonanza	03-23-080-13-W6	00070203-01-01
Pembina Pipeline Corporation	Kakwa River	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:

- There was one, 30-min reading above the TRS AAAQG(5ppb)
- There were 4, 1hr readings above the PM_{2.5} AAAQG (80µg/m³)
- There were 2, 24hr readings above the PM_{2.5} AAAQO (29µg/m³)
- There were three SO₂ passives above the 30day SO₂ AAAQO (11ppb)

Readings above the 30min TRS AAAQG (5ppb) recorded as follows:

Site	reference	Pollutant	Date	From MST	To MST	Average ppb	WS km/hr	WD degrees
Smoky Heights	e-reported	TRS	17-Jul-25	04:30	05:00	5.5	0.9	191

Readings above the 1hr PM_{2.5} AAAQG (80µg/m³) recorded as follows:

Site	reference	Pollutant	Date	From MST	To MST	Average µg/m ³	WS km/hr	WD degrees
Smoky Heights	444493	PM _{2.5}	30-Jul-25	06:00	07:00	83.4	14.0	97
Smoky Heights	444493	PM _{2.5}	30-Jul-25	21:00	22:00	92.1	4.9	349
Happy Valley	443707	PM _{2.5}	15-Jul-25	06:00	07:00	148.7	0.5	212
Happy Valley	443707	PM _{2.5}	17-Jul-25	05:00	06:00	131.3	10.7	269

Readings above the 24hr PM_{2.5} AAAQO (29µg/m³) recorded as follows:

Site	reference	Pollutant	Date	Average µg/m ³	WS km/hr	WD degrees
Smoky Heights	444493	PM _{2.5}	30-Jul-25	30.7	7.8	71
Happy Valley	443707	PM _{2.5}	15-Jul-25	30.4	7.6	176

Readings above the SO₂ monthly AAAQO (11ppb) recorded as:

Site	reference	Pollutant	Date	Average ppb
Kakwa 3 (duplicate)	444489	SO ₂ Passive	July 2025	21.6 / 21.9
Kakwa 4	444488	SO ₂ Passive	July 2025	12.9

Operational times less than 90 percent

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

Air Incidents

Wildfires caused periods of elevated smoke (particulate matter) in the region

Deviations from Authorized Monitoring Methods

Wildfire bulk reporting protocol in place, only 24hr readings need reporting.

Passive Monitoring

- 54 Stations throughout the PAZA zone
 - Passive sample analyses were performed by Bureau Veritas Laboratories
 - Field notes indicated:
 - Eaglesham SO₂ missing, but NO₂ was also missing.

- Girouxville 3 site passive was damaged from birds

There were 19 duplicates sampled in the month of July:

- Eight SO₂ duplicates located at Spirit River, Wanham, Wembley, Valleyview, Duvernay 2, Kakwa 3, Milner Ambient Trailer, Jayar3 Bone Yard
 - RPD ranging from 0% to 20% (no fails)
 - Kakwa 3, Kakwa 3 duplicate and Kakwa 4 were both above the AAAQO of 11ppb for the month
- One O₃ duplicate at Bay Tree
 - RPD of 1% (no fail)
- Seven NO₂ duplicates at Woking, Pinto Creek, Smoky Heights, Deer Mountain, Kakwa 1, Milner Wanyandie, Jayar4 7-8 or 8-8 Pad
 - RPD ranging from 0% to 40% (no fails)
- Three H₂S duplicates at Duvernay 2, Kakwa 4, Jayar5 Camp
 - RPD ranging from 3% to 19% (no fails)
 - Duplicate at Girouxville 3 were both damaged by birds

Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- Total dustfall ranged from 22.3 to 143.1 mg/100cm²/30day
- RPD was 4 to 12% (no fails)

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

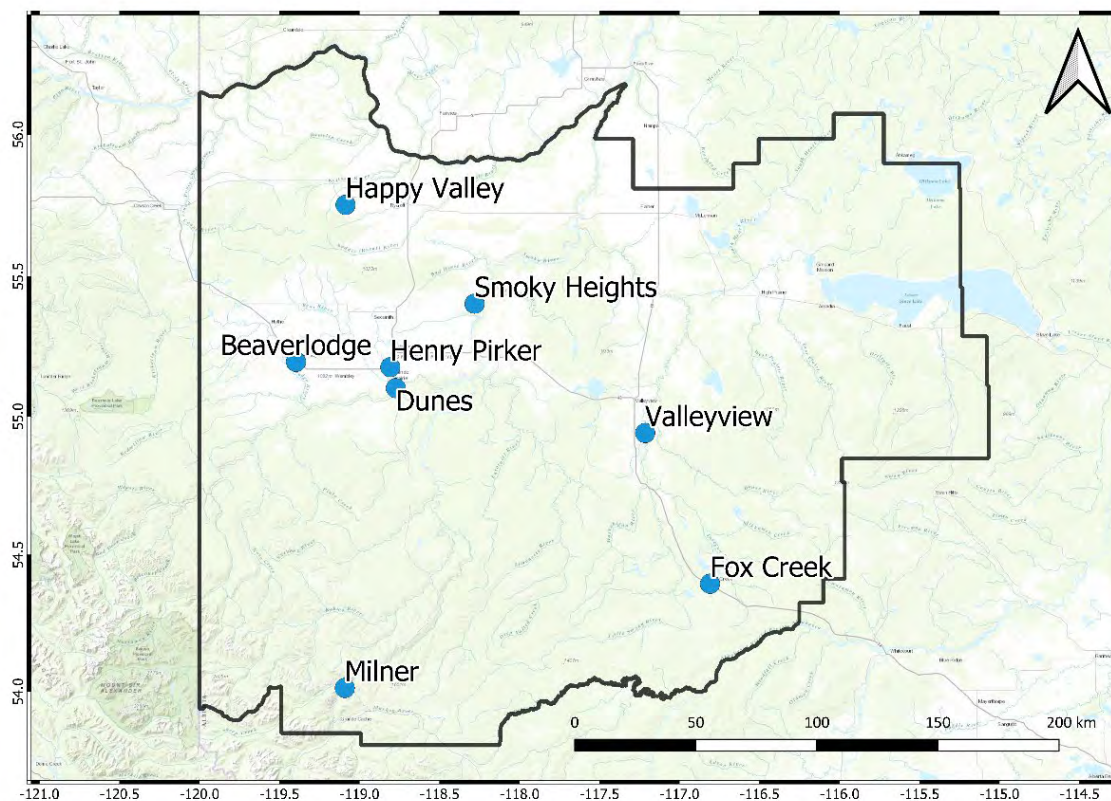


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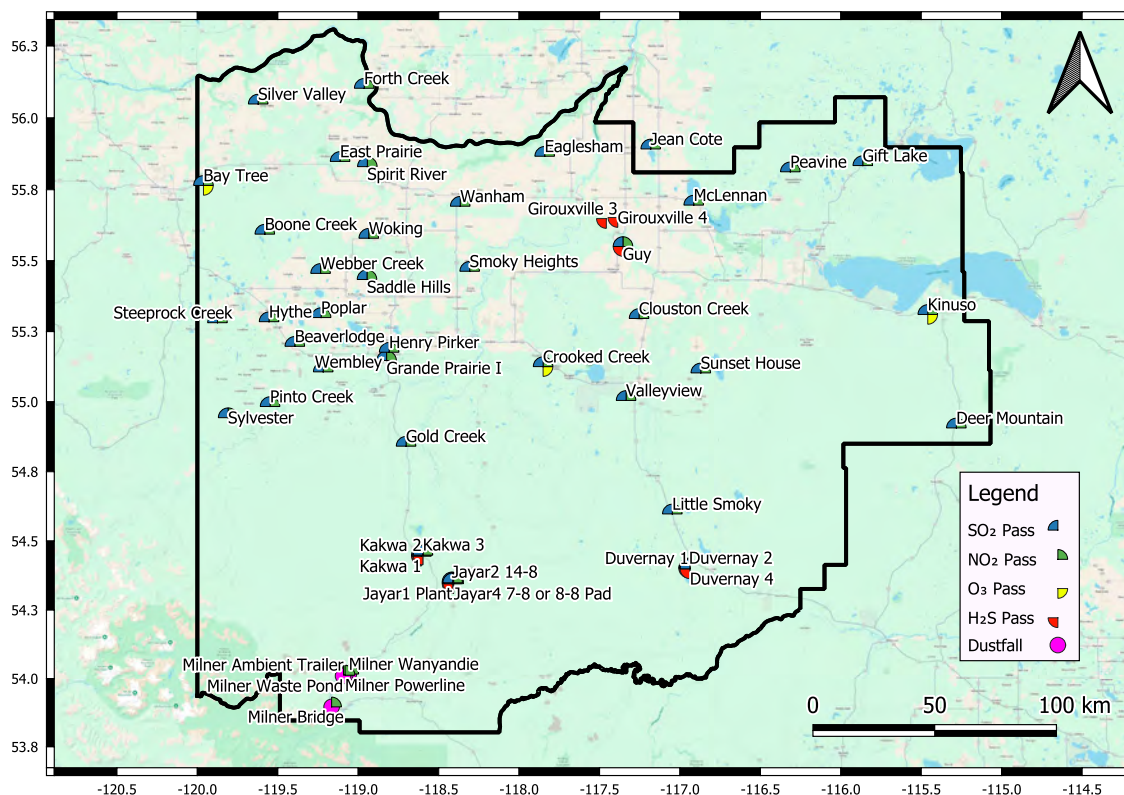
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PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 July 2025 Monthly Station Summaries

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

1.1 Beaverlodge Air Monitoring Station

PAZA - July 2025 Beaverlodge Station Report

AIR July 2025 Deavenport Station Report															
Parameter	July			Operational	1-hour			24-hour			Exceedance				Calibration Date
	Average	Minimum	Valid		Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.5	0.0	94.4%	99.2%	11.4	-	Jul-30 08:00	1.6	-	Jul-05	-	-	-	-	Jul 15, 2025
NO ₂ (ppb)	2.8	0.3	94.4%	99.2%	15.2	159	Jul-30 08:00	5.6	-	Jul-31	0	-	-	-	Jul 15, 2025
NO _x (ppb)	3.2	0.4	94.4%	99.2%	26.6	-	Jul-30 08:00	6.9	-	Jul-30	-	-	-	-	Jul 15, 2025
O ₃ (ppb)	26.9	2.4	94.8%	99.3%	53.9	76	Jul-31 13:00	38.0	-	Jul-17	0	-	-	-	Jul 15, 2025
PM _{2.5} (µg/m³)	7.2	0.4	99.7%	99.9%	40.8	80	Jul-17 08:00	18.5	29	Jul-17	0	-	0	-	Jul 15, 2025
SO ₂ (ppb)	0.4	0.0	95.2%	99.7%	6.3	172	Jul-18 06:00	1.5	48	Jul-18	0	-	0	0	Jul 16, 2025
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	16.9	5.5	95.8%	95.8%	31.2	Note: Valid hours must be greater than 75% Operational hours must be greater than 90%									
RH (%)	61.4	19.9	100.0%	100.0%	100.1										
WS (km/hr)	11.3	0.3	98.9%	98.9%	46.4										
WD (deg)	269	0.1	98.9%	98.9%	359.6	Average Wind Direction269W									

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42iQ	July 10, AEPA audit (5hrs); span stuck at end and manual AIC performed (1hr)
O ₃	Thermo	49iQ	July 10, AEPA audit (4hrs); July 16, drop in data, period removed (1hr)
PM _{2.5}	API	T640	July 10, AEPA audit (1hr maintenance)
SO ₂	Thermo	43i-TLE	July 10, AEPA audit (2hrs maintenance)
Met Equip	MetOne	50.5	July temperature reacting to voltage during spans, 1hr removed each day (31hrs total removed for temperature); July 22 wind speed went negative (1hr removed for both ws/wd); July 31, wind speed went full scale and flatlined (7hrs removed till end of month for both ws/wd)

1.2 Dunes Air Monitoring Station

PAZA - July 2025 Dunes Station Report

Parameter	July				Max	30min / 1-hour		24-hour			Exceedance				Calibration
	Average	Minimum	Valid	Operational		Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
PM _{2.5} (µg/m³)	5.5	0.0	99.5%	99.7%	34.0	80	Jul-26 12:00	13.6	29	Jul-26	0	-	0	-	Jul-31-2025
SO ₂ (ppb)	0.3	0.0	95.2%	99.7%	11.6	172	Jul-26 11:00	2.0	48	Jul-26	0	-	0	0	Jul-31-2025
TRS (ppb)	0.4	0.0	95.0%	99.7%	3.0	5	Jul-29 11:00	1.0	3	Jul-30	0	-	0	-	Jul-31-2025
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	16.7	3.5	100.0%	100.0%	32.9	Note: Valid hours must be greater than 75% Operational hours must be greater than 90%									
RH (%)	61.0	18.6	100.0%	100.0%	99.9										
WS (km/hr)	3.9	0.1	100.0%	100.0%	12.6										
WD (deg)	253	0.4	100.0%	100.0%	359.9	Average Wind Direction 253 WSW									

Update Summary:

Parameter	Make	Model	Equipment summary
PM _{2.5}	Thermo	SHARP 5030	July 11, AEPA audit, 2hrs maintenance
SO ₂	Thermo	43i	July 8, AEPA audit, 2hrs maintenance
TRS	Thermo	43i	July 8, AEPA audit, 2hrs maintenance
Met Equip	Gil/RMYoung	MetPak/RMY86004	No Operational issues noted during the month

1.5 Valleyview Air Monitoring Station

PAZA - July 2025 Valleyview Station Report

AAQ- July 2025 Valley View Station Report															
Parameter	July			Operational	Max	1-hour		24-hour			Exceedance				Calibration
	Average	Minimum	Valid			Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
SO ₂ (ppb)	0.0	0.0	95.2%	99.7%	0.6	172	Jul-26 09:00	0.2	48	Jul-10	0	-	0	0	Jul 23, 2025
H ₂ S (ppb)	0.1	0.0	95.0%	99.7%	0.5	10	Jul-27 22:00	0.3	3	Jul-27	0	-	0	-	Jul 23, 2025
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	17.0	3.2	100.0%	100.0%	33.7	Note: Valid hours must be greater than 75% Operational hours must be greater than 90%									
RH (%)	65.3	17.7	100.0%	100.0%	100.3										
WS (km/hr)	3.8	0.1	100.0%	100.0%	13.2										
WD (deg)	264	0.1	100.0%	100.0%	358.5										
Average Wind Direction		264		NW											

Update Summary:

Parameter	Make	Model	Equipment summary
SO ₂	TEI	43i-APSCB	July 7, AEPA audit, 2hrs maintenance
H ₂ S	TEI	450i-APHAA / 43C	July 7, AEPA audit, 2hrs maintenance
Met Equip	RMYoung	RMV86004	No Operational issues noted during the month

1.6 Fox Creek Air Monitoring Station

PAZA - July 2025 Fox Creek Station Report

AER - July 2025 Fox Creek Station Report															
Parameter	July			Operational	1-hour			8-hour / 24-hour			Exceedance				Calibration
	Average	Minimum	Valid		Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	Date
NO (ppb)	3.3	0.0	93.8%	99.2%	33.7	-	Jul-30 06:00	6.8	-	Jul-31	-	-	-	-	Jul 21, 2025
NO ₂ (ppb)	4.2	0.0	93.8%	99.2%	27.4	159	Jul-30 21:00	11.7	-	Jul-31	0	-	-	-	Jul 21, 2025
NO _x (ppb)	7.7	0.0	93.8%	99.2%	47.0	-	Jul-29 21:00	18.8	-	Jul-31	-	-	-	-	Jul 21, 2025
O ₃ (ppb)	21.6	0.1	94.4%	99.2%	48.6	76	Jul-30 17:00	31.3	-	Jul-16	0	-	-	-	Jul 21, 2025
PM _{2.5} (µg/m³)	8.5	0.8	99.7%	99.9%	60.8	80	Jul-14 04:00	22.9	29	Jul-17	0	-	0	-	Jul 21, 2025
SO ₂ (ppb)	0.2	0.0	94.9%	99.6%	20.4	172	Jul-01 07:00	2.2	48	Jul-01	0	-	0	0	Jul 21, 2025
H ₂ S (ppb)	0.1	0.0	93.7%	98.8%	0.5	10	Jul-01 07:00	0.2	3	Jul-20	0	-	0	-	Jul 21, 2025
	Average	Minimum	Valid	Operational	Maximum										
Temp (°C)	16.3	2.7	100.0%	100.0%	32.2	Note: Valid hours must be greater than 75% Operational hours must be greater than 90%									
WS (km/hr)	5.5	0.1	100.0%	100.0%	23.1										
WD (deg)	237	0.4	100.0%	100.0%	359.7	Average Wind Direction		237 WSW							

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42IQ	July 7, AEPA audit (6hrs maintenance)
O ₃	TECO	49c / 49i	July 6, remote AIC performed for H ₂ S, also ran for O ₃ (1hr maintenance); July 7, AEPA audit (3hrs maintenance); July 24, remote AIC performed for H ₂ S, also ran for O ₃ (2hrs maintenance)
PM _{2.5}	API	T640	July 7, AEPA audit (1hr maintenance)
SO ₂	TEI	43i-TLE	July 7, AEPA audit (3hrs maintenance)
H ₂ S	TEI	450i	July 6, AIC span came in 9.6%, remote span initiated to verify ok (6%), 1hr maintenance; July 7, AEPA audit (2hrs maintenance); July 20 & 21, AIC >10%, calibration performed July 21, as found was 7.5%, data linear, no data removed (span gas issue is believed the cause through month); July 24 span >10%, manual AIC performed also >10%, calibration performed to verify, as found 2.9%, calibration linear, no data removed (6hrs maintenance)
Met Equip	MetOne	50.5	No operational issues noted during the month

1.7 Happy Valley Air Monitoring Station

PAZA - July 2025 Happy Valley Station Report

Parameter	July			30min / 1-hour				24-hour		Exceedance					Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	ix Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.4	0.0	88.5%	93.2%	16.7	-	Jul-29 19:00	1.1	-	Jul-29	-	-	-	-	Jul 05, 2025
NO ₂ (ppb)	2.4	0.2	88.5%	93.2%	13.7	159	Jul-14 01:00	4.5	-	Jul-31	0	-	-	-	Jul 05, 2025
NO _x (ppb)	2.8	0.3	88.5%	93.2%	26.5	-	Jul-29 19:00	5.5	-	Jul-31	-	-	-	-	Jul 05, 2025
O ₃ (ppb)	25.7	2.1	93.6%	98.3%	57.7	76	Jul-17 19:00	34.8	-	Jul-17	0	-	-	-	Jul 17, 2025
PM _{2.5} (µg/m ³)	9.5	0.7	99.9%	100.0%	148.7	80	Jul-15 07:00	30.4	29	Jul-15	2	-	1	-	Jul 17, 2025
SO ₂ (ppb)	0.4	0.0	93.6%	98.3%	11.4	172	Jul-14 18:00	1.9	48	Jul-14	0	-	0	0	Jul 17, 2025
TRS (ppb)	0.5	0.3	93.6%	98.3%	1.9	5	Jul-08 02:00	0.6	-	Jul-19	0	-	-	-	Jul 21, 2025
CH ₄ (ppm)	2.0	1.8	92.3%	97.0%	2.3	-	Jul-01 02:00	2.1	-	Jul-14	-	-	-	-	Jul 21, 2025
THC (ppm)	2.0	1.8	92.3%	97.0%	2.5	-	Jul-05 07:00	2.1	-	Jul-14	-	-	-	-	Jul 21, 2025
NMHC (ppm)	0.0	0.0	92.3%	97.0%	0.3	-	Jul-05 07:00	0.0	-	Jul-05	-	-	-	-	Jul 21, 2025
Average	16.2	3.9	100.0%	100.0%	31.6	Note: Valid hours must be greater than 75% Operational hours must be greater than 90% Average Wind Direction 251 WSW									
Temp (°C)	16.2	3.9	100.0%	100.0%	31.6										
WS (km/hr)	10.3	0.3	100.0%	100.0%	37.8										
WD (deg)	251	0.7	100.0%	100.0%	359.9										

Update Summary:

Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	TEI	42i	July 3, AIC >10%, manual AIC ran (2%), 1hr maintenance; July 5, AIC failed to run, manual AIC attempted, also failed to run, site check performed and found pump seized, removal cal could not be performed, pump replaced and calibration performed to verify ok (33hrs removed, 1hr maintenance); July 17, as found was low, equipment check and calibration verification performed (5hrs maintenance); July 30 station HVAC failed and internal temperature was near 40C, data was affected, 11hrs removed (nitrogen AIC was also impacted)
O ₃	TEI	49i	July 3, manual AIC run due to nitrogen analyzer (1hr maintenance); July 5, AIC failed to run, manual AIC performed ok (2%, 1hr removed); July 30 station HVAC failed and internal temperature was near 40C, data was affected, 11hrs removed
PM _{2.5}	API	T640	No operational issues; July 15 to 17, 2x1hr readings above AAAQG and 1x24hr reading above AAAQO
SO ₂	TEI	43i	July 3 & 5, manual AIC run due to nitrogen analyzer (2hrs maintenance); July 17, as found was low, calibration performed same time as nitrogen; July 30 station HVAC failed and internal temperature was near 40C, data was affected, 11hrs removed
TRS	TEI	43i	July 3 & 5, manual AIC run due to nitrogen analyzer (2hrs maintenance); July 30 station HVAC failed and internal temperature was near 40C, data was affected, 11hrs removed (TRS AIC was also impacted)
THC/CH ₄ /NMHC	TEI	55i	July 3 & 5, manual AIC run due to nitrogen analyzer (2hrs maintenance); July 18, analyzer dropped below 1.8ppm (7hrs removed); July 30 station HVAC failed and internal temperature was near 40C, data was affected, 11hrs removed; July 31, analyzer dropped below 1.8ppm (2hrs removed)
Met Equip	MetOne	50.5	No operational issues noted in the month

1.8 Milner Air Monitoring Station

PAZA - July 2025 Milner Station Report

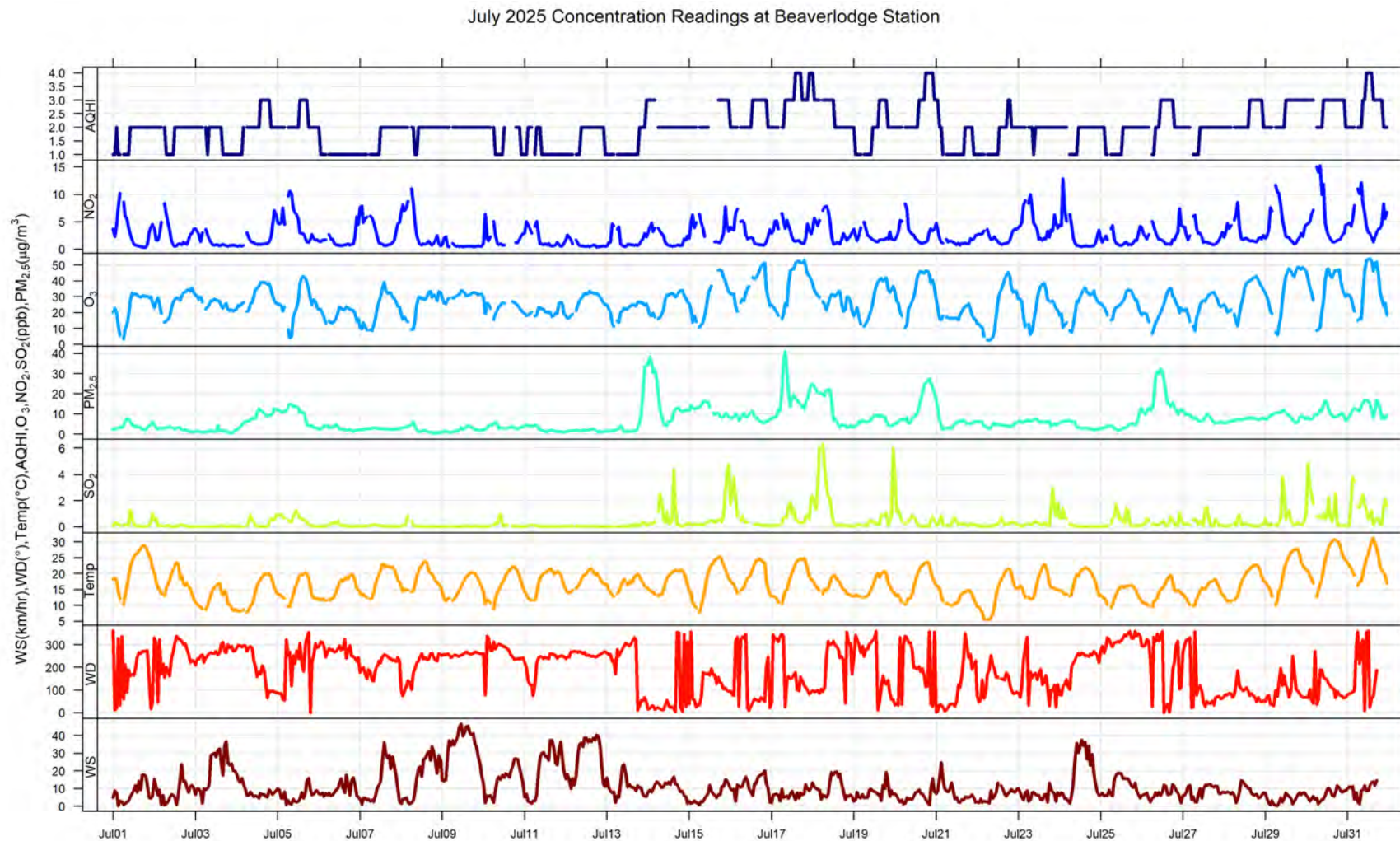
Parameter	July			1-hour				24-hour		Exceedance					Calibration Date
	Average	Minimum	Valid	Operational	Max	Objective	Max Day and Time	Max	Objective	Max Day	1hr	8hr	24hr	30d	
NO (ppb)	0.4	0.0	88.1%	92.3%	5.8	-	Jul-07 08:00	1.0	-	Jul-19	-	-	-	-	Jul 30, 2025
NO ₂ (ppb)	1.1	0.0	88.1%	92.3%	5.6	159	Jul-19 03:00	1.9	-	Jul-18	0	-	-	-	Jul 30, 2025
NO _x (ppb)	1.5	0.0	88.1%	92.3%	10.2	-	Jul-07 08:00	2.7	-	Jul-08	-	-	-	-	Jul 30, 2025
PM _{2.5} (µg/m ³)	6.4	0.5	92.5%	92.6%	53.0	80	Jul-21 01:00	18.4	29	Jul-21	0	-	0	-	Jul 30, 2025
Average	5.1	0.2	92.3%	92.6%	27.4	Note: Valid hours must be greater than 75% Operational hours must be greater than 90% Average Wind Direction 248 WSW									
WS (km/hr)	5.1	0.2	92.3%	92.6%	27.4										
WD (deg)	248	1.5	92.3%	92.6%	359.4										

Update Summary:

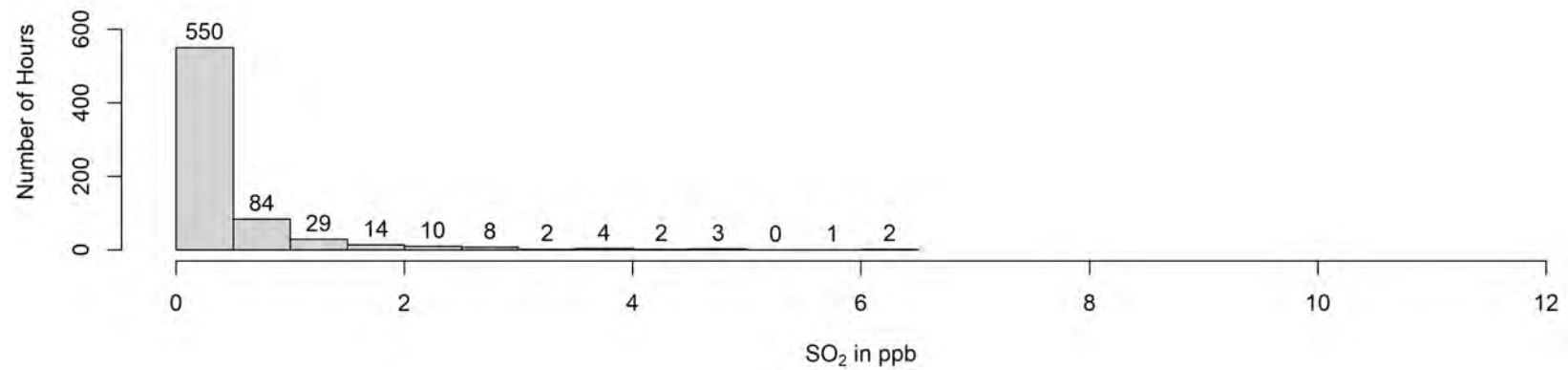
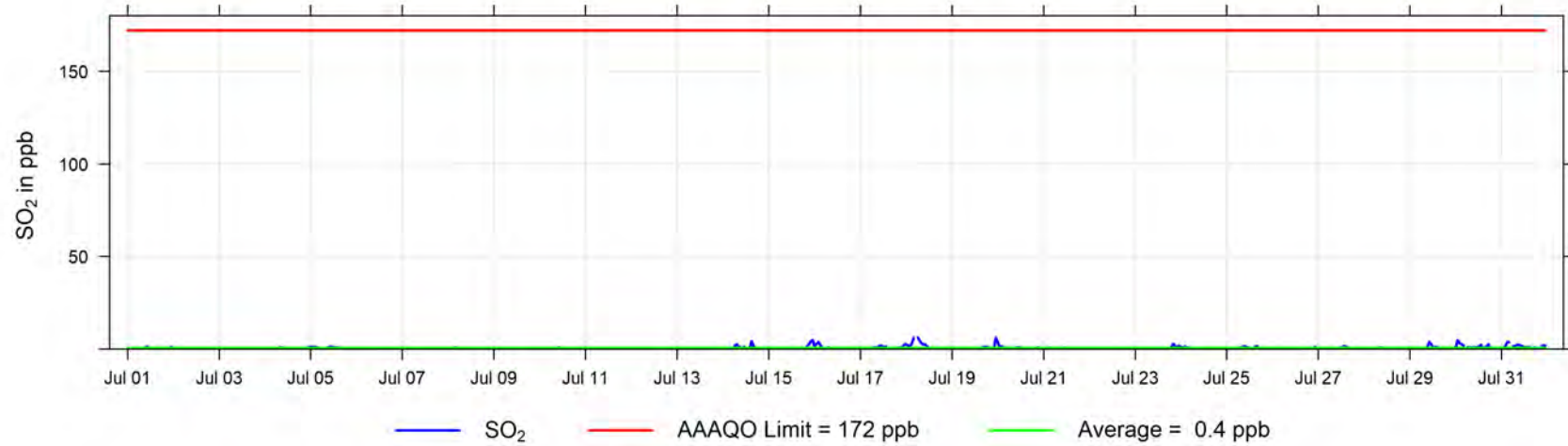
Parameter	Make	Model	Equipment summary
NO/NO ₂ /NO _x	Thermo	42i	July 7 to 11, power failure over two time periods, 55hrs removed
PM _{2.5}	API	T640	July 7 to 11, power failure over two time periods, 55hrs removed
Met Equip	MetOne	50.5	July 7 to 11, power failure over two time periods, 55hrs removed; July 30, annual calibration performed

2 Beaverlodge Charts

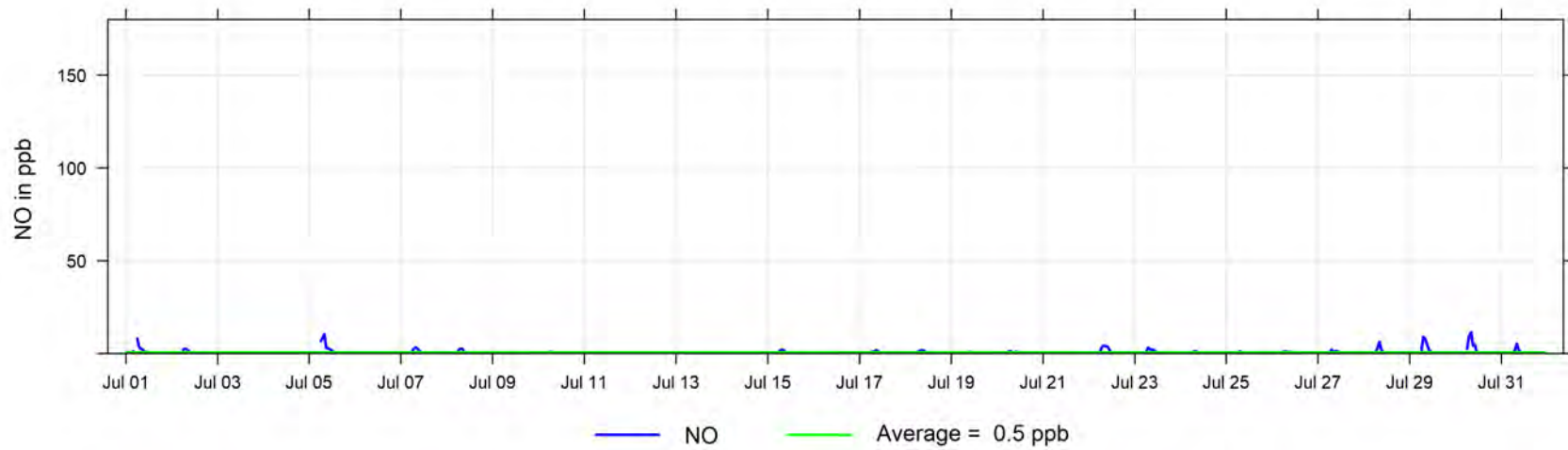
The following pages include the charts and histograms for Beaverlodge Station



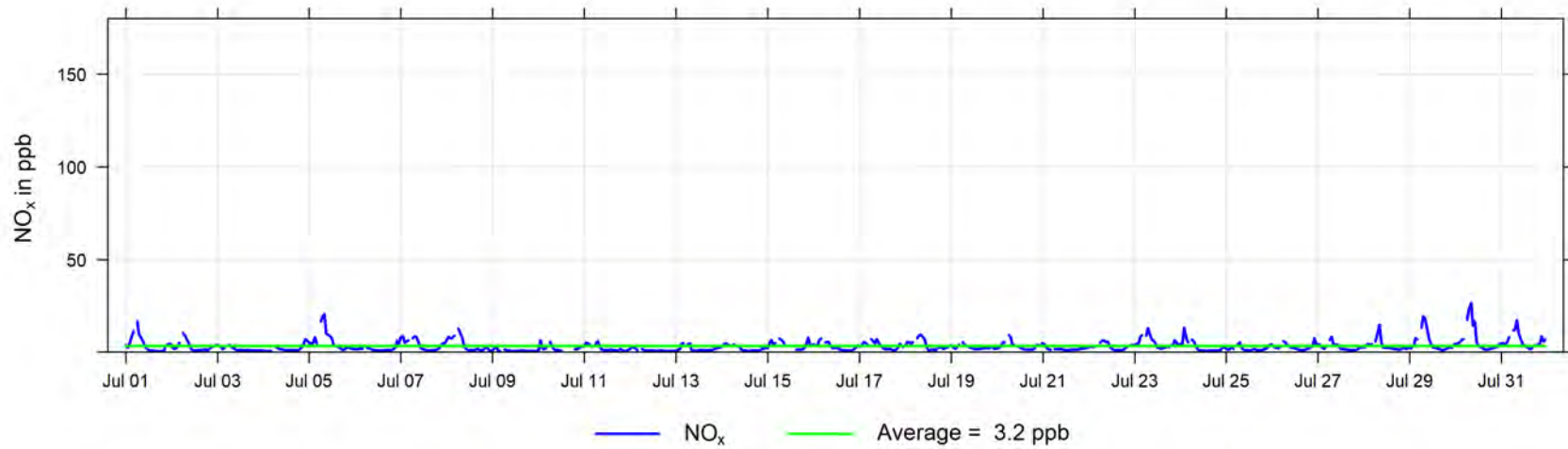
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Beaverlodge



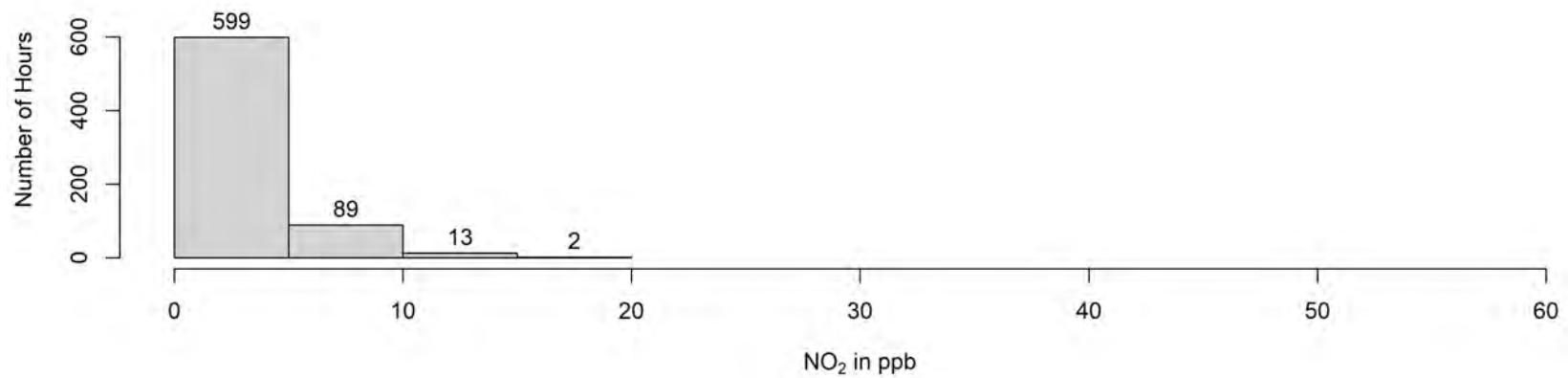
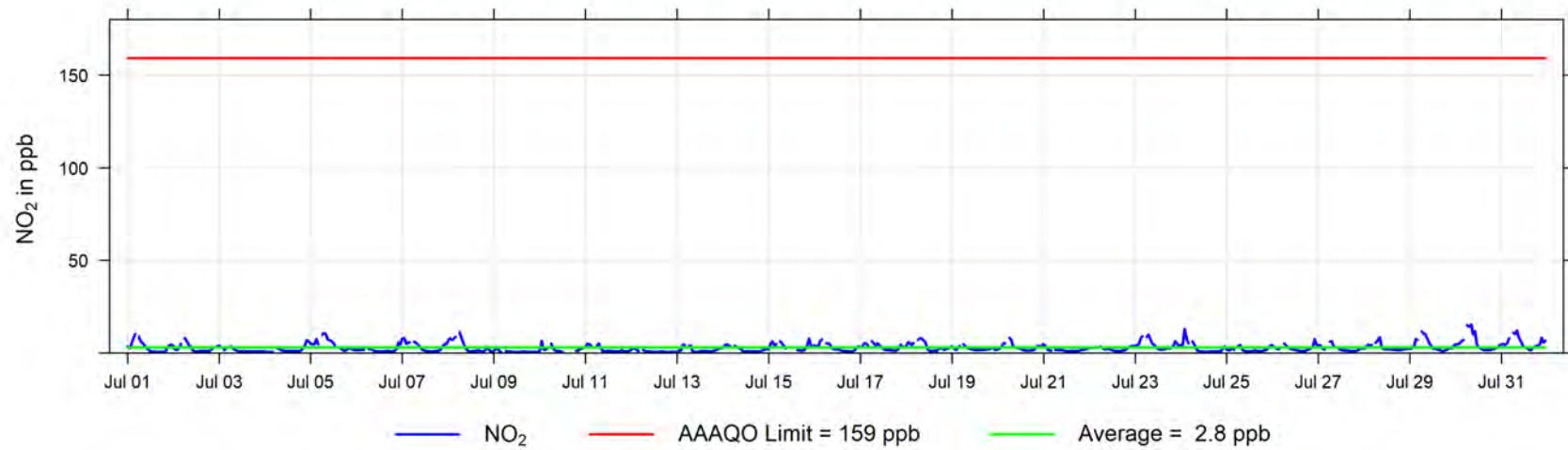
July 2025 Hourly Concentration Readings of NO (in ppb) at Beaverlodge



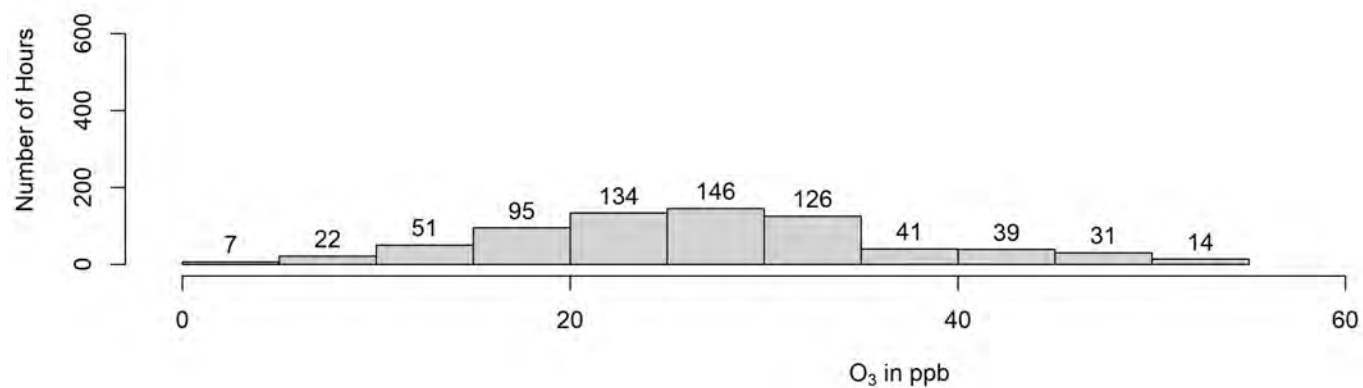
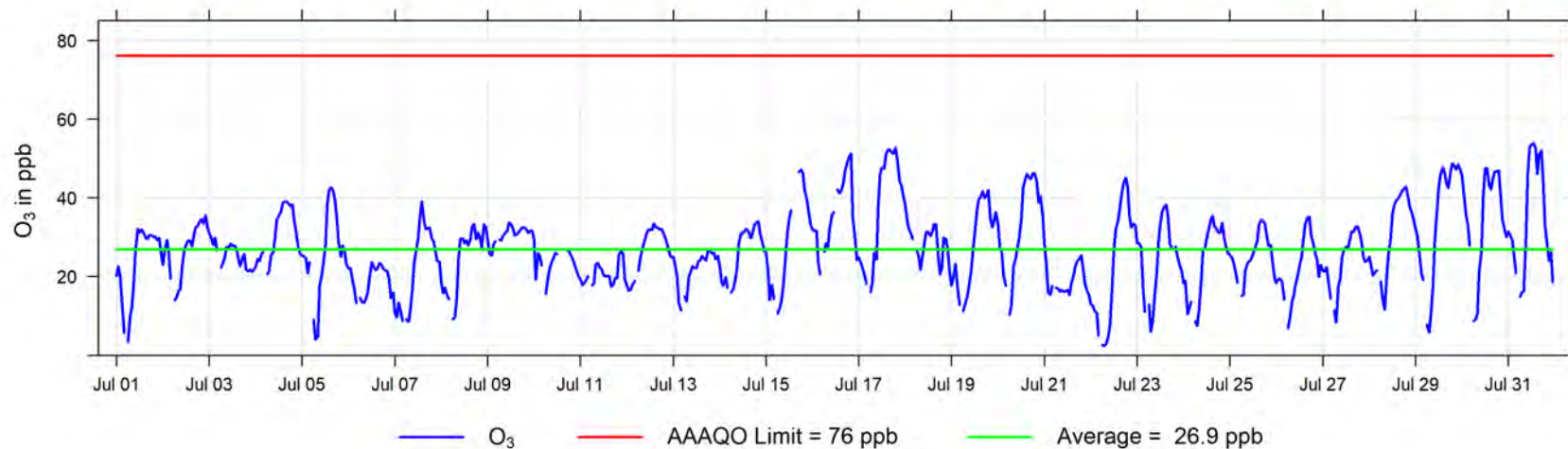
July 2025 Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge



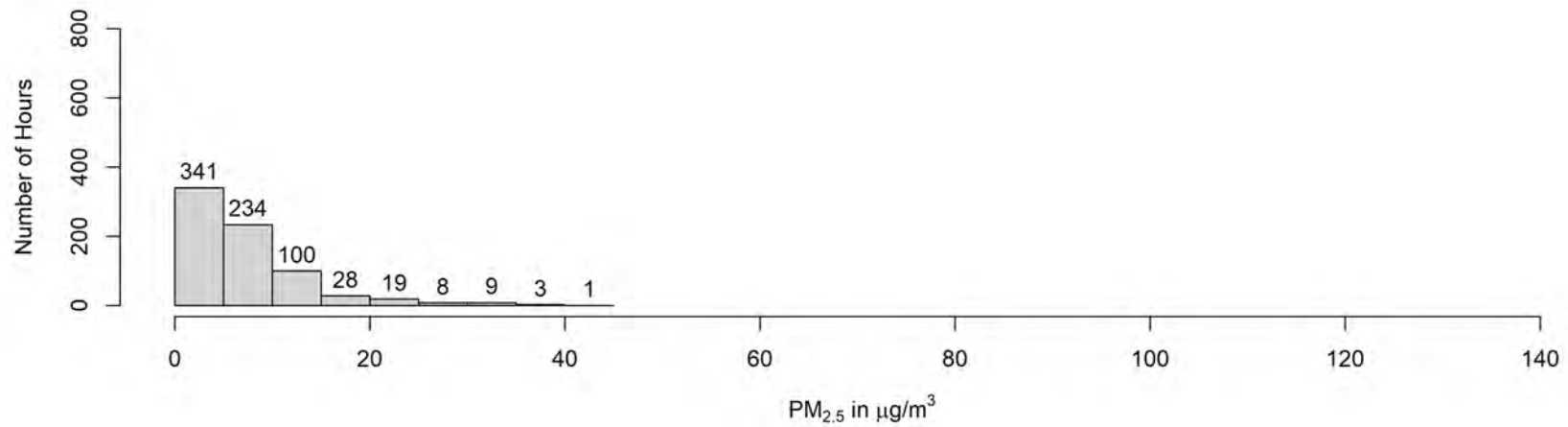
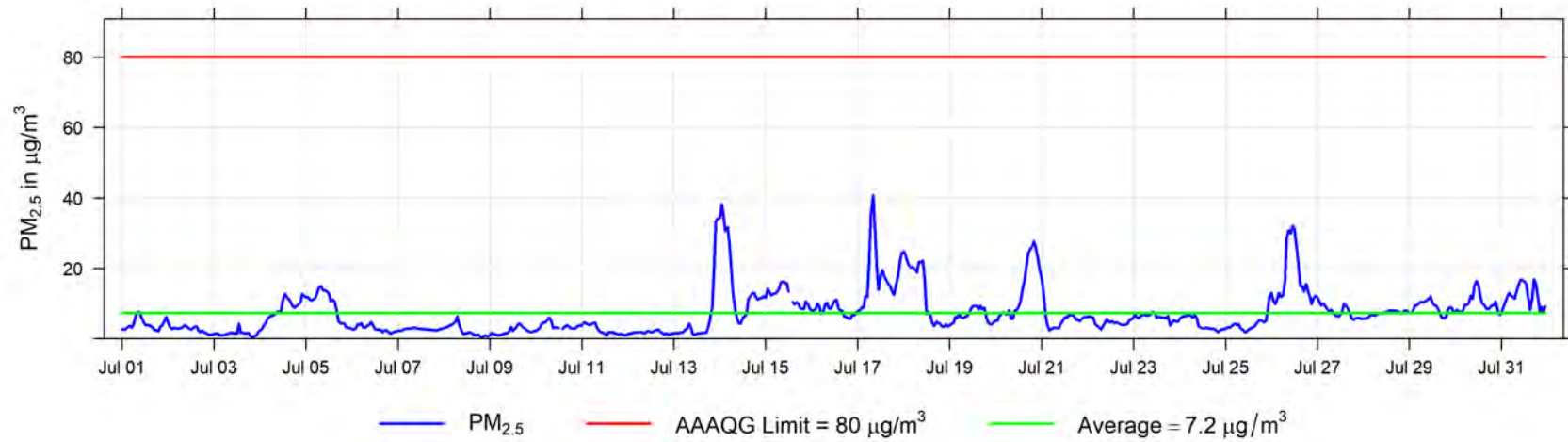
July 2025 Hourly Concentration Readings of NO₂ (in ppb) at Beaverlodge



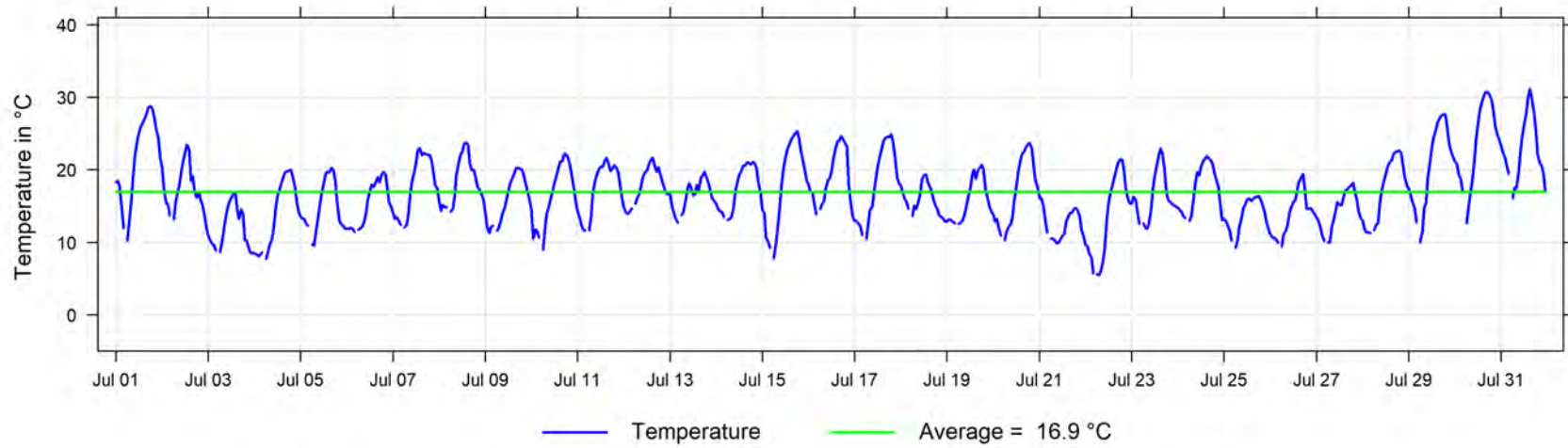
July 2025 Hourly Concentration Readings of O₃ (in ppb) at Beaverlodge



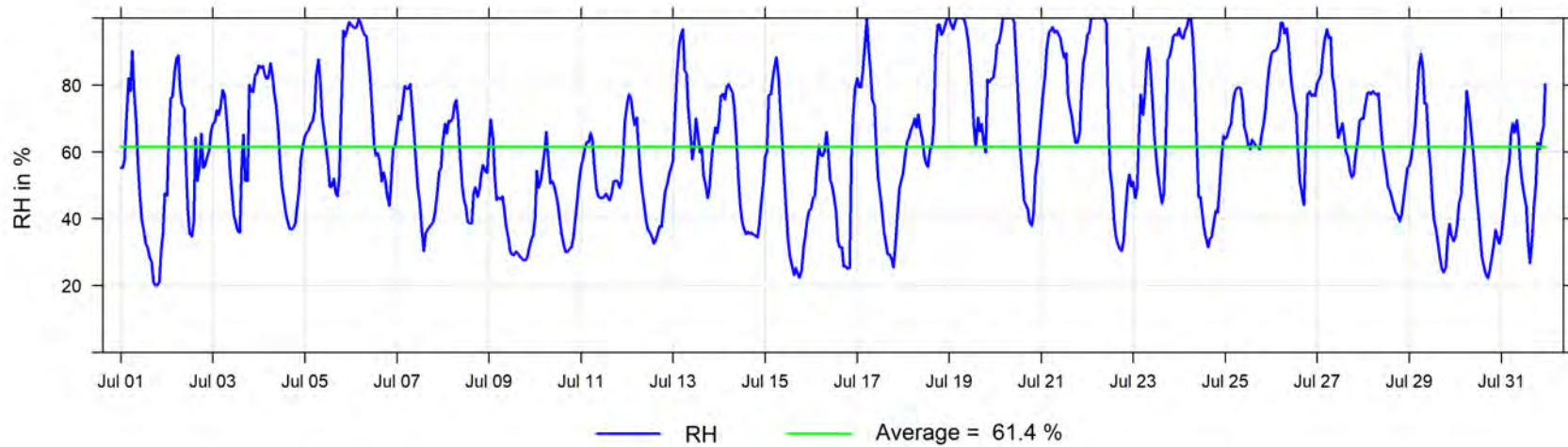
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Beaverlodge



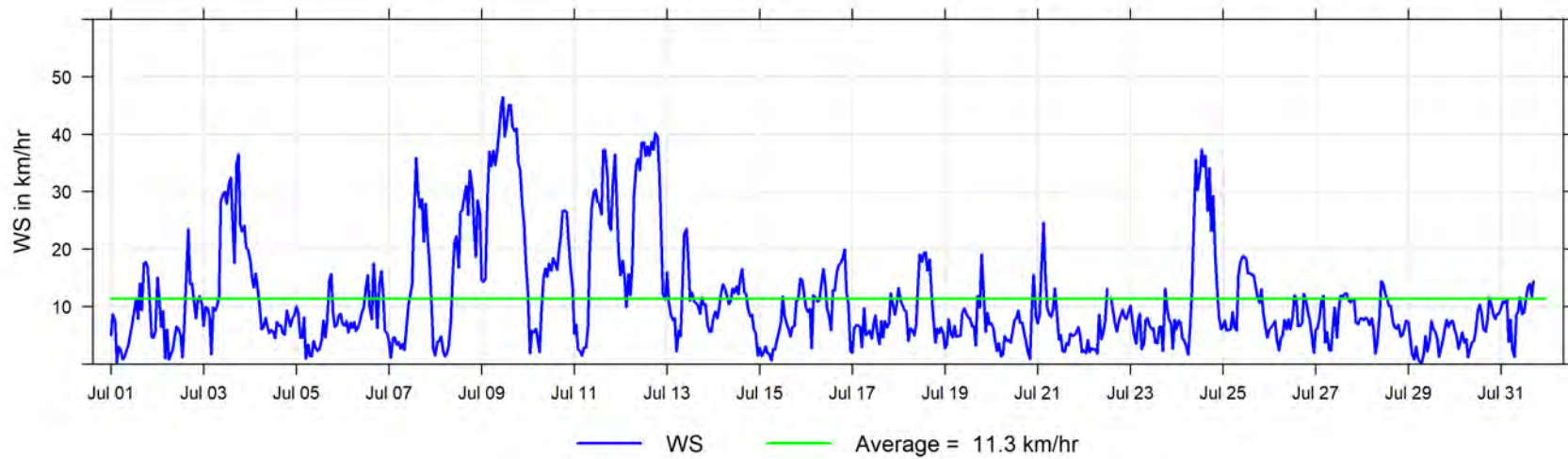
July 2025 Hourly Temperature Readings (in °C) at Beaverlodge



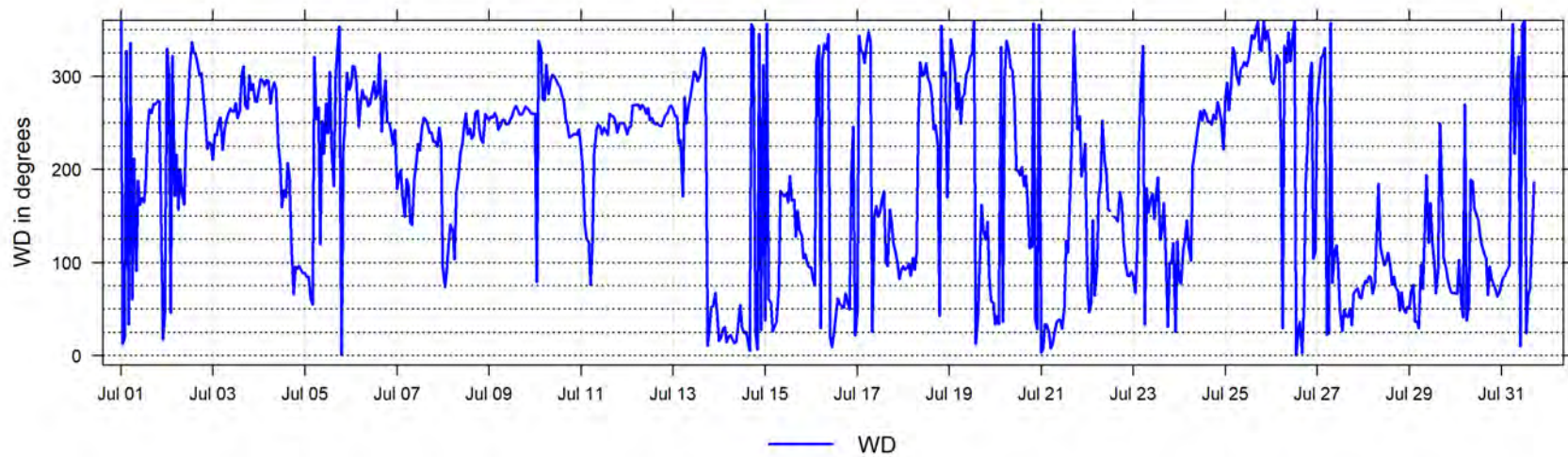
July 2025 Hourly Readings of Relative Humidity (in %) at Beaverlodge



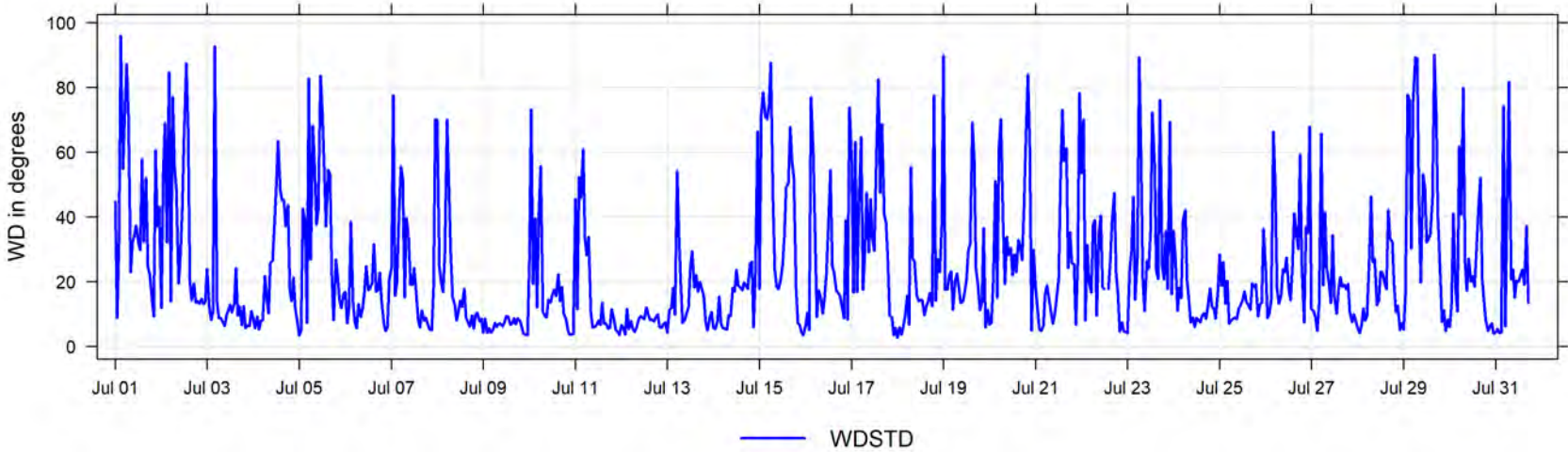
July 2025 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge

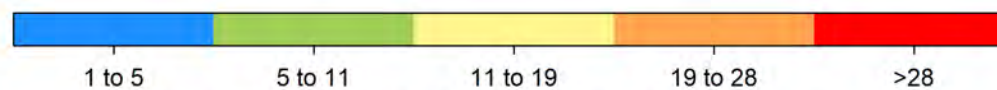
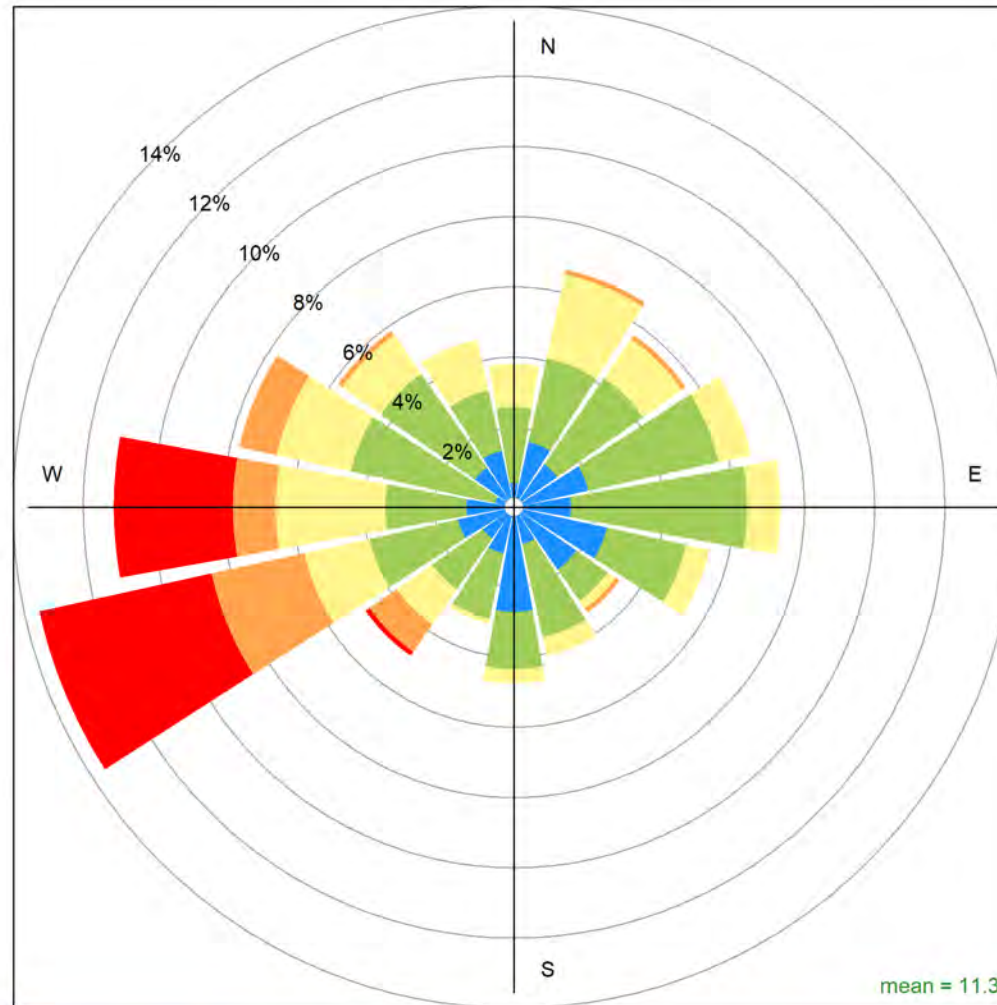


July 2025 Hourly Readings of Wind Direction (in degrees) at Beaverlodge



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Beaverlodge



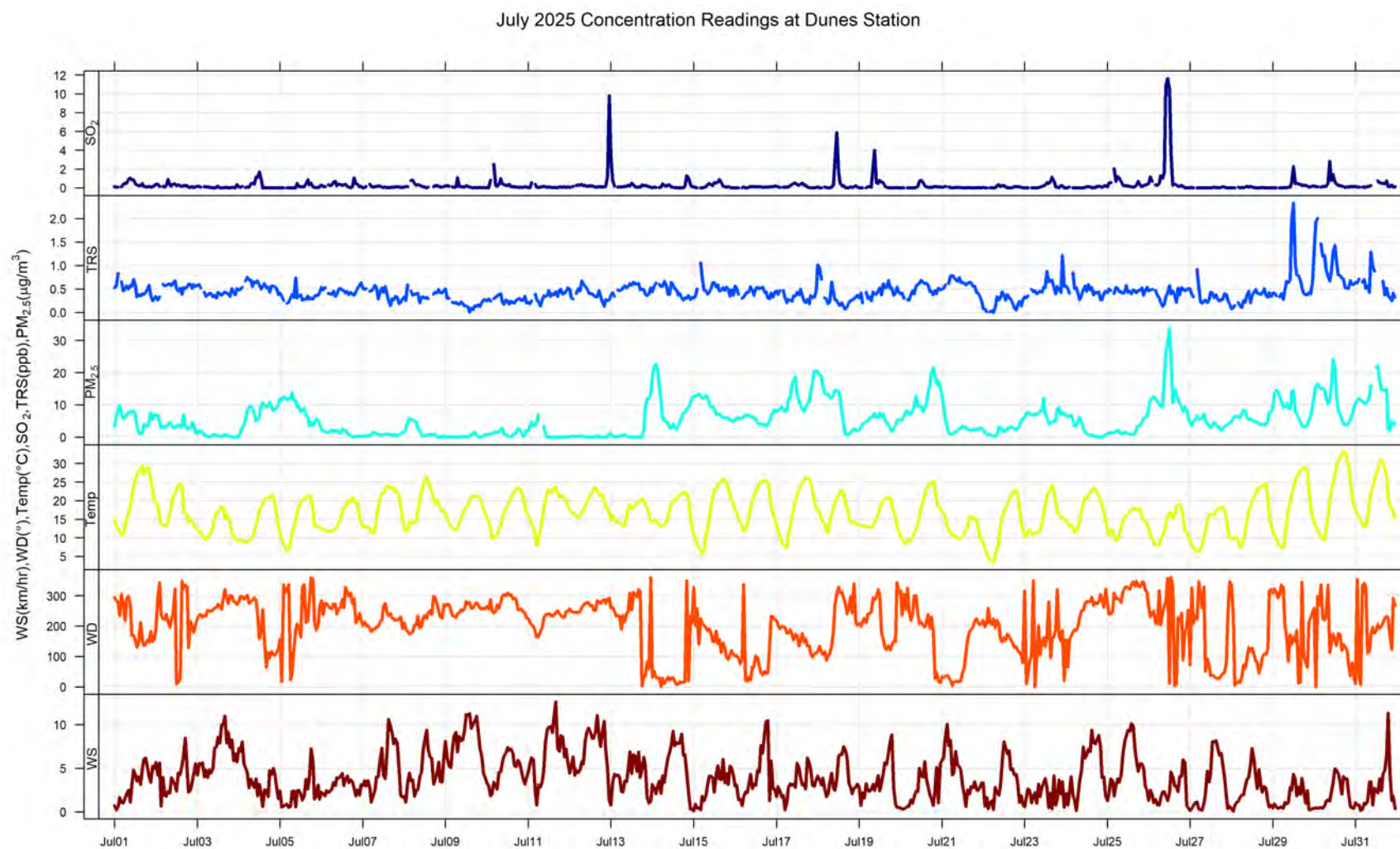


Beaverlodge July 2025 Wind Rose, wind speed in km/hr

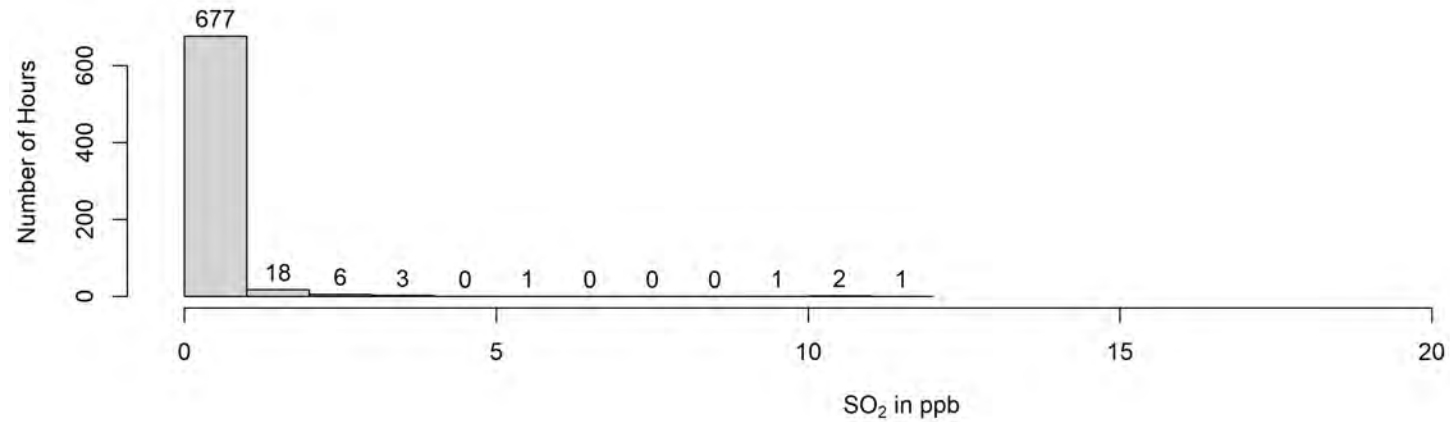
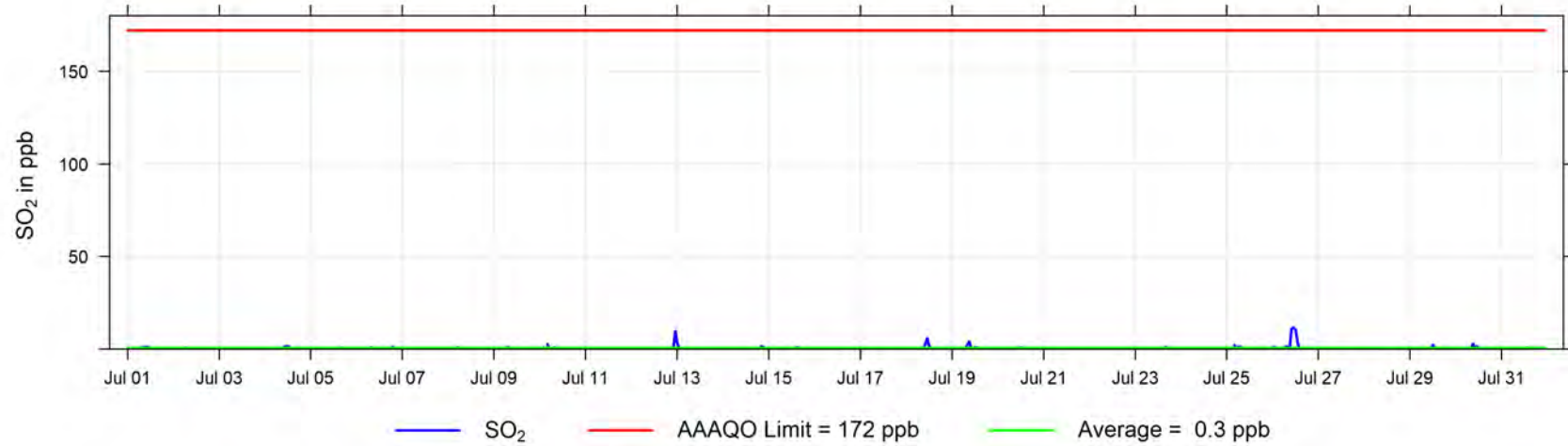
Calms (<1km/hr) = 1.4 %

3 Dunes Charts

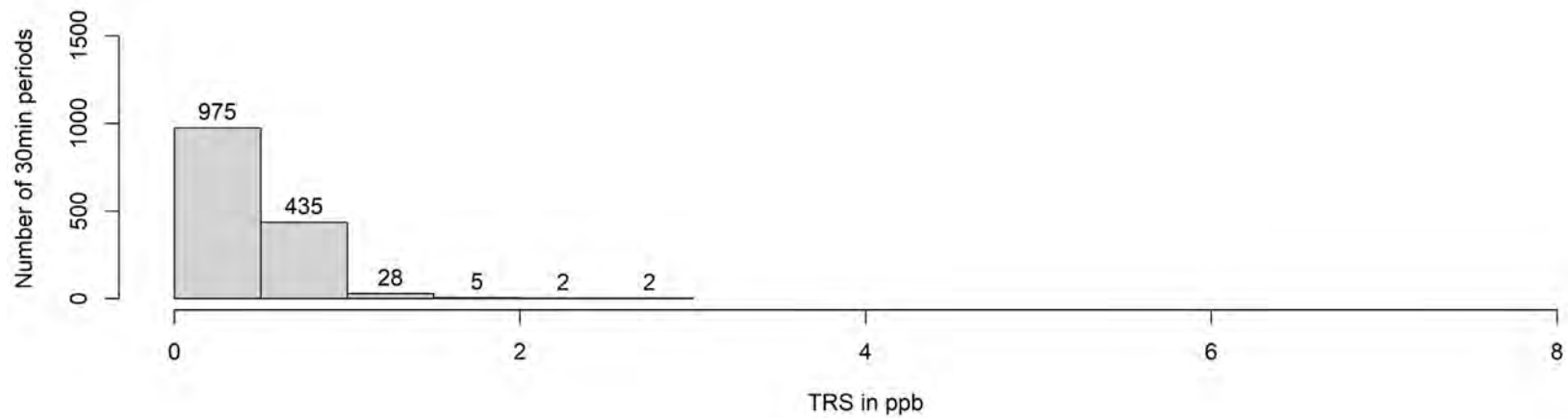
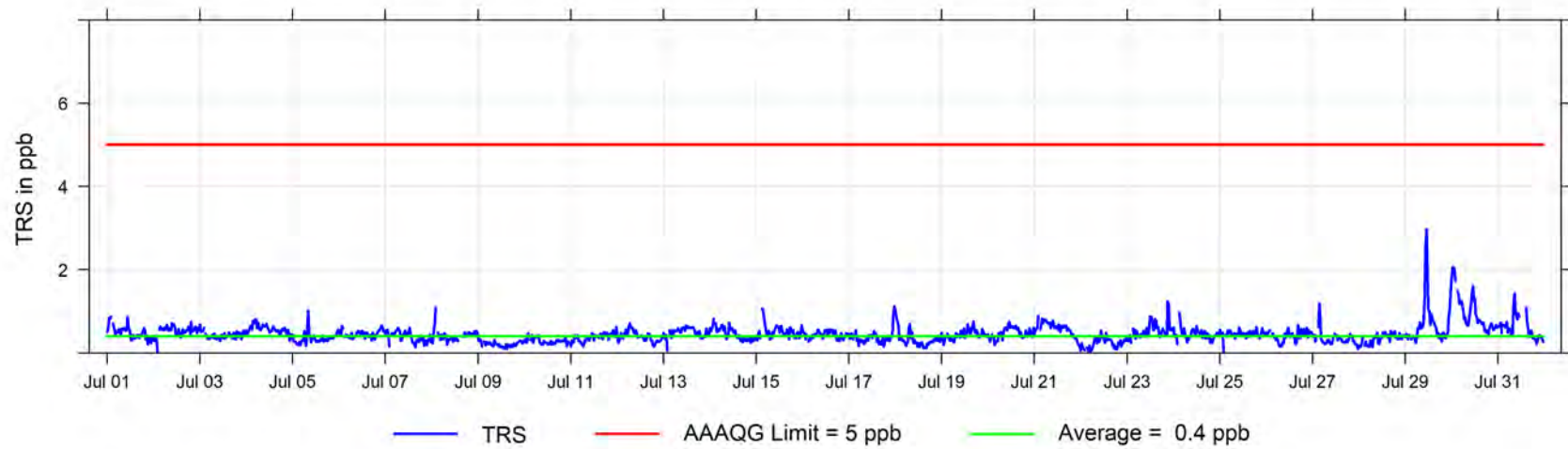
The following pages include the charts and histograms for Dunes Station



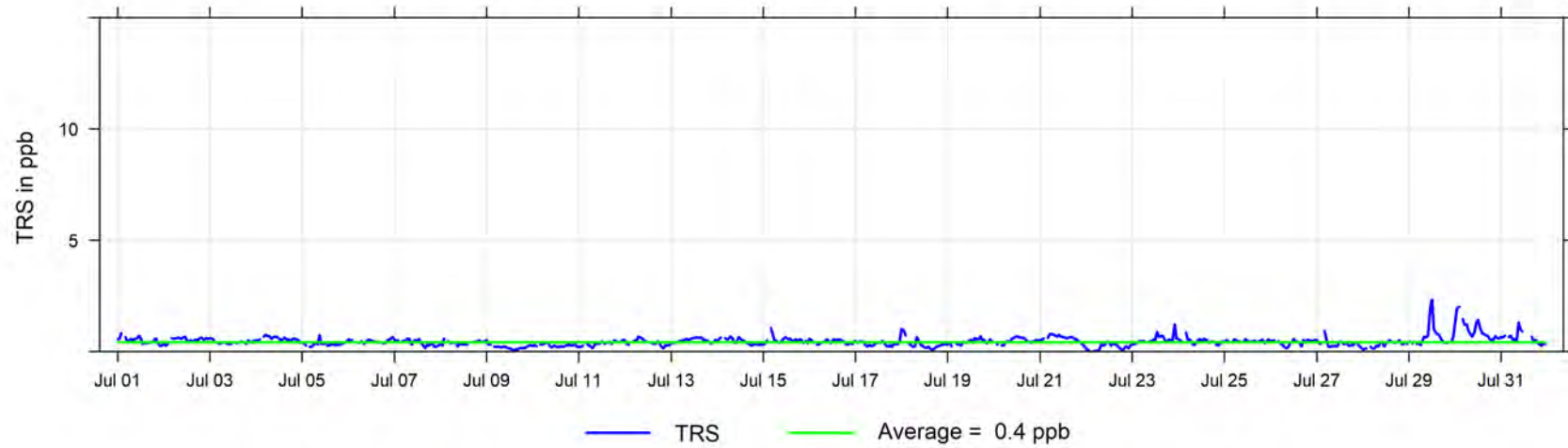
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Dunes



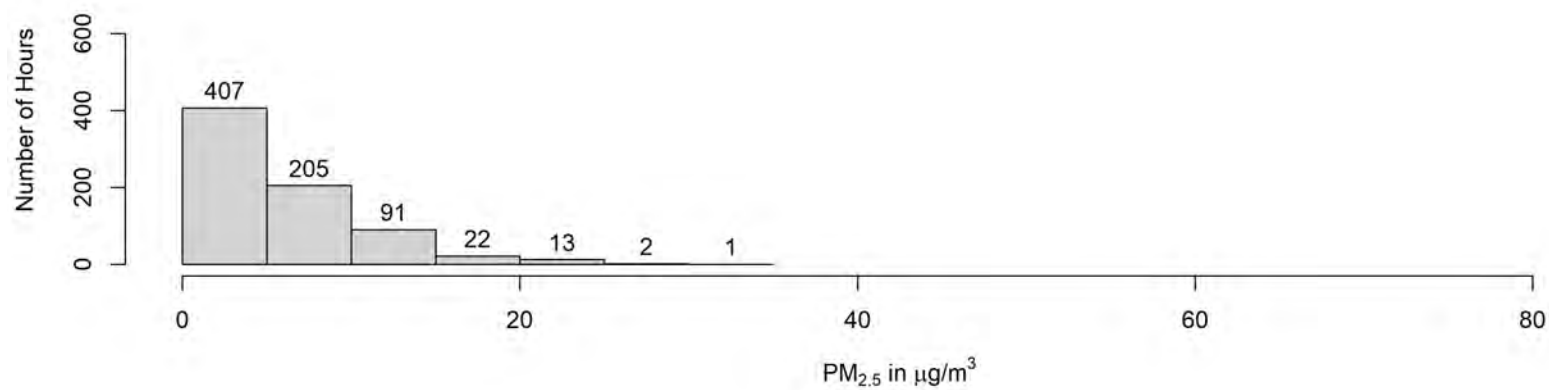
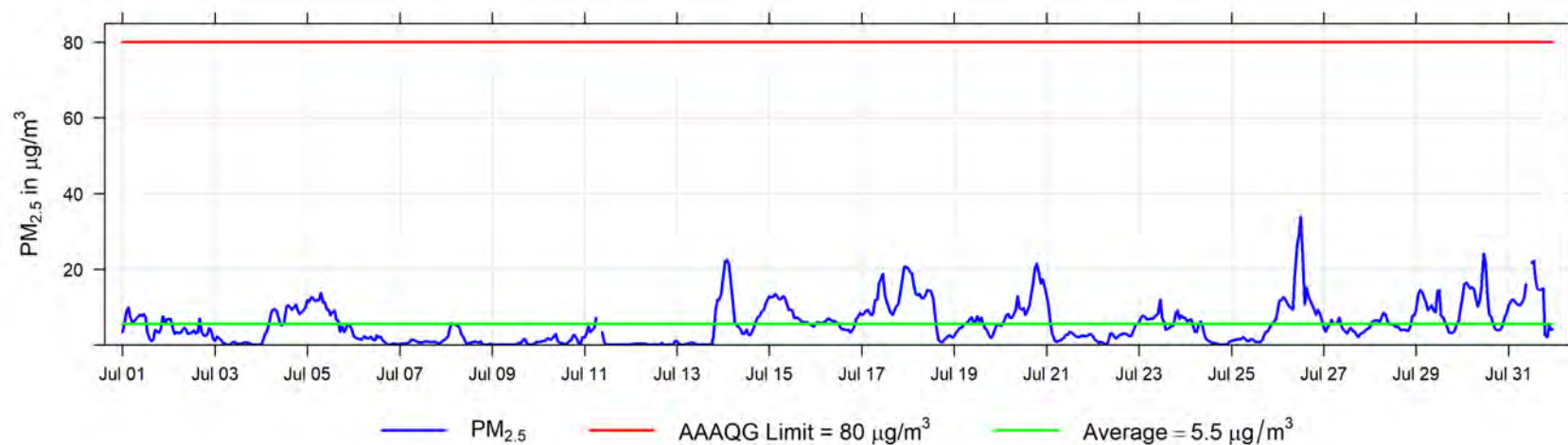
July 2025 30 min Concentration Readings of TRS (in ppb) at Dunes



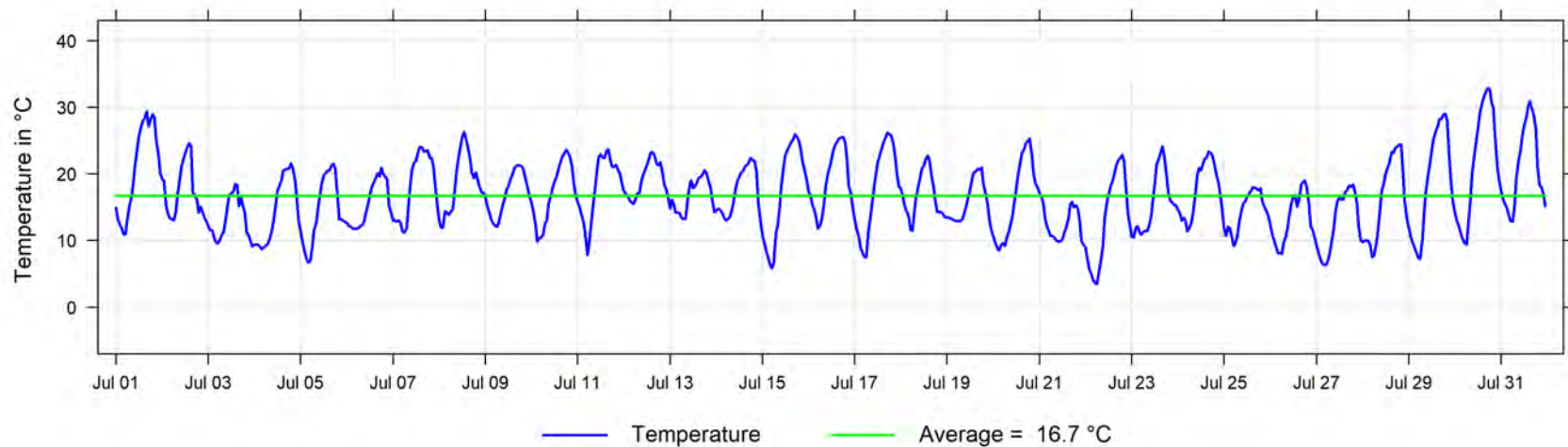
July 2025 Hourly Concentration Readings of TRS (in ppb) at Dunes



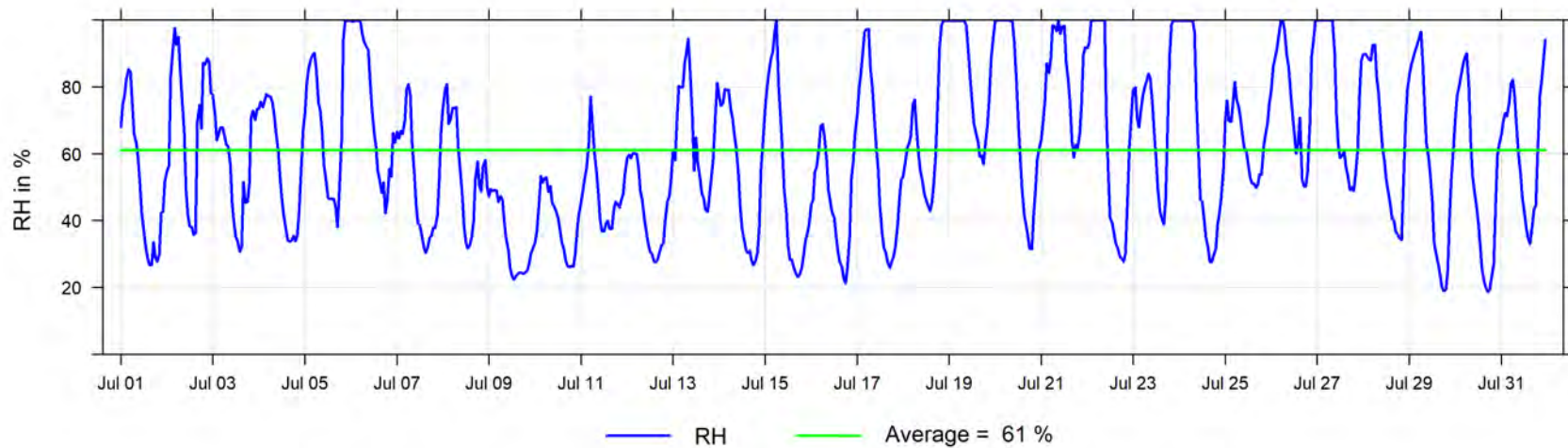
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Dunes



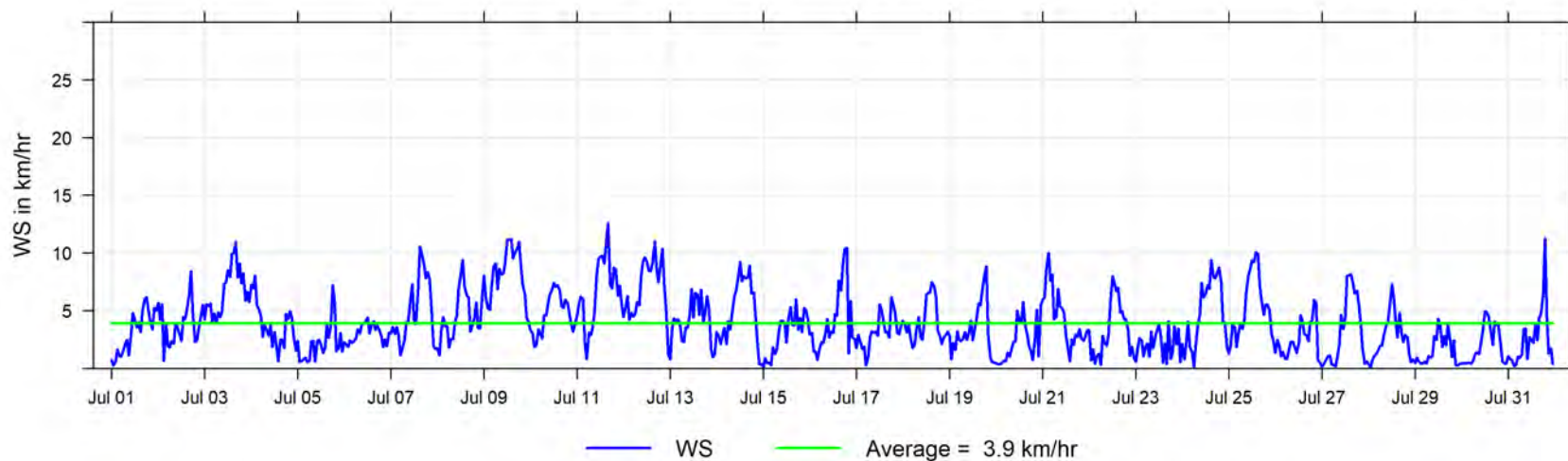
July 2025 Hourly Temperature Readings (in °C) at Dunes



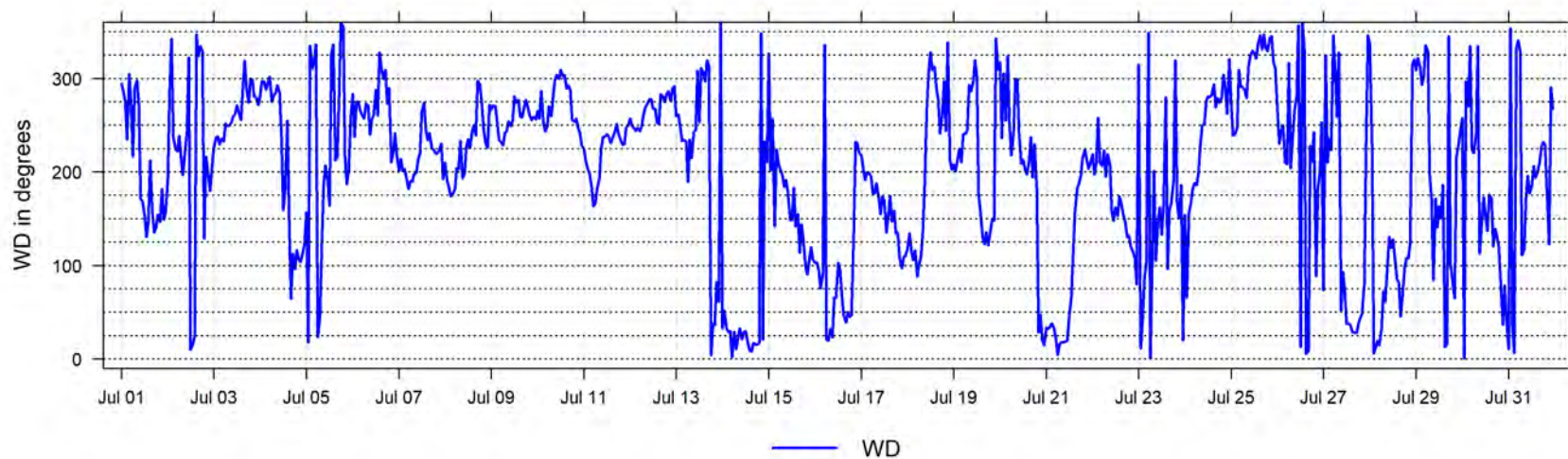
July 2025 Hourly Readings of Relative Humidity (in %) at Dunes



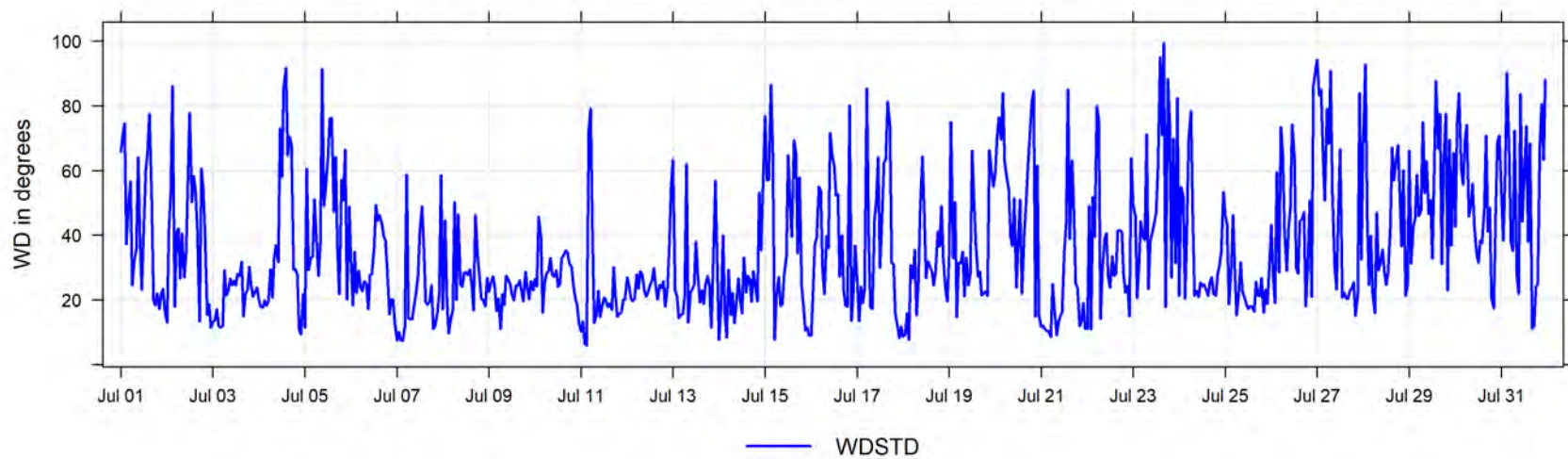
July 2025 Hourly Readings of Wind Speed (in km/hr) at Dunes

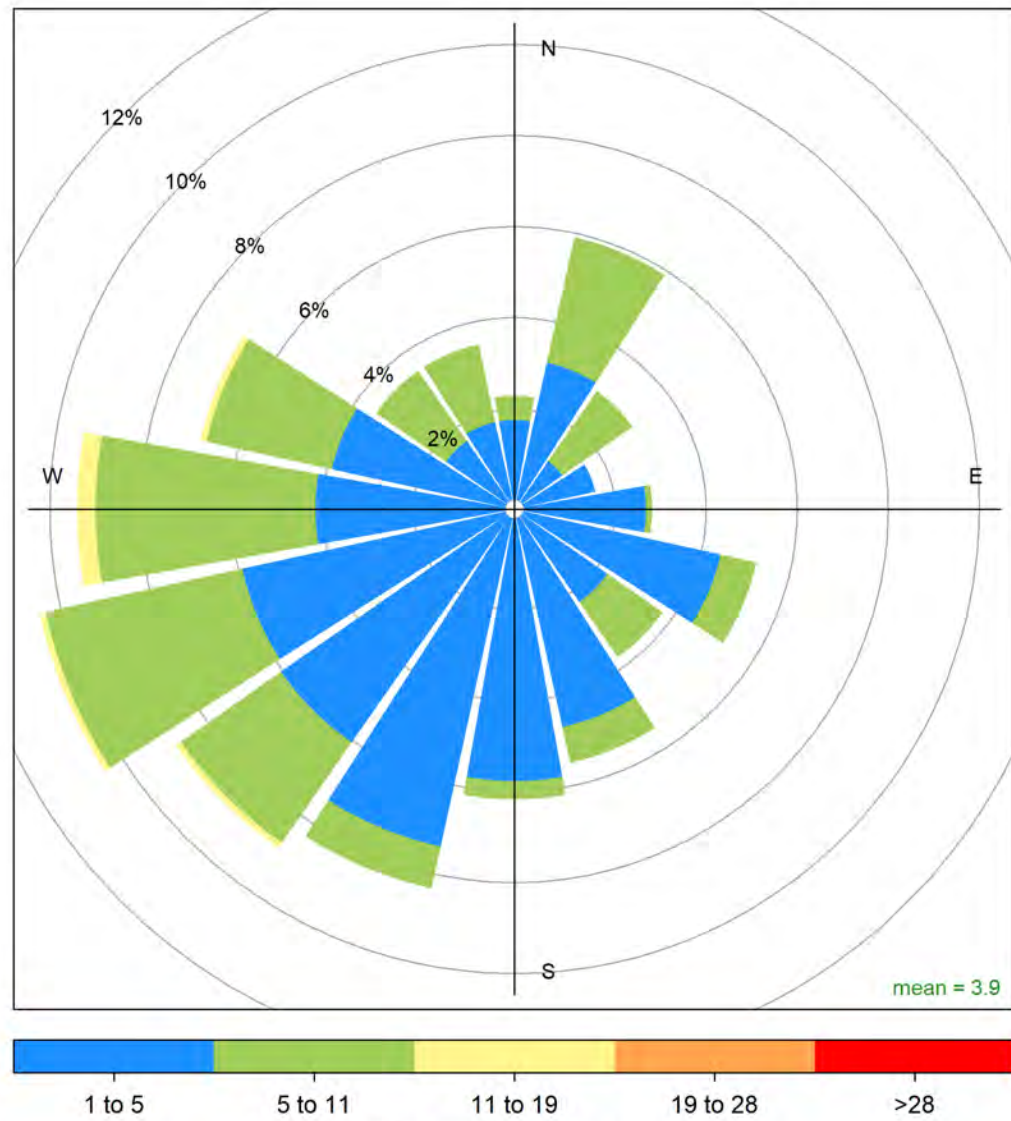


July 2025 Hourly Readings of Wind Direction (in degrees) at Dunes



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Dunes





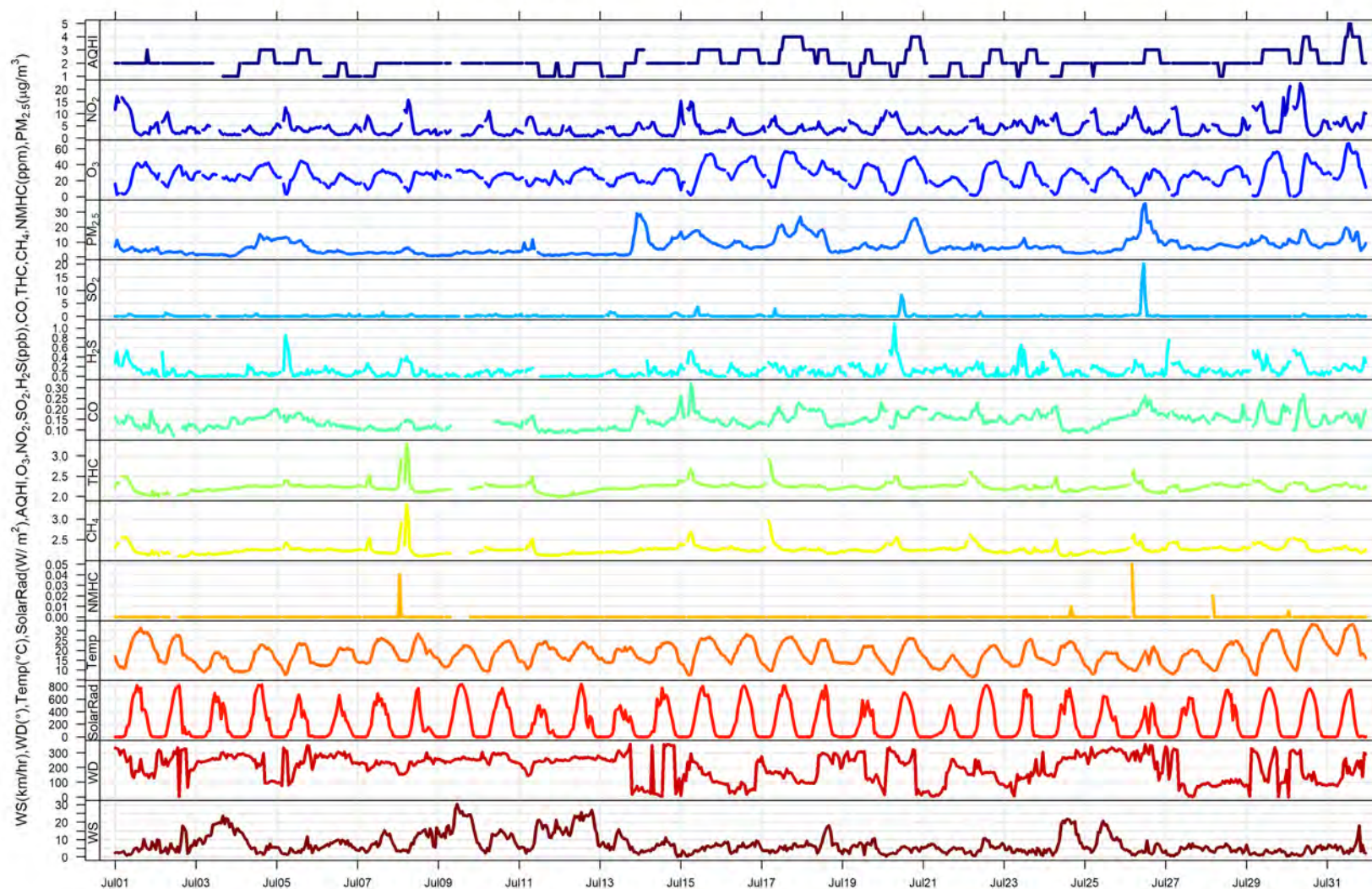
Dunes July 2025 Wind Rose, wind speed in km/hr

Calms (<1km/hr) = 12.8 %

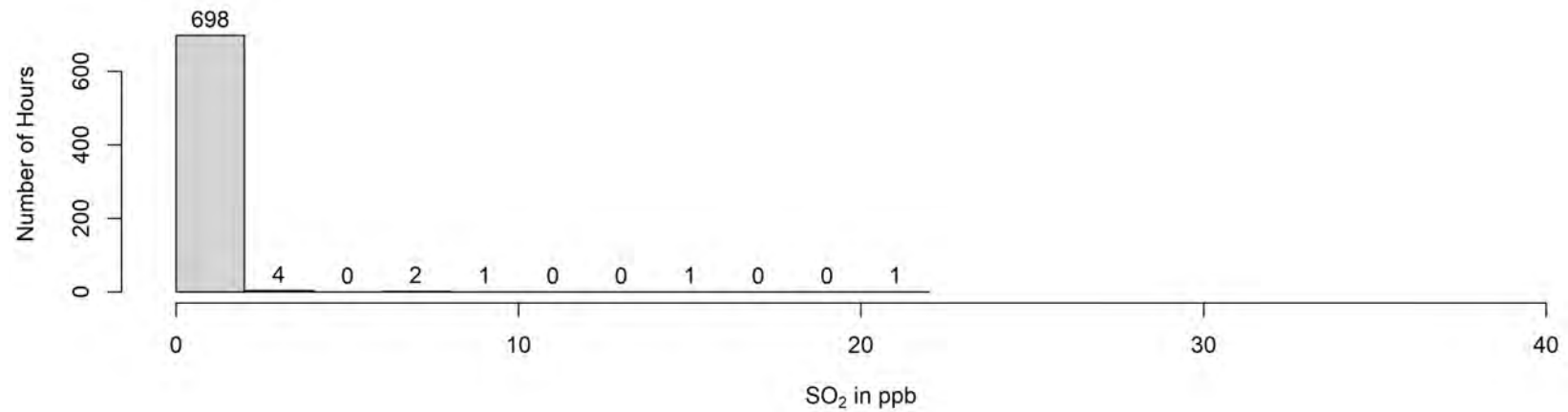
4 Grande Prairie - Henry Pirker Charts

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

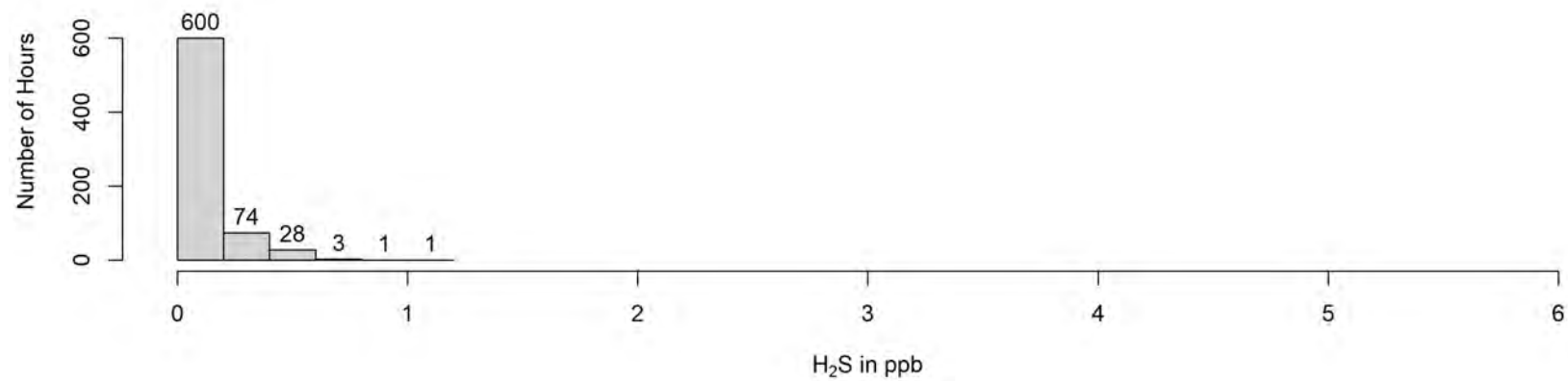
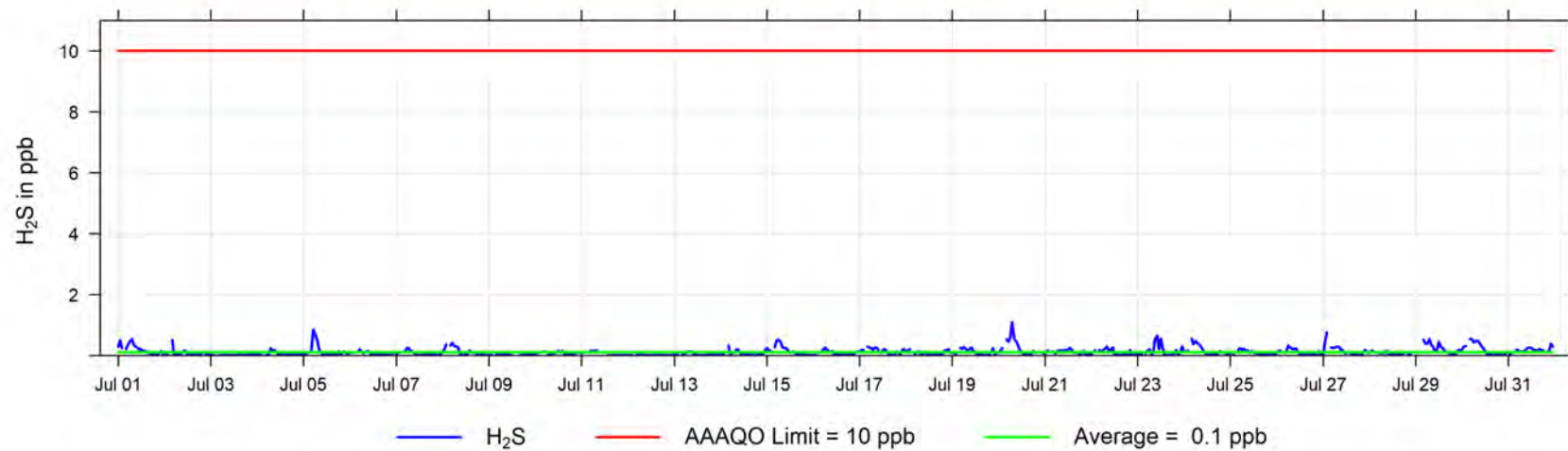
July 2025 Concentration Readings at Henry Pirker Station



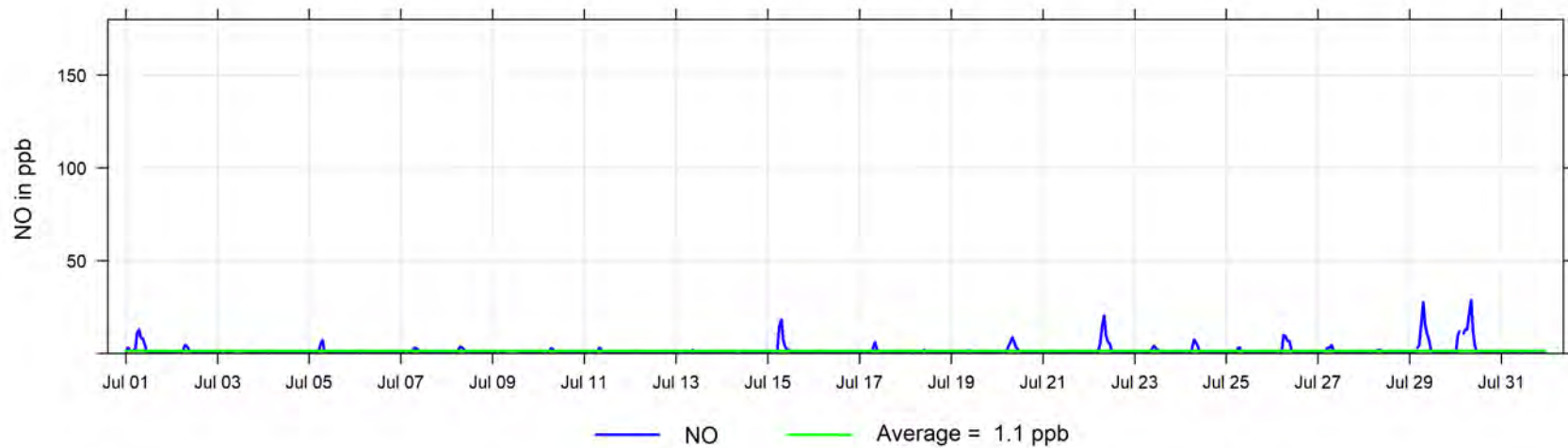
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Henry Pirker



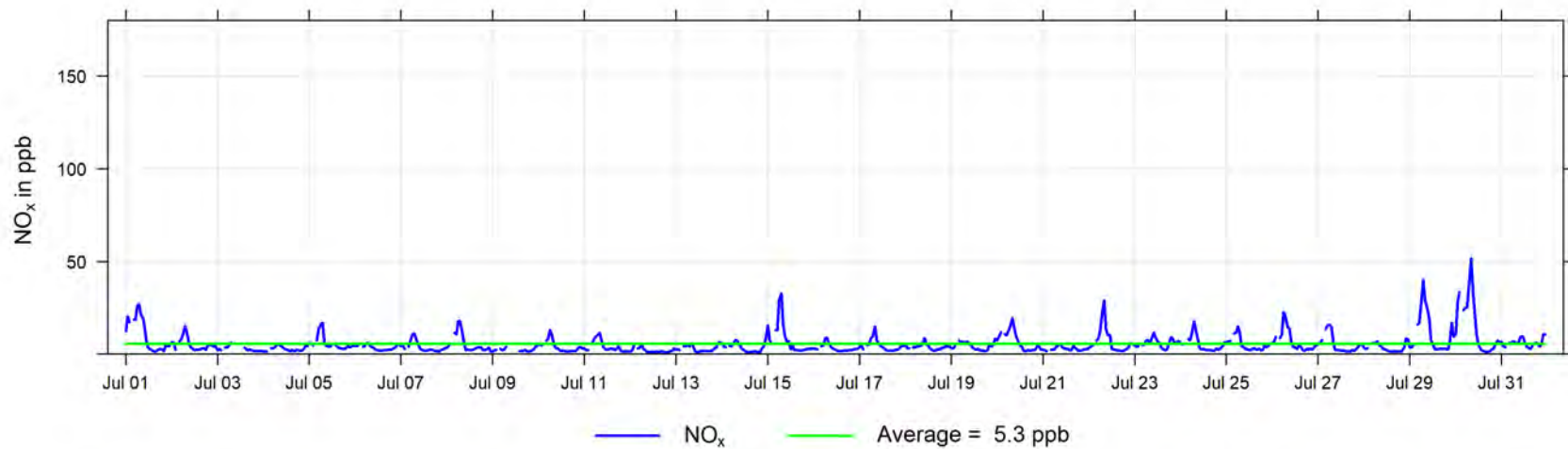
July 2025 Hourly Concentration Readings of H₂S (in ppb) at Henry Pirker



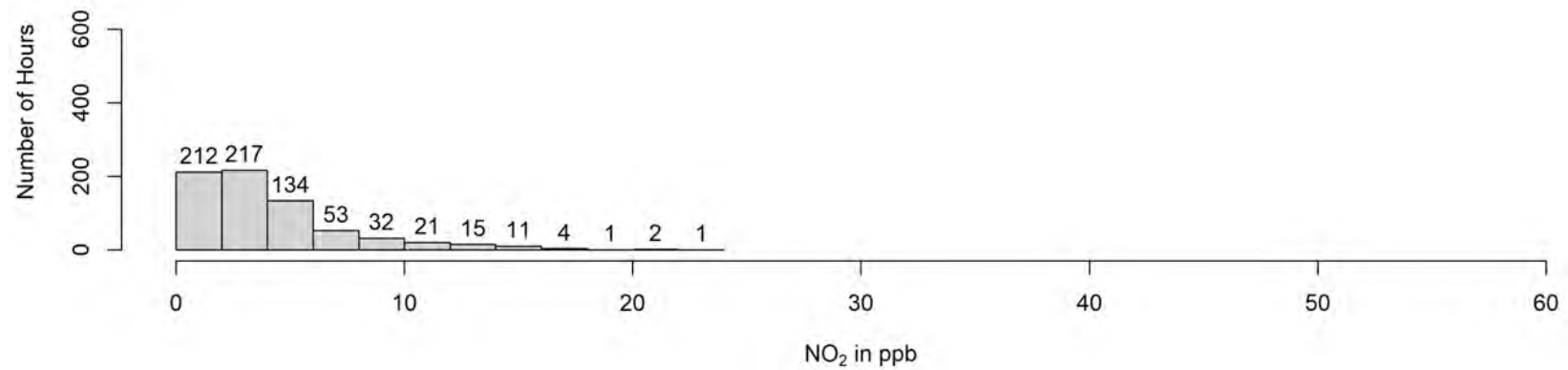
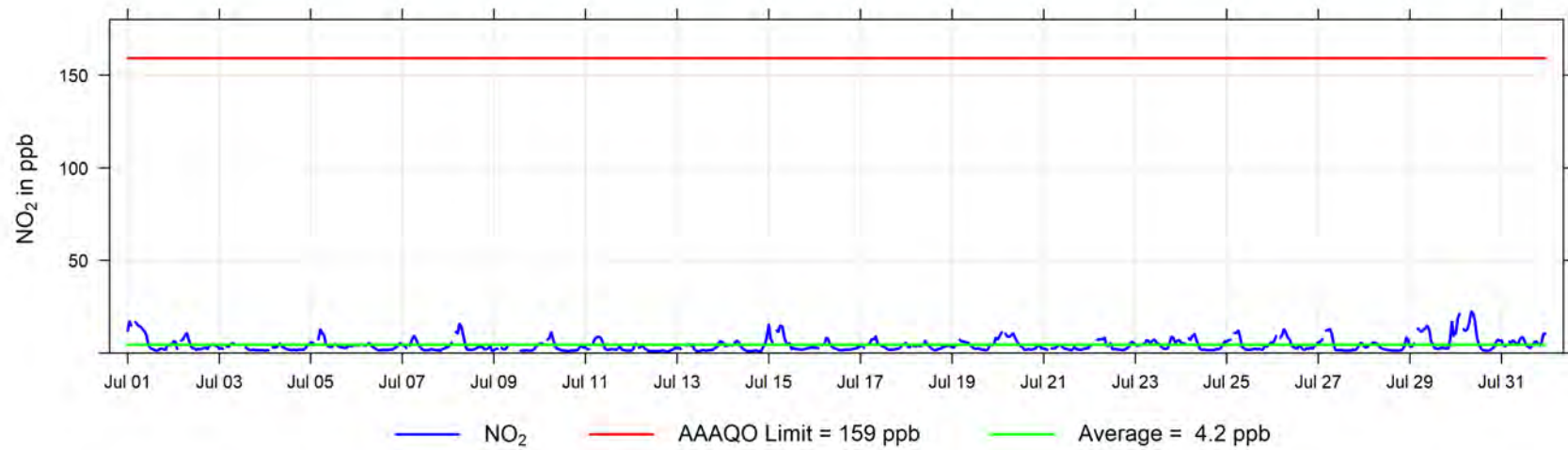
July 2025 Hourly Concentration Readings of NO (in ppb) at Henry Pirker



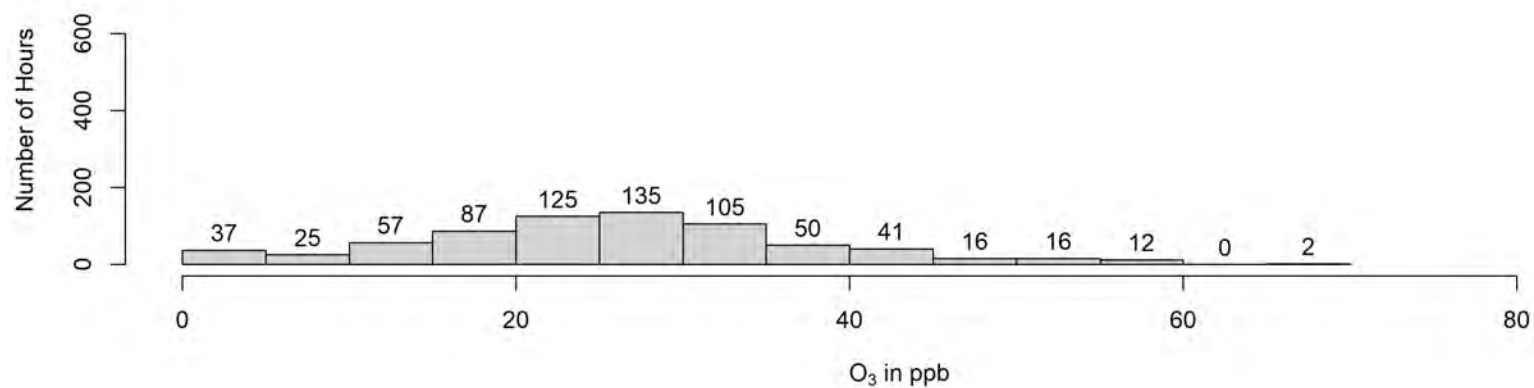
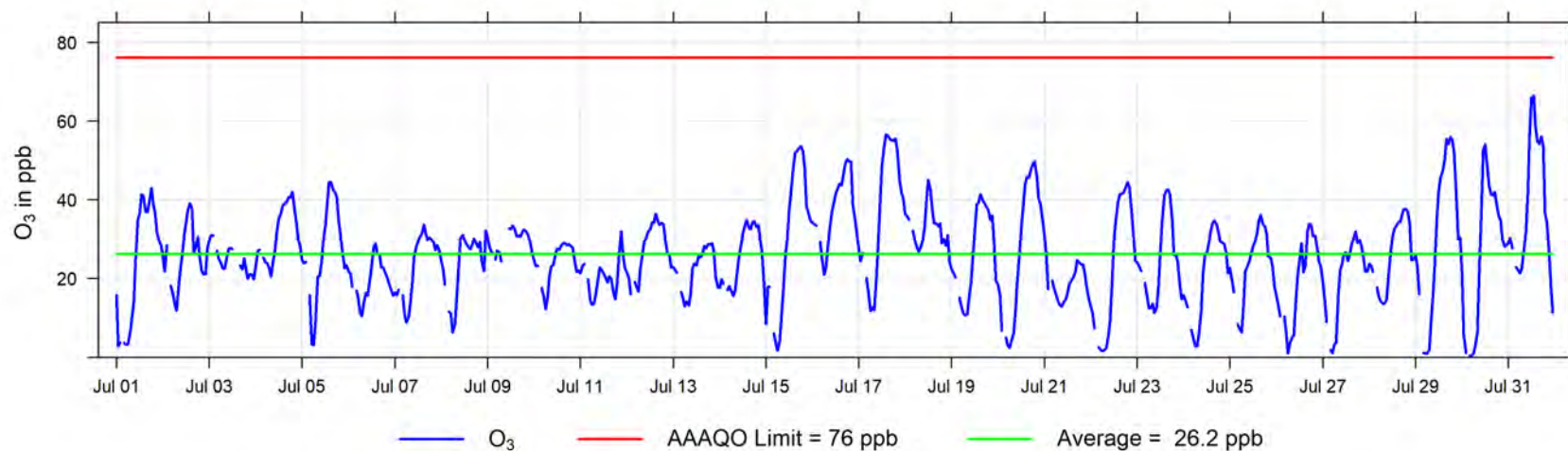
July 2025 Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



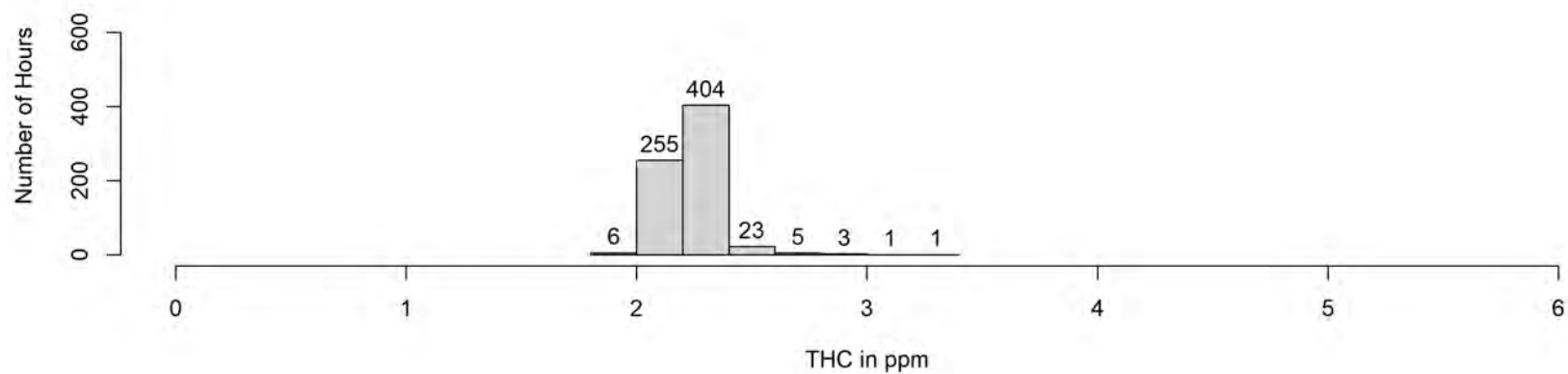
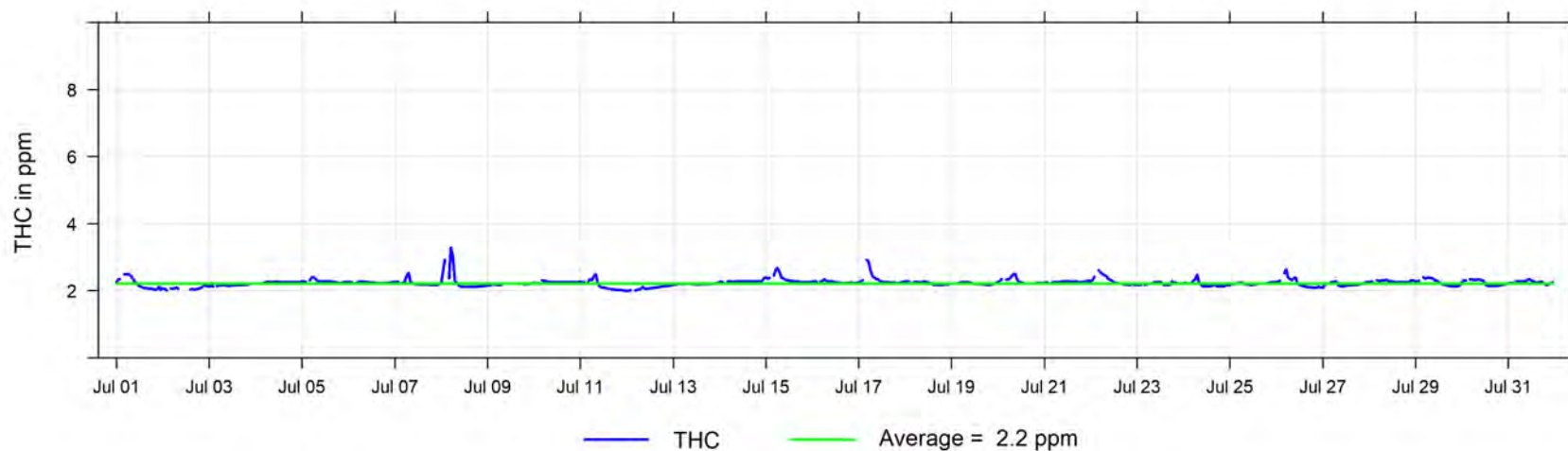
July 2025 Hourly Concentration Readings of NO₂ (in ppb) at Henry Pirker



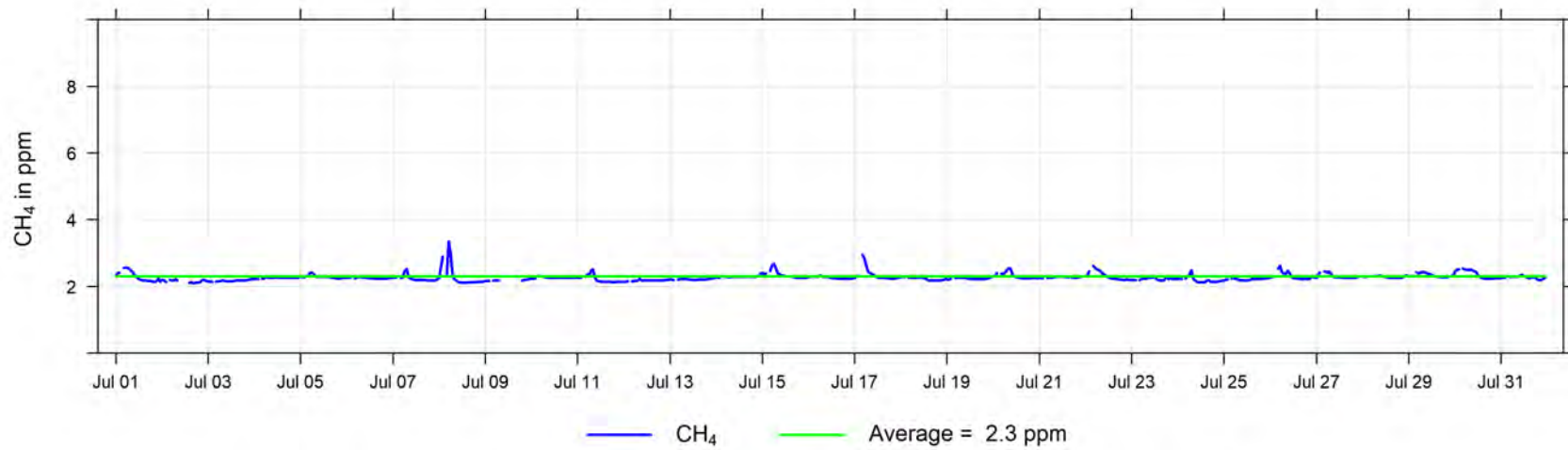
July 2025 Hourly Concentration Readings of O₃ (in ppb) at Henry Pirker



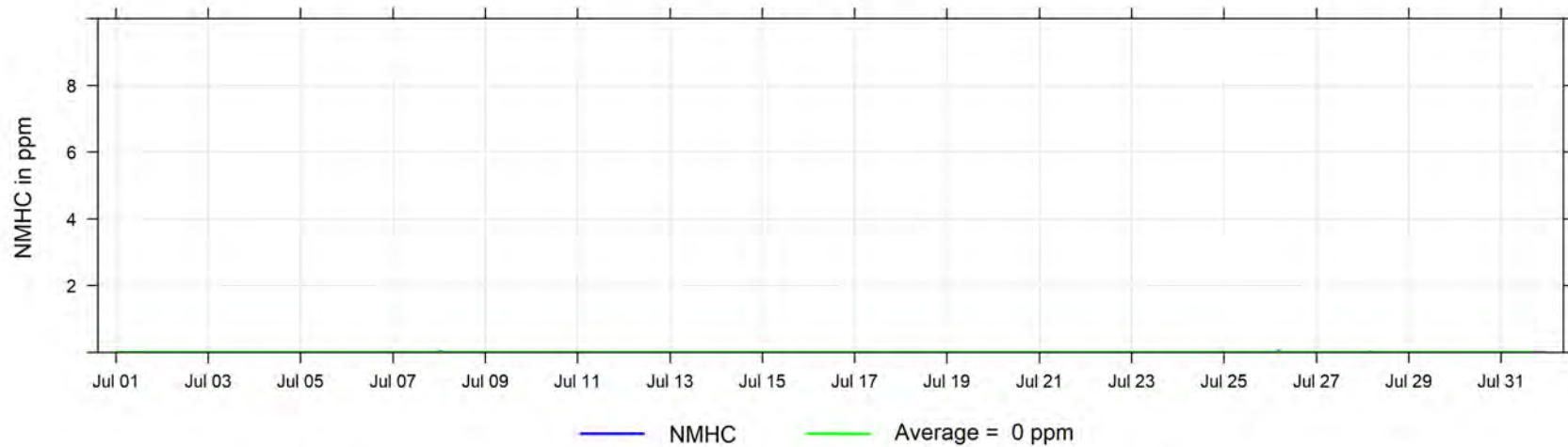
July 2025 Hourly Concentration Readings of THC (in ppm) at Henry Pirker



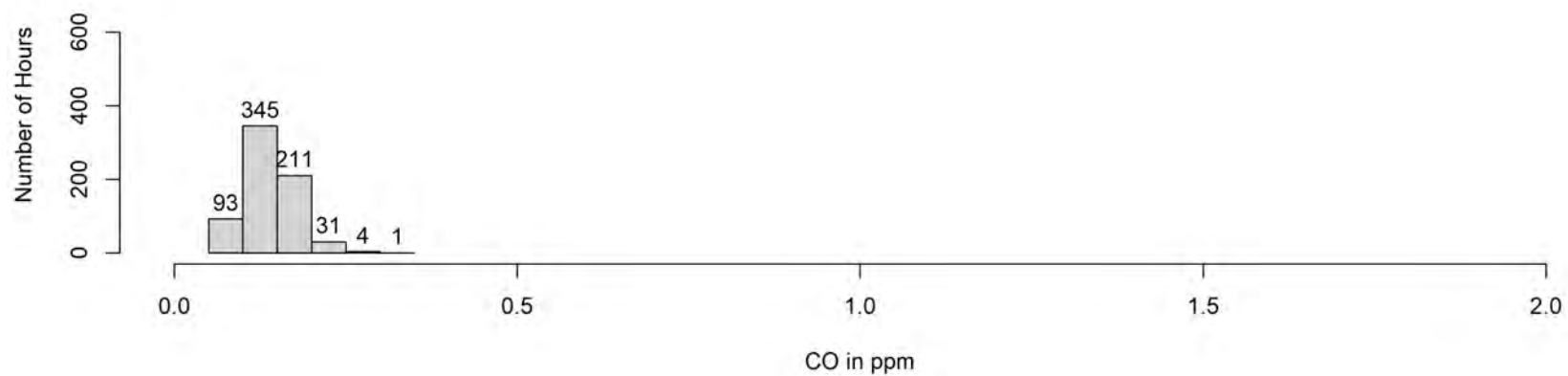
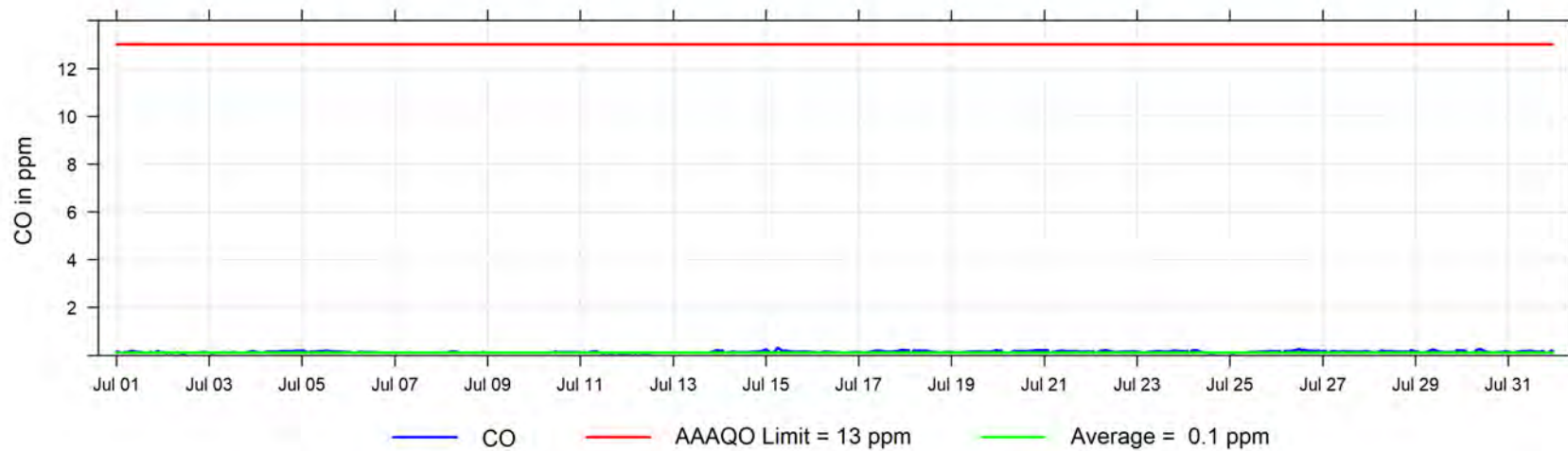
July 2025 Hourly Concentration Readings of CH₄ (in ppm) at Henry Pirker



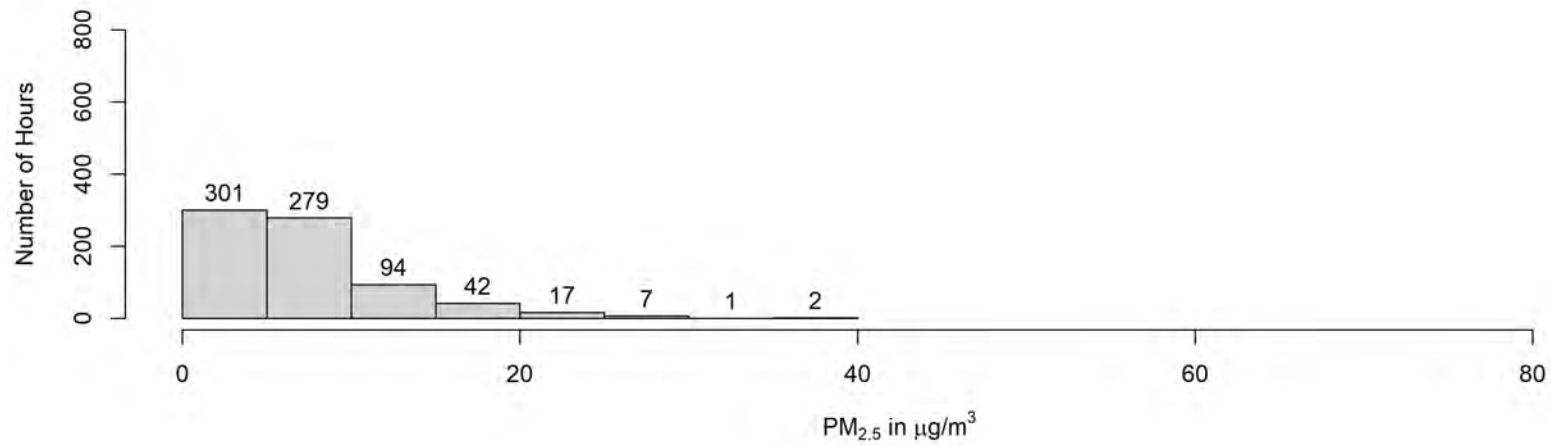
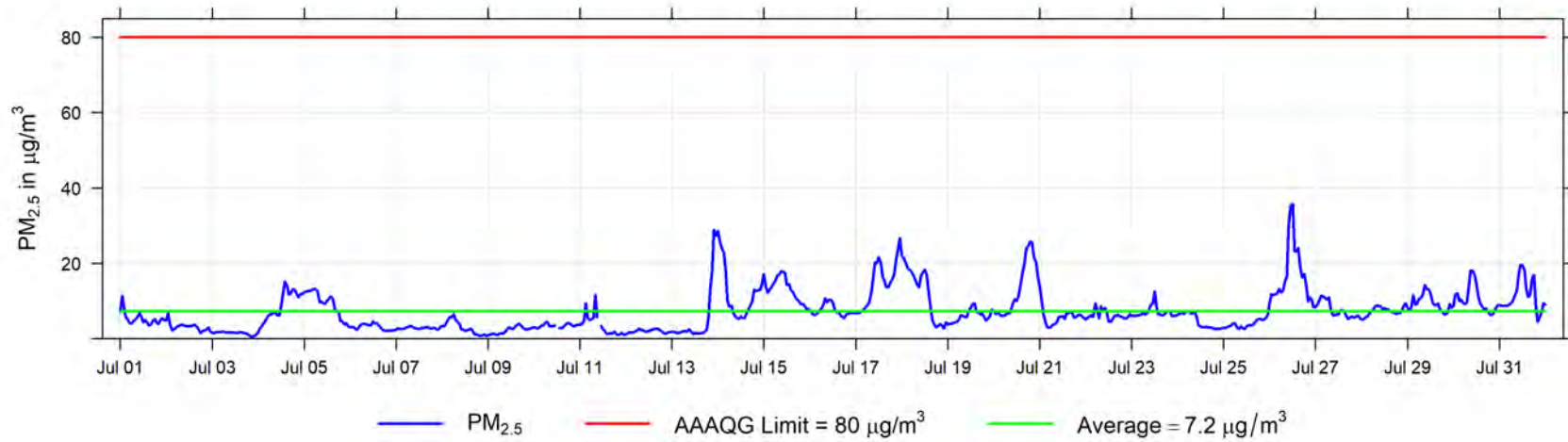
July 2025 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



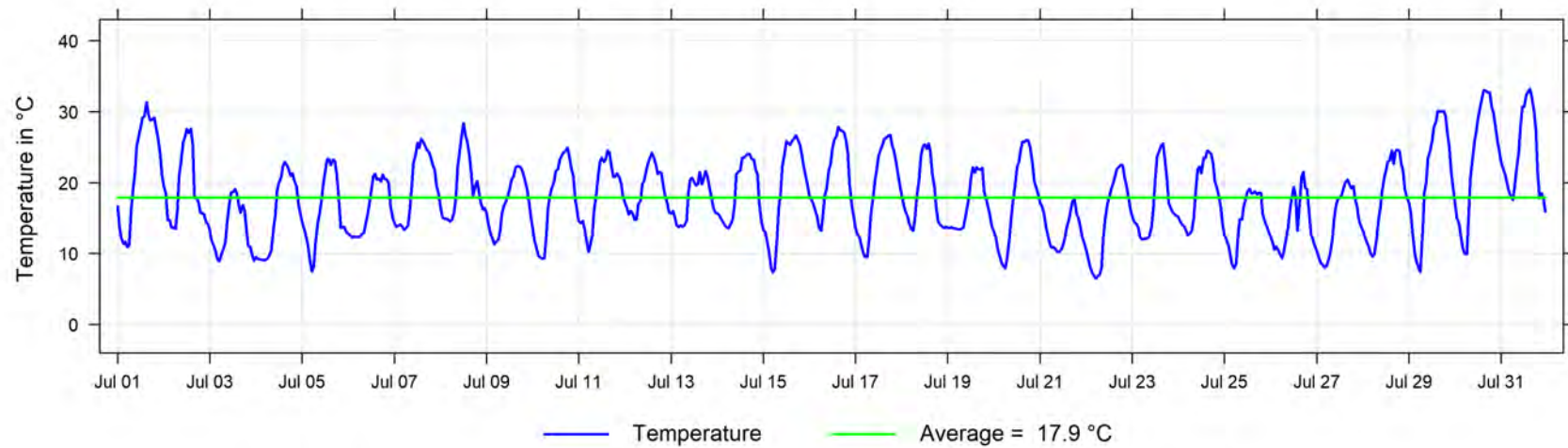
July 2025 Hourly Concentration Readings of CO (in ppm) at Henry Pirker



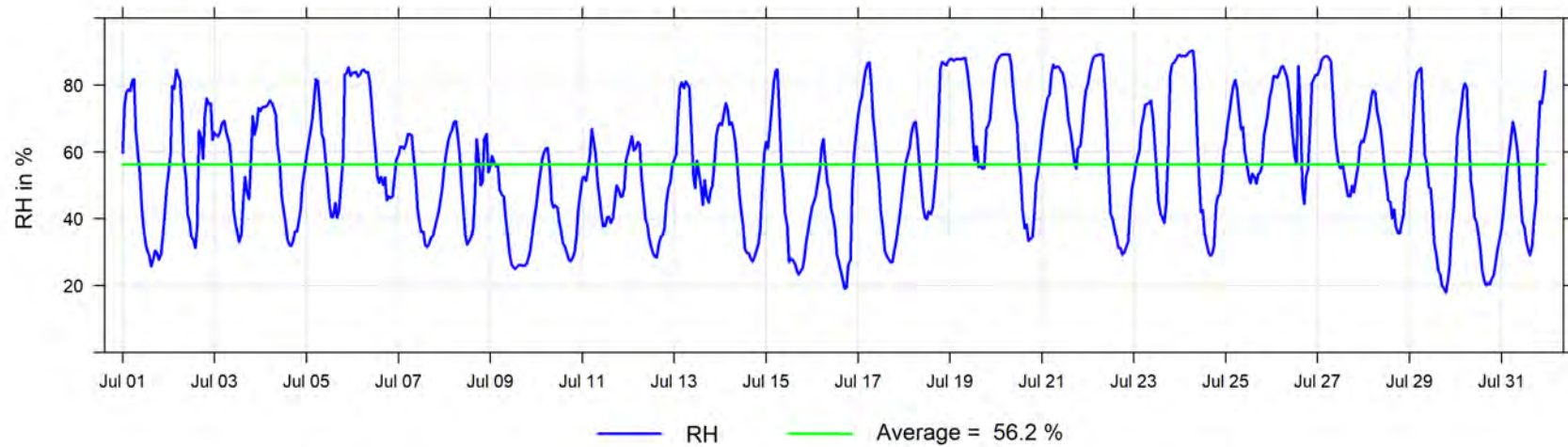
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Henry Pirker



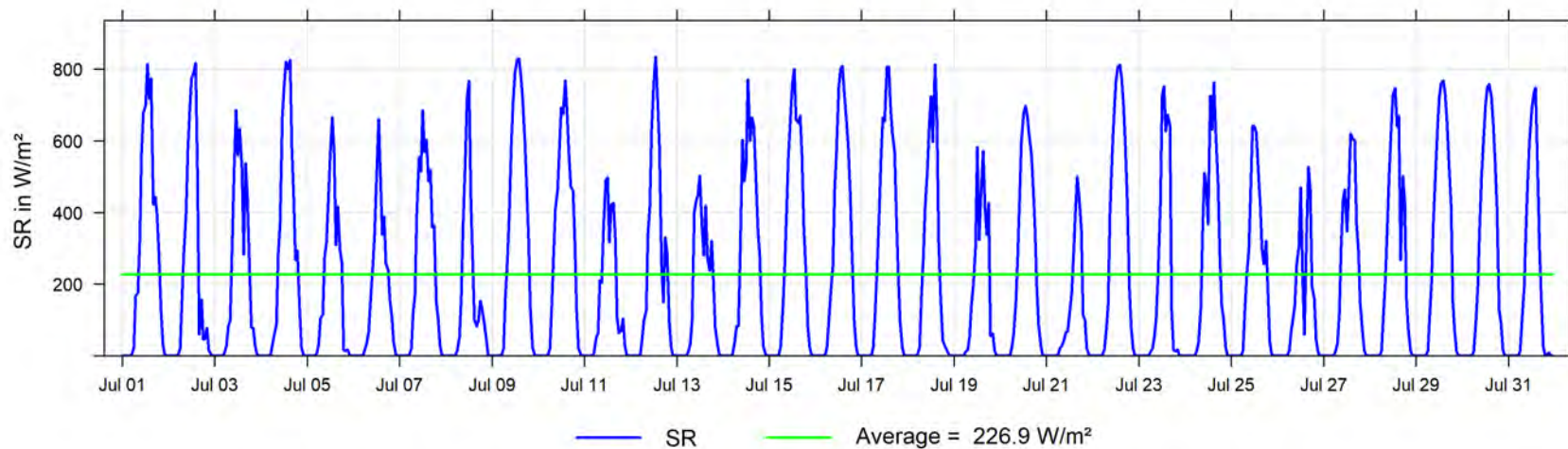
July 2025 Hourly Temperature Readings (in °C) at Henry Pirker



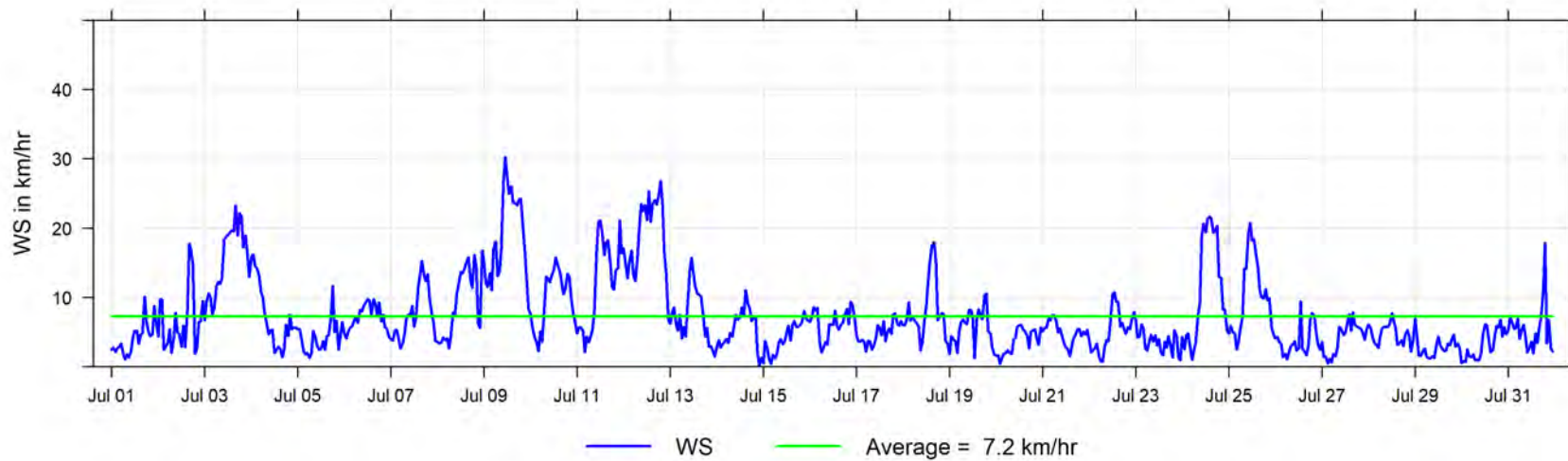
July 2025 Hourly Readings of Relative Humidity (in %) at Henry Pirker



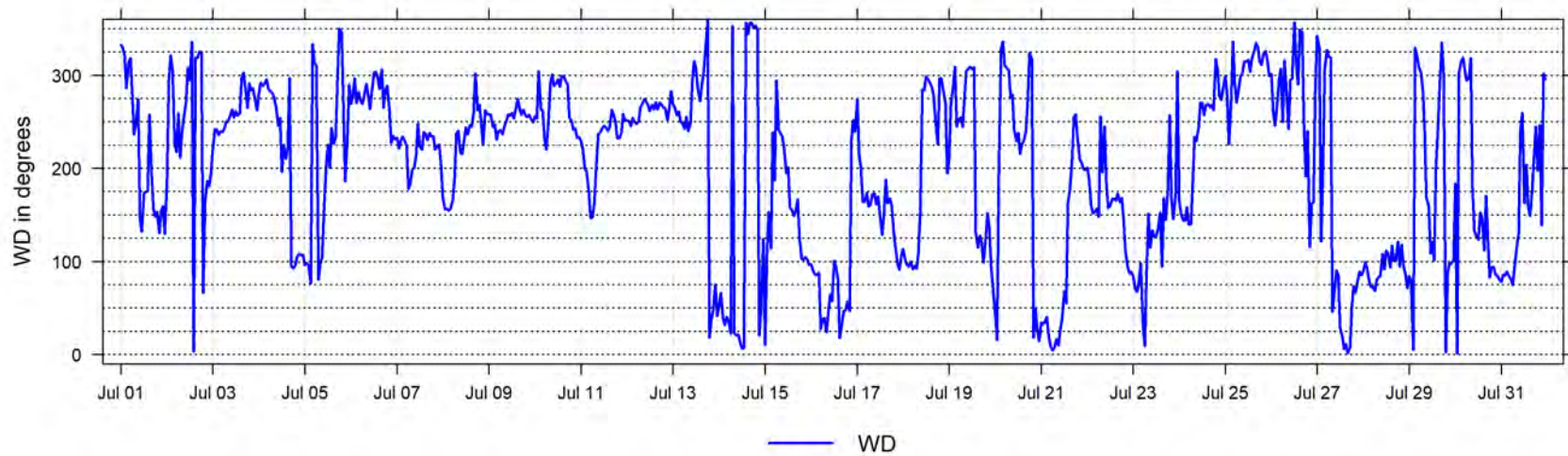
July 2025 Hourly Readings of Solar Radiation (in W/m²) at Henry Pirker



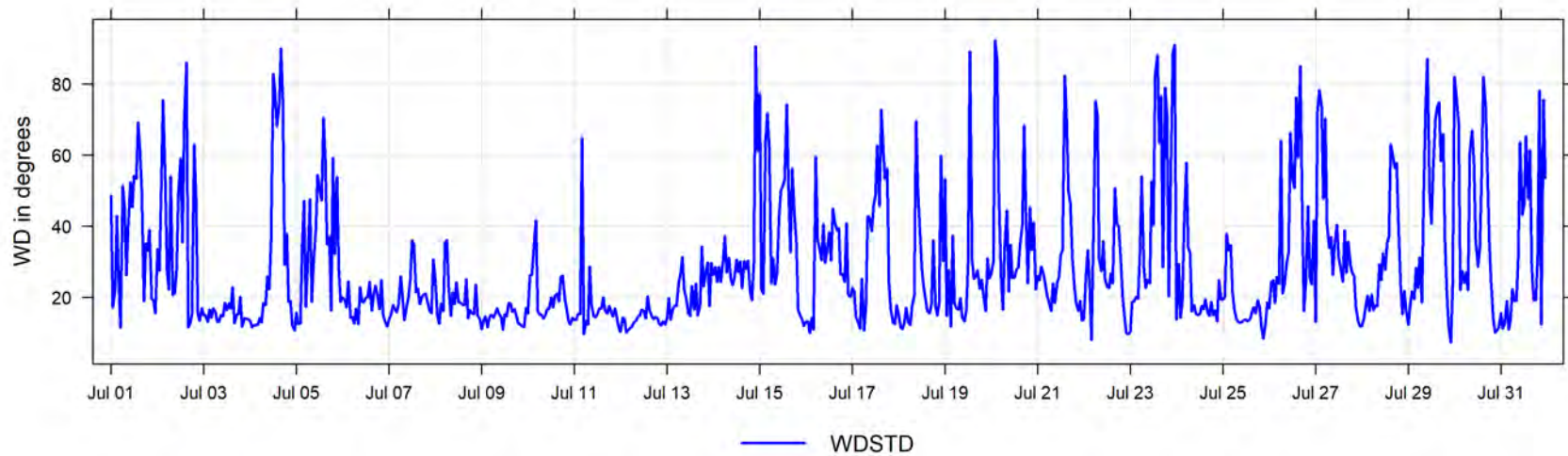
July 2025 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker



July 2025 Hourly Readings of Wind Direction (in degrees) at Henry Pirker

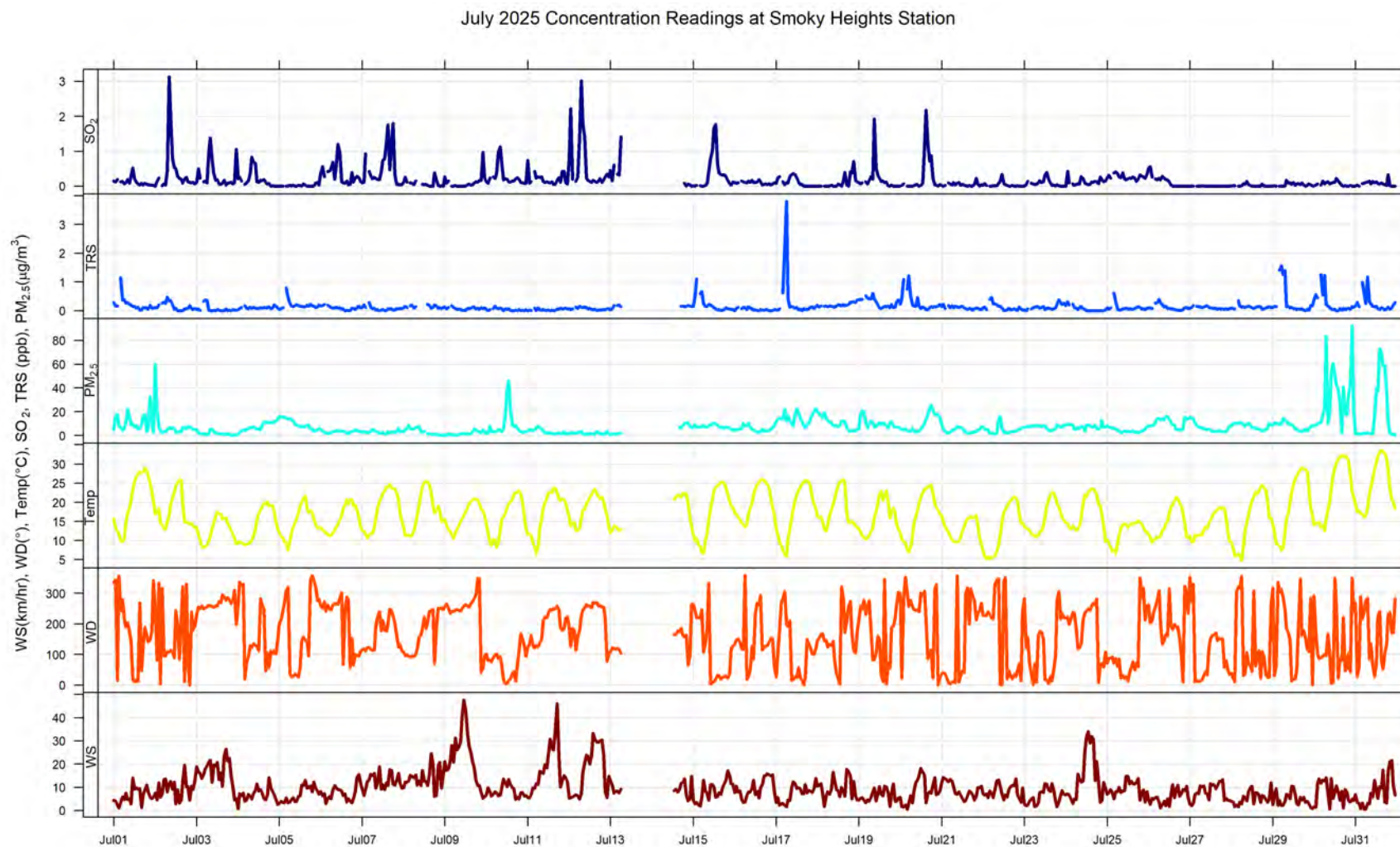


July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Henry Pirker

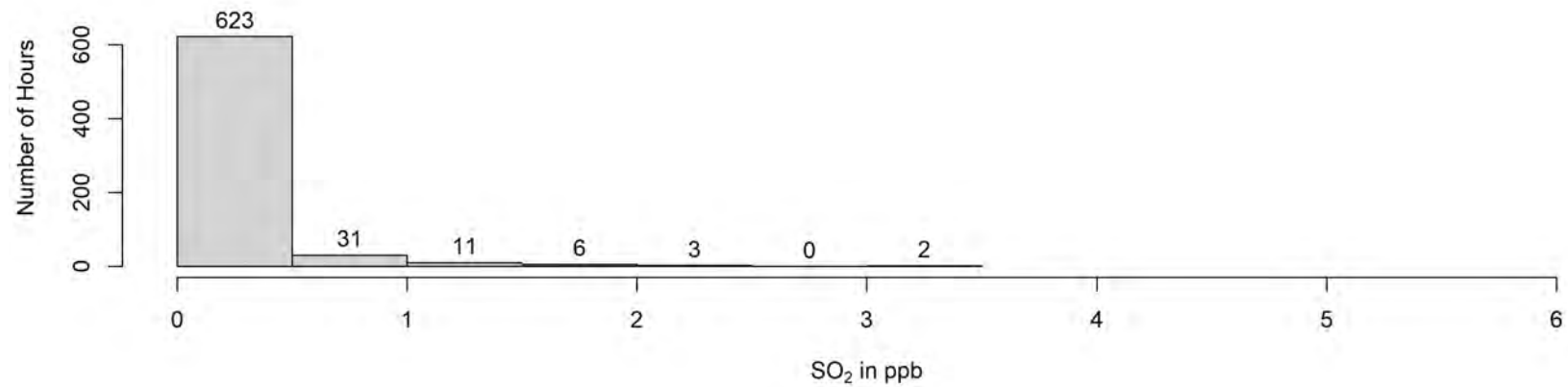


5 Smoky Heights Charts

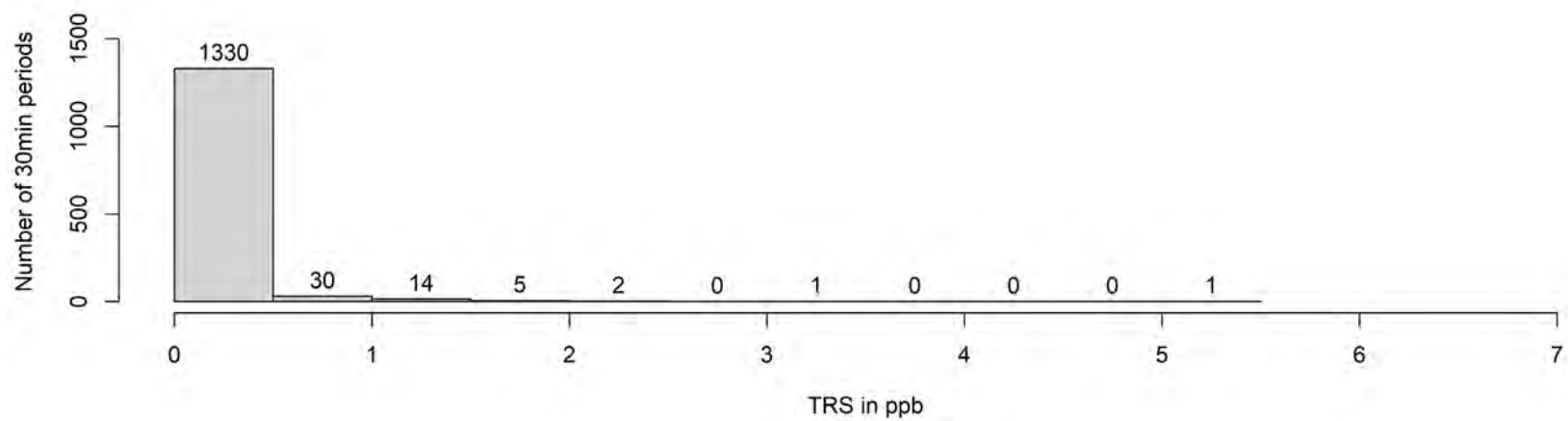
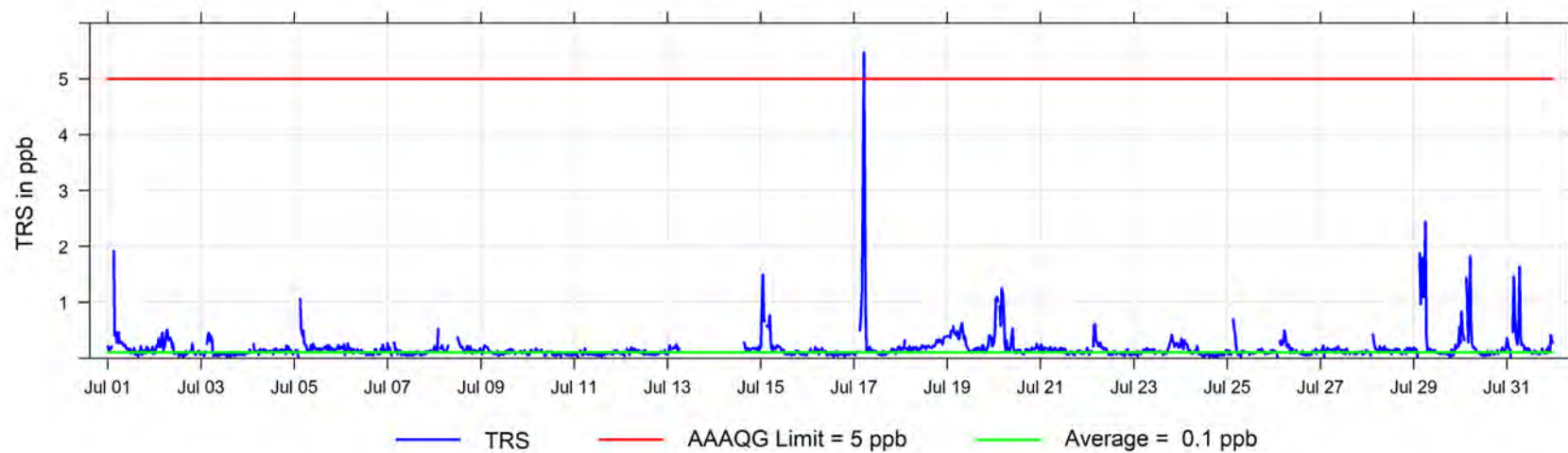
The following pages include the charts and histograms for Smoky Heights Station



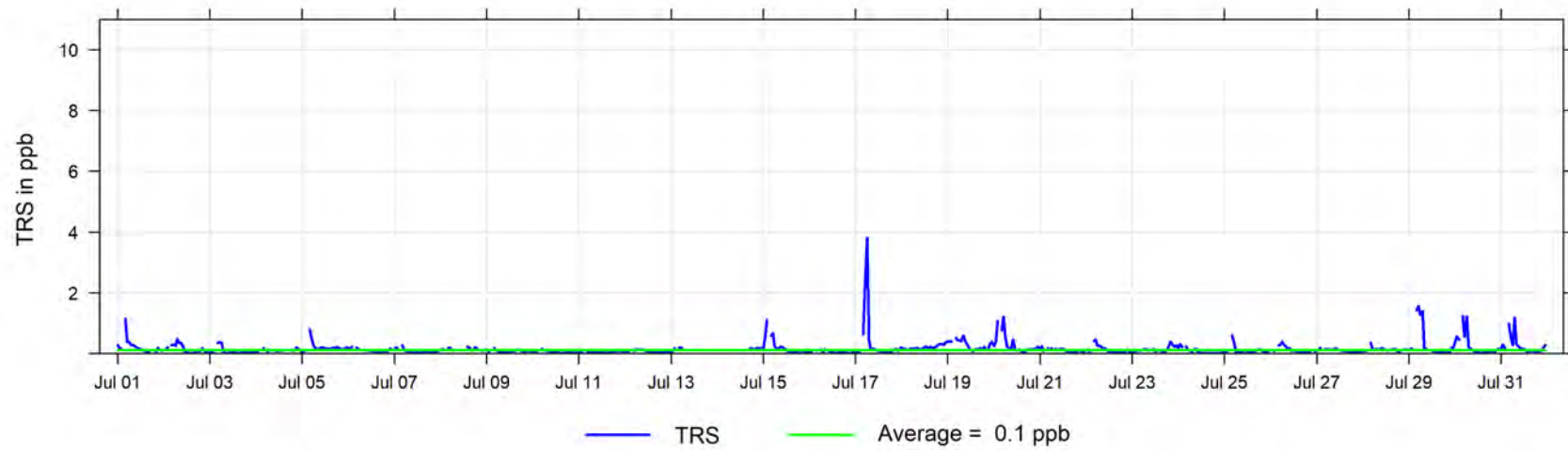
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights



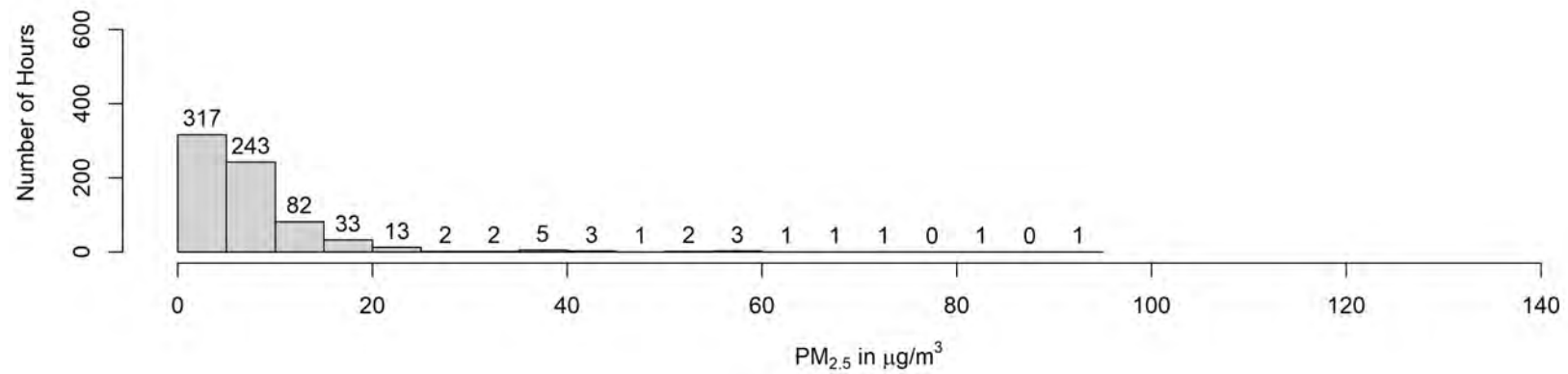
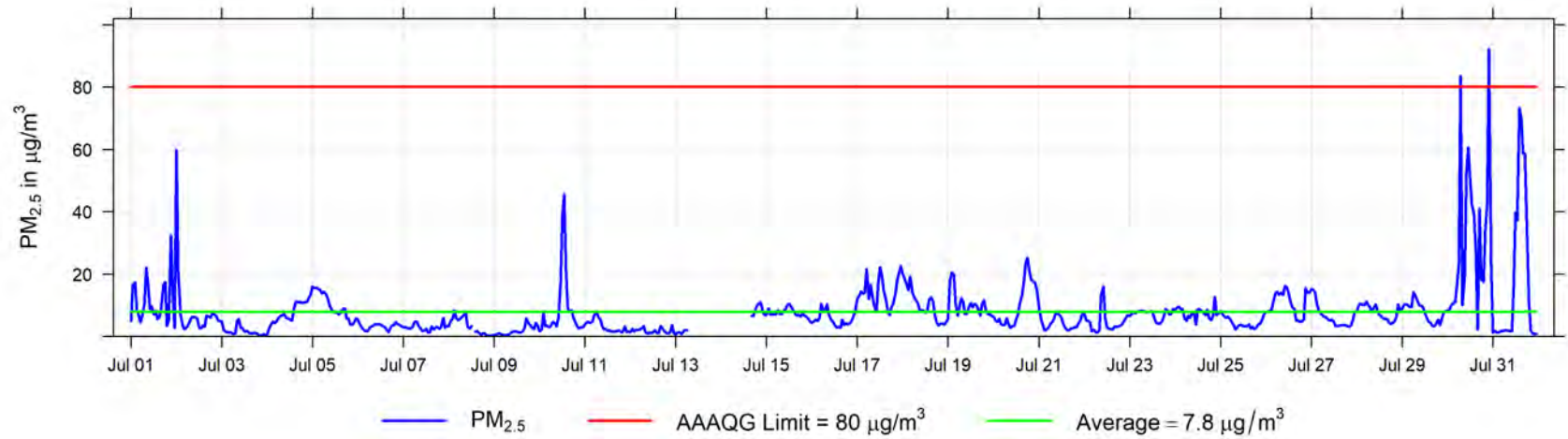
July 2025 30 min Concentration Readings of TRS (in ppb) at Smoky Heights



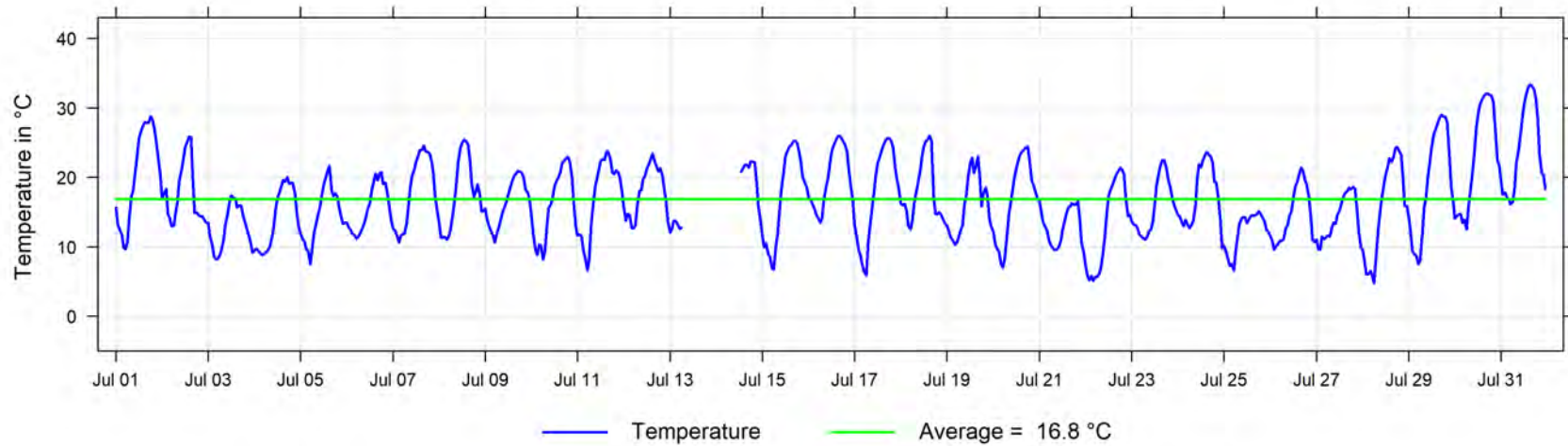
July 2025 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights



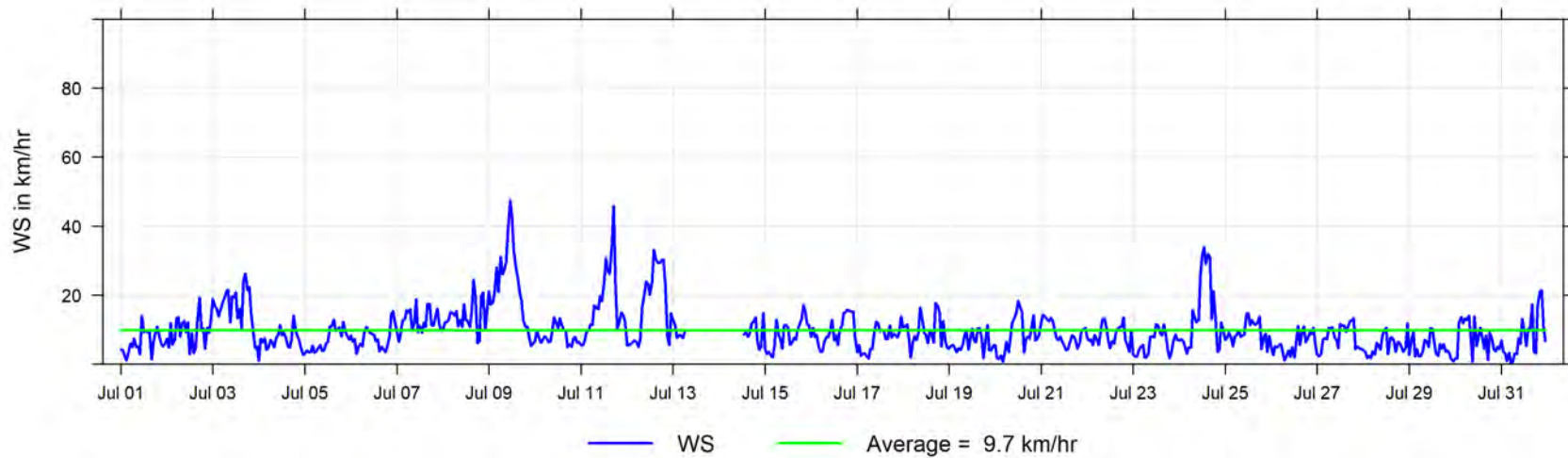
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



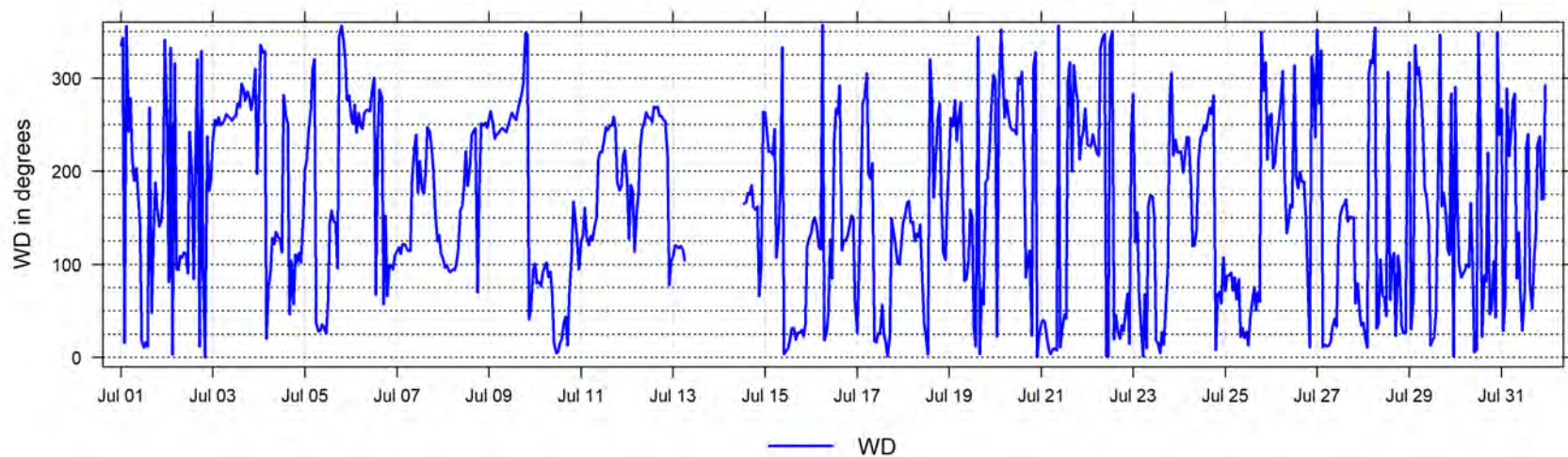
July 2025 Hourly Temperature Readings (in °C) at Smoky Heights



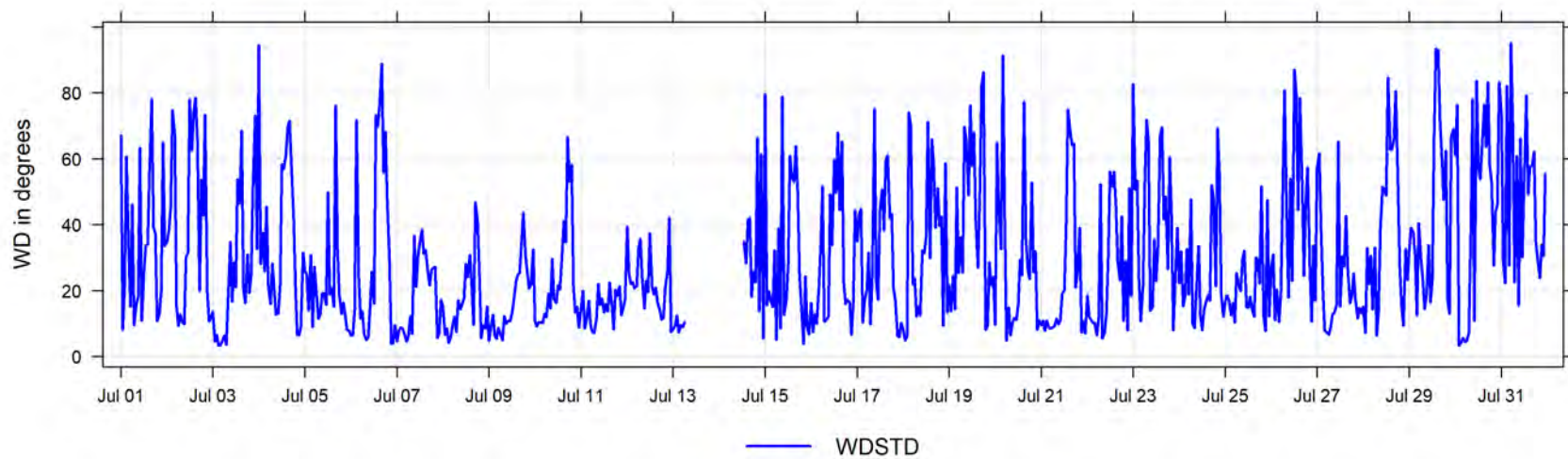
July 2025 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights

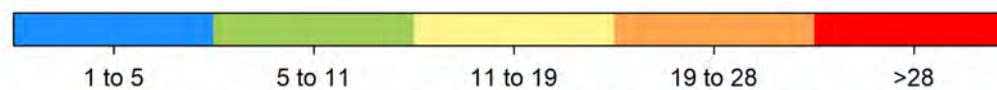
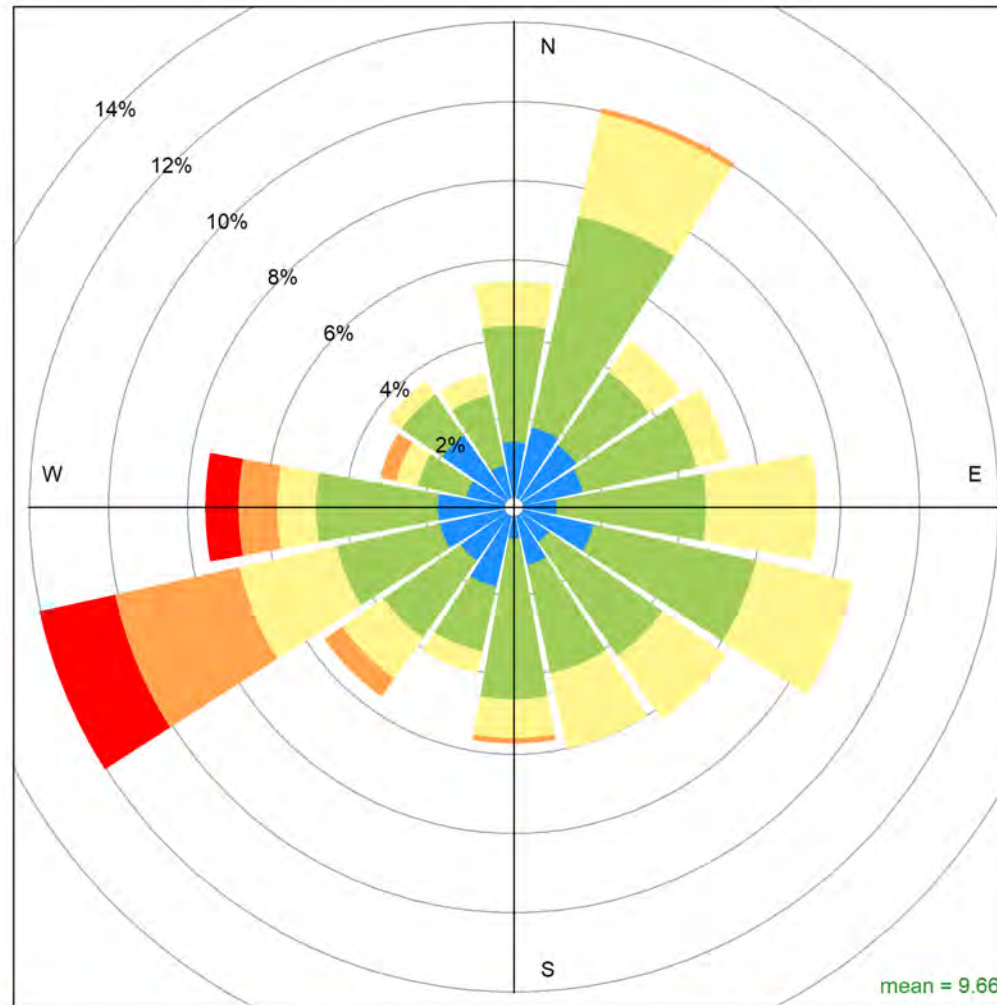


July 2025 Hourly Readings of Wind Direction (in degrees) at Smoky Heights



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Smoky Heights



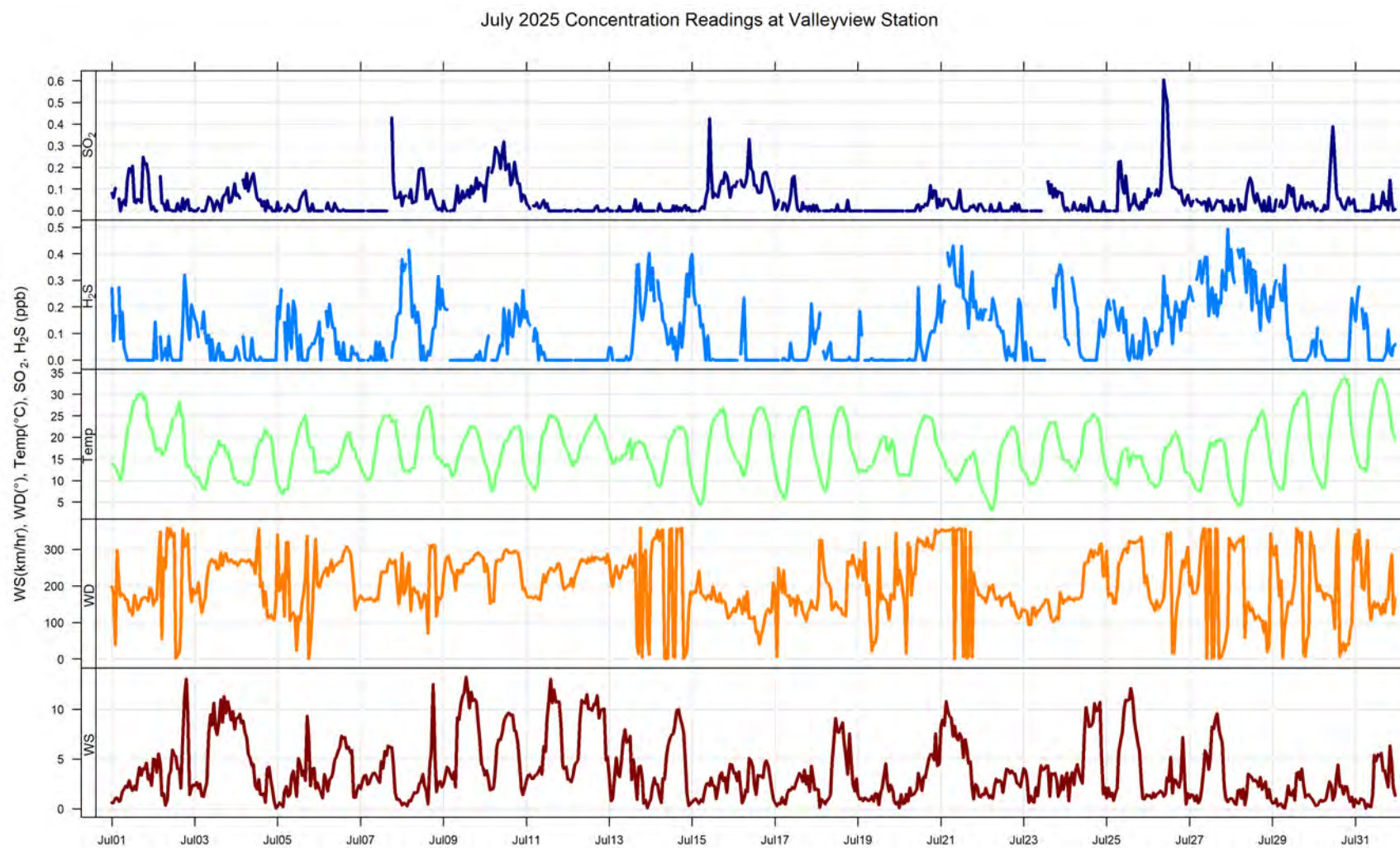


Smoky Heights July 2025 Wind Rose, wind speed in km/hr

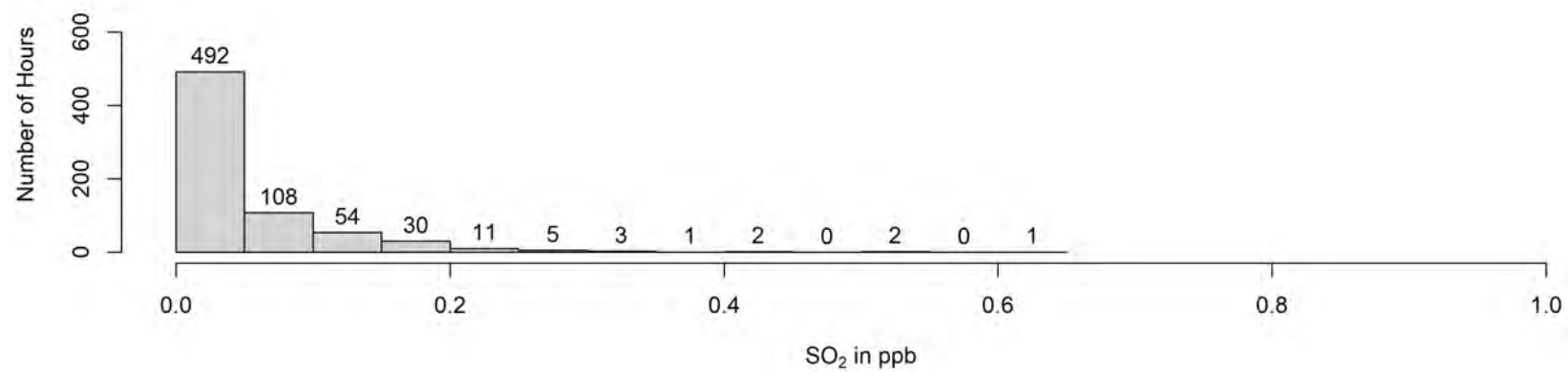
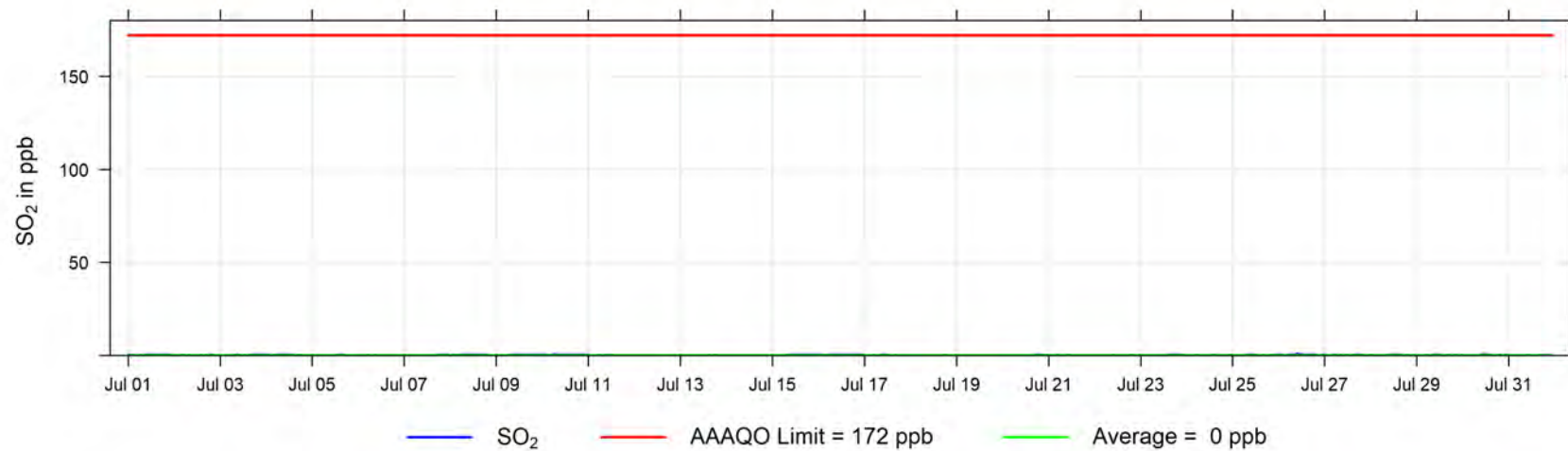
Calms (<1km/hr) = 1 %

6 Valleyview Charts

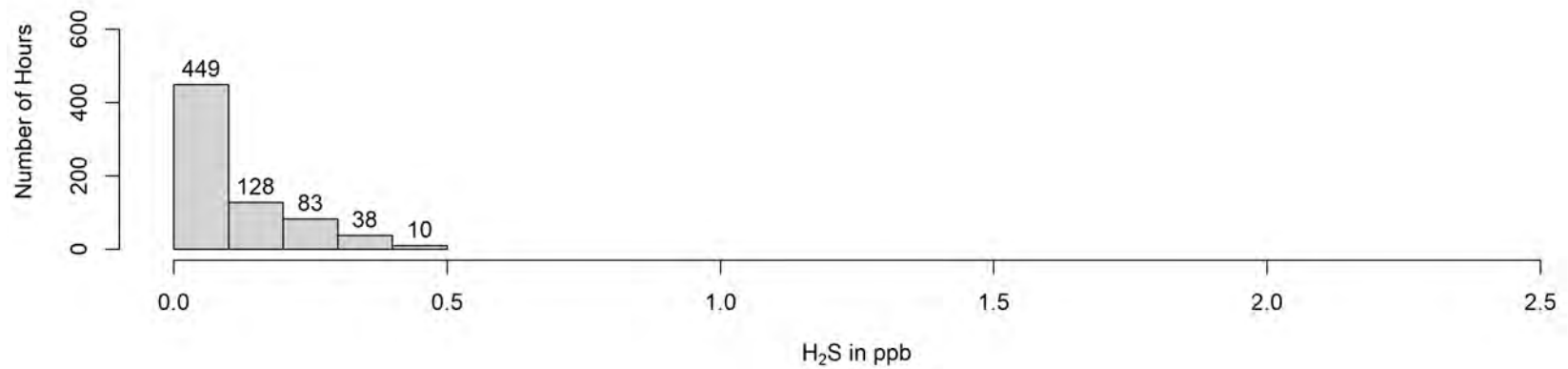
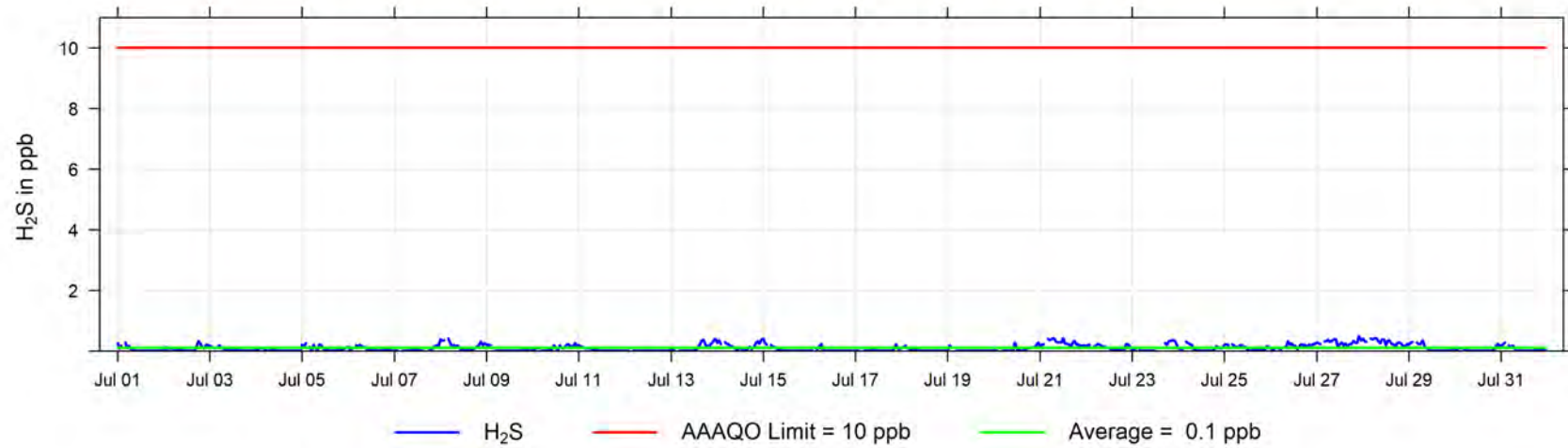
The following pages include the charts and histograms for Valleyview Station



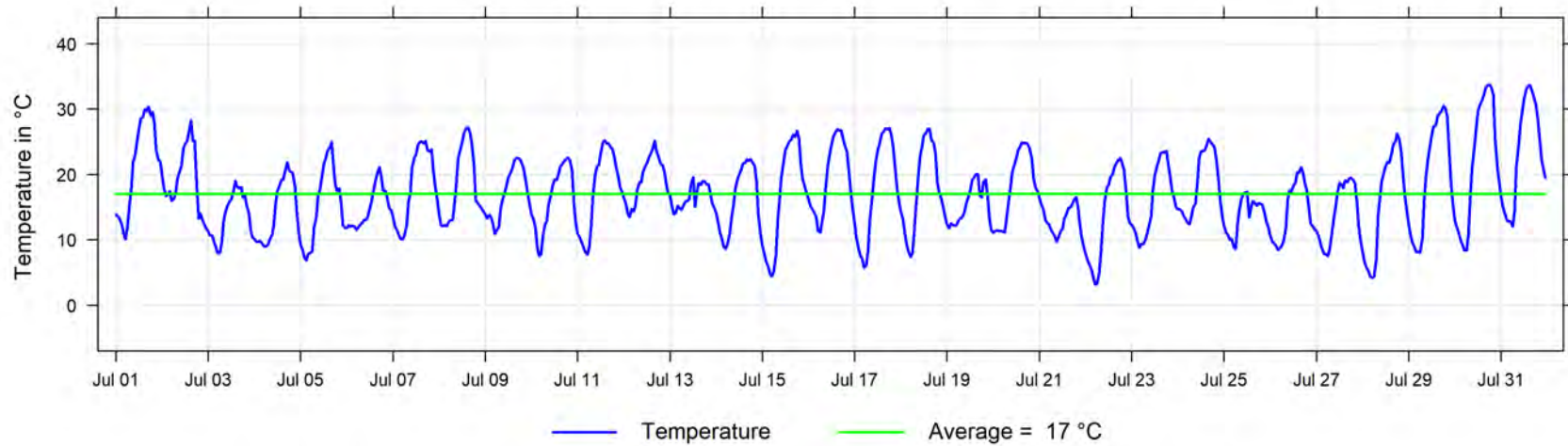
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview



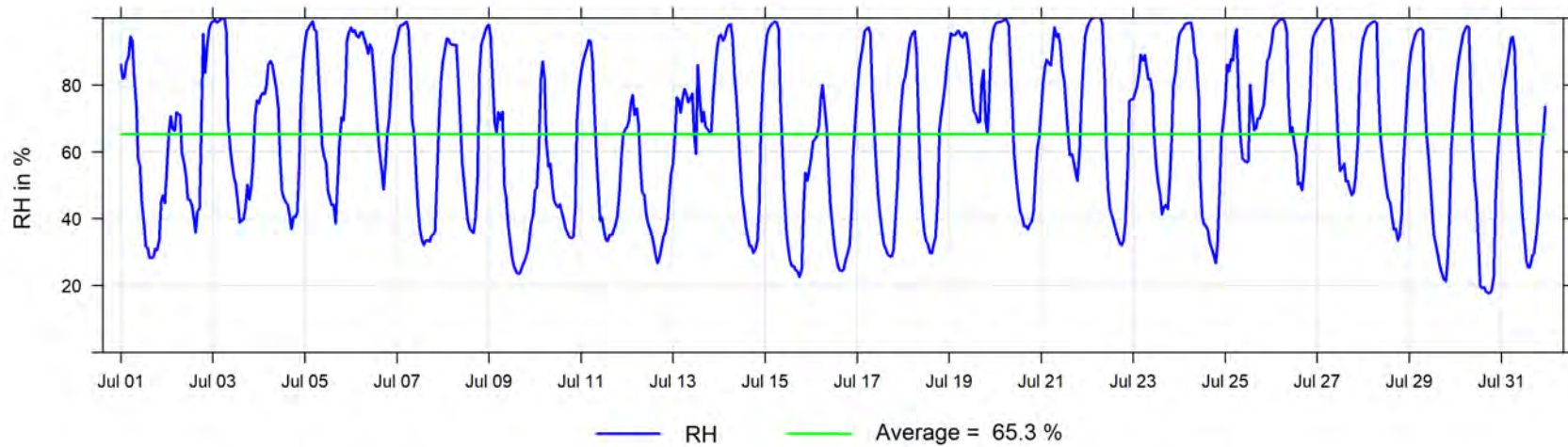
July 2025 Hourly Concentration Readings of H₂S (in ppb) at Valleyview



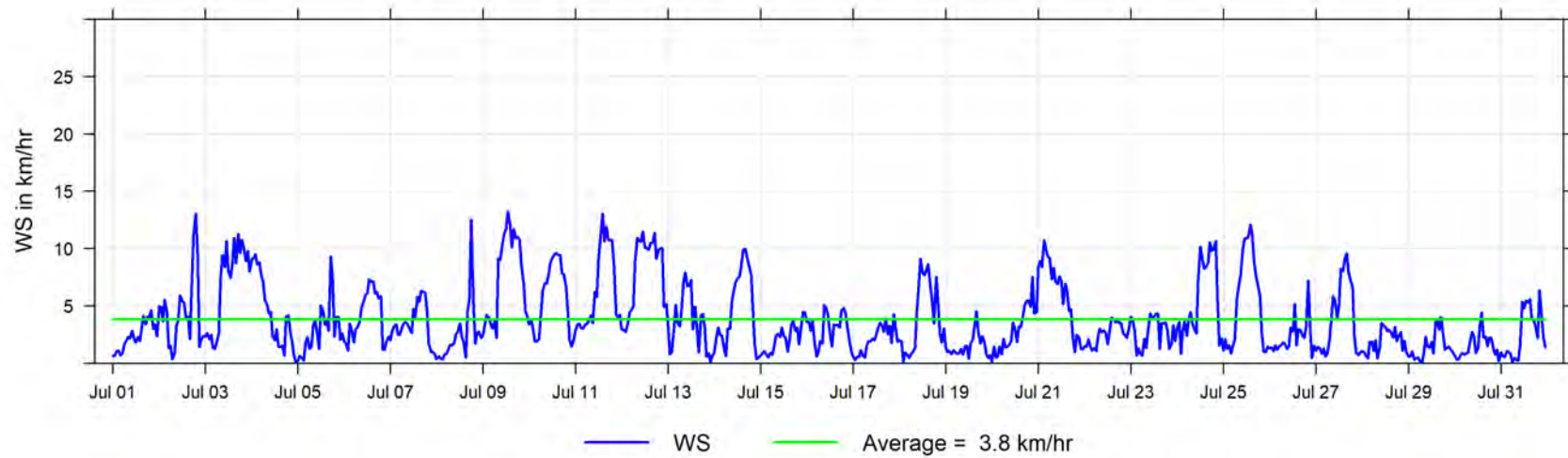
July 2025 Hourly Temperature Readings (in °C) at Valleyview



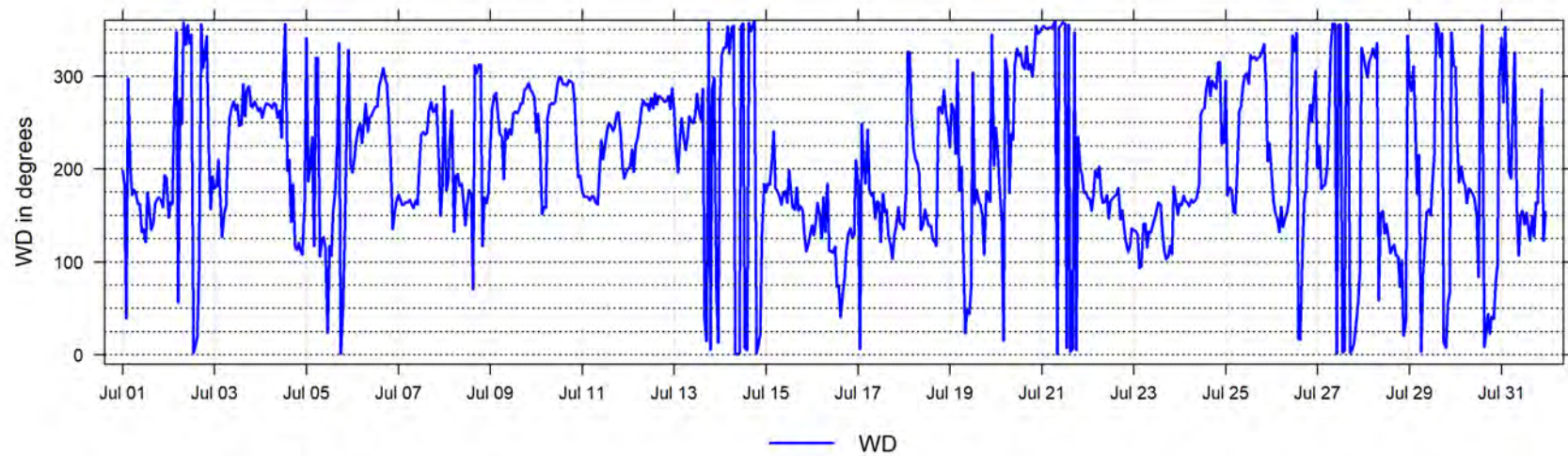
July 2025 Hourly Readings of Relative Humidity (in %) at Valleyview



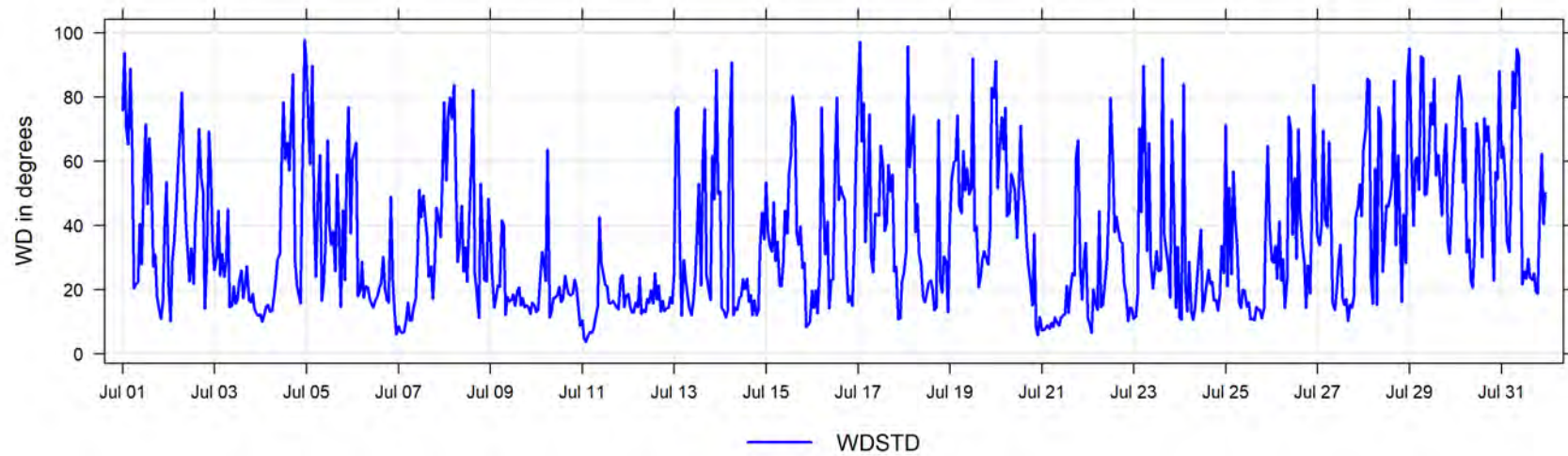
July 2025 Hourly Readings of Wind Speed (in km/hr) at Valleyview

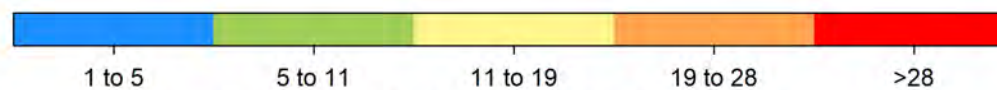
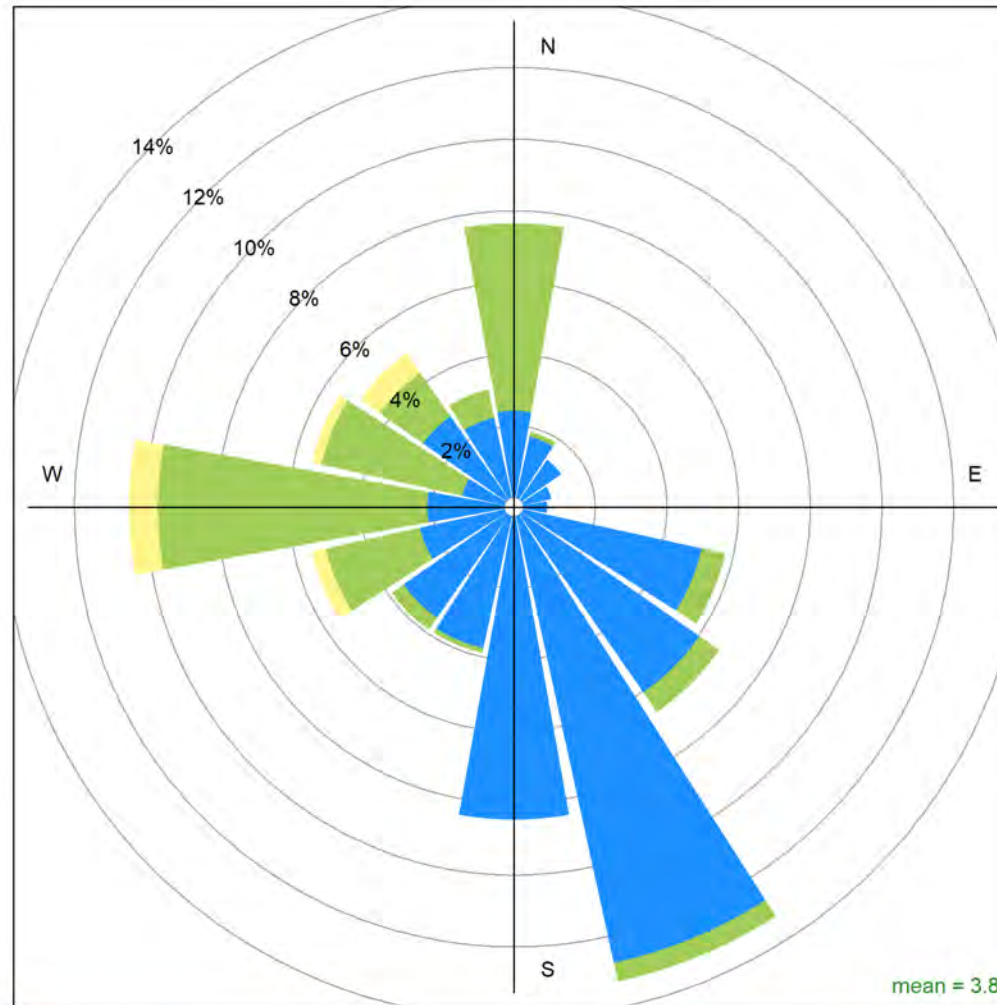


July 2025 Hourly Readings of Wind Direction (in degrees) at Valleyview



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Valleyview





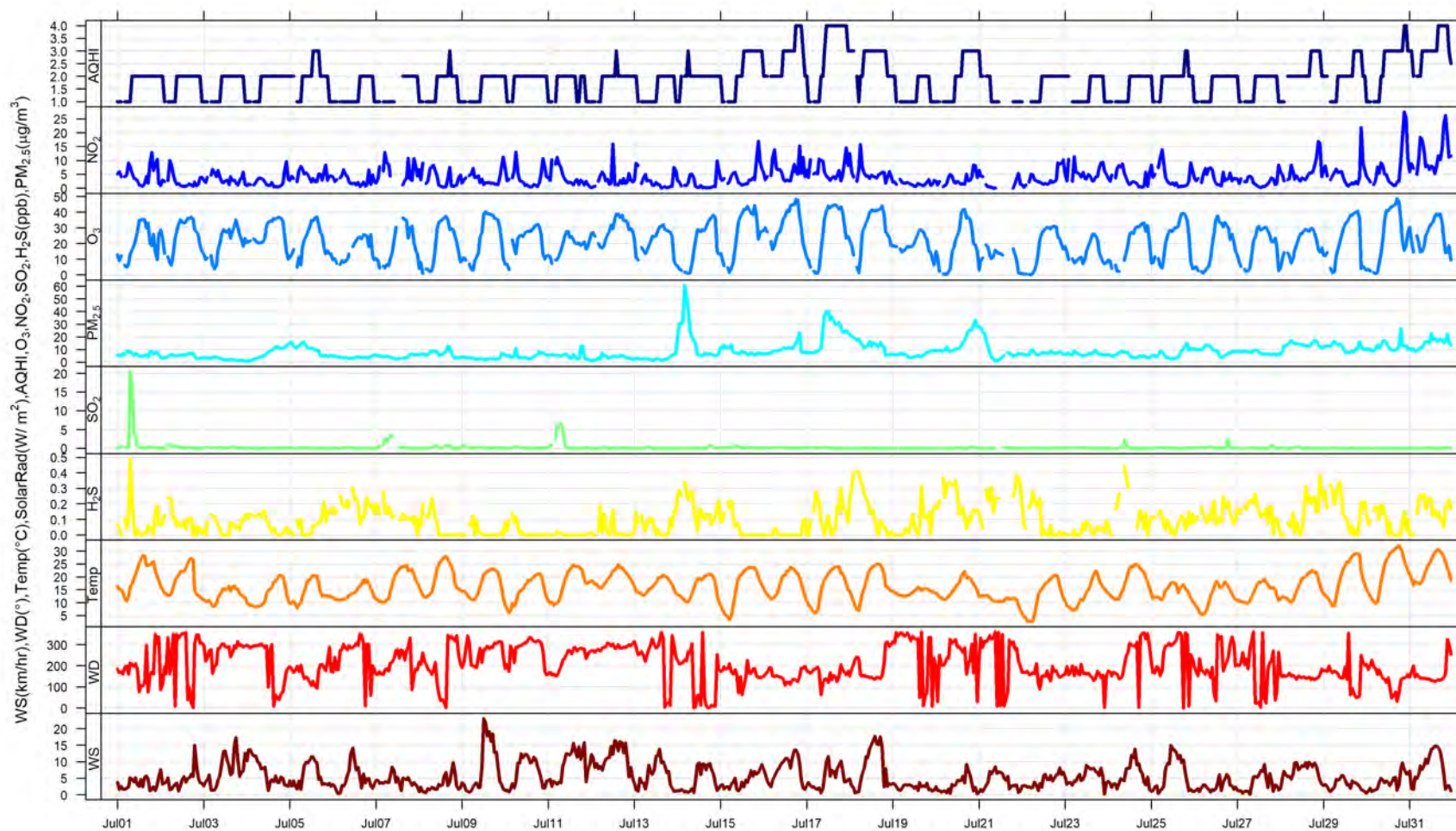
Valleyview July 2025 Wind Rose, wind speed in km/hr

Calms (<1km/hr) = 16.1 %

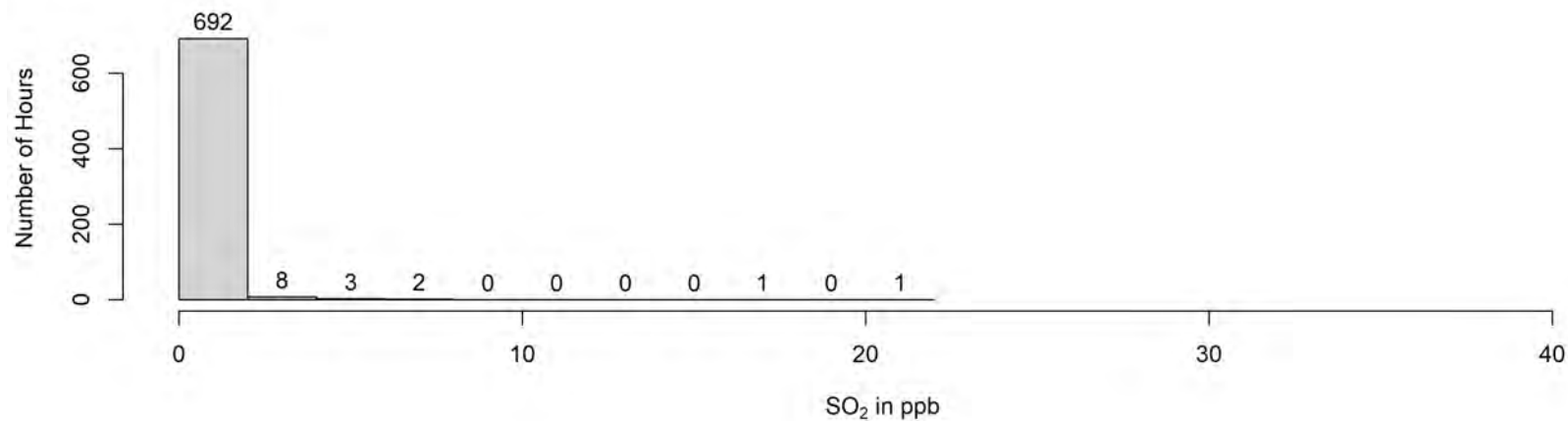
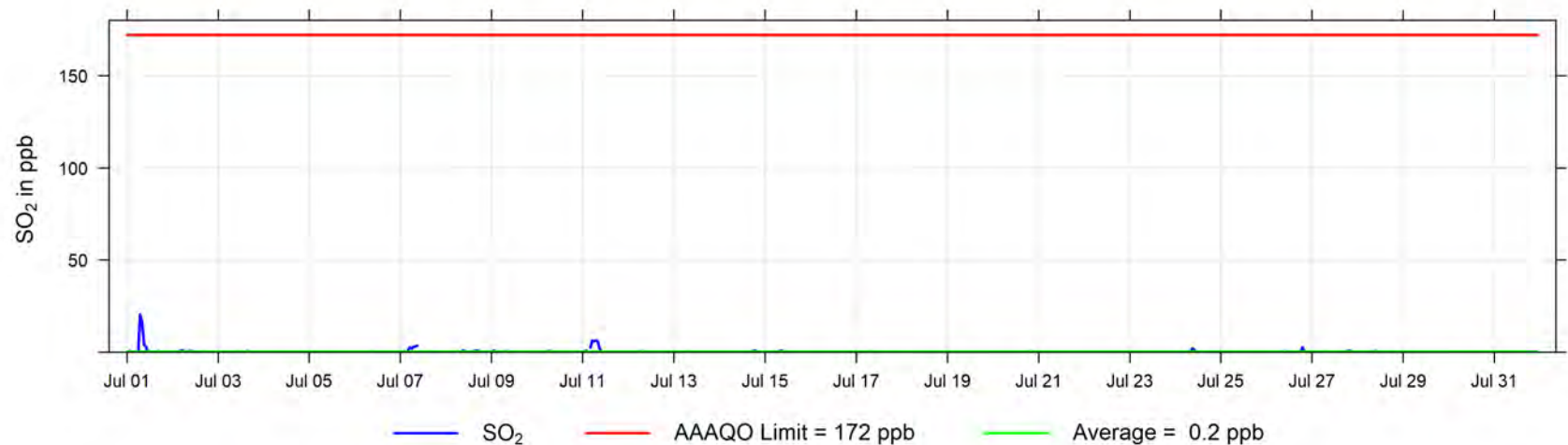
7 Fox Creek Charts

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

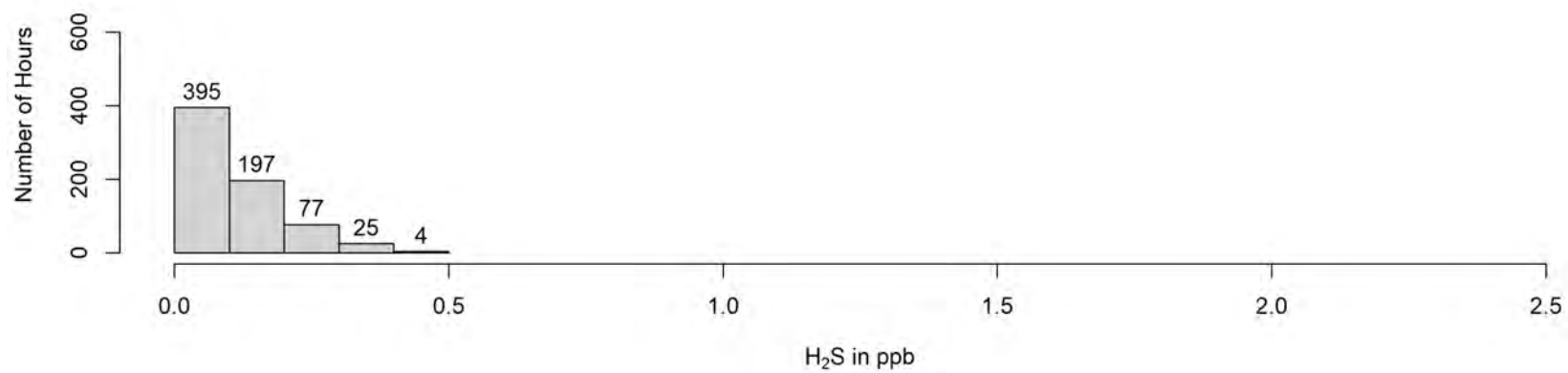
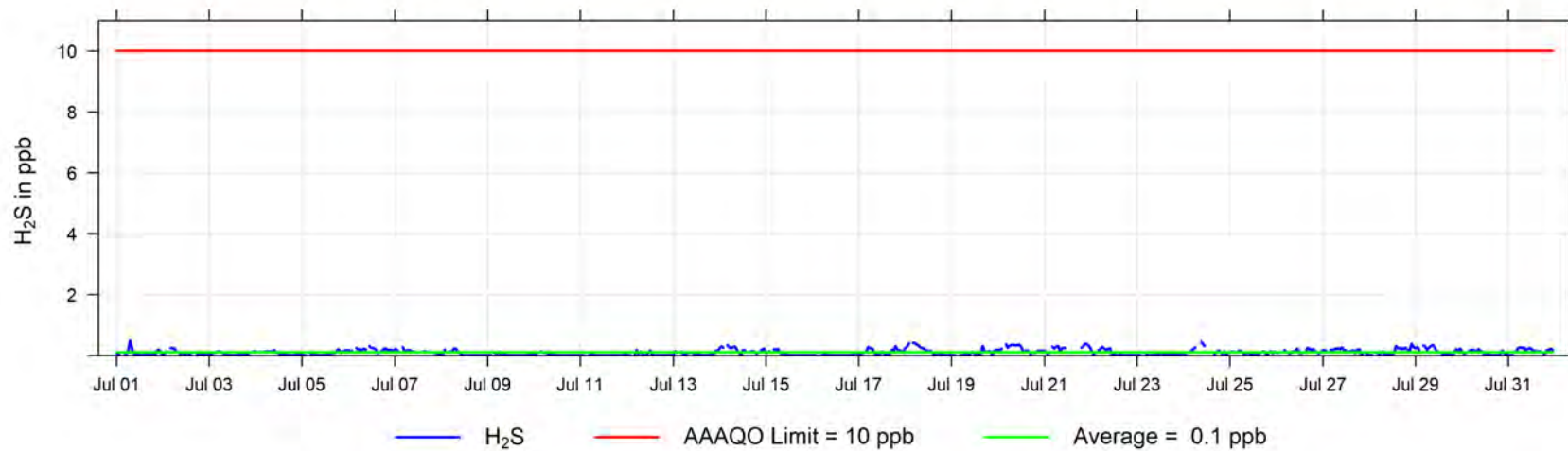
July 2025 Concentration Readings at Fox Creek Station



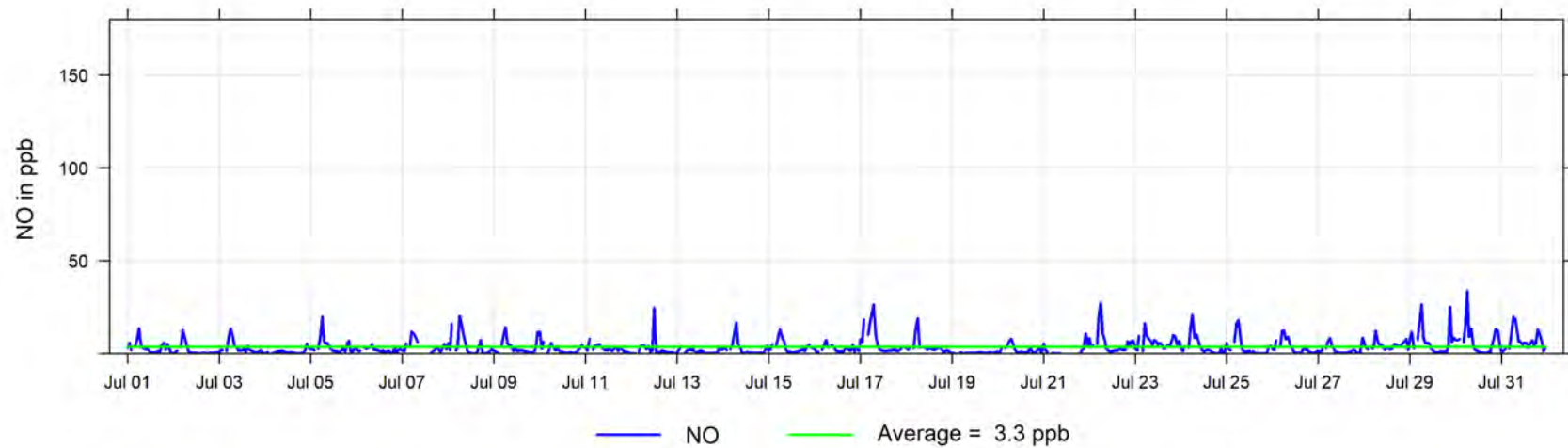
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Fox Creek



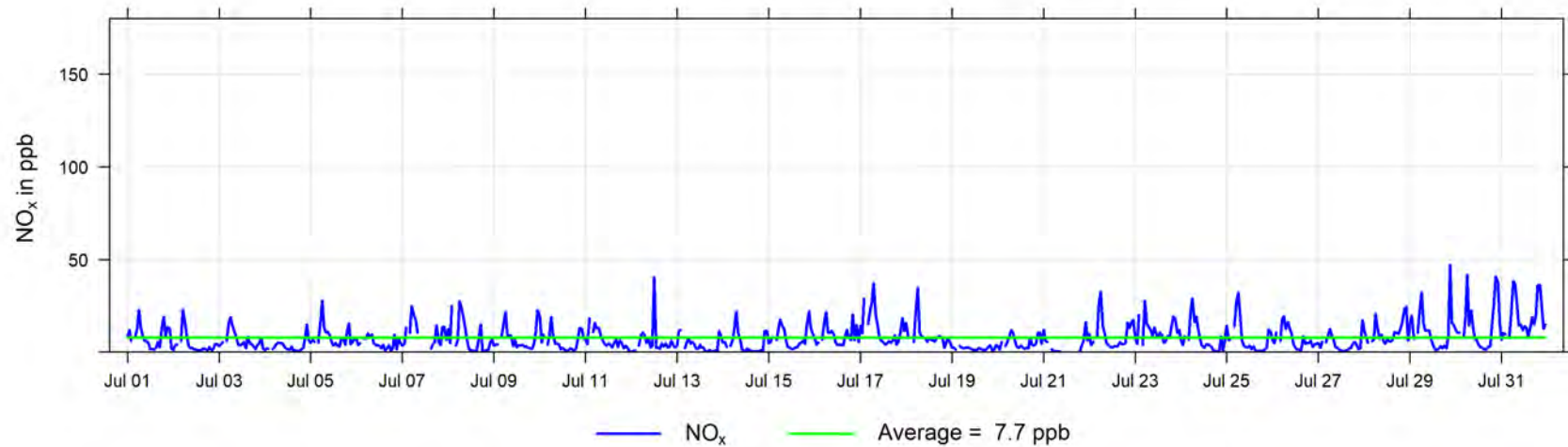
July 2025 Hourly Concentration Readings of H₂S (in ppb) at Fox Creek



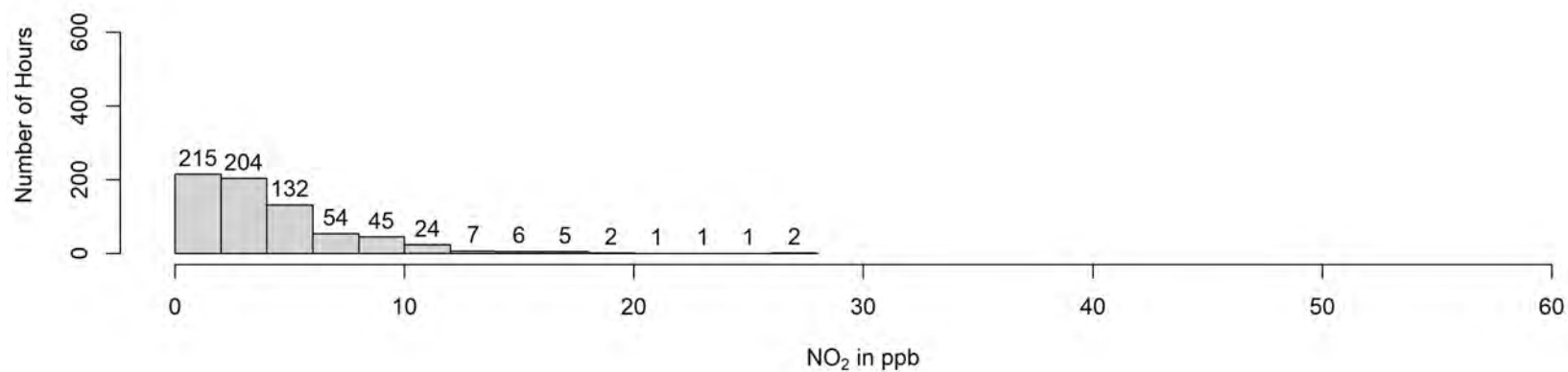
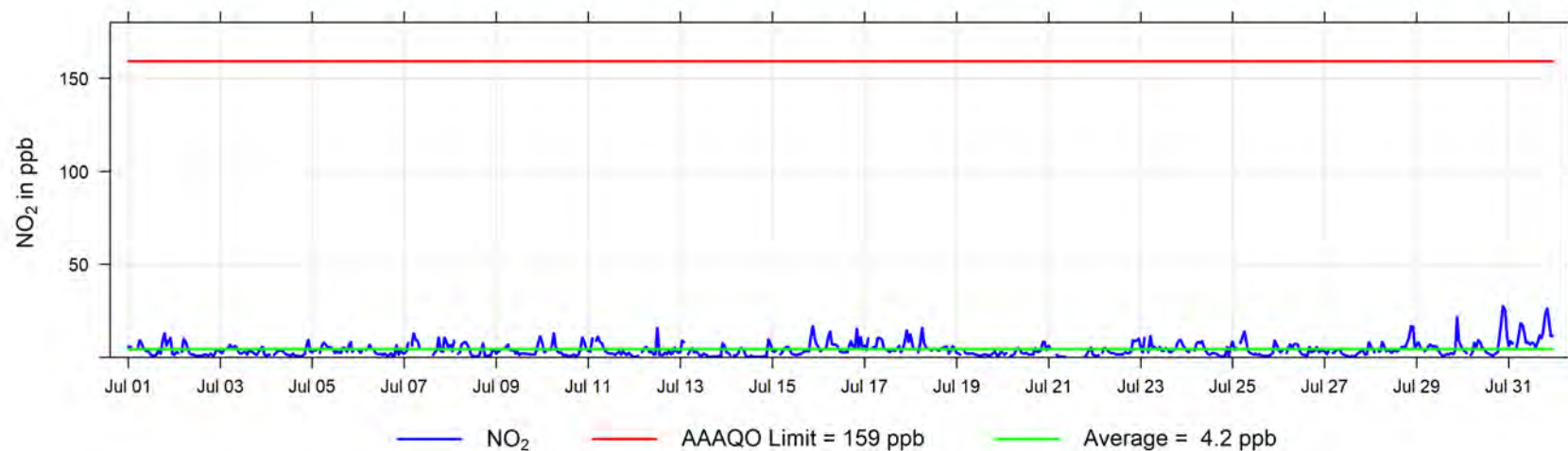
July 2025 Hourly Concentration Readings of NO (in ppb) at Fox Creek



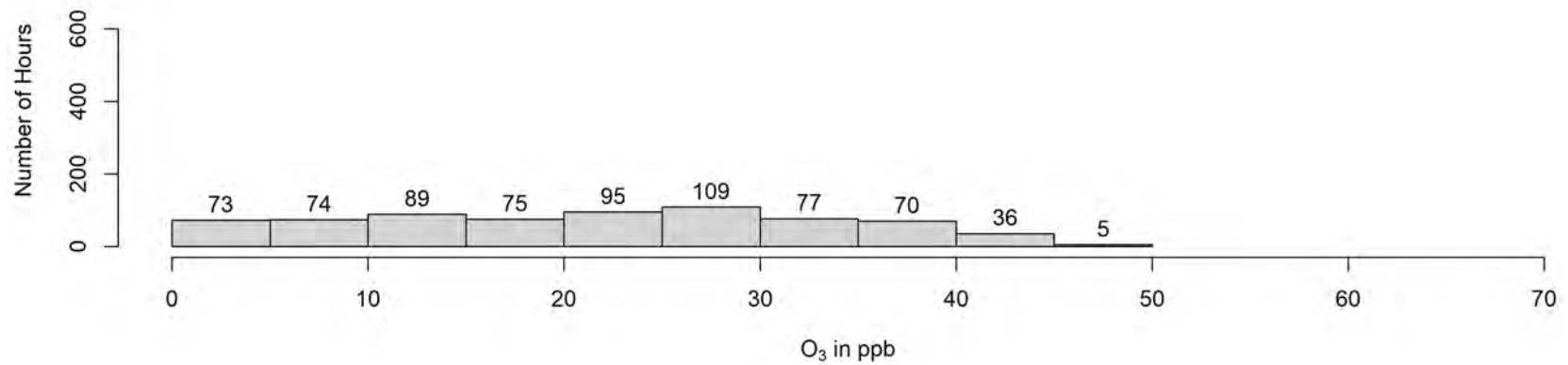
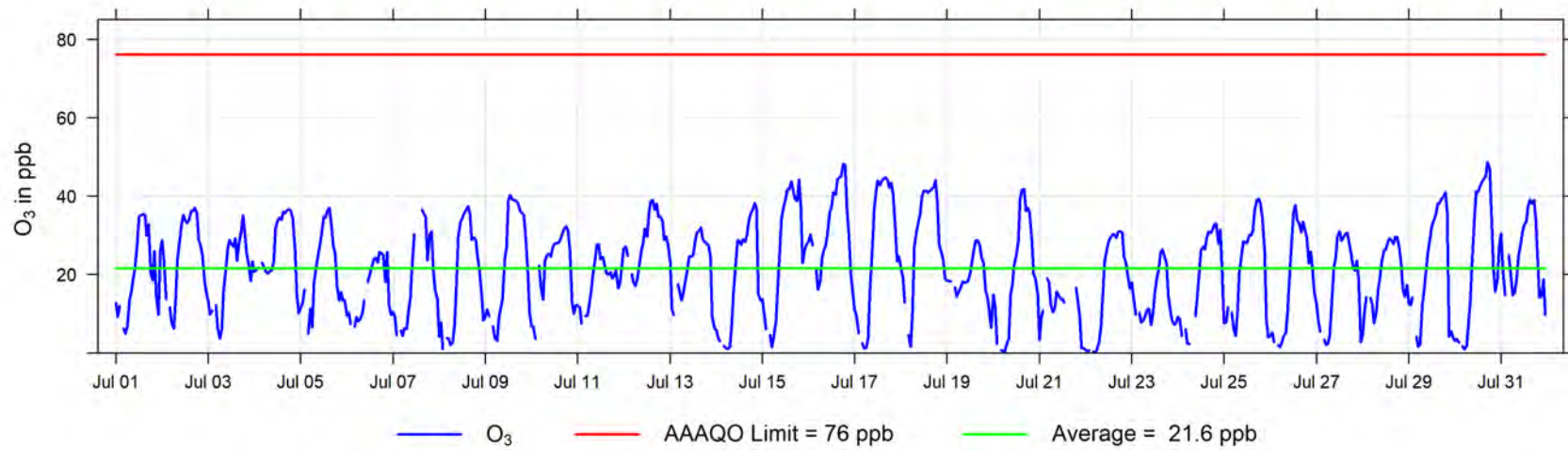
July 2025 Hourly Concentration Readings of NO_x (in ppb) at Fox Creek



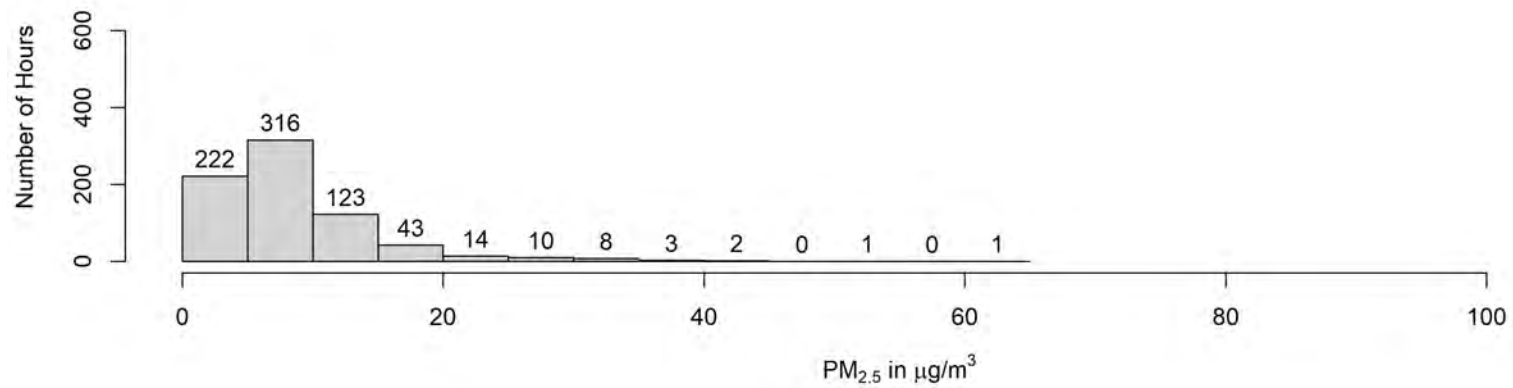
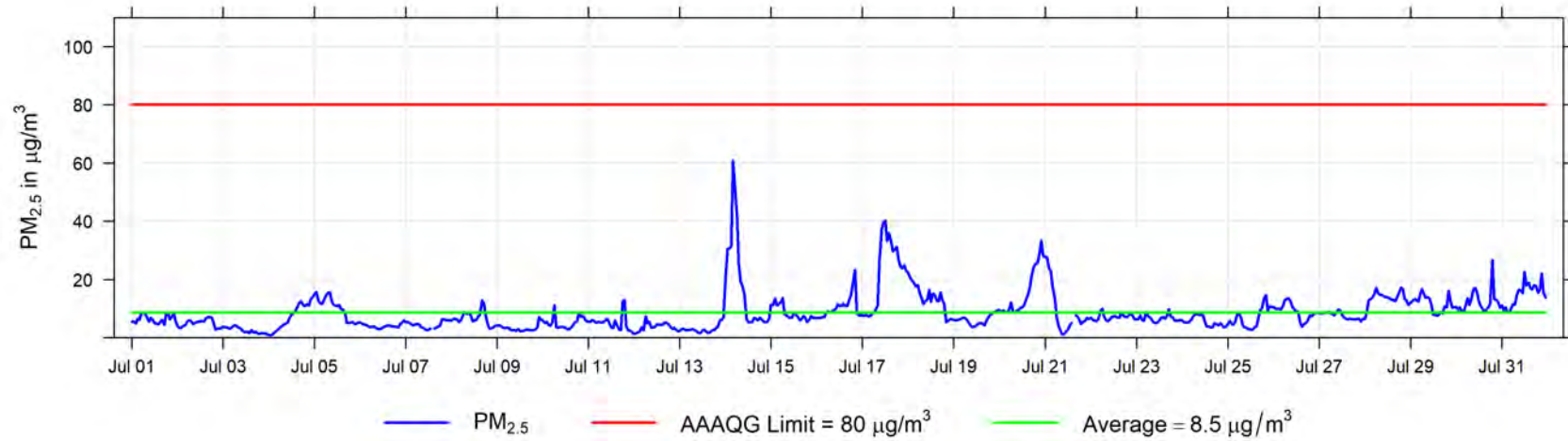
July 2025 Hourly Concentration Readings of NO₂ (in ppb) at Fox Creek



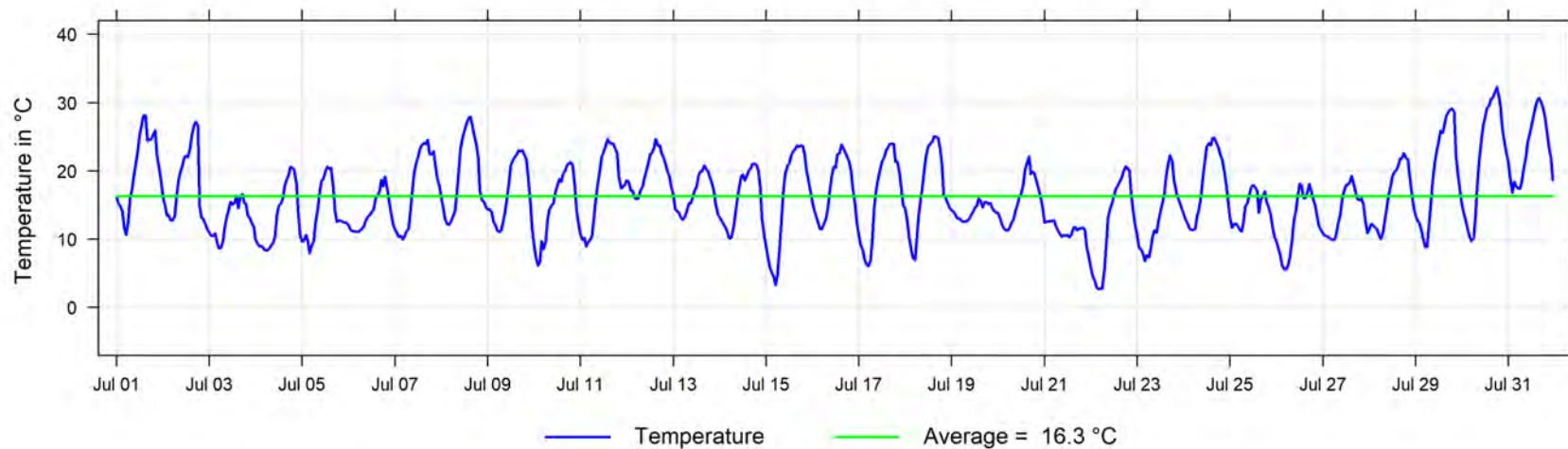
July 2025 Hourly Concentration Readings of O₃ (in ppb) at Fox Creek



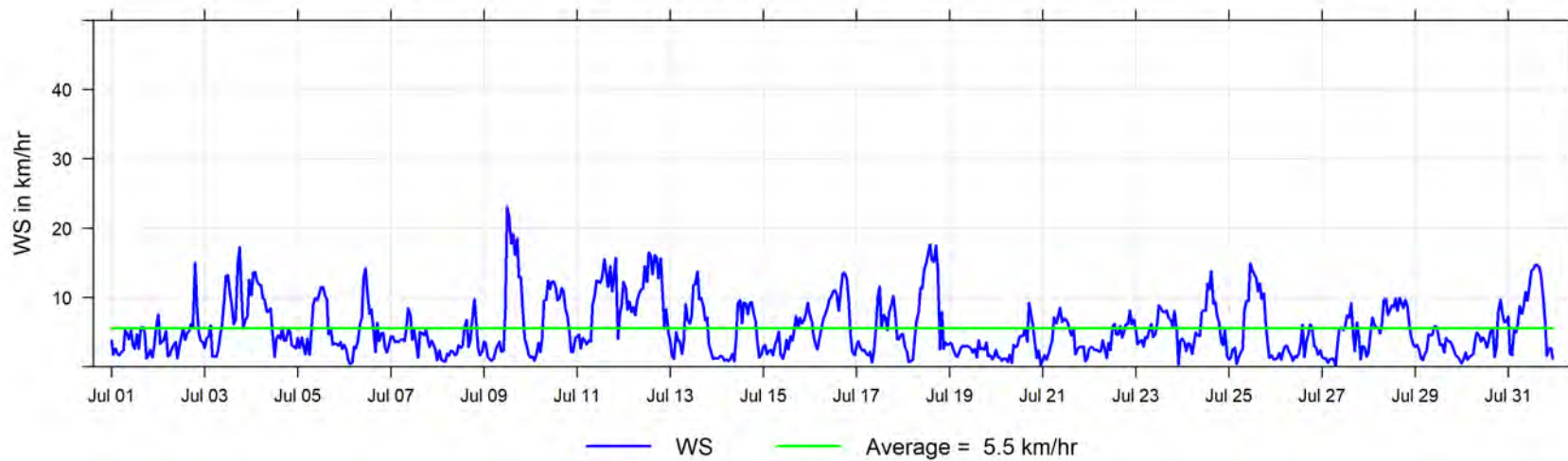
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Fox Creek



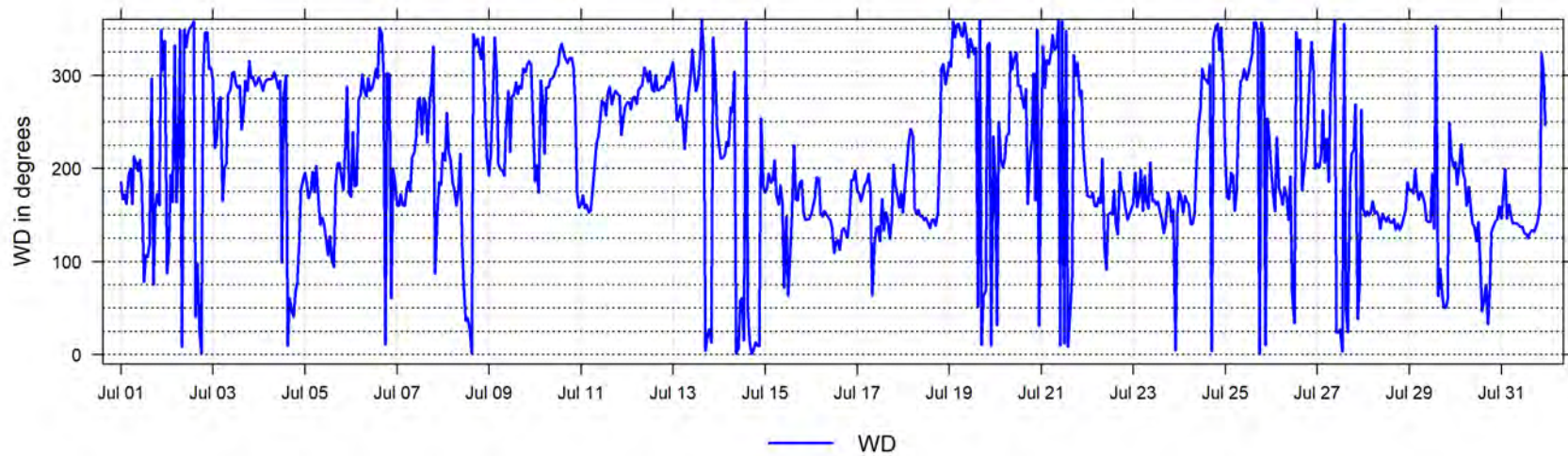
July 2025 Hourly Temperature Readings (in °C) at Fox Creek



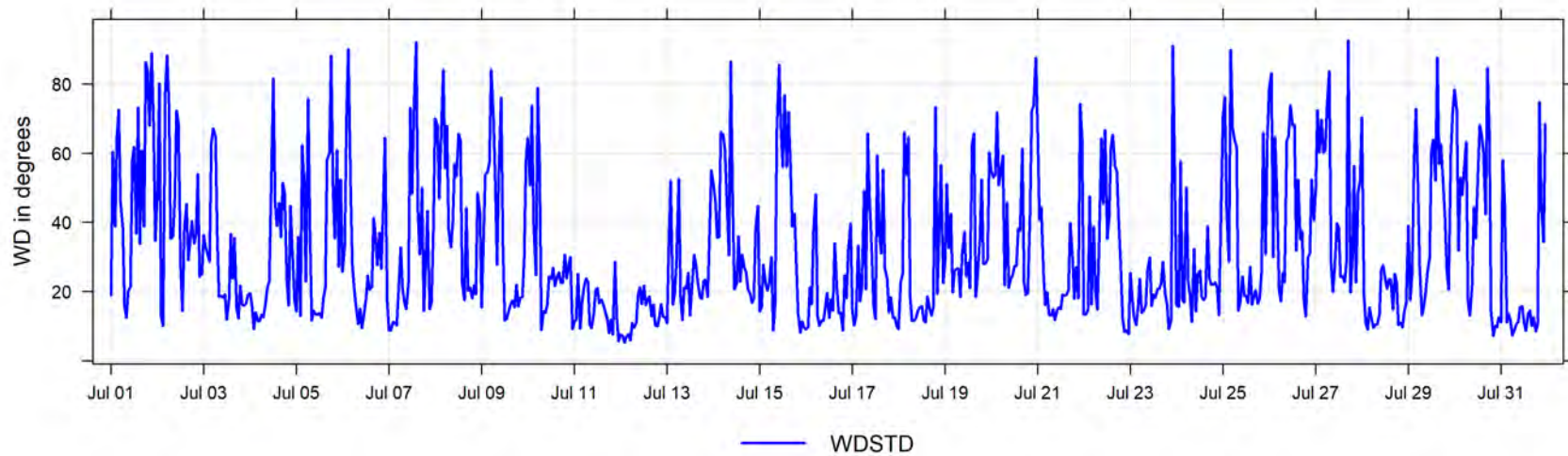
July 2025 Hourly Readings of Wind Speed (in km/hr) at Fox Creek



July 2025 Hourly Readings of Wind Direction (in degrees) at Fox Creek



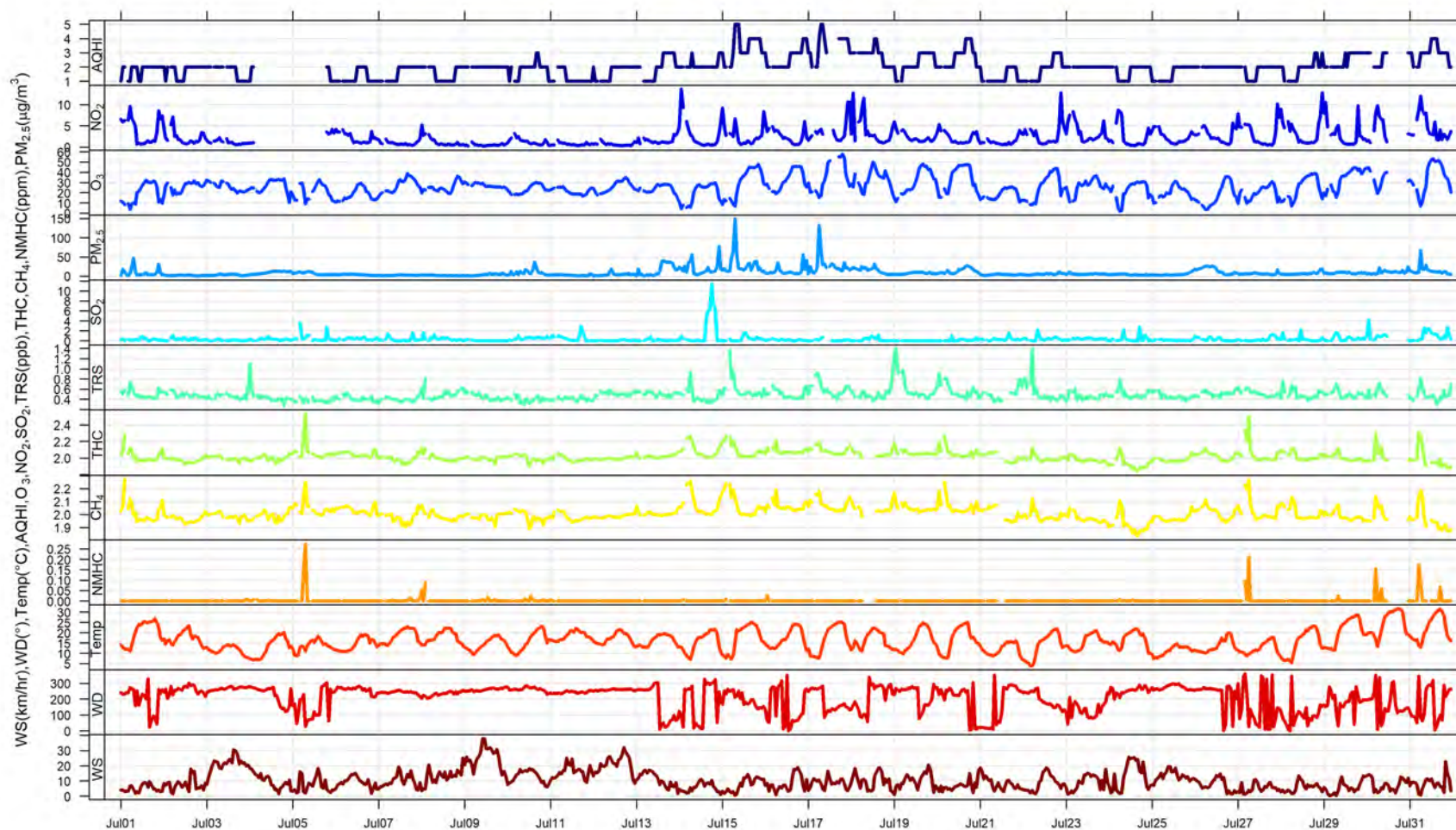
July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Fox Creek



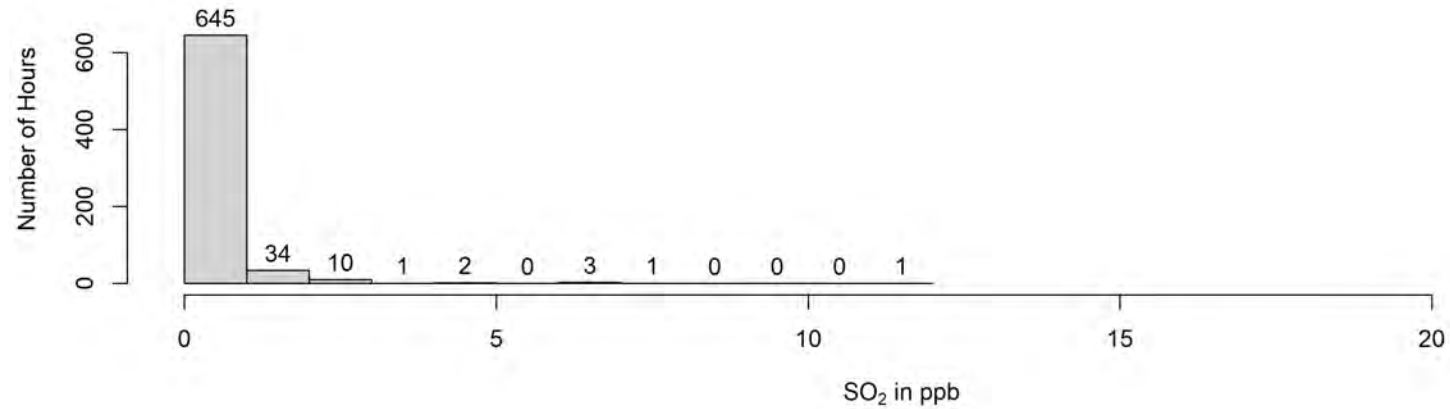
8 Happy Valley (Portable) Charts

The following pages include the charts and histograms for Happy Valley Portable Station

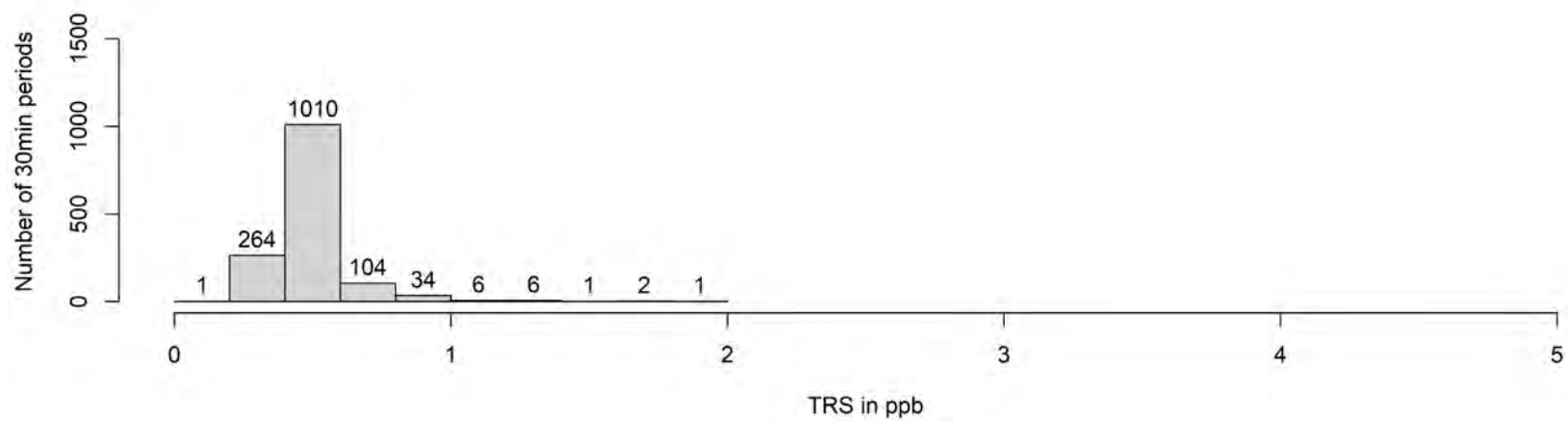
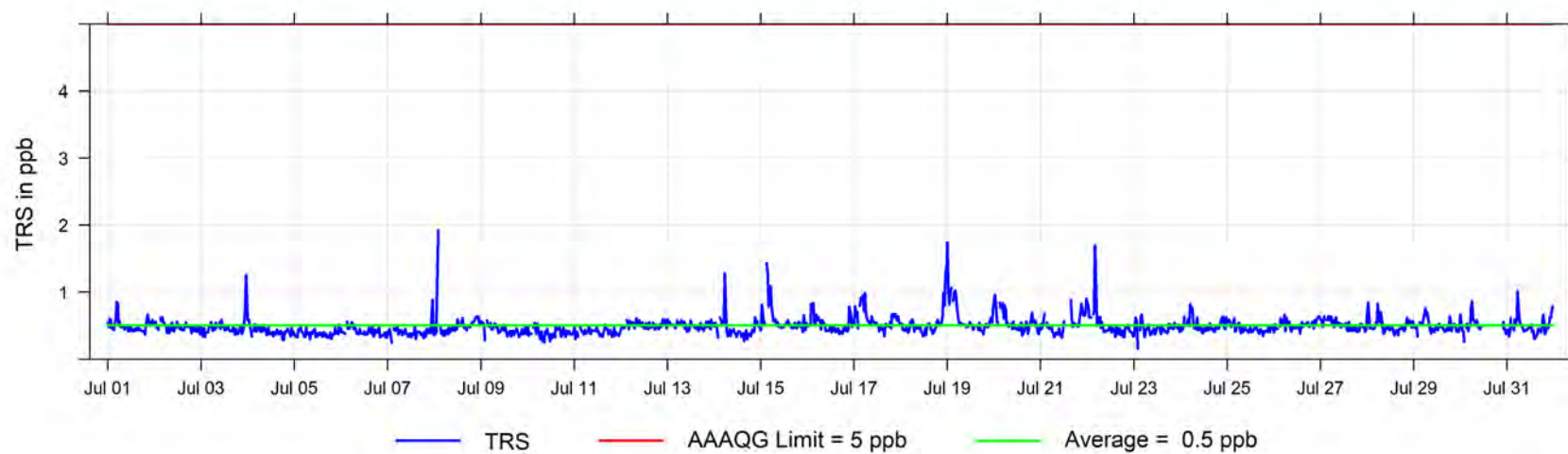
July 2025 Concentration Readings at Happy Valley Station



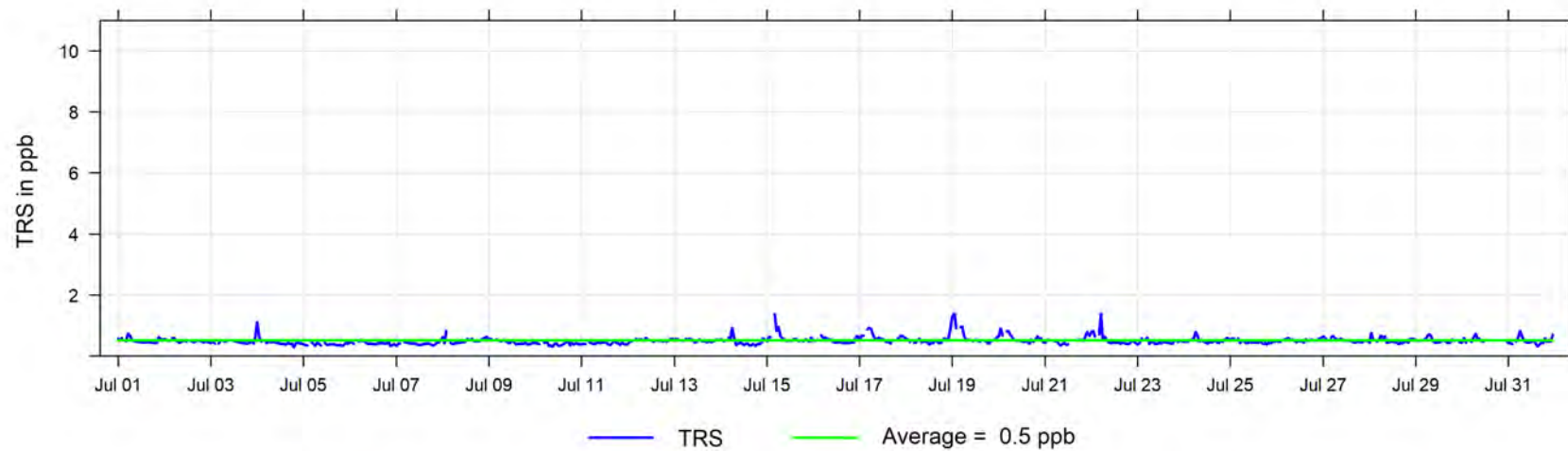
July 2025 Hourly Concentration Readings of SO₂ (in ppb) at Happy Valley



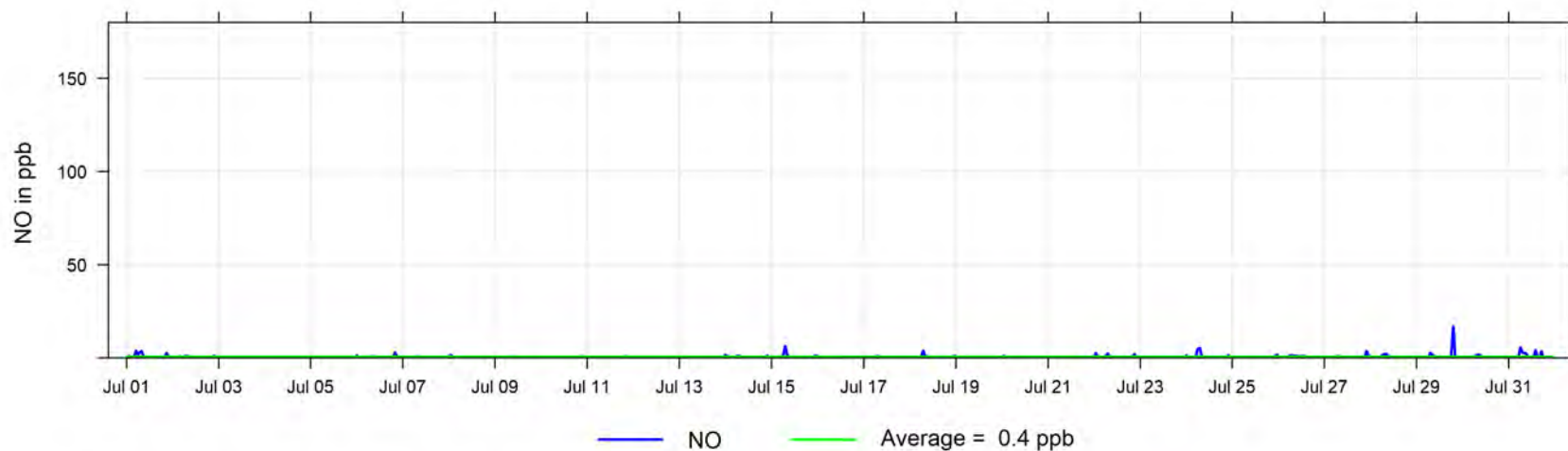
July 2025 30 min Concentration Readings of TRS (in ppb) at Happy Valley



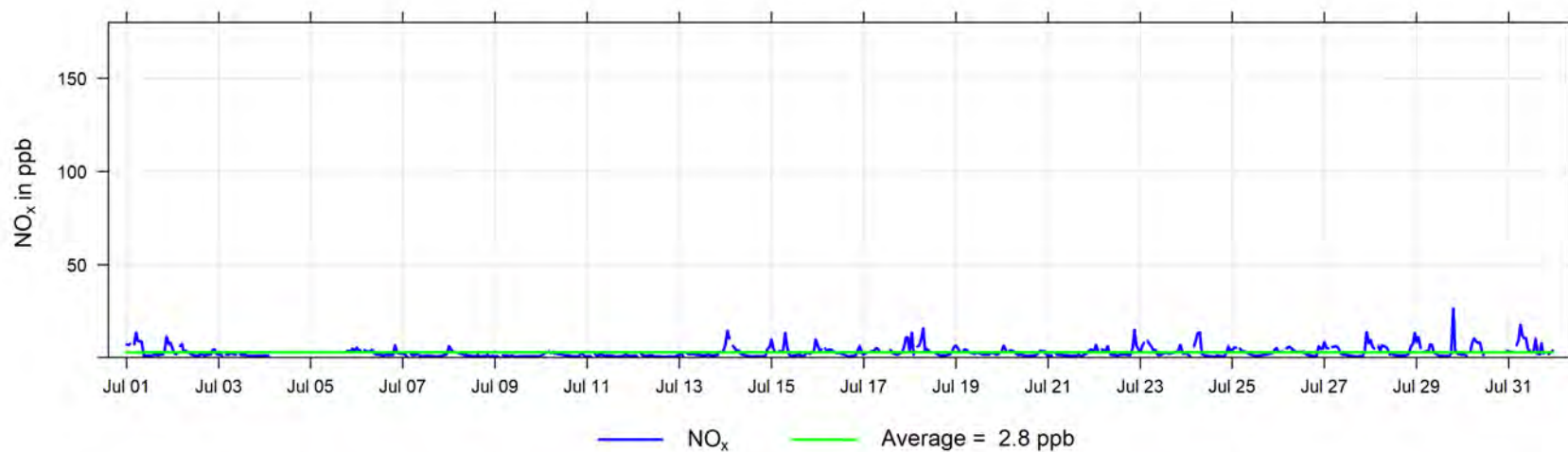
July 2025 Hourly Concentration Readings of TRS (in ppb) at Happy Valley



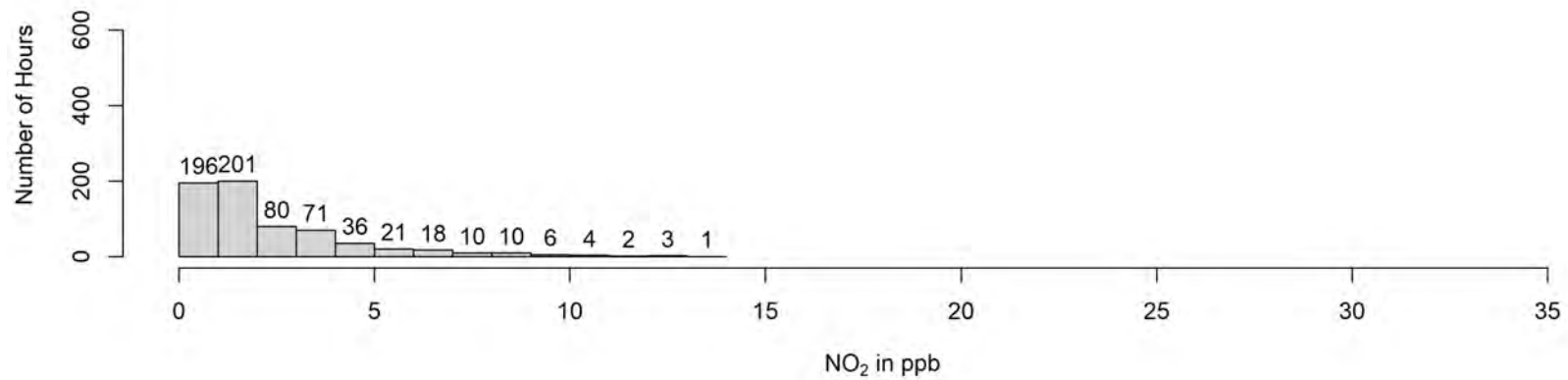
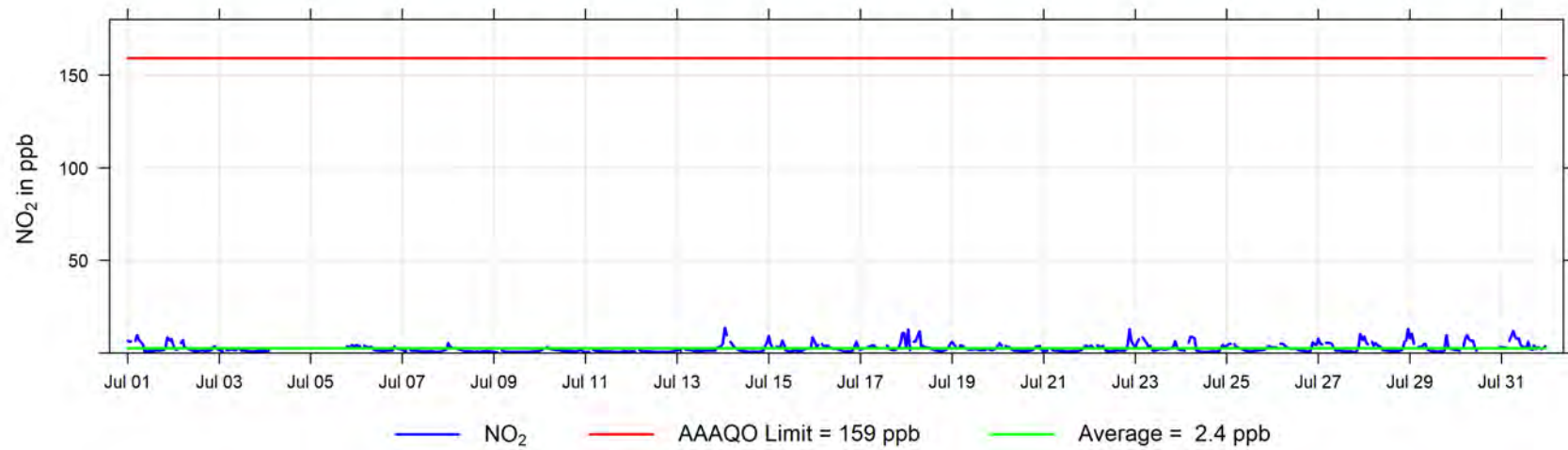
July 2025 Hourly Concentration Readings of NO (in ppb) at Happy Valley



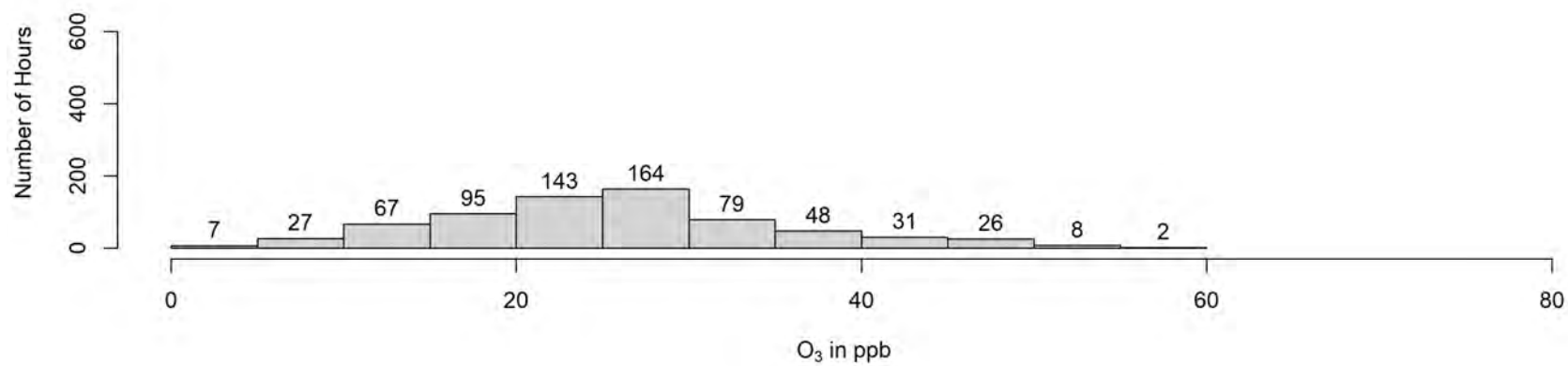
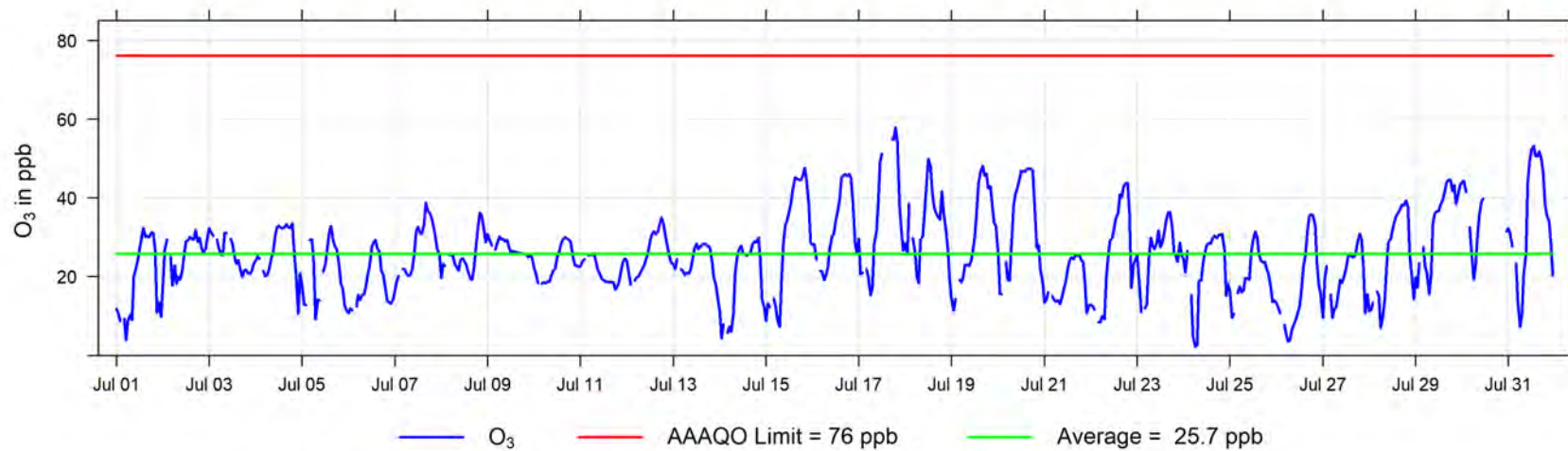
July 2025 Hourly Concentration Readings of NO_x (in ppb) at Happy Valley



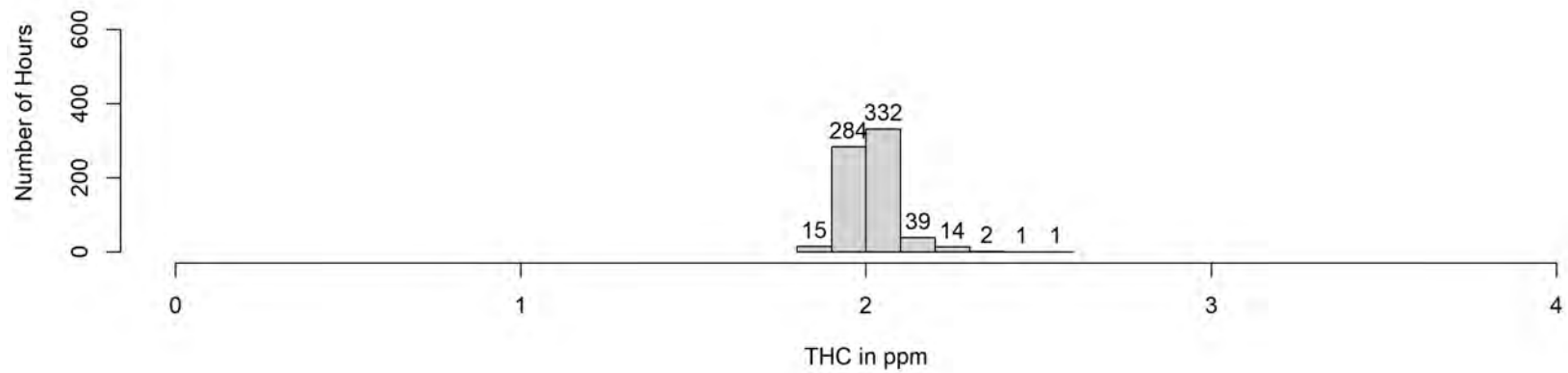
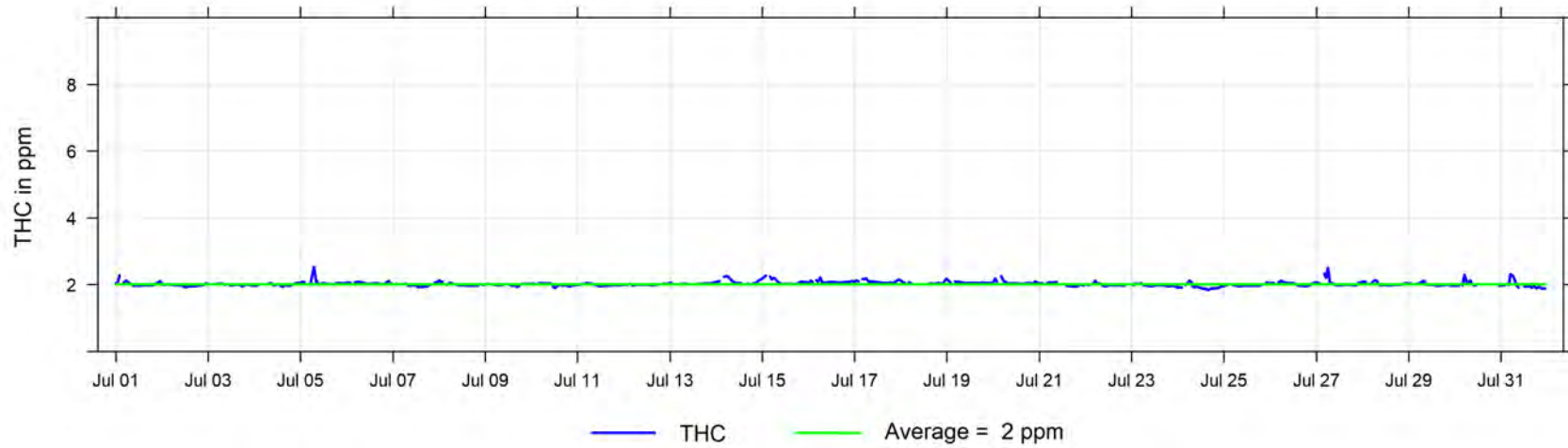
July 2025 Hourly Concentration Readings of NO₂ (in ppb) at Happy Valley



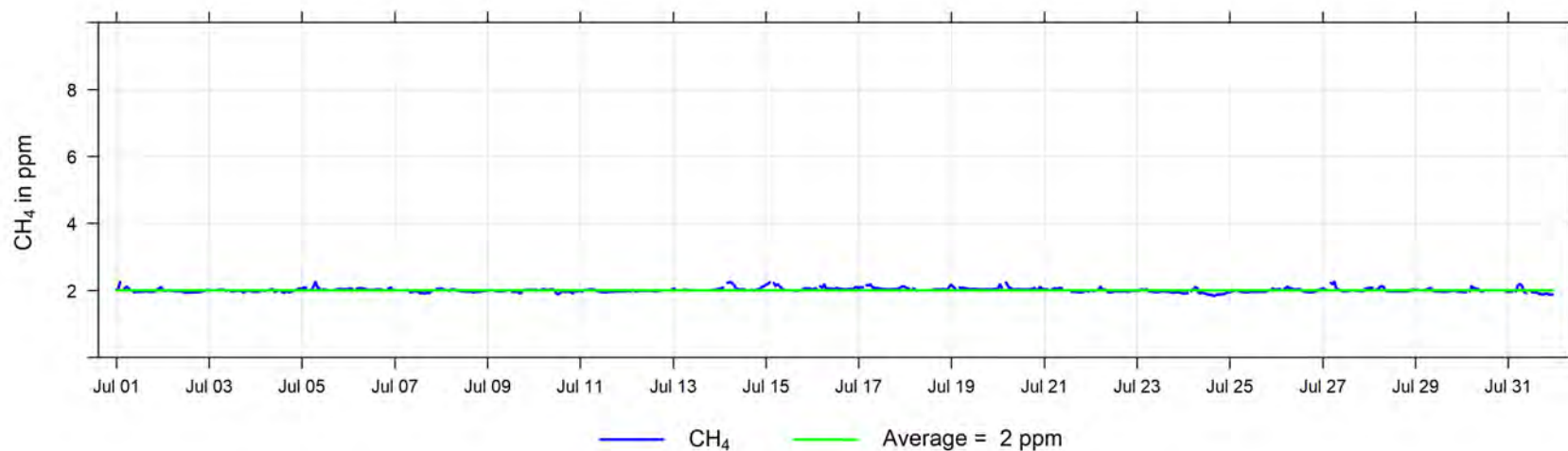
July 2025 Hourly Concentration Readings of O₃ (in ppb) at Happy Valley



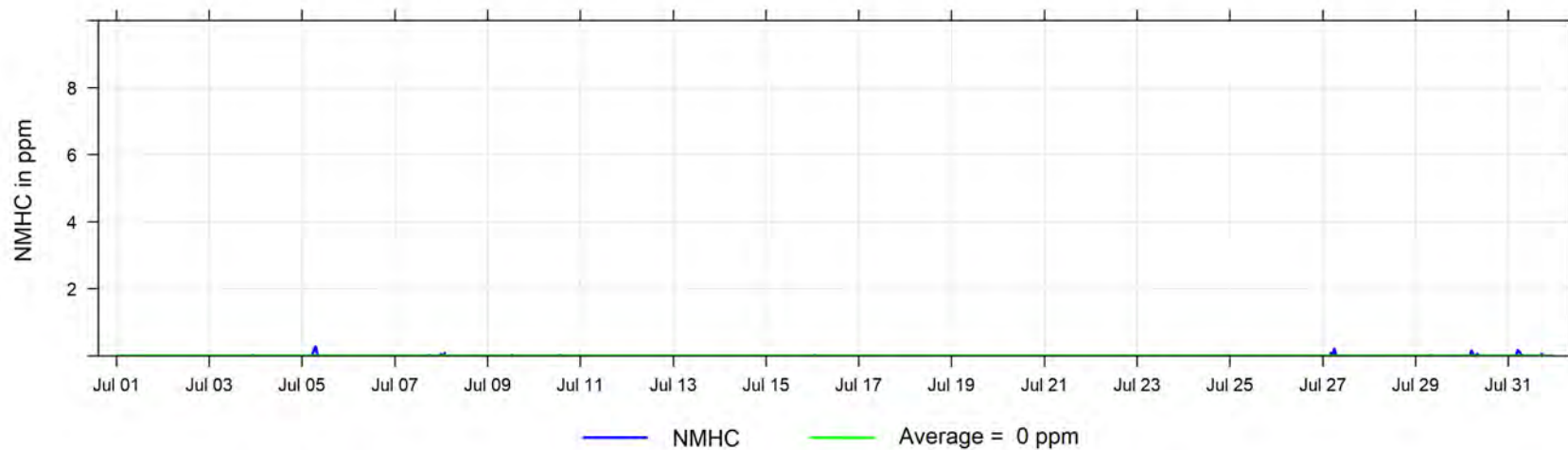
July 2025 Hourly Concentration Readings of THC (in ppm) at Happy Valley



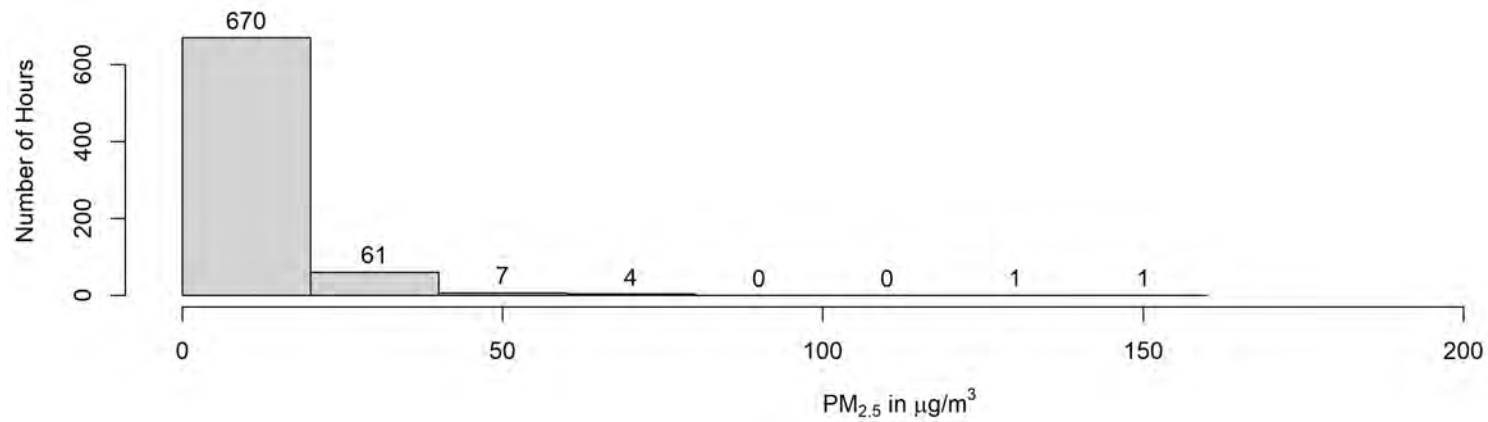
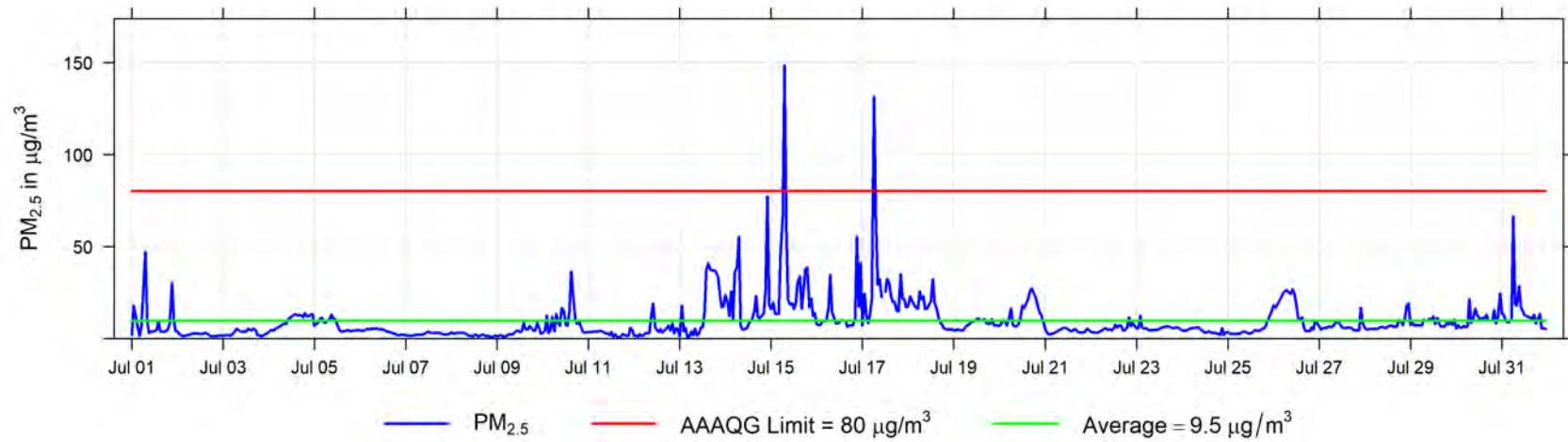
July 2025 Hourly Concentration Readings of CH₄ (in ppm) at Happy Valley



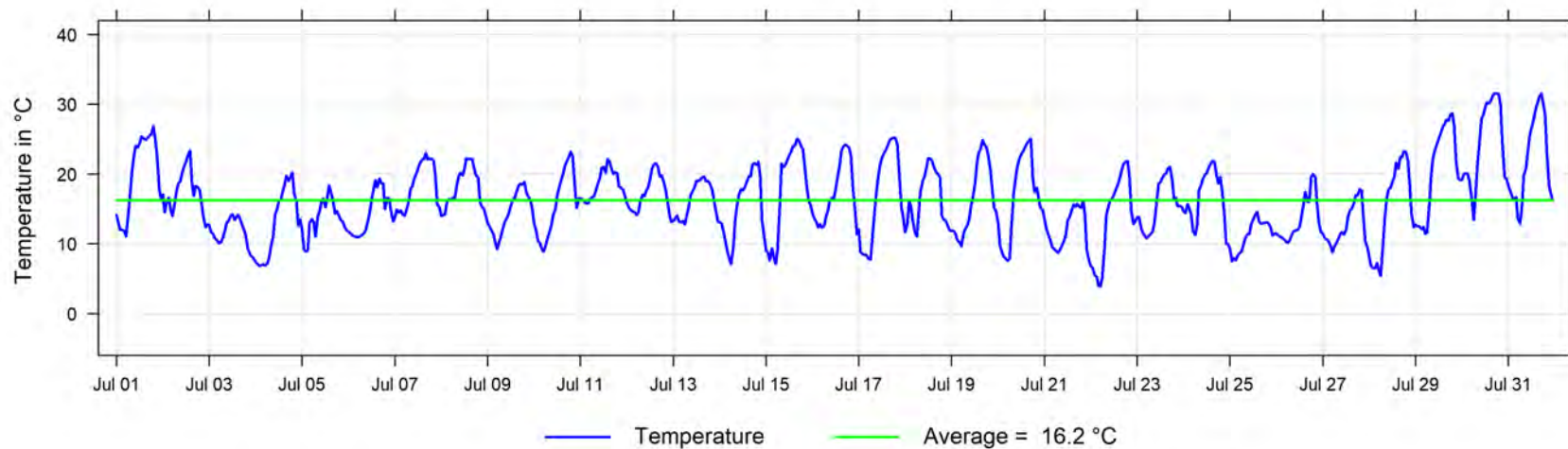
July 2025 Hourly Concentration Readings of NMHC (in ppm) at Happy Valley



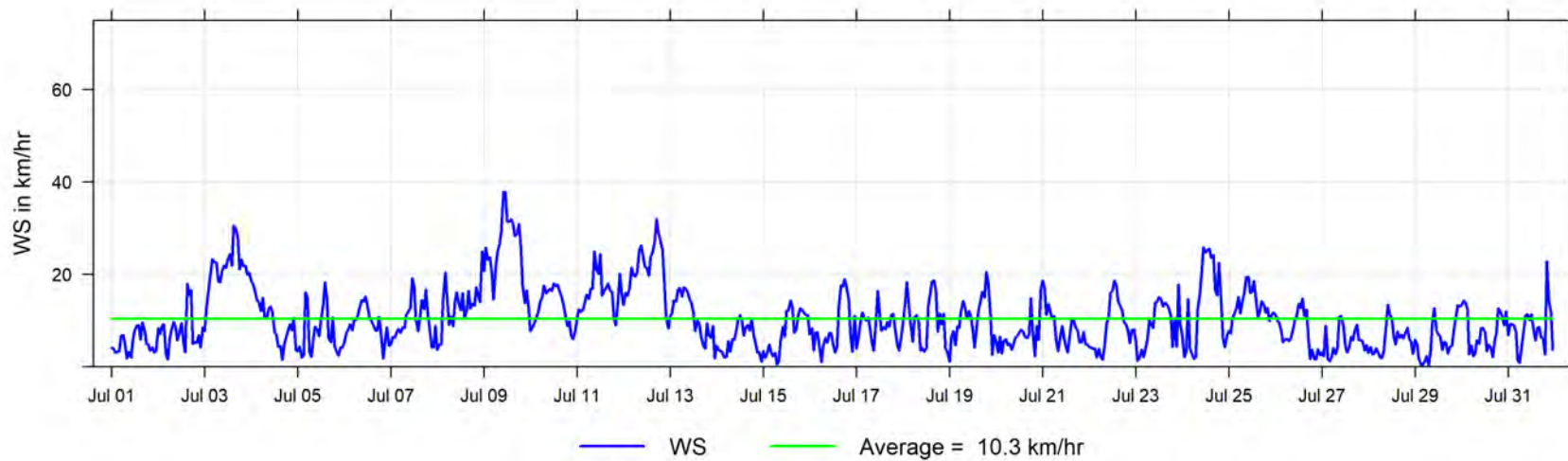
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Happy Valley



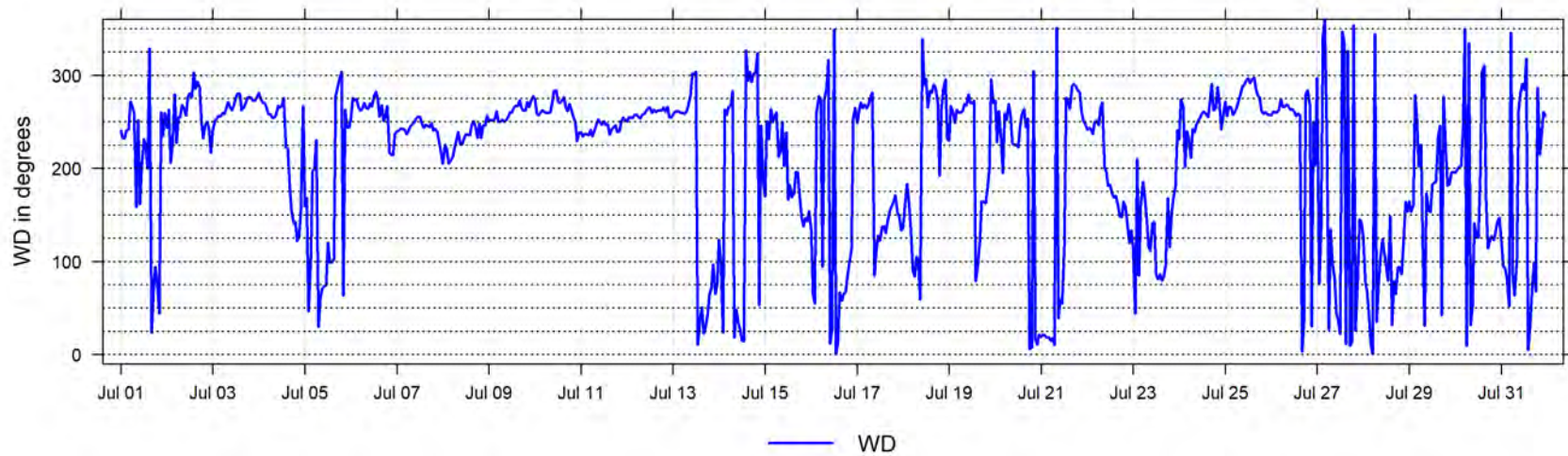
July 2025 Hourly Temperature Readings (in °C) at Happy Valley



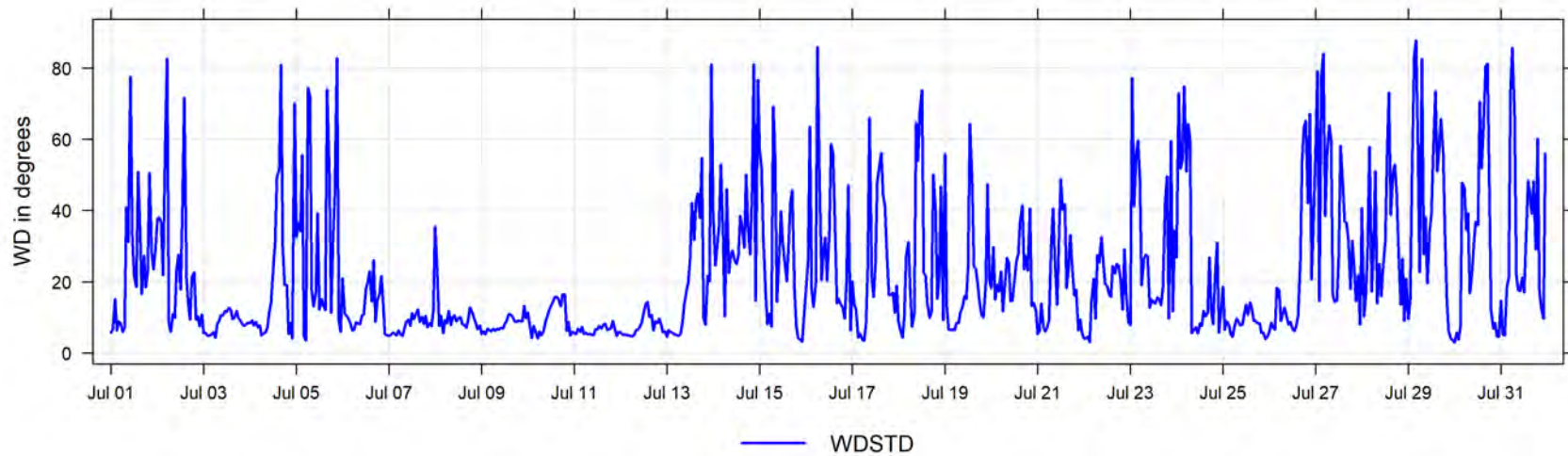
July 2025 Hourly Readings of Wind Speed (in km/hr) at Happy Valley

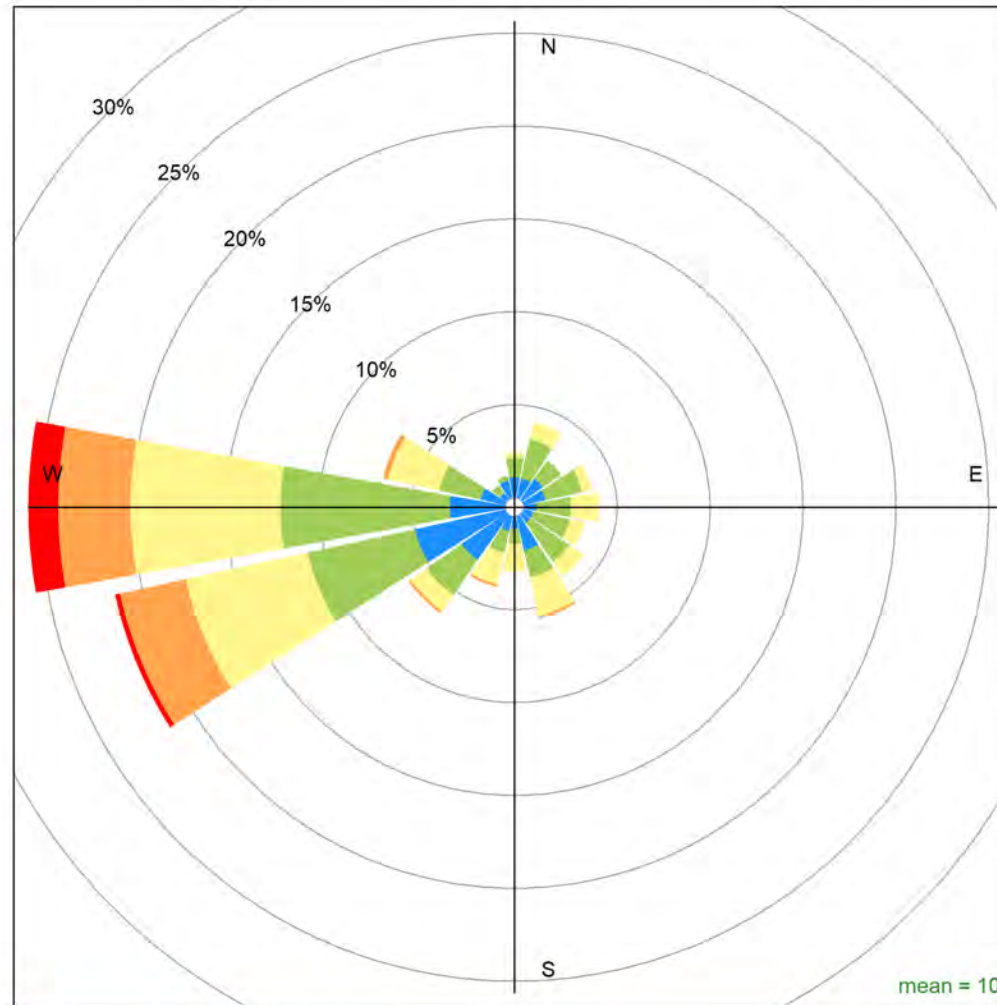


July 2025 Hourly Readings of Wind Direction (in degrees) at Happy Valley



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Happy Valley



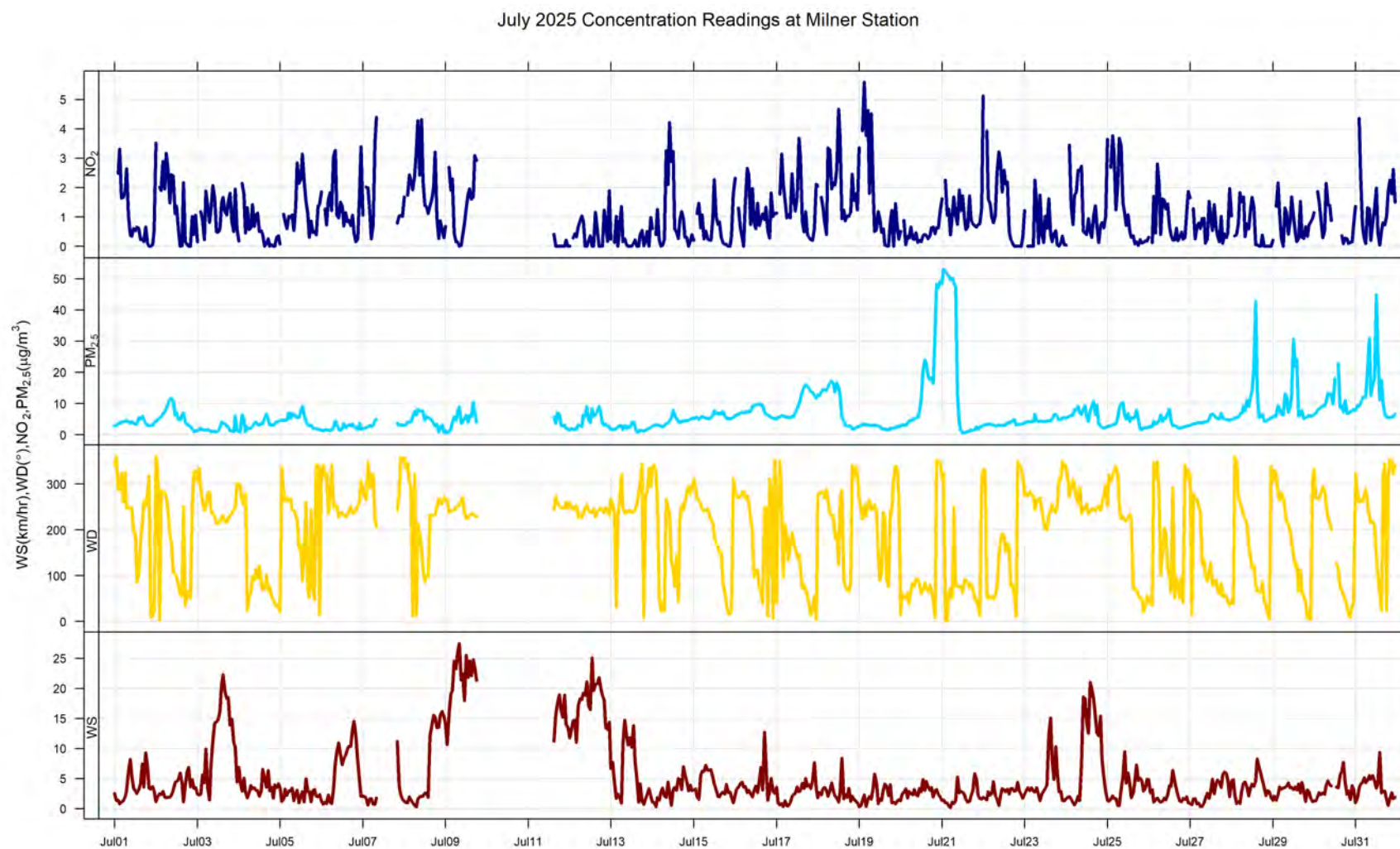


Happy Valley July 2025 Wind Rose, wind speed in km/hr

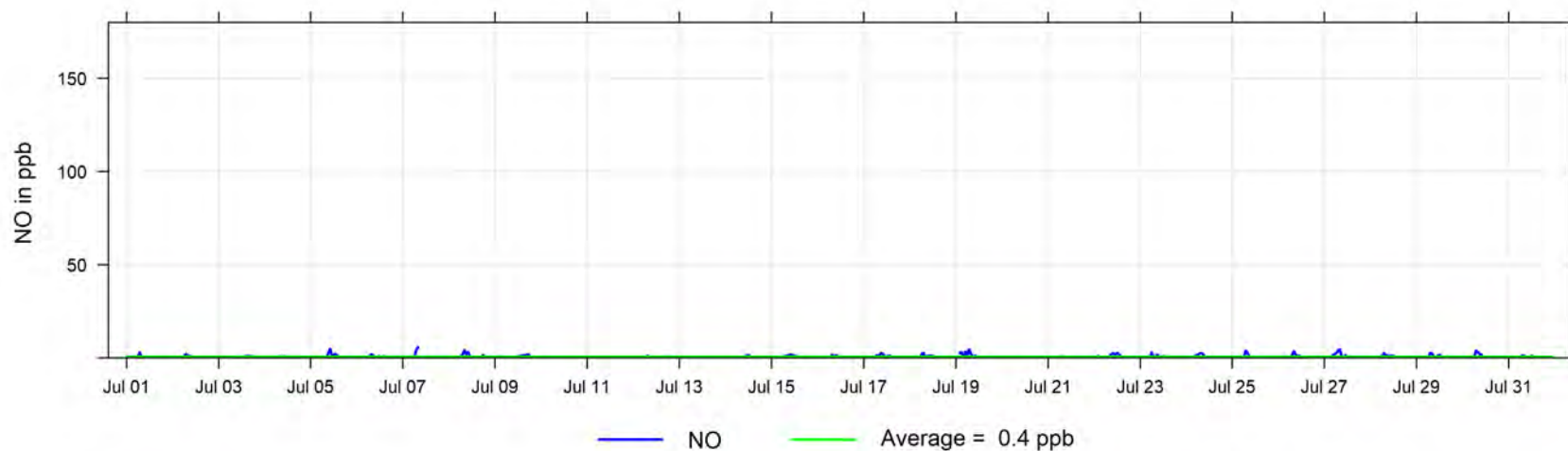
Calms (<1km/hr) = 0.8 %

9 Milner Charts

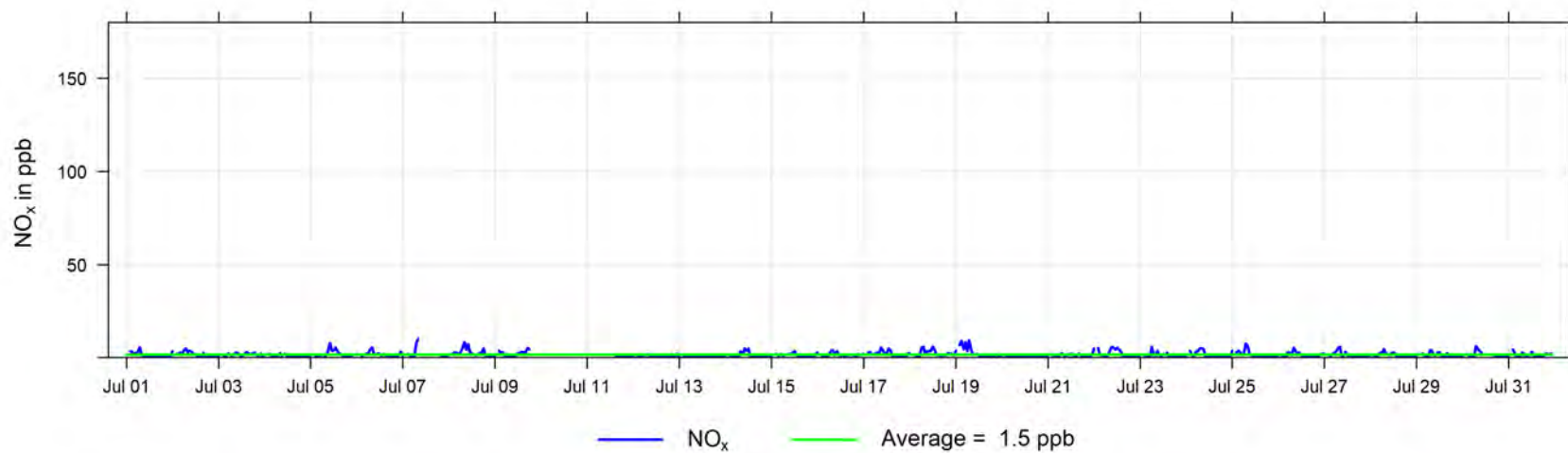
The following pages include the charts and histograms for Milner Station



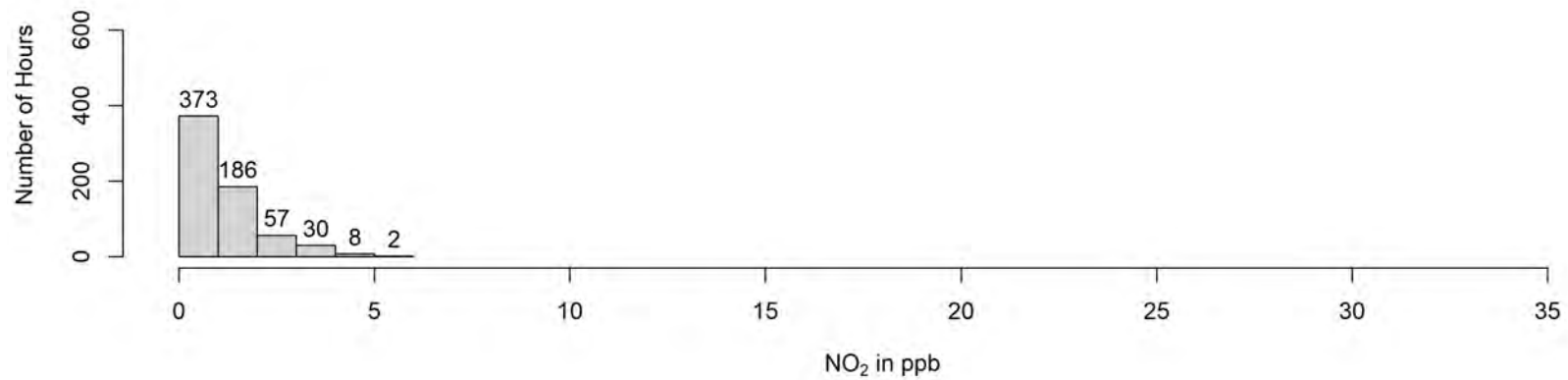
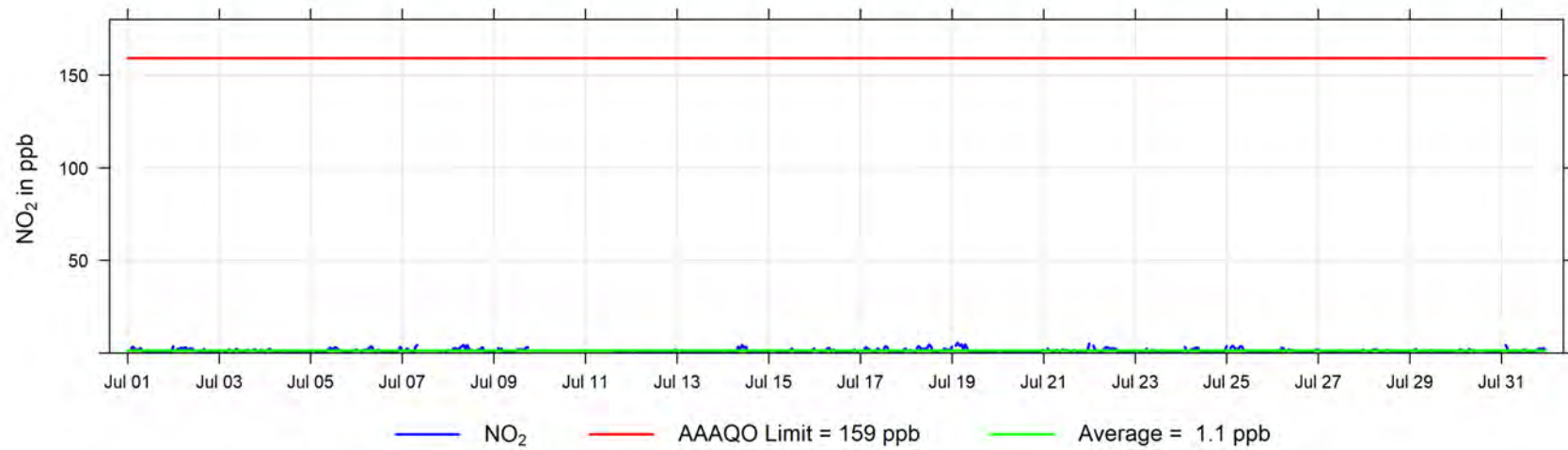
July 2025 Hourly Concentration Readings of NO (in ppb) at Milner



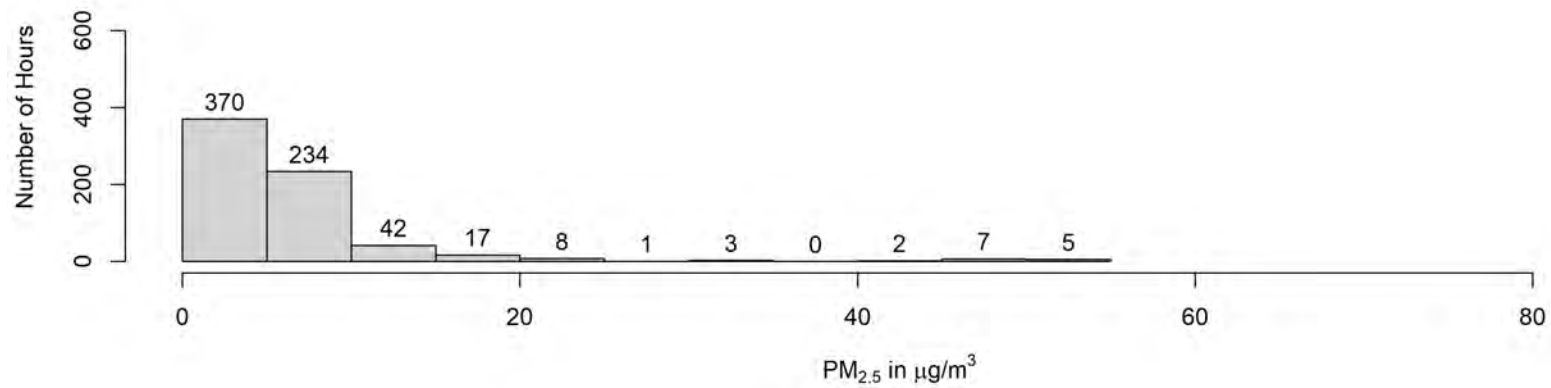
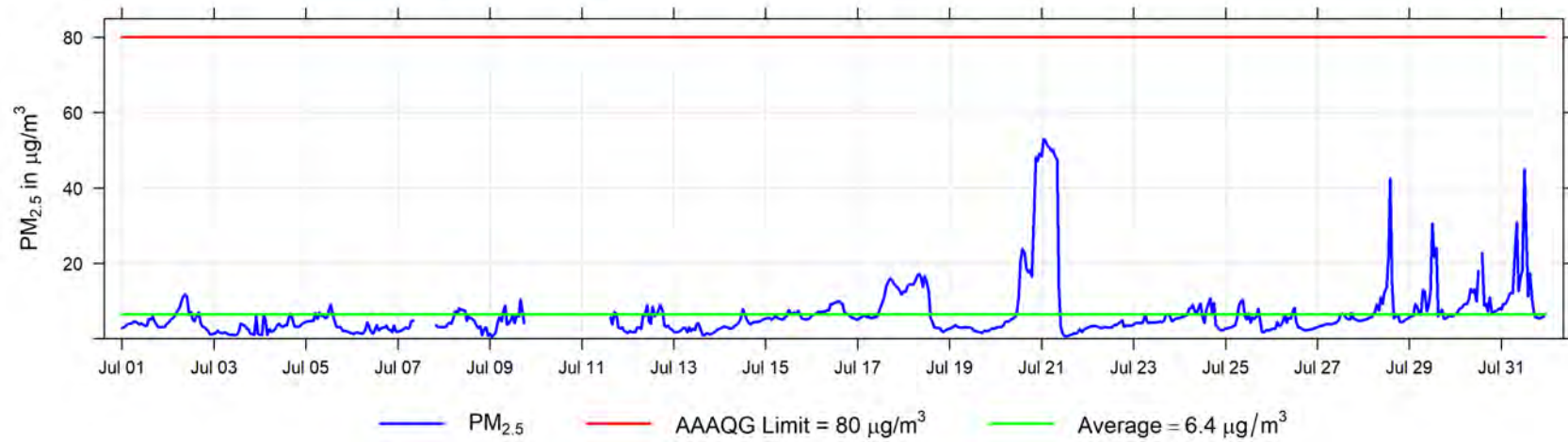
July 2025 Hourly Concentration Readings of NO_x (in ppb) at Milner



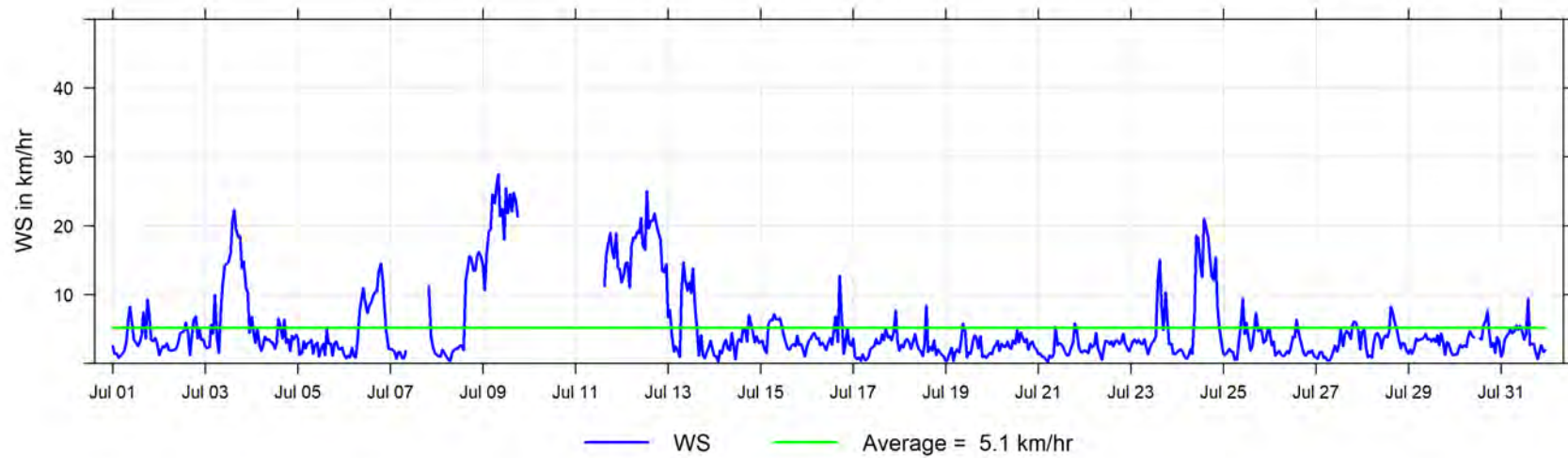
July 2025 Hourly Concentration Readings of NO₂ (in ppb) at Milner



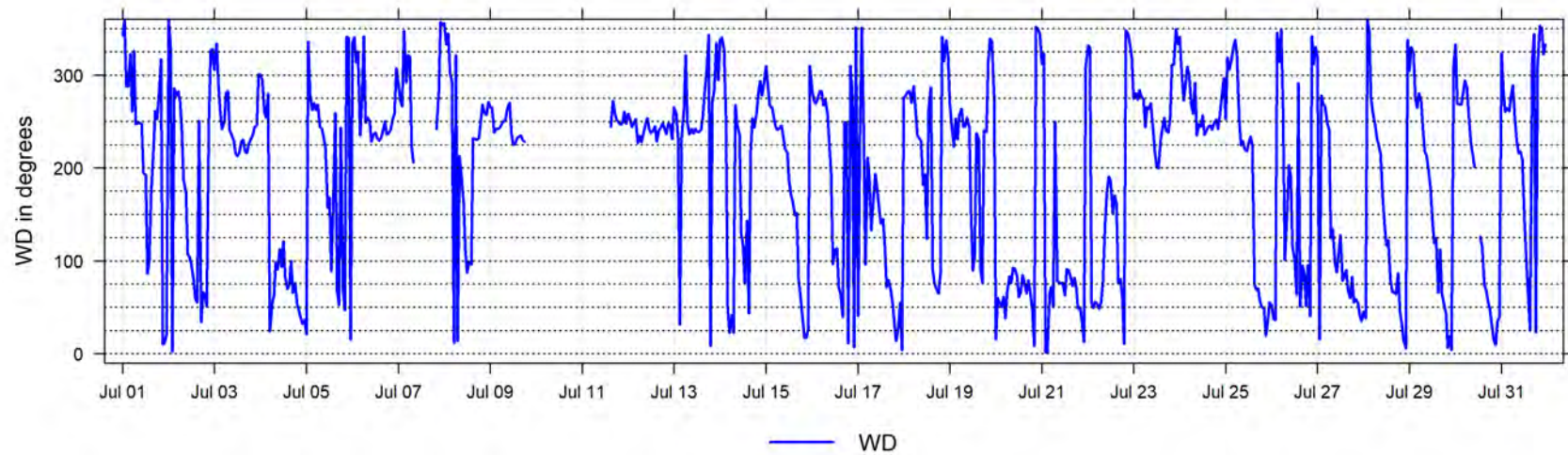
July 2025 Hourly Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner



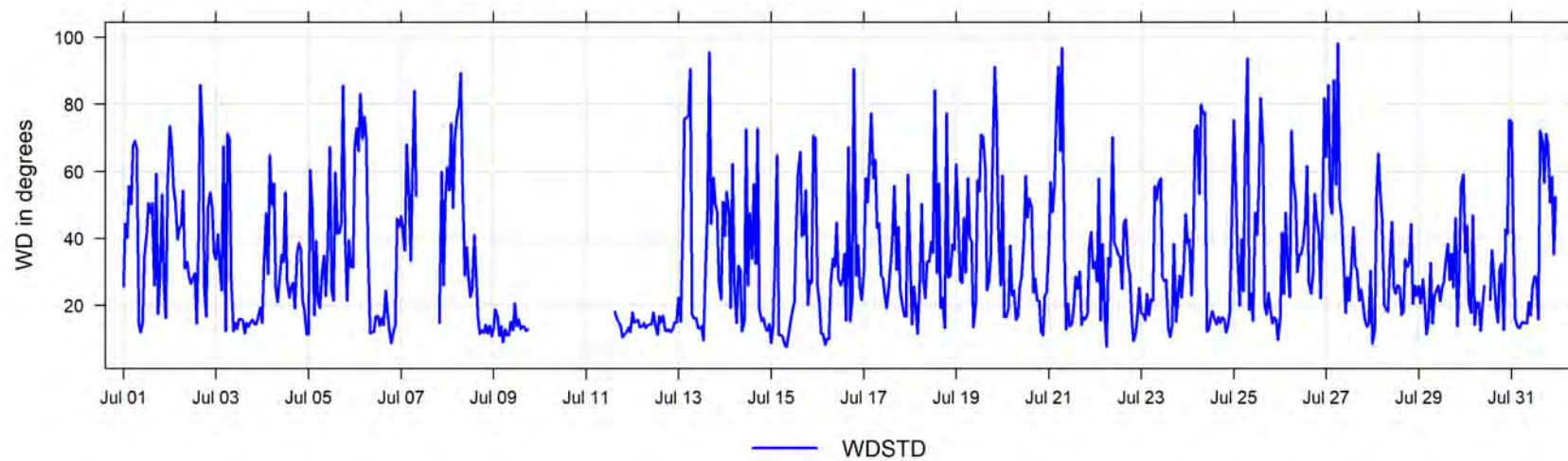
July 2025 Hourly Readings of Wind Speed (in km/hr) at Milner

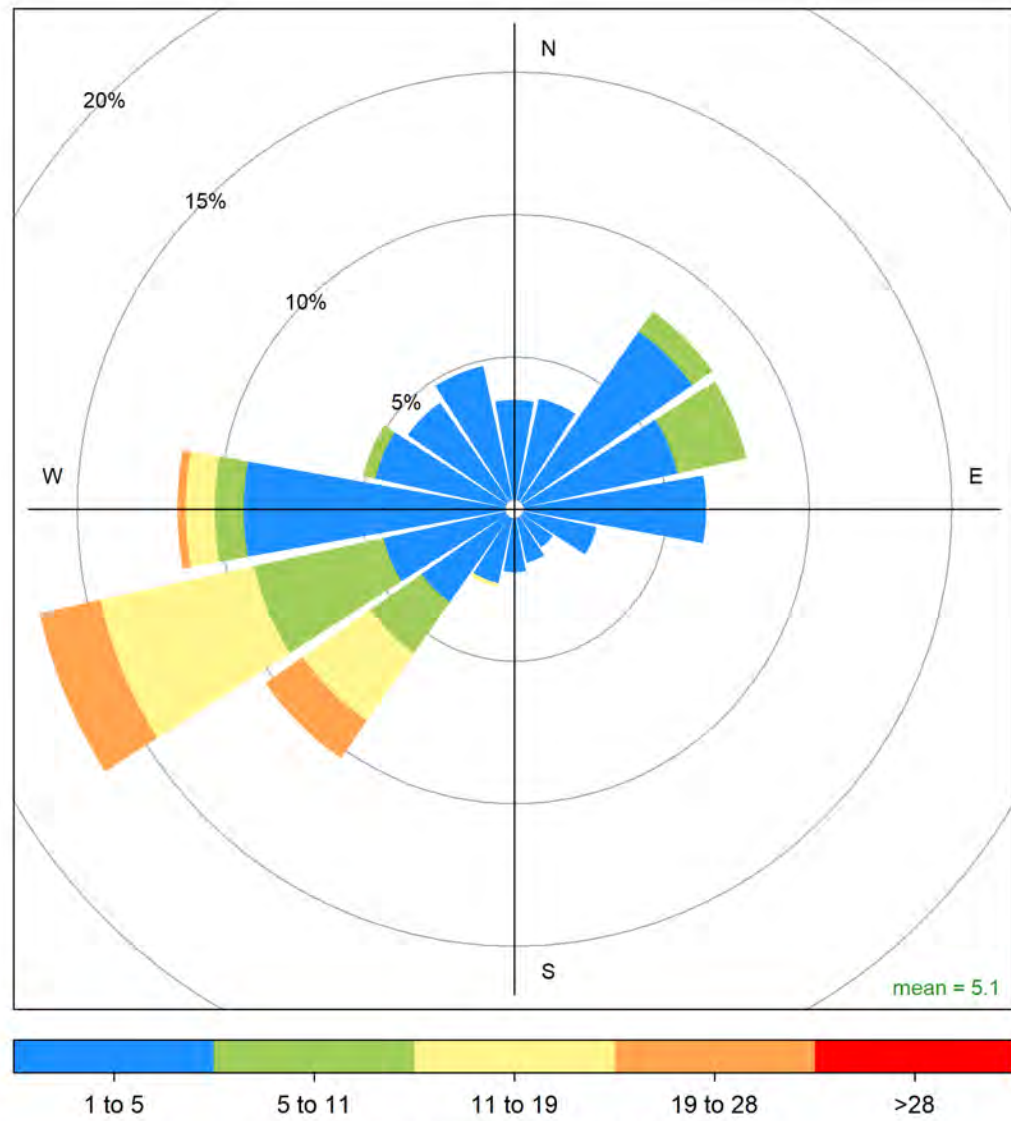


July 2025 Hourly Readings of Wind Direction (in degrees) at Milner



July 2025 Hourly Readings of Wind Direction Standard Deviation (in degrees) at Milner





Milner July 2025 Wind Rose, wind speed in km/hr

Calms (<1km/hr) = 7.8 %

10 Passive Monitoring Data

Peace Airshed Zone Association - PAZA Passive Stations for July 2025

Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
2a	Bay Tree		28.0			13-16-078-13 W6M
2b	Bay Tree		28.2			
9a	Spirit River	0.3				08-12-079-07 W6M
9b	Spirit River	0.3				
10a	Woking			0.9		01-13-076-07 W6M
10b	Woking			0.9		
19a	Wanham	0.2				16-22-077-03 W6M
19b	Wanham	0.2				
24a	Wembley	0.6				12-31-070-08 W6M
24b	Wembley	0.5				
25a	Pinto Creek			0.7		04-24-069-11 W6M
25b	Pinto Creek			0.7		
29a	Smoky Heights			0.8		04-06-075-02 W6M
29b	Smoky Heights			0.8		
41a	Valleyview	0.1				09-30-069-22 W5M
41b	Valleyview	0.2				
48a	Deer Mountain			0.3		15-22-068-09 W5M
48b	Deer Mountain			0.3		
D2a	Duvernay 2	0.5			0.16	04-33-062-20 W5M
D2b	Duvernay 2	0.5			0.17	
G3a	Girouxville 3				Damaged	14-02-077-23 W5M
G3b	Girouxville 3				Damaged	
K1a	Kakwa 1			1.3		01-13-063-05 W6M
K1b	Kakwa 1			1.1		
K3a	Kakwa 3	21.6				12-18-063-04 W6M
K3b	Kakwa 3	21.9				
K4a	Kakwa 4				0.40	06-18-063-04 W6M
K4b	Kakwa 4				0.47	
M7a	Milner Wanyandie			0.3		11-13-058-08 W6M
M7b	Milner Wanyandie			0.2		
M9Ba	Milner Ambient Trailer	0.1				09-15-058-08 W6M
M9Bb	Milner Ambient Trailer	0.1				
J4Da	Jayar4 7-8 or 8-8 Pad			0.8		10-08-062-03 W6M
J4Db	Jayar4 7-8 or 8-8 Pad			0.8		
J3Da	Jayar3 Bone Yard	1.0				14-08-062-03 W6M
J3Db	Jayar3 Bone Yard	1.0				
J5Da	Jayar5 Camp				0.29	11-08-062-03 W6M
J5Db	Jayar5 Camp				0.35	

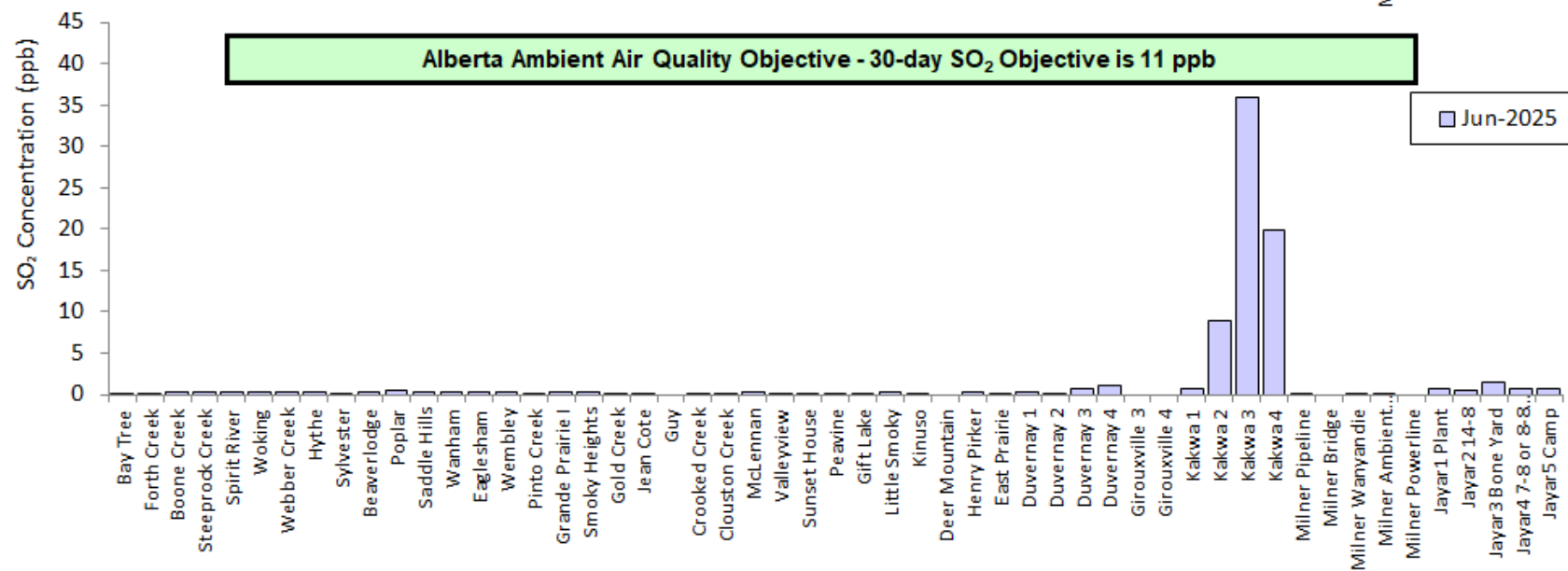
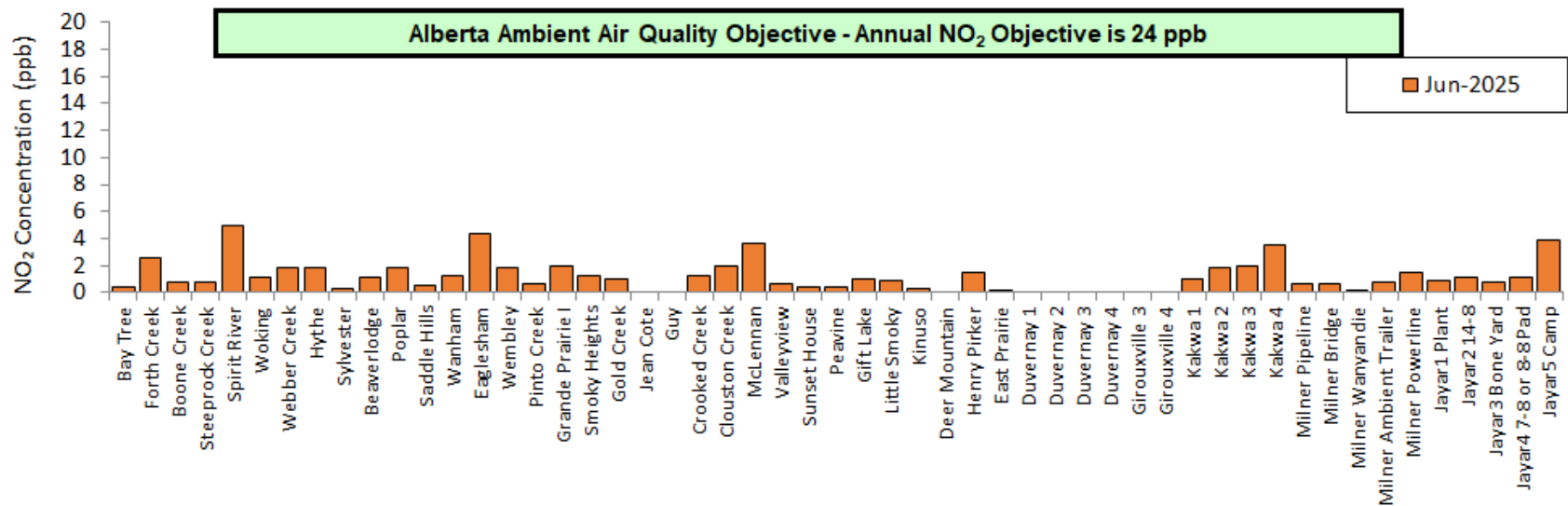
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
1	Silver Valley	0.3	-	0.7	-	08-27-081-11 W6M
2	Bay Tree	0.2	28.1	0.4	-	13-16-078-13 W6M
3	Forth Creek	0.2	-	1.3	-	04-13-082-07 W6M
5	Boone Creek	0.3	-	0.7	-	01-23-076-11 W6M
7	Steepprock Creek	0.2	-	0.4	-	09-35-072-13 W6M
9	Spirit River	0.3	-	1.9	-	08-12-079-07 W6M
10	Woking	0.3	-	0.9	-	01-13-076-07 W6M
11	Webber Creek	0.2	-	1.3	-	09-36-074-09 W6M
12	Hythe	0.2	-	1.5	-	14-36-072-11 W6M
14	Sylvester	0.1	-	0.3	-	08-06-069-12 W6M
16	Beaverlodge	0.4	-	1.3	-	15-36-071-10 W6M
17	Poplar	0.6	-	1.6	-	13-06-073-08 W6M
18	Saddle Hills	0.3	-	0.4	-	04-25-074-07 W6M
19	Wanham	0.2	-	0.6	-	16-22-077-03 W6M
24	Wembley	0.5	-	2.2	-	12-31-070-08 W6M
25	Pinto Creek	0.1	-	0.7	-	04-24-069-11 W6M
27	Grande Prairie I	0.4	-	2.1	-	08-15-071-06 W6M
29	Smoky Heights	0.3	-	0.8	-	04-06-075-02 W6M
32	Gold Creek	0.3	-	0.9	-	06-33-067-05 W6M
35	Jean Cote	0.2	-	1.7	-	12-35-079-21 W5M
36	Guy	0.1	-	2.2	0.1	03-04-076-22 W5M
37	Crooked Creek	0.1	35.6	0.7	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	1.0	-	12-01-073-22 W5M
40	McLennan	0.2	-	1.2	-	03-29-077-19 W5M
41	Valleyview	0.1	-	0.6	-	09-30-069-22 W5M
42	Sunset House	0.2	-	0.4	-	05-32-070-19 W5M
44	Peavine	0.1	-	-	-	03-05-079-15 W5M
45	Gift Lake	0.1	-	0.8	-	10-07-079-12 W5M
46	Little Smoky	0.2	-	0.9	-	12-01-065-21 W5M
47	Kinuso	0.1	24.1	0.2	-	12-10-073-10 W5M
48	Deer Mountain	0.1	-	0.3	-	15-22-068-09 W5M
49	Henry Pirker	0.3	-	1.6	-	17-26-071-06 W6M
50	East Prairie	0.1	-	0.2	-	11-13-079-08 W6M
D1	Duvernay 1	0.6	-	-	0.13	04-33-062-20 W5M
D2	Duvernay 2	0.5	-	-	0.16	04-33-062-20 W5M
D3	Duvernay 3	0.8	-	-	0.23	04-33-062-20 W5M
D4	Duvernay 4	0.7	-	-	0.25	04-33-062-20 W5M
G3	Girouxville 3	-	-	-	Damaged	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.4	04-08-077-22 W5M
K1	Kakwa 1	0.3	-	1.2	0.07	01-13-063-05 W6M
K2	Kakwa 2	4.4	-	1.6	0.30	08-13-063-05 W6M
K3	Kakwa 3	21.8	-	1.9	0.33	12-18-063-04 W6M
K4	Kakwa 4	12.9	-	2.8	0.44	06-18-063-04 W6M
M1	Milner Pipeline	0.1	-	0.5	-	12-14-058-08 W6M
M2	Milner Bridge	<0.1	-	0.4	-	08-06-057-08 W6M
M3	Milner Wvanyandie	<0.1	-	0.3	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	0.1	-	0.7	-	09-15-058-08 W6M
M5	Milner Powerline	0.2	-	0.9	-	06-14-058-08 W6M
J1	Jayar1 Plant	0.6	-	0.8	0.13	06-08-062-03 W6M
J2	Jayar2 14-8	0.5	-	0.8	0.09	07-08-062-03 W6M
J3	Jayar3 Bone Yard	1.0	-	0.6	0.12	14-08-062-03 W6M
J4	Jayar4 7-8 or 8-8 Pad	0.6	-	0.8	0.07	10-08-062-03 W6M
J5	Jayar5 Camp	0.6	-	2.1	0.32	11-08-062-03 W6M

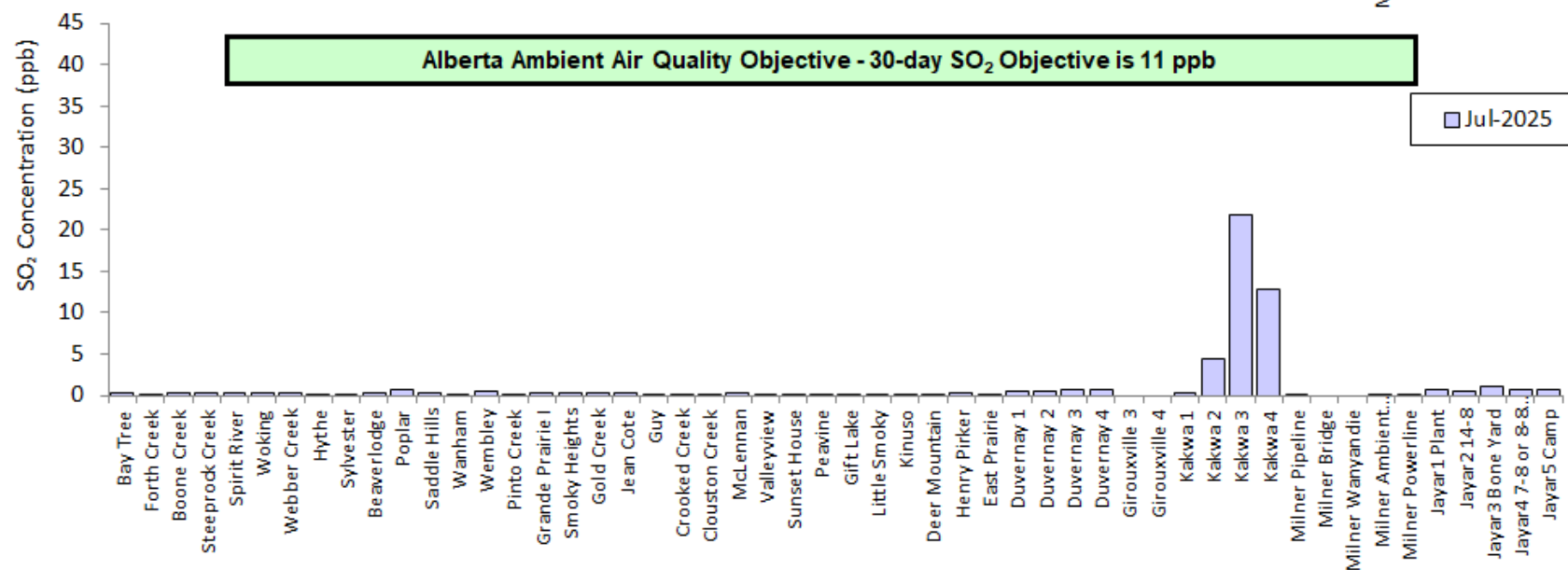
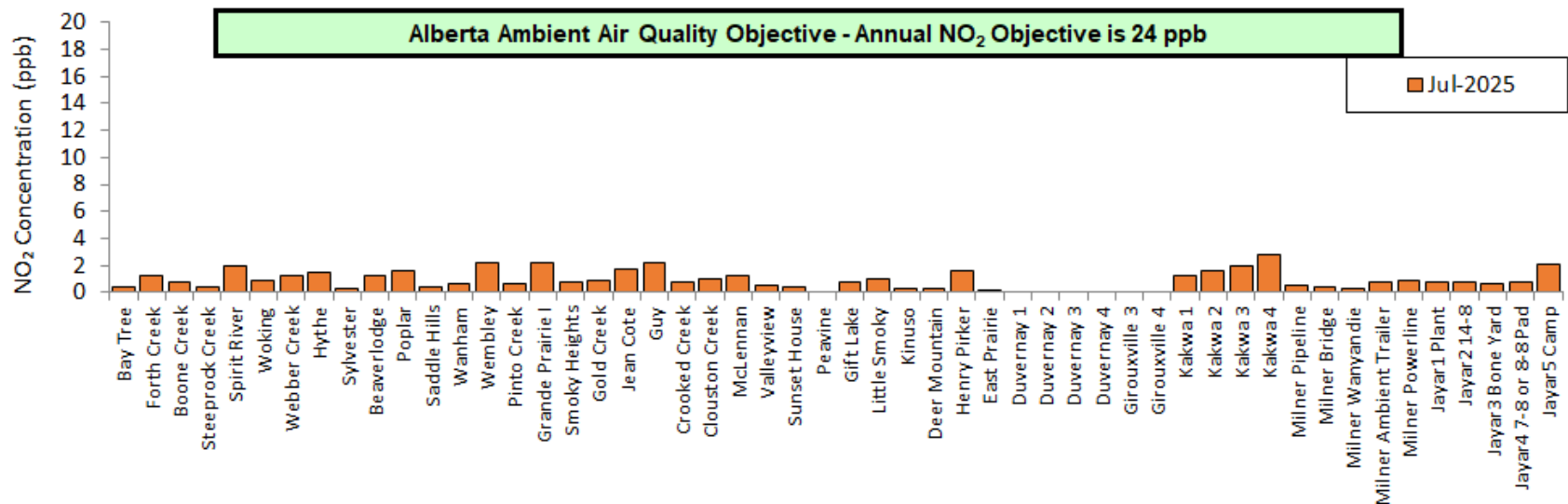
Passive Summary for July 2025

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

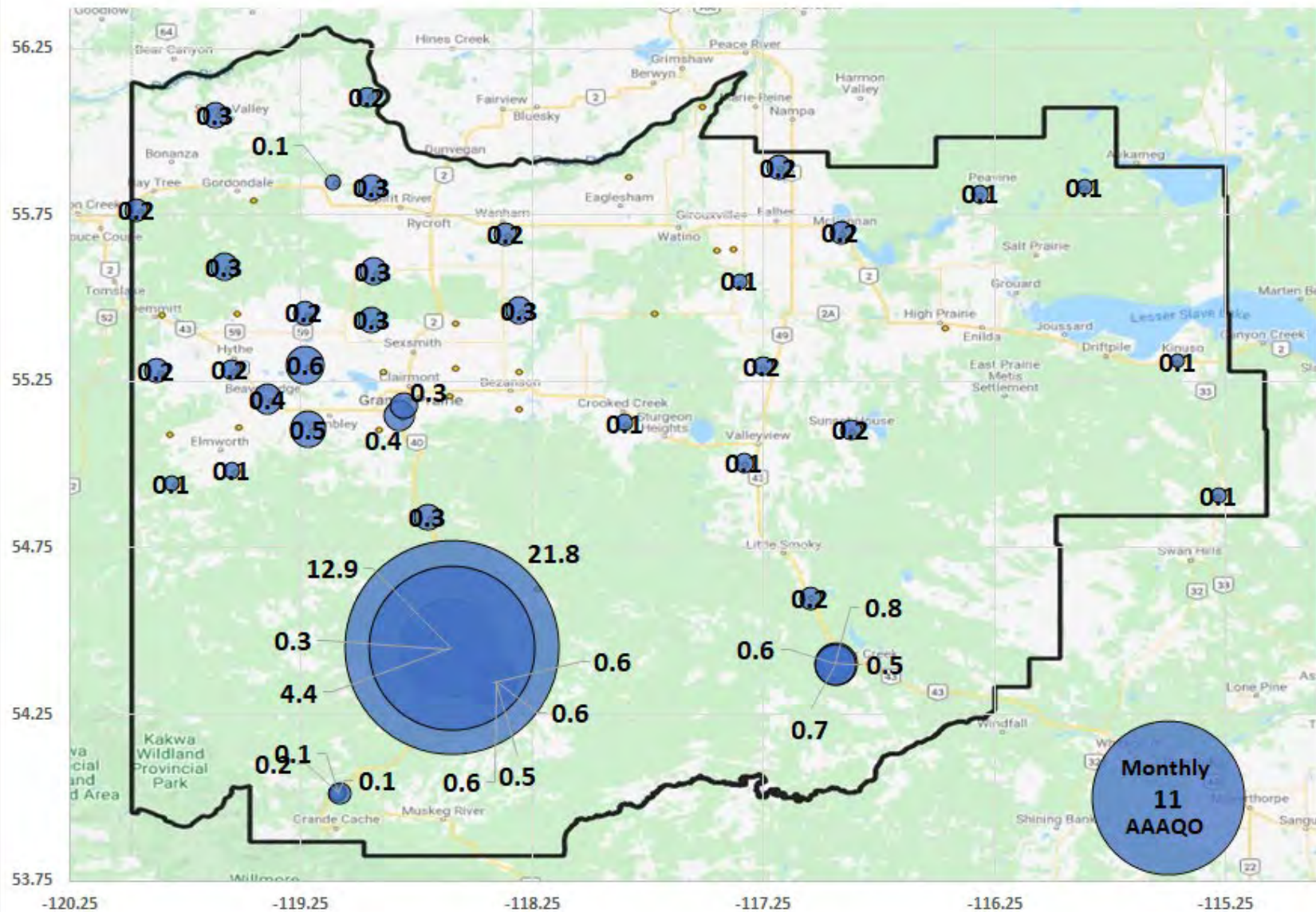
Passive Summary for July 2025 (PAZA)				
Mean	1.1	29.3	1.0	0.2
Standard Deviation	3.6	5.9	0.6	0.1
Minimum	0.1	24.1	0.2	0.1
	Kinuso (#47)	Kinuso (#47)	East Prairie (#50)	Kakwa 1 (#K1)
Maximum	21.8	35.6	2.8	0.4
	Kakwa 3 (#K3)	Crooked Creek (#37)	Kakwa 4 (#K4)	Kakwa 4 (#K4)

Continuous and Passive Monitoring Comparison				
PAZA Beaverlodge Station	0.4	26.9	2.8	-
Beaverlodge Passive (#16)	0.4	-	1.3	-
PAZA Henry Pirker Station	0.2	26.1	4.2	0.1
Henry Pirker passive (#49)	0.3	-	1.6	-
Milner Station	-	-	1.1	-
Milner passive	0.1	-	0.7	-

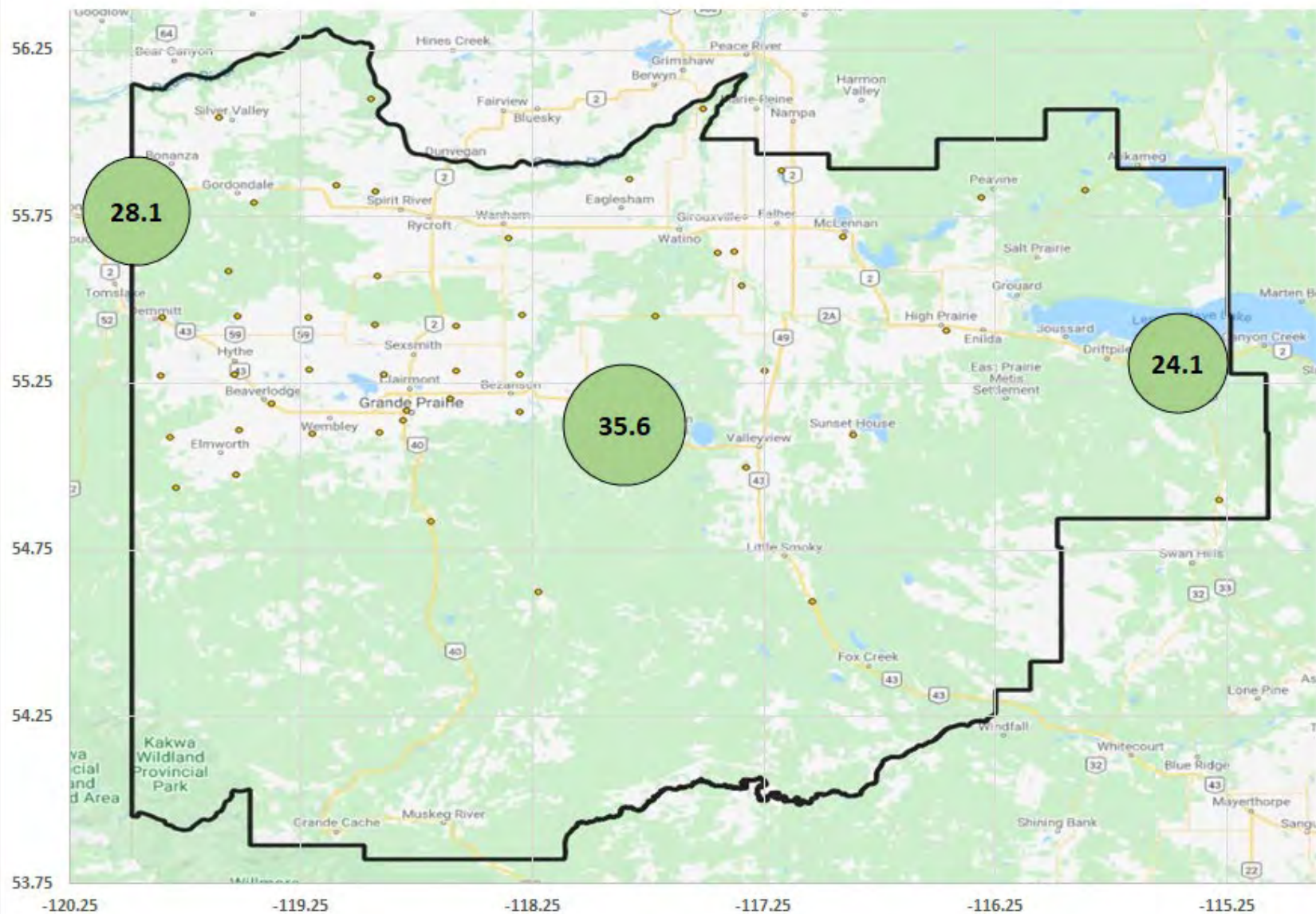




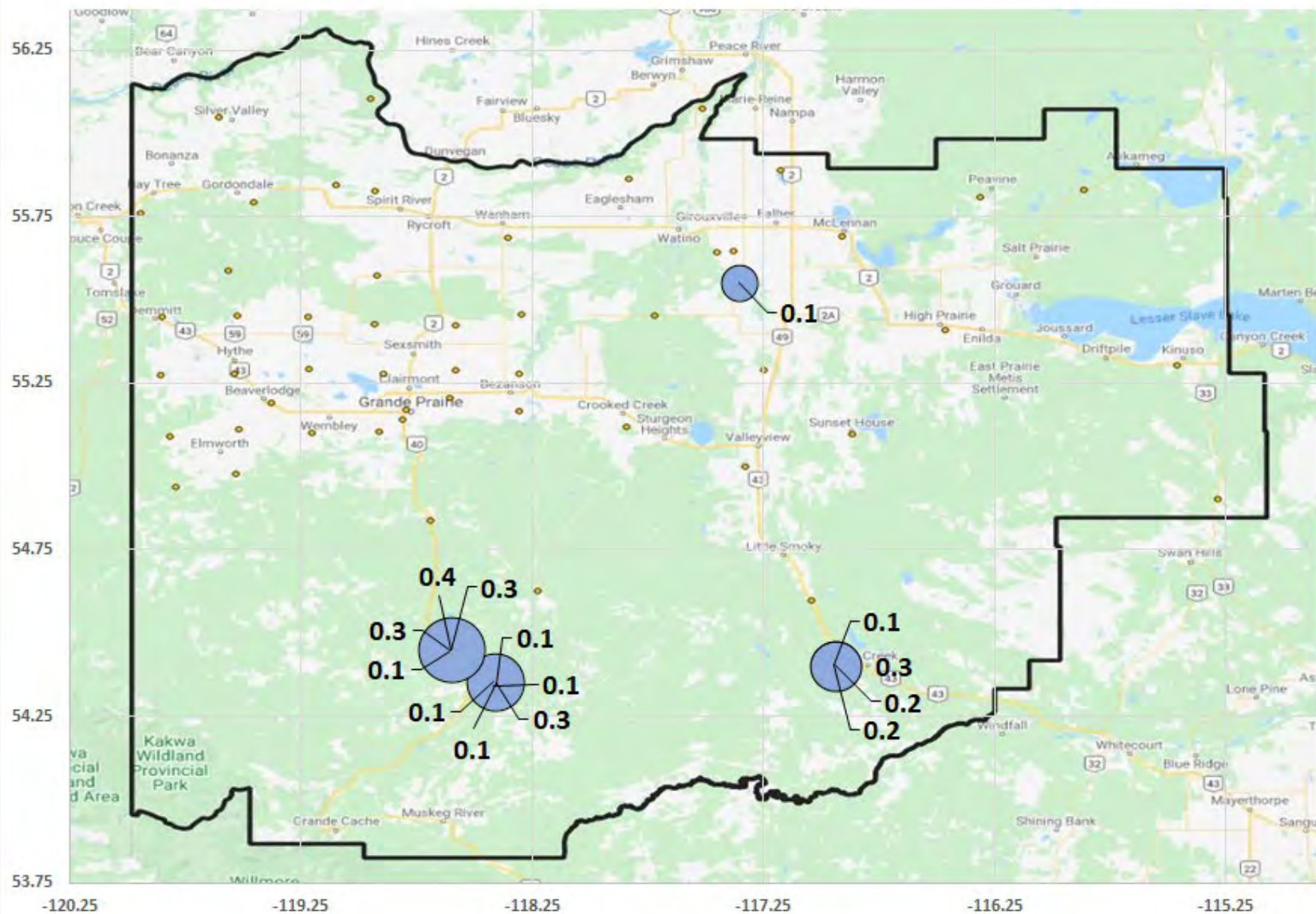
SO₂ Monthly Average (units in ppb)



O₃ Monthly Average (units in ppb)



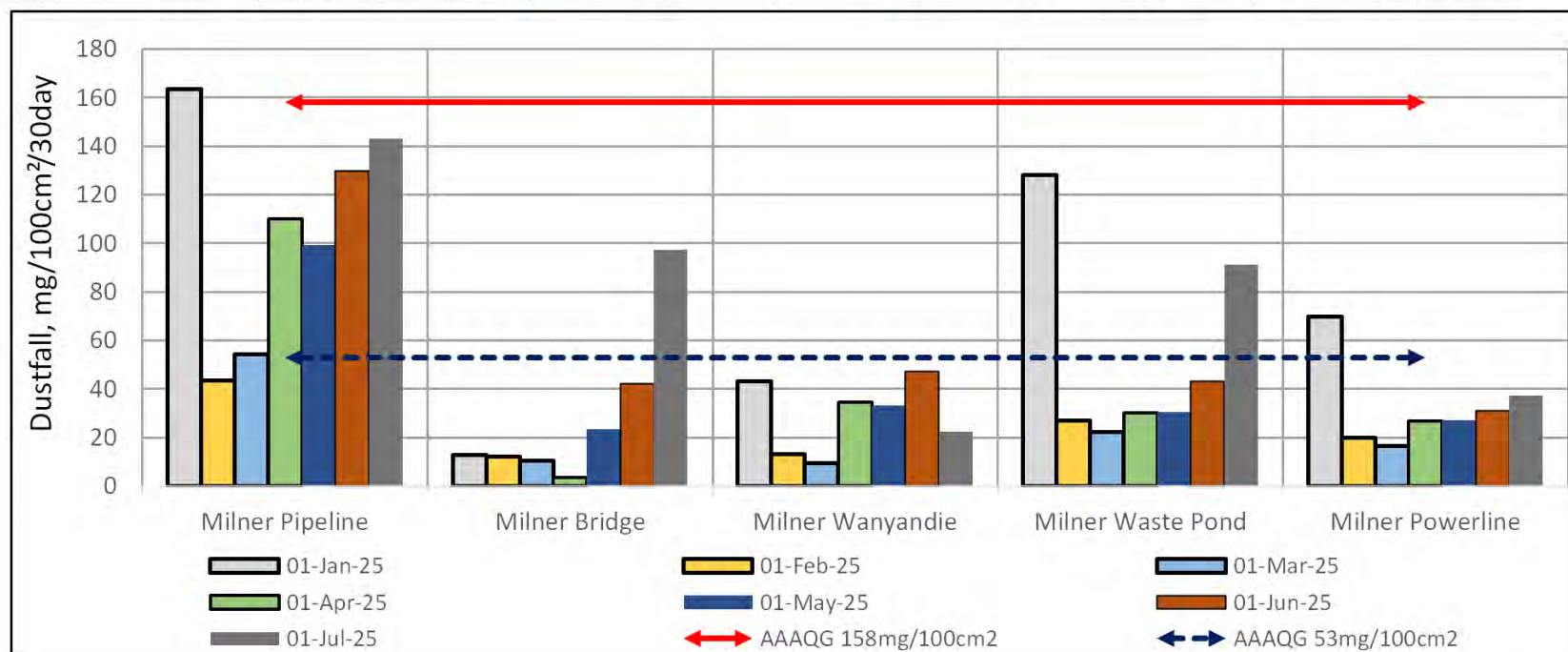
H₂S Monthly Average (units in ppb)



11 Dustfall Monitoring Data

Milner Dustfall Samples July 2025

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm ² /30day	Fixed Dustfall (30 day) mg/100cm ² /30day	Exposure days	Field Notes
July	2025	Milner Pipeline	143.1	49.7	32	
July	2025	Milner Bridge	97.4	21.3	32	
July	2025	Milner Wanyandie	22.3	7.0	32	
July	2025	Milner Waste Pond	91.3	24.4	32	
July	2025	Milner Powerline	37.3	16.0	32	
July	2025	Milner Powerline Dup	41.9	16.7	32	RPD, 12% / 4%



End of Report



Peace Airshed Zone Association

Ambient Air Monitoring Report

July 2025