Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

February 2023

March 31, 2023

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

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

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of February 2023.

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

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

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

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

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

Continuous Monitoring:

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

Calibration and Data Submission:

Monthly report, hourly data and calibration reports for February 2023 were submitted to the ETS data system.

Table A. PAZA members with Facility Operating Approvals

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

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

There was one dustfall readings above the AAAQG

- Wanyandie site at 55.1 mg/100cm²/30day which is greater than the residential / recreational level of 53 mg/100cm²/30day (reference number 410877)

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.

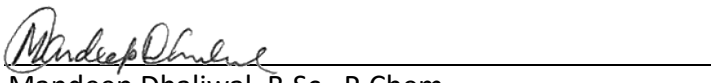
Passive Monitoring

- 49 Stations throughout the PAZA zone
  - Passive sample analyses were performed by Bureau Veritas Laboratories
- There were 17 duplicates sampled in the month of February.
- Seven SO_2 duplicates located at Pinto Creek, Bay Tree, Peavine, Guy, Duvernay 4, Jayar2 14-8,Milner Wanyandie; RPD ranging from 0% to 22% (no fails)
- One O_3 duplicate located at Bay Tree; RPD 6% (no fails)
- Six NO_2 duplicates at Gold Creek, Kinuso, Boone Creek, Little Smoky, Jayar5 Camp, Milner Powerline; RPD ranging from 0% to 30% (no fails)
- Three H_2S duplicates, Duvernay 4, Girouxville 4, Jayar1 Plant; RPD 12% to 24% (no fails)
- There were no exceedances of the AAAQOs for all monitored parameters at any of the passive monitoring stations during this month.

Dustfall Monitoring

- Five Stations collected Total Dustfall and Fixed Dustfall
- There was one duplicate sampled collected for each in the month of February.
  - RPD ranged from 45% to 55%, with the total dustfall duplicate failing
- Total dustfall ranged from 0.2 (suspicious low value) to 82.6 mg/100cm²/30day.
- There was one reading above the AAAQG during the month.
  - Wanyandie site at 55.1 > 53 mg/100cm²/30day, reference number 410877

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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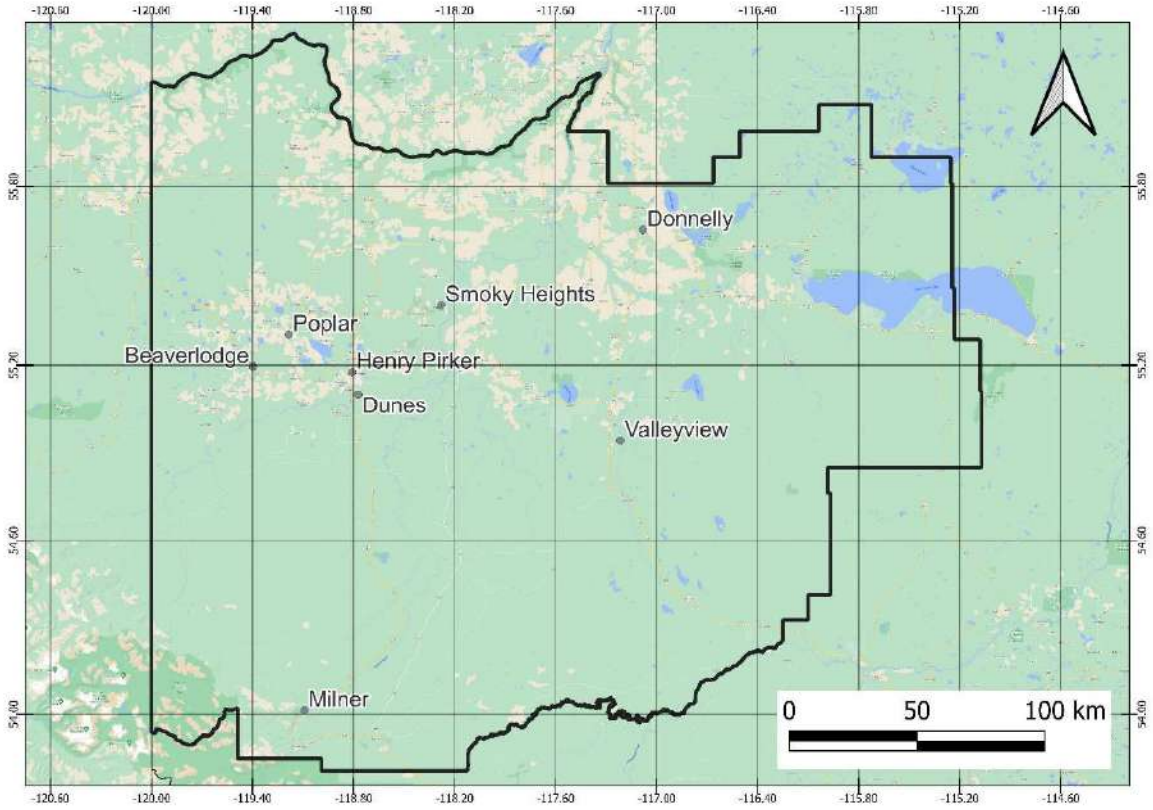
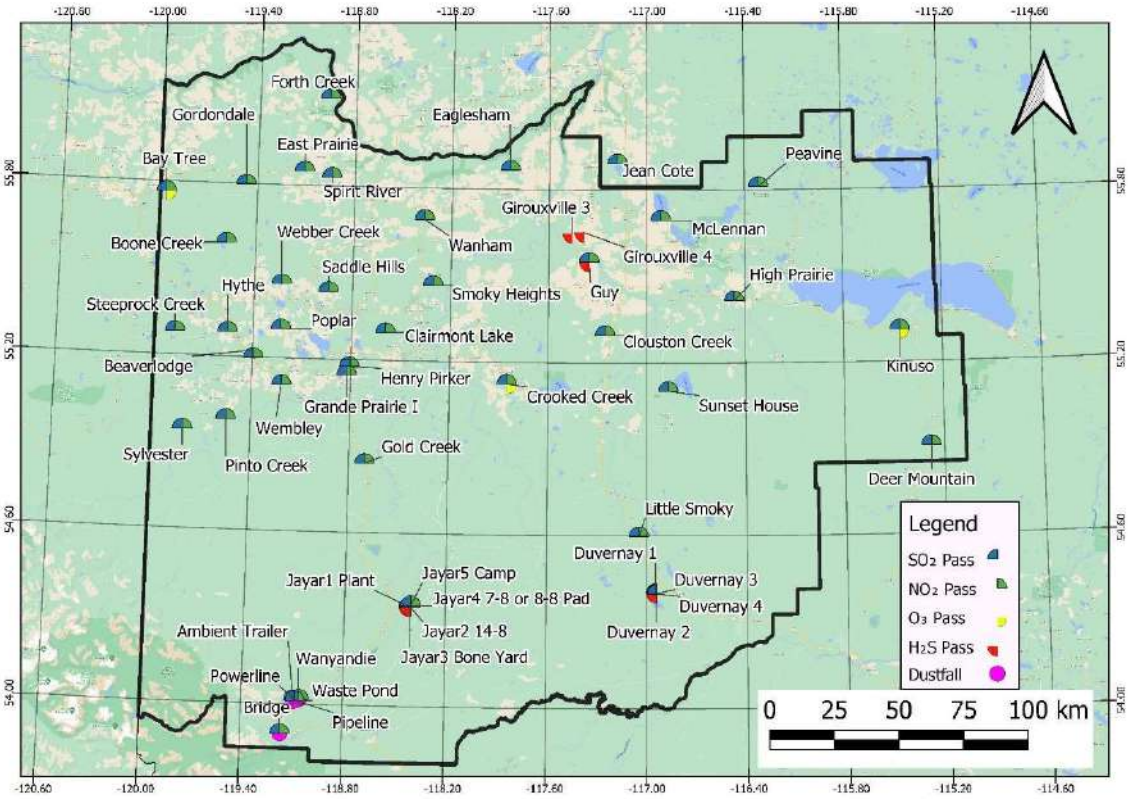
PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 February 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 - February 2023 Beaverlodge Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	1.2	0.0	95.1%	100.0%	29.1	-	Feb-15 10:00	9.2	-	Feb-15	-	-	-	-	Feb 07, 2023
NO_2 (ppb)	5.7	0.3	95.1%	100.0%	38.5	159	Feb-23 11:00	20.1	-	Feb-15	0	-	-	-	Feb 07, 2023
NO_x (ppb)	6.9	0.3	95.1%	100.0%	53.2	-	Feb-23 11:00	29.3	-	Feb-15	-	-	-	-	Feb 07, 2023
O_3 (ppb)	32.6	0.8	95.2%	100.0%	44.7	76	Feb-12 23:00	41.7	-	Feb-11	0	-	-	-	Feb 07, 2023
$PM_{2.5}$ (µg/m³)	2.5	0.0	99.9%	100.0%	19.3	80	Feb-02 02:00	9.7	29	Feb-02	0	-	0	-	Feb 08, 2023
SO_2 (ppb)	1.3	0.0	94.5%	99.3%	20.0	172	Feb-25 15:00	4.4	48	Feb-02	0	-	0	0	Feb 08, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-7.3	-32.0	100.0%	100.0%	7.2
RH (%)	71.8	42.2	100.0%	100.0%	94.5
WS (km/hr)	11.3	0.3	100.0%	100.0%	50.1
WD (deg)	272	1.0	100.0%	100.0%	359.4

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 272 W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42i	No Operational issues noted
O_3	Thermo	49iQ	No Operational issues noted
$PM_{2.5}$	Sharp	5030	No Operational issues noted
SO_2	Thermo	43i-TLE	Perm tube failure, manual high point checks conducted Feb 23 + Feb 27, 5 hrs maintenance
Met Equip	MetOne	50.5	No Operational issues noted

1.2 Dunes Air Monitoring Station

PAZA - February 2023 Dunes Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
$PM_{2.5}$ (µg/m³)	3.0	0.0	98.2%	98.5%	57.2	80	Feb-01 07:00	9.4	29	Feb-01	0	-	0	-	Feb-09-2023
SO_2 (ppb)	0.4	0.0	95.4%	100.0%	8.1	172	Feb-14 11:00	1.1	48	Feb-14	0	-	0	0	Feb-09-2023
TRS (ppb)	0.3	0.0	95.2%	100.0%	5.8	-	Feb-04 21:00	1.3	-	Feb-04	-	-	-	-	Feb-09-2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-7.5	-33.0	100.0%	100.0%	10.2
RH (%)	70.9	35.3	100.0%	100.0%	96.4
WS (km/hr)	4.3	0.1	100.0%	100.0%	15.1
WD (deg)	310	0.2	100.0%	100.0%	359.9

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 310 NW

Update Summary:

Parameter	Make	Model	Equipment summary
$PM_{2.5}$	Thermo	TEOM AB	Feb 27 pump failure resulted in 10hrs of data removed
SO_2	TECO	43i	No Operational issues noted
TRS	TECO	43C	No Operational issues noted
Met Equip	Gil/RMYoung	MetPak/RMY86004	No Operational issues noted

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - February 2023 Henry Pirker Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	8-hour / 24-hour Max	8-hour / 24-hour Objective	8-hour / 24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	10.6	0.0	94.9%	100.0%	231.5	-	Feb-03 11:00	90.2	-	Feb-03	-	-	-	-	Feb 06, 2023
NO_2 (ppb)	15.4	1.7	94.9%	100.0%	72.9	159	Feb-03 11:00	49.0	-	Feb-03	0	-	-	-	Feb 06, 2023
NO_x (ppb)	26.0	1.7	94.9%	100.0%	304.8	-	Feb-03 11:00	139.6	-	Feb-03	-	-	-	-	Feb 06, 2023
O_3 (ppb)	24.7	0.4	95.2%	100.0%	44.4	76	Feb-13 00:00	36.1	-	Feb-11	0	-	-	-	Feb 06, 2023
$PM_{2.5}$ (µg/m³)	5.4	0.2	99.9%	100.0%	31.3	80	Feb-03 15:00	19.0	29	Feb-03	0	-	0	-	Feb 21, 2023
SO_2 (ppb)	0.4	0.0	95.1%	100.0%	7.5	172	Feb-24 09:00	1.2	48	Feb-17	0	-	0	0	Feb 06, 2023
H_2S (ppb)	0.3	0.0	95.2%	100.0%	8.2	10	Feb-03 12:00	2.1	3	Feb-03	0	-	0	-	Feb 21, 2023
CH_4 (ppm)	2.1	1.9	86.5%	91.2%	3.7	-	Feb-04 05:00	2.4	-	Feb-04	-	-	-	-	Feb 02, 2023
THC (ppm)	2.1	1.9	86.5%	91.2%	3.7	-	Feb-04 05:00	2.5	-	Feb-04	-	-	-	-	Feb 02, 2023
NMHC (ppm)	0.0	0.0	86.5%	91.2%	0.7	-	Feb-04 17:00	0.1	-	Feb-10	-	-	-	-	Feb 02, 2023
CO (ppm)	0.2	0.1	95.2%	100.0%	1.4	13	Feb-03 11:00	0.7	5	Feb-03	0	0	-	-	Feb 02, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-7.3	-30.8	100.0%	100.0%	9.2
RH (%)	65.8	39.4	100.0%	100.0%	86.2
SR (W/m²)	40.6	0.0	100.0%	100.0%	370.4
WS (km/hr)	6.8	0.3	100.0%	100.0%	33.6
WD (deg)	261	2.6	100.0%	100.0%	356.5

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 261 W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42IQ	No Operational issues noted
O_3	TECO	49I	No Operational issues noted
$PM_{2.5}$	API	T640	No Operational issues noted
SO_2	TEI	43I-TLE	No Operational issues noted
H_2S	TEI	450i	No Operational issues noted
THC/CH_4/NMHC	TEI	55i	Removal cal Feb 2 - 3 (18hrs); replaced rotor & 4- way valve in zero generator; Data removed from span Feb 26 to cal Feb 27 (35hrs, 4hrs maintenance), replaced hydrogen and nitrogen & span gas
CO	TEI	48I-TLE	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

1.4 Smoky Heights Air Monitoring Station

PAZA - February 2023 Smoky Heights Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
$PM_{2.5}$ (µg/m³)	2.1	0.0	99.6%	100.0%	20.7	80	Feb-04 19:00	5.7	29	Feb-03	0	-	0	-	Feb 17, 2023
SO_2 (ppb)	0.4	0.0	95.2%	100.0%	5.2	172	Feb-02 17:00	1.2	48	Feb-03	0	-	0	0	Feb 17, 2023
TRS (ppb)	0.2	0.0	95.2%	100.0%	1.5	-	Feb-08 07:00	0.5	-	Feb-08	-	-	-	-	Feb 17, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-8.7	-30.1	100.0%	100.0%	6.6
WS (km/hr)	12.4	0.3	100.0%	100.0%	45.7
WD (deg)	272	0.3	100.0%	100.0%	359.8

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction 272 WNW

Update Summary:

Parameter	Make	Model	Equipment summary
$PM_{2.5}$	Sharp	5030	No Operational issues noted
SO_2	TECO	43i	No Operational issues noted
TRS	TEI	43I APSAA	No Operational issues noted
Met Equip	MetOne	50.5	No Operational issues noted

1.5 Valleyview Air Monitoring Station

PAZA - February 2023 Valleyview Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
SO_2 (ppb)	0.2	0.0	88.3%	92.7%	3.0	172	Feb-22 15:00	0.4	48	Feb-24	0	-	0	0	Feb 24, 2023
H_2S (ppb)	0.2	0.0	88.0%	92.7%	0.6	10	Feb-15 04:00	0.4	3	Feb-22	0	-	0	-	Feb 24, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-7.8	-37.5	92.7%	92.7%	9.7
RH (%)	75.2	39.1	92.7%	92.7%	100.2
WS (km/hr)	4.5	0.1	92.7%	92.7%	19.1
WD (deg)	264	0.3	92.7%	92.7%	359.8

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: 264 NW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	TEI	43i-APSCB	Feb 12 - 14 communications failure (75hrs removed)
H_2S	TEI	450i-APHAA / 43C	Feb 12 - 14 communications failure (75hrs removed)
Met Equip	RMYoung	RMY86004	Feb 12 - 14 communications failure (75hrs removed)

1.6 Donnelly Air Monitoring Station

PAZA - February 2023 Donnelly Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
SO_2 (ppb)	0.2	0.0	95.1%	99.7%	1.4	172	Feb-24 22:00	0.7	48	Feb-24	0	-	0	0	Feb 14, 2023
H_2S (ppb)	0.1	0.0	95.1%	99.7%	0.3	10	Feb-17 04:00	0.2	3	Feb-15	0	-	0	-	Feb 14, 2023

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-9.1	-35.9	99.7%	99.7%	6.4
WS (km/hr)	10.7	0.1	99.7%	99.7%	41.8
WD (deg)	216	0.1	99.7%	99.7%	359.9

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: 216 SW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	Teco	43i	Communication failure, Feb 05 (2hrs removed)
H2S	Thermo	45C	Communication failure, Feb 05 (2hrs removed)
Met Equip	RMYoung	5103	Communication failure, Feb 05 (2hrs removed)

1.7 Poplar Air Monitoring Station

PAZA - February 2023 Poplar Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	1.1	0.0	89.9%	94.9%	32.8	-	Feb-03 14:00	4.3	-	Feb-03	-	-	-	-	Feb 16, 2023
NO_2 (ppb)	6.0	0.2	89.9%	94.9%	31.1	159	Feb-03 18:00	15.6	-	Feb-03	0	-	-	-	Feb 16, 2023
NO_x (ppb)	7.1	0.4	89.9%	94.9%	64.0	-	Feb-03 14:00	20.1	-	Feb-03	-	-	-	-	Feb 16, 2023
O_3 (ppb)	32.5	0.3	95.1%	99.7%	47.2	76	Feb-12 23:00	43.3	-	Feb-06	0	-	-	-	Feb 17, 2023
$PM_{2.5}$ (µg/m³)	1.6	0.0	96.7%	97.2%	23.3	80	Feb-14 15:00	4.5	29	Feb-13	0	-	0	-	Feb 13, 2023
SO_2 (ppb)	1.1	0.0	94.7%	99.7%	12.3	172	Feb-26 12:00	3.1	48	Feb-26	0	-	0	0	Feb 16, 2023
TRS (ppb)	0.4	0.0	90.2%	94.9%	2.4	-	Feb-03 20:00	0.9	-	Feb-03	-	-	-	-	Feb 13, 2023
CH4 (ppm)	removed Dec 12, 2022														
THC (ppm)	2.4	2.0	94.7%	99.4%	3.6	-	Feb-03 20:00	2.7	-	Feb-03	-	-	-	-	Feb 14, 2023
NMHC (ppm)	removed Dec 12, 2022														

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	-9.1	-32.8	99.7%	99.7%	6.3
WS (km/hr)	12.7	0.2	99.7%	99.7%	50.2
WD (deg)	277	1.4	99.7%	99.7%	358.8

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

Average Wind Direction: 277 W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_X$	TEI	42i	Feb 15 (2hrs removed); removal cal., rebuilt moly convertor, replaced silica scrubber, drier, swap charcoal in the flow pass canister; data flagged as invalid (22hrs) from span to maintenance (9hrs)
O_3	TEI	49I	Feb 15 comm. Failure (2hrs removed)
$PM_{2.5}$	Thermo	TEOM AB	Feb 15 comm. Failure (2hrs removed); Several periods of negative drift (17hrs removed)
SO_2	TEI	43I	Feb 15 comm. Failure (2hrs removed)
TRS	TEI	43I	Feb 13-14 TRS removal calibration for repairs, replaced temp probe; data from last good span and install maintenance (28hrs removed, 4hrs maintenance); Feb 15 comm. Failure (2hrs removed)
THC	TEI	55i / 51Ii-LT	CH4, NMHC not in service; Feb 15 comm. Failure (2hrs removed)
Met Equip	MetOne	50.5	Feb 15 comm. Failure (2hrs removed)

1.8 Milner Air Monitoring Station

PAZA - February 2023 Milner Station Report

Parameter	February Average	Minimum	Valid	Operational	1-hour Max	1-hour Objective	1-hour Max Day and Time	24-hour Max	24-hour Objective	24-hour Max Day	Exceedance 1hr	Exceedance 8hr	Exceedance 24hr	Exceedance 30d	Calibration Date
NO (ppb)	0.6	0.0	92.9%	97.5%	53.1	-	Feb-26 10:00	4.9	-	Feb-26	-	-	-	-	Feb 28, 2023
NO_2 (ppb)	3.3	0.1	92.9%	97.5%	31.7	159	Feb-26 10:00	8.8	-	Feb-26	0	-	-	-	Feb 28, 2023
NO_x (ppb)	4.0	0.0	92.9%	97.5%	84.9	-	Feb-26 10:00	13.8	-	Feb-26	-	-	-	-	Feb 28, 2023
$PM_{2.5}$ (µg/m³)	2.9	0.0	98.2%	99.1%	31.2	80	Feb-18 17:00	8.7	29	Feb-18	0	-	0	-	Feb 28, 2023

	Average	Minimum	Valid	Operational	Maximum
WS (km/hr)	11.5	0.1	100.0%	100.0%	34.5
WD (deg)	275	4.4	100.0%	100.0%	357.6

Note: Valid hours must be greater than 75%
Operational hours must be greater than 90%

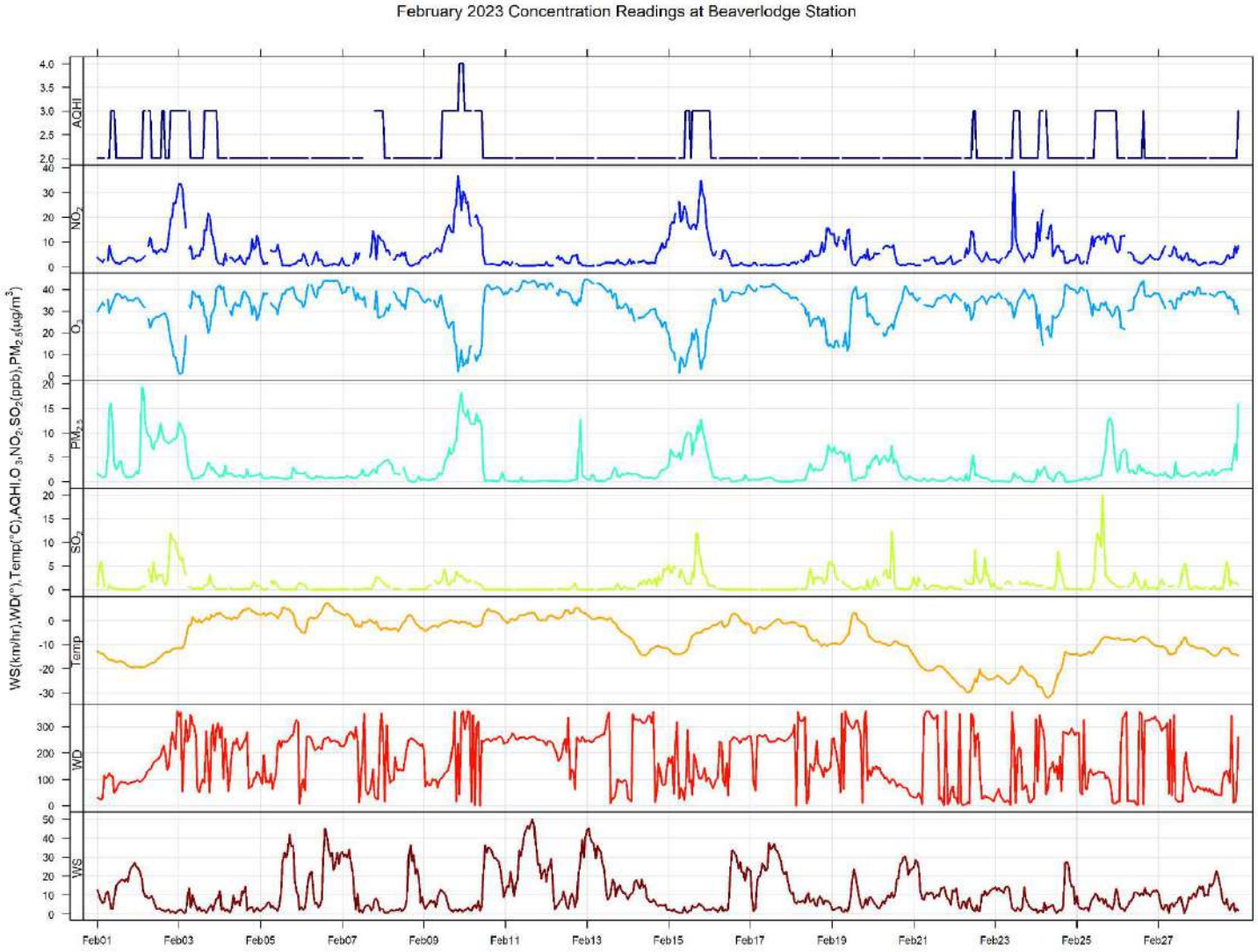
Average Wind Direction	275	W

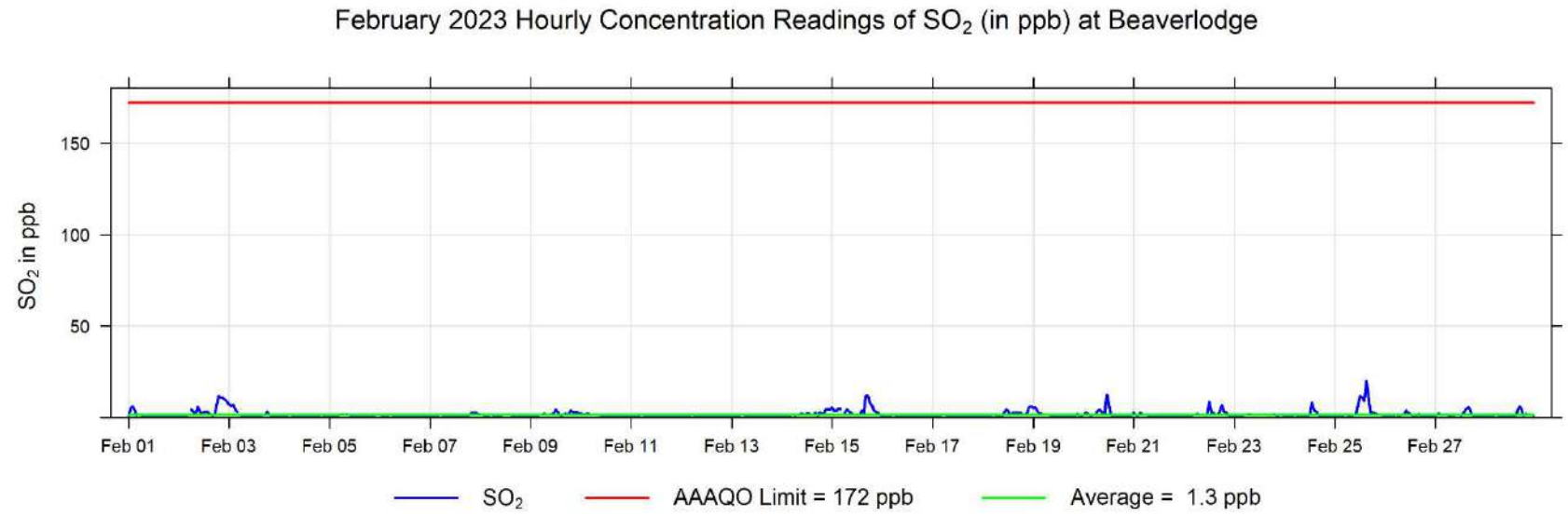
Update Summary:

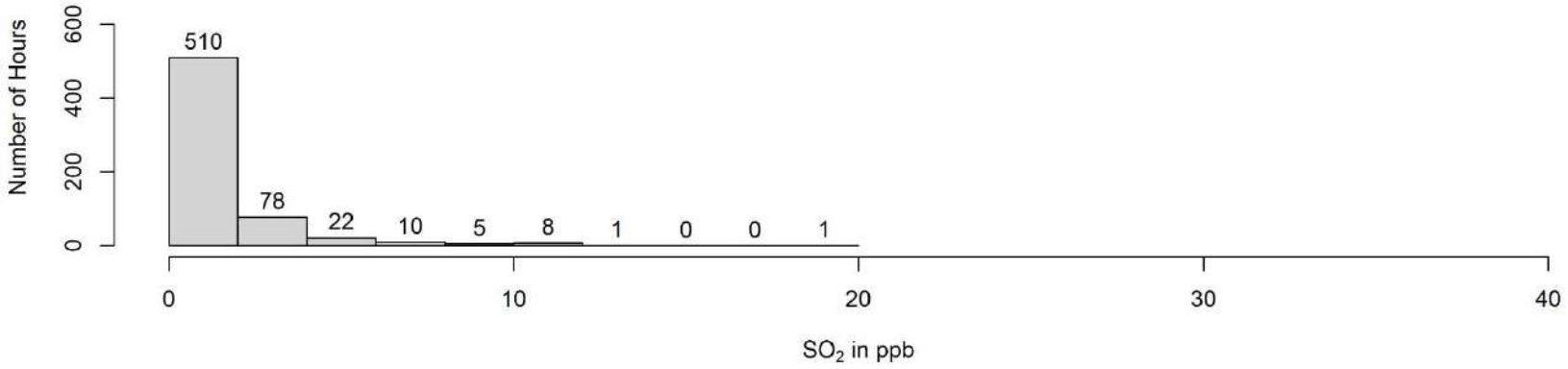
Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42i	Removal cal failed so data to last good span removed (10hrs, 7hrs maintenance), eq. replacement
$PM_{2.5}$	TEOM	AB	Excessive drift, 6 hours of data <-3 removed
Met Equip	MetOne	50.5	No Operational issues noted

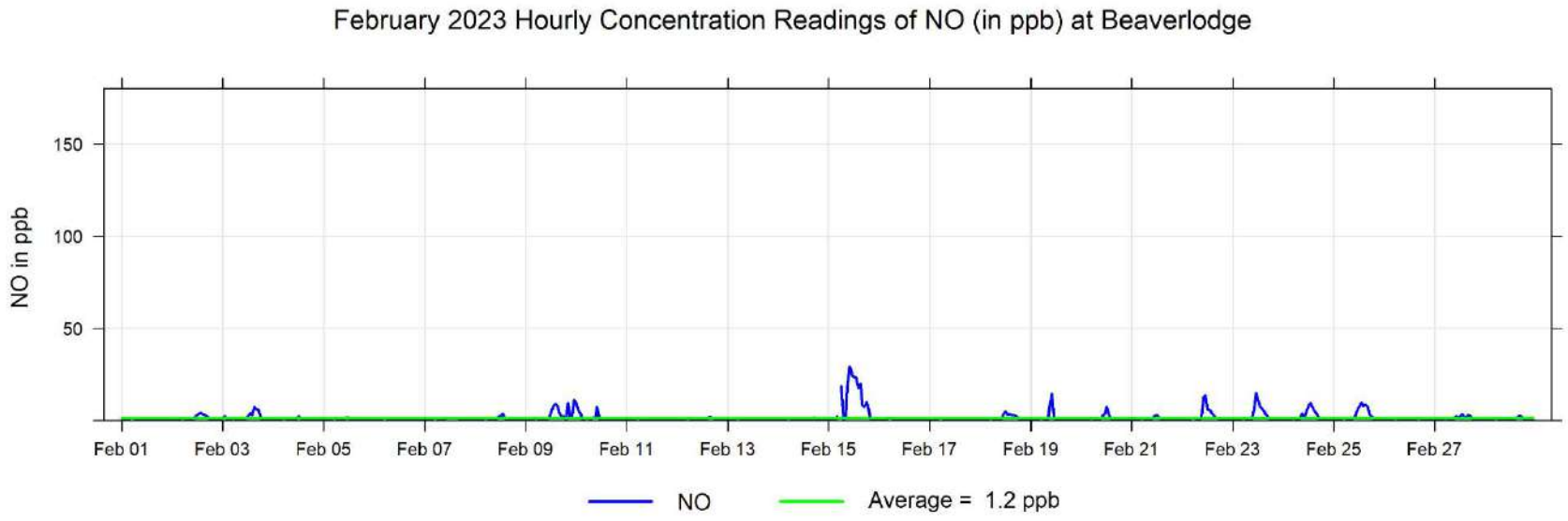
2 Beaverlodge Charts

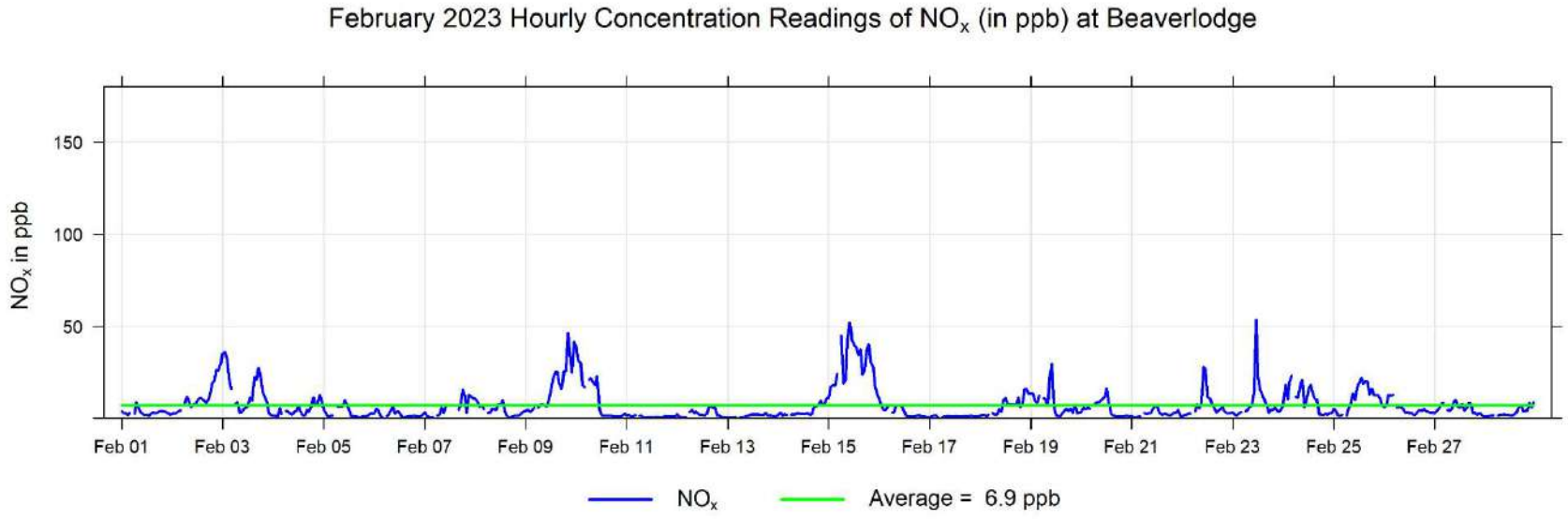
The following pages include the charts and histograms for Beaverlodge Station

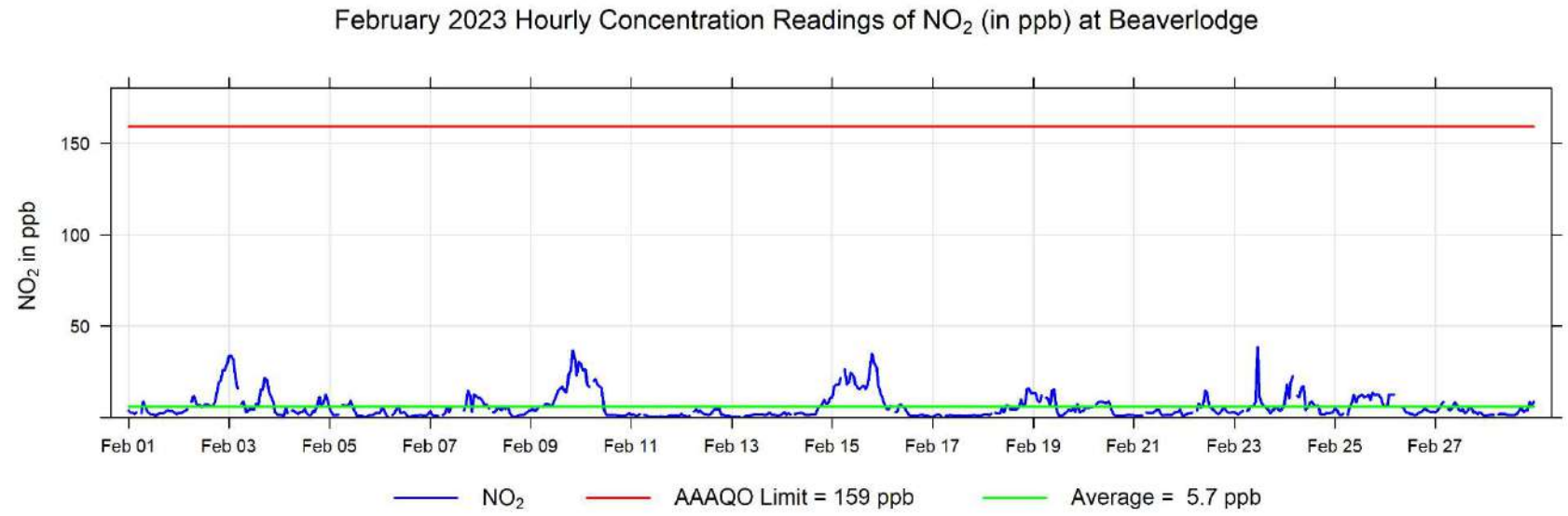


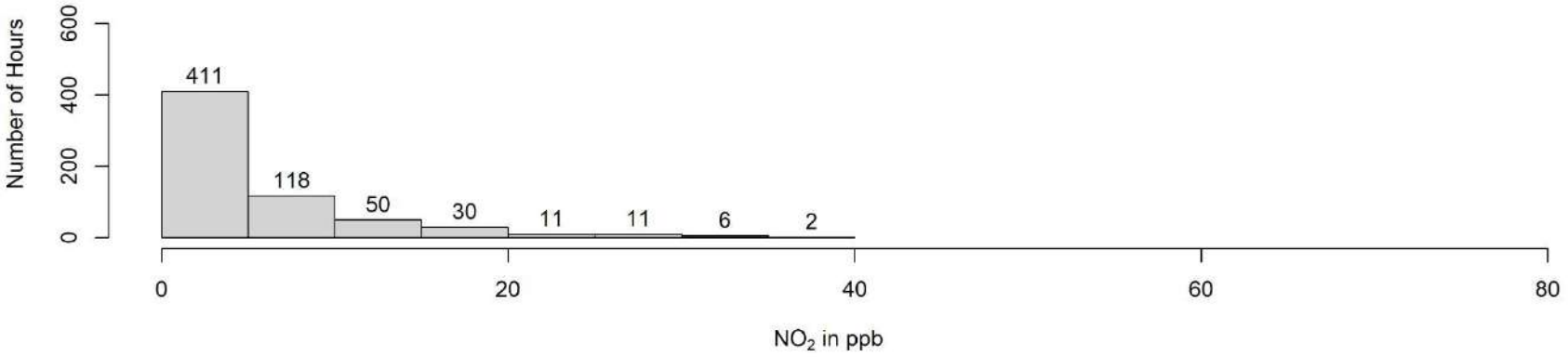

February 2023 Hourly Concentration Readings of SO_2 (in ppb) at Beaverlodge
SO_2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO_2
AAAQO Limit = 172 ppb
Average = 1.3 ppb

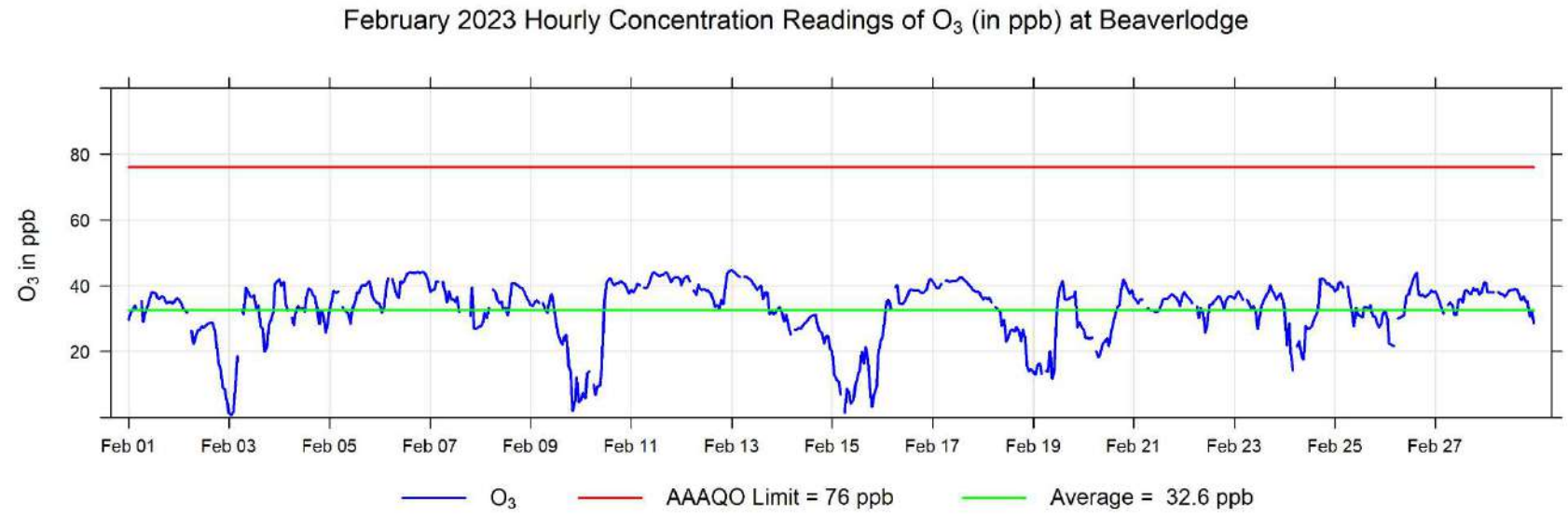

Number of Hours
0
200
400
600
510
78
22
10
5
8
1
0
0
1
0
10
20
30
40
SO_2 in ppb

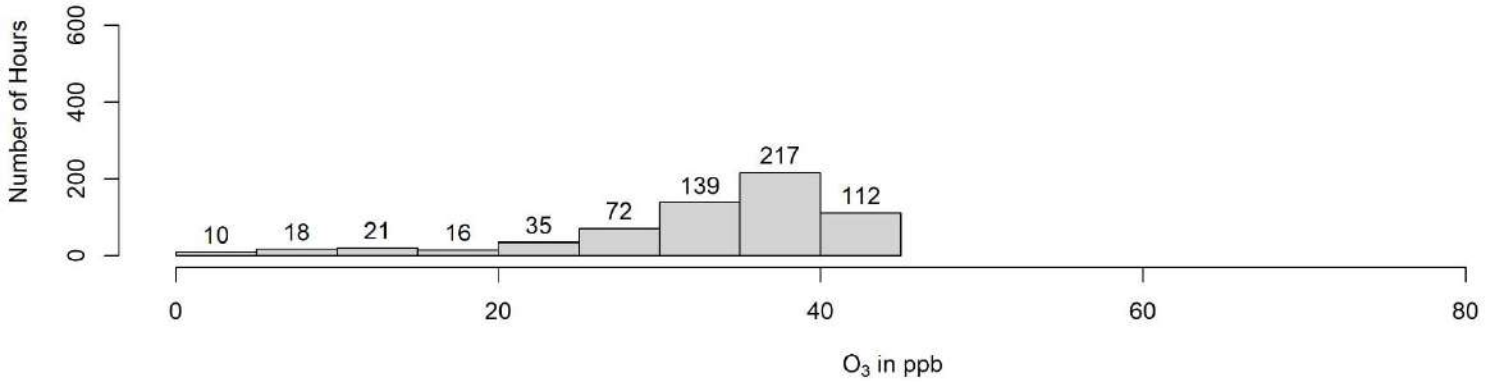

February 2023 Hourly Concentration Readings of NO (in ppb) at Beaverlodge
NO in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO
Average = 1.2 ppb

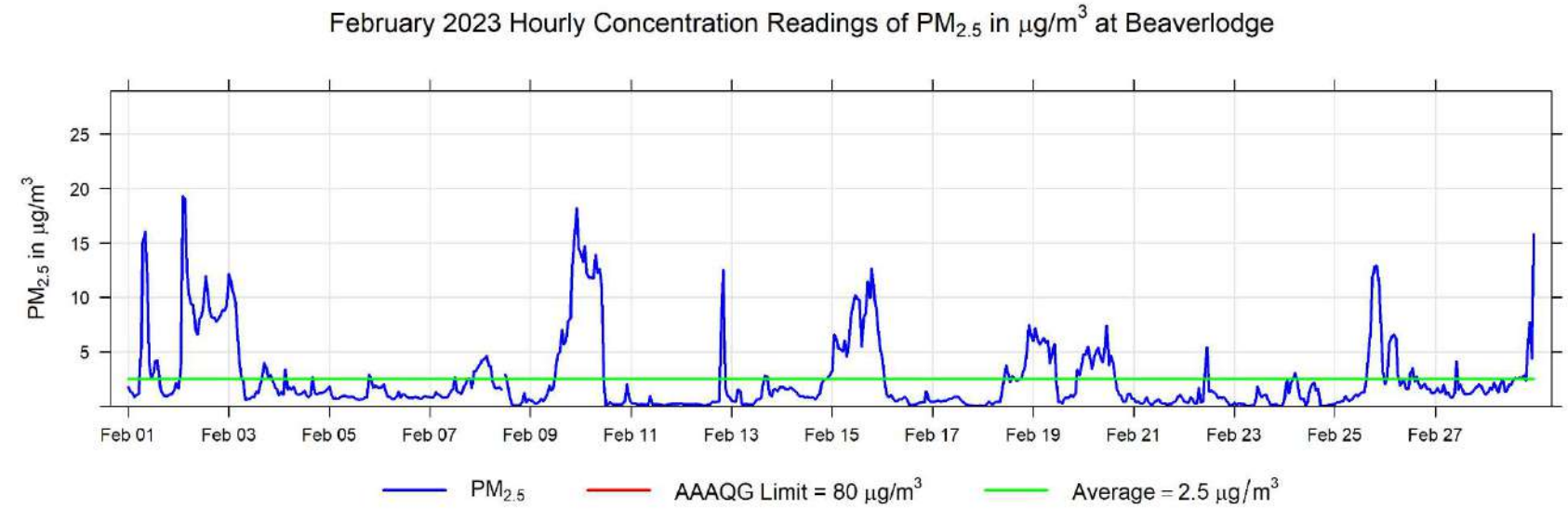

February 2023 Hourly Concentration Readings of NOx (in ppb) at Beaverlodge
NOx in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NOx
Average = 6.9 ppb

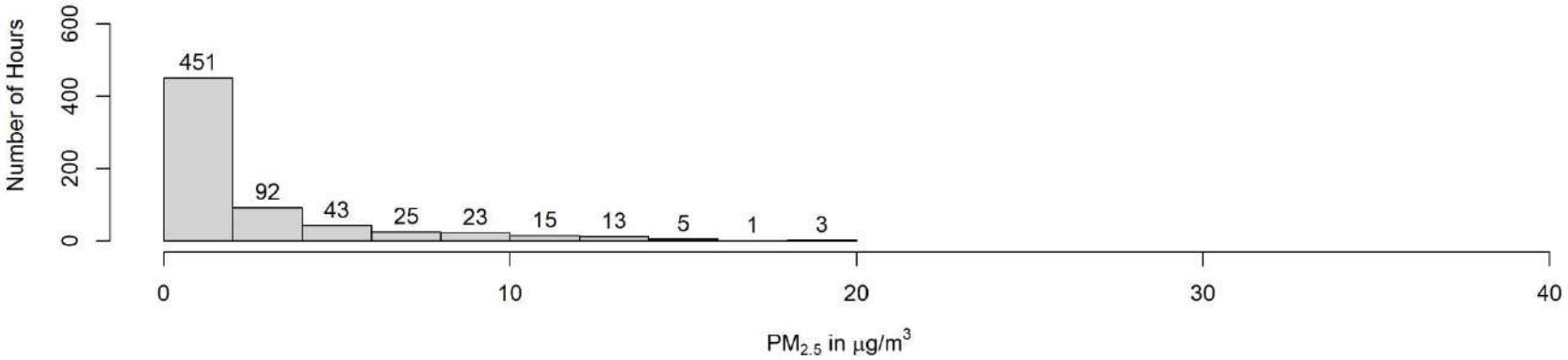

February 2023 Hourly Concentration Readings of NO2 (in ppb) at Beaverlodge
NO2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO2
AAAQO Limit = 159 ppb
Average = 5.7 ppb

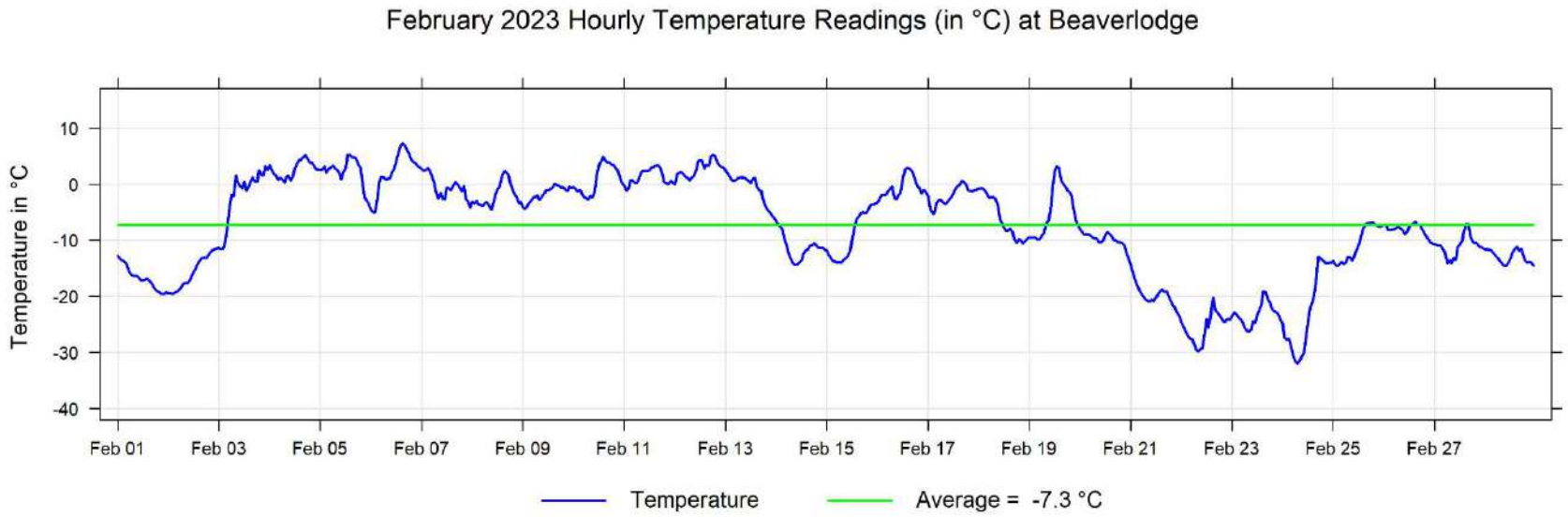

Number of Hours
0
200
400
600
411
118
50
30
11
11
6
2
0
20
40
60
80
NO2 in ppb

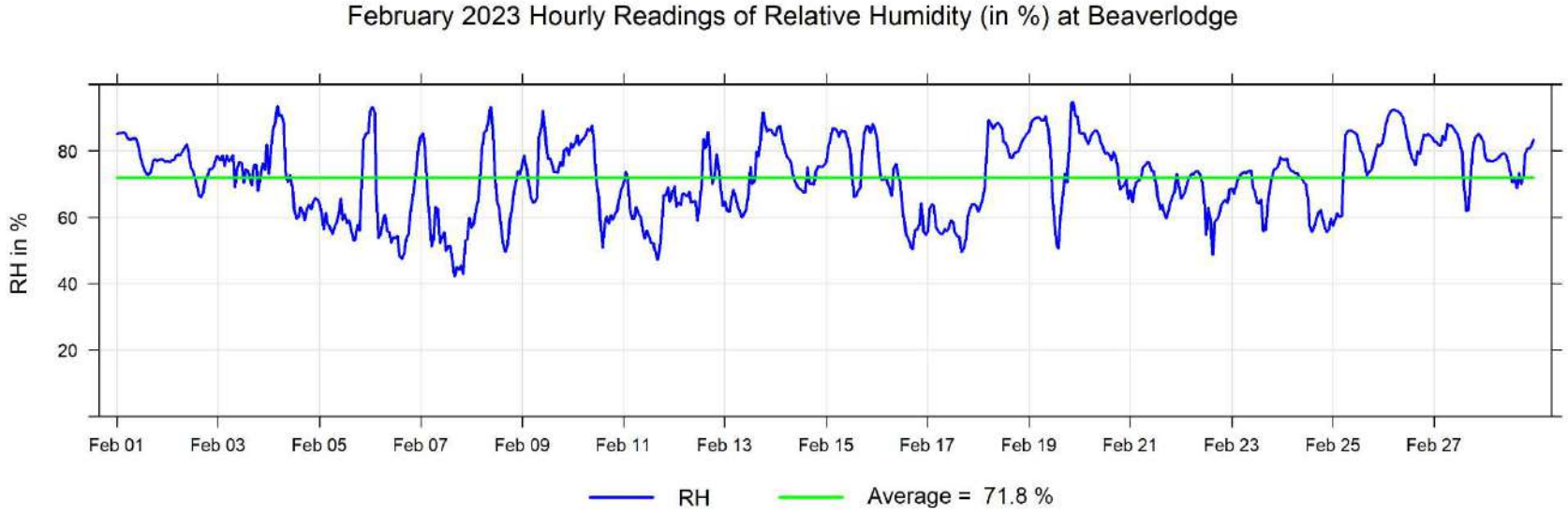

February 2023 Hourly Concentration Readings of O_3 (in ppb) at Beaverlodge
O_3 in ppb
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
O_3
AAAQO Limit = 76 ppb
Average = 32.6 ppb

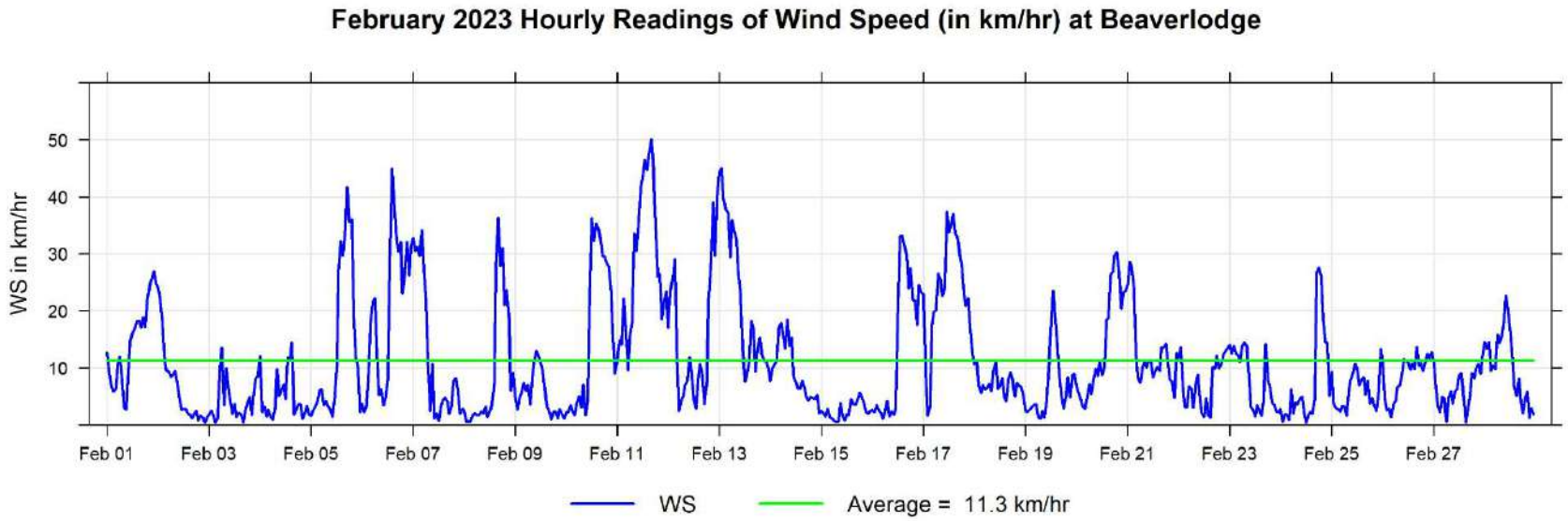

Number of Hours
0
200
400
600
10
18
21
16
35
72
139
217
112
0
20
40
60
80
O_3 in ppb

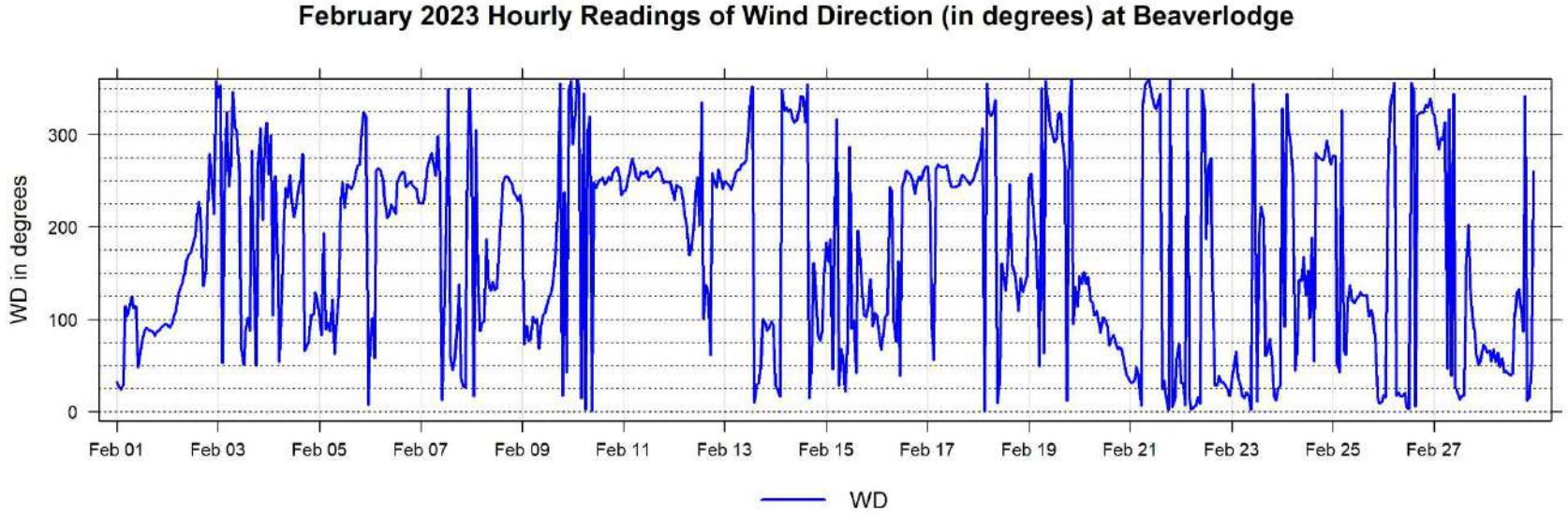

February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Beaverlodge
PM2.5 in µg/m3
25
20
15
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 2.5 µg/m3

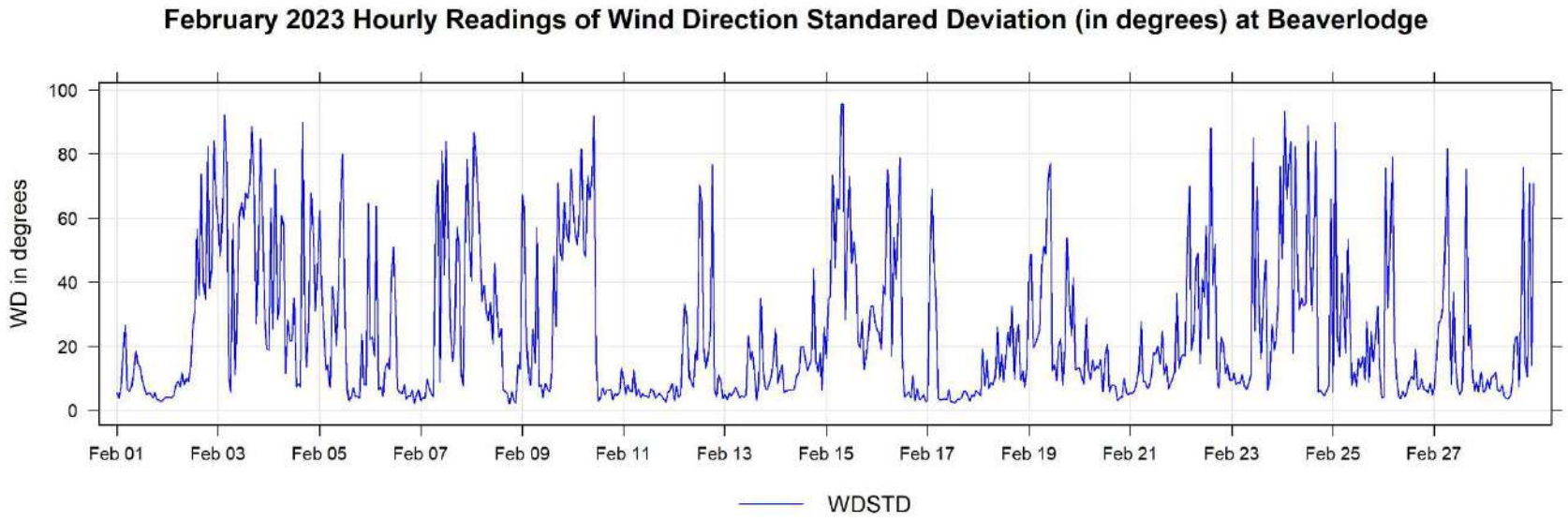

Number of Hours
0
200
400
600
451
92
43
25
23
15
13
5
1
3
0
10
20
30
40
PM2.5 in µg/m3

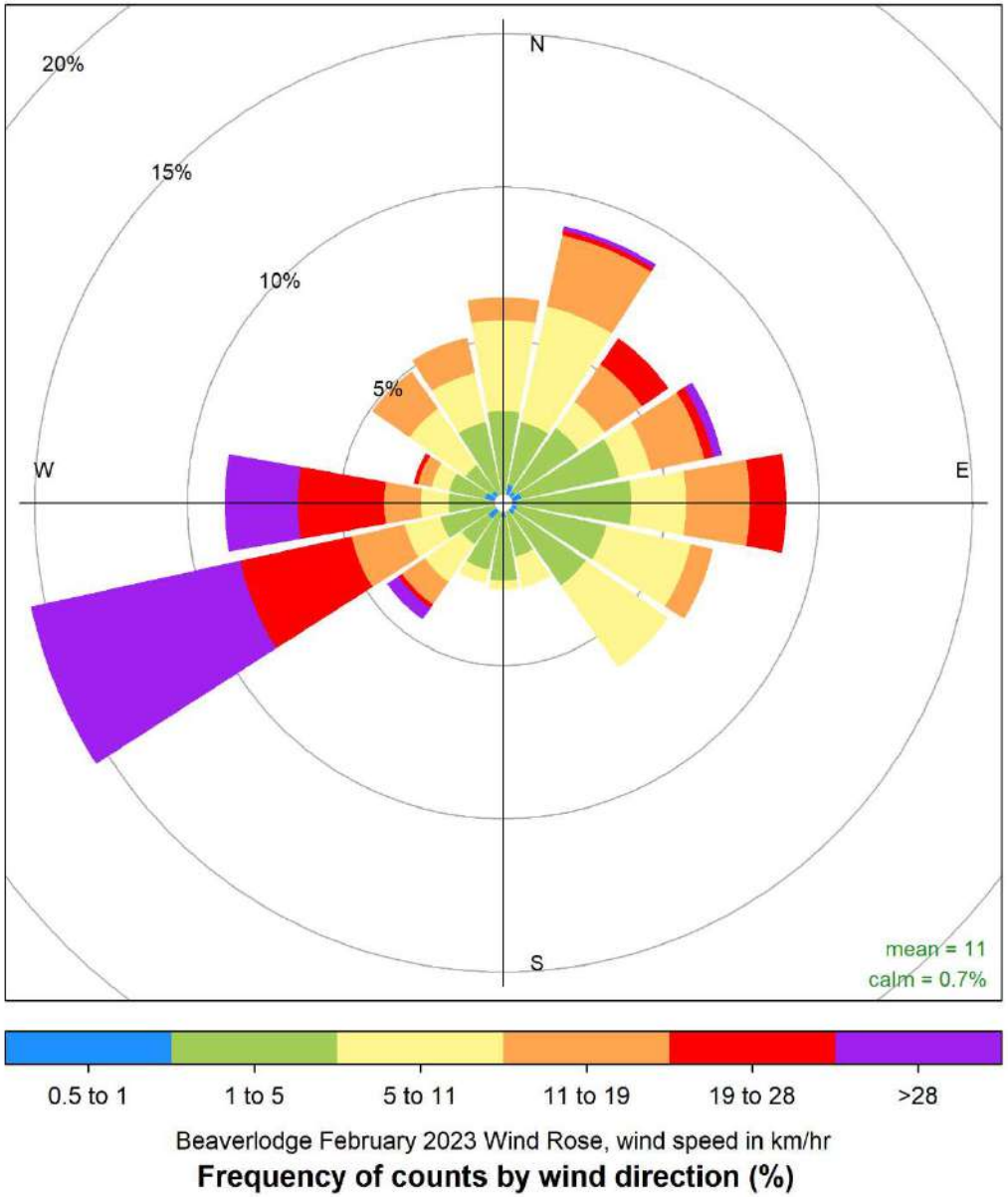

February 2023 Hourly Temperature Readings (in °C) at Beaverlodge
Temperature in °C
10
0
-10
-20
-30
-40
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -7.3 °C


February 2023 Hourly Readings of Relative Humidity (in %) at Beaverlodge
RH in %
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
RH
Average = 71.8 %


February 2023 Hourly Readings of Wind Speed (in km/hr) at Beaverlodge
WS in km/hr
50
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 11.3 km/hr

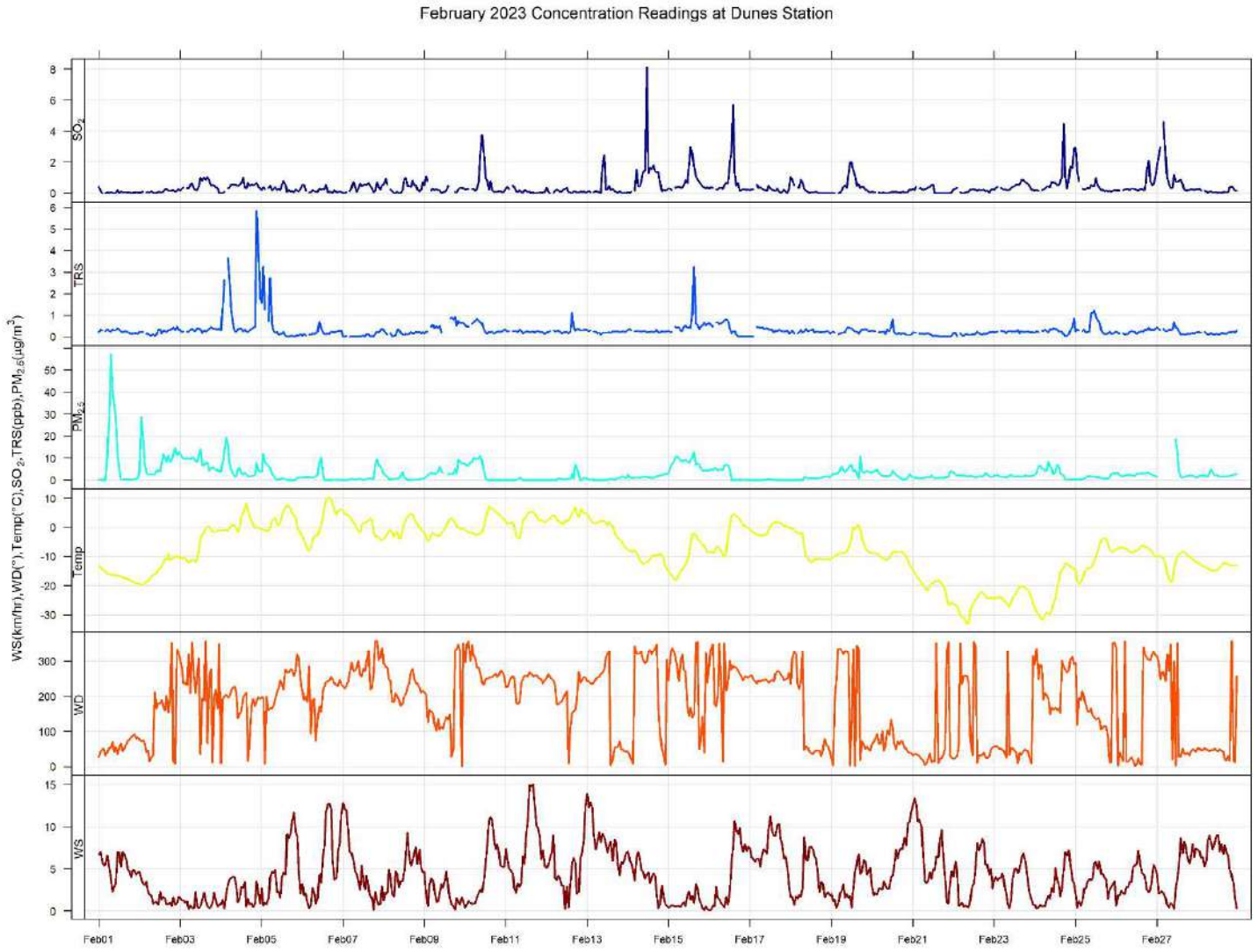

February 2023 Hourly Readings of Wind Direction (in degrees) at Beaverlodge
WD in degrees
300
200
100
0
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WD

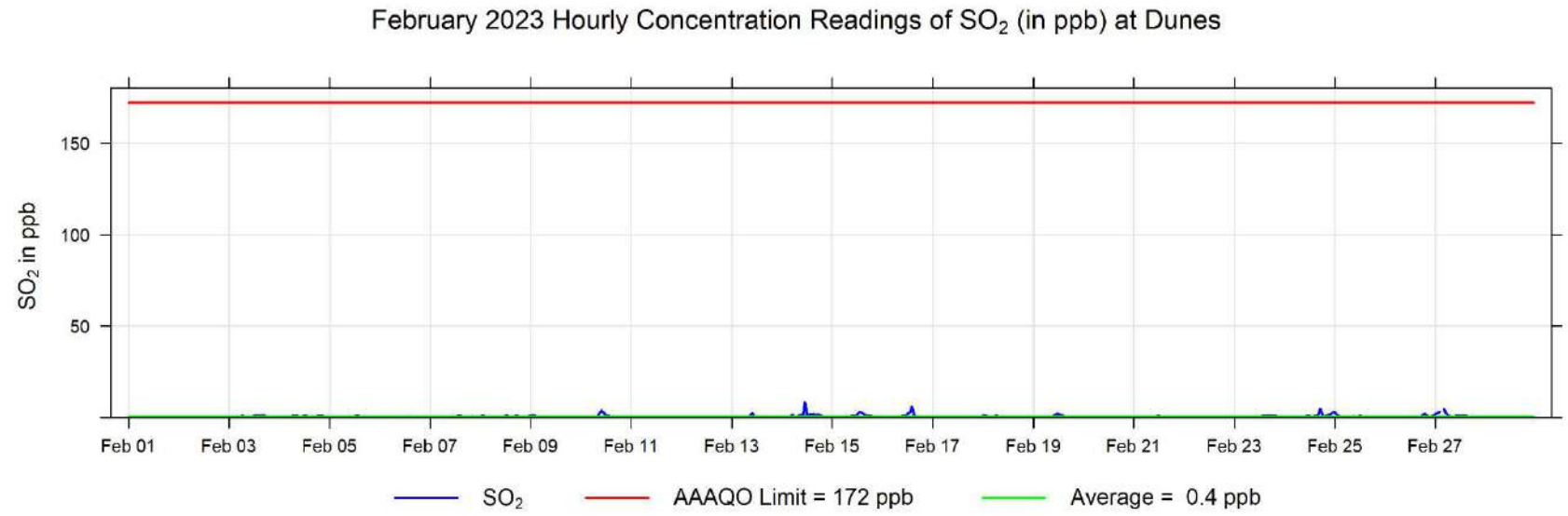

February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Beaverlodge
WD in degrees
100
80
60
40
20
0
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WDSTD

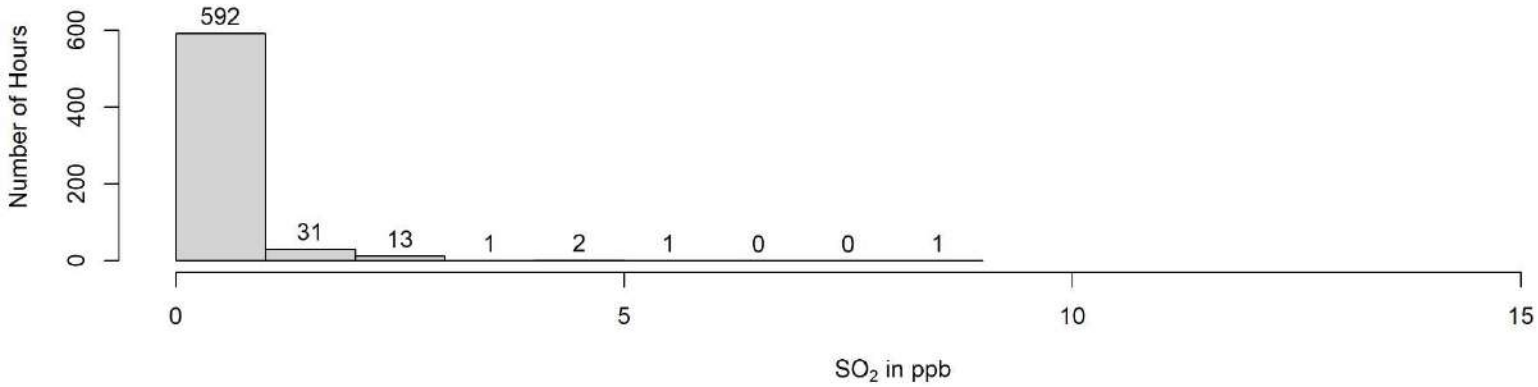

20%
15%
10%
5%
N
W
E
S
mean = 11
calm = 0.7%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Beaverlodge February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

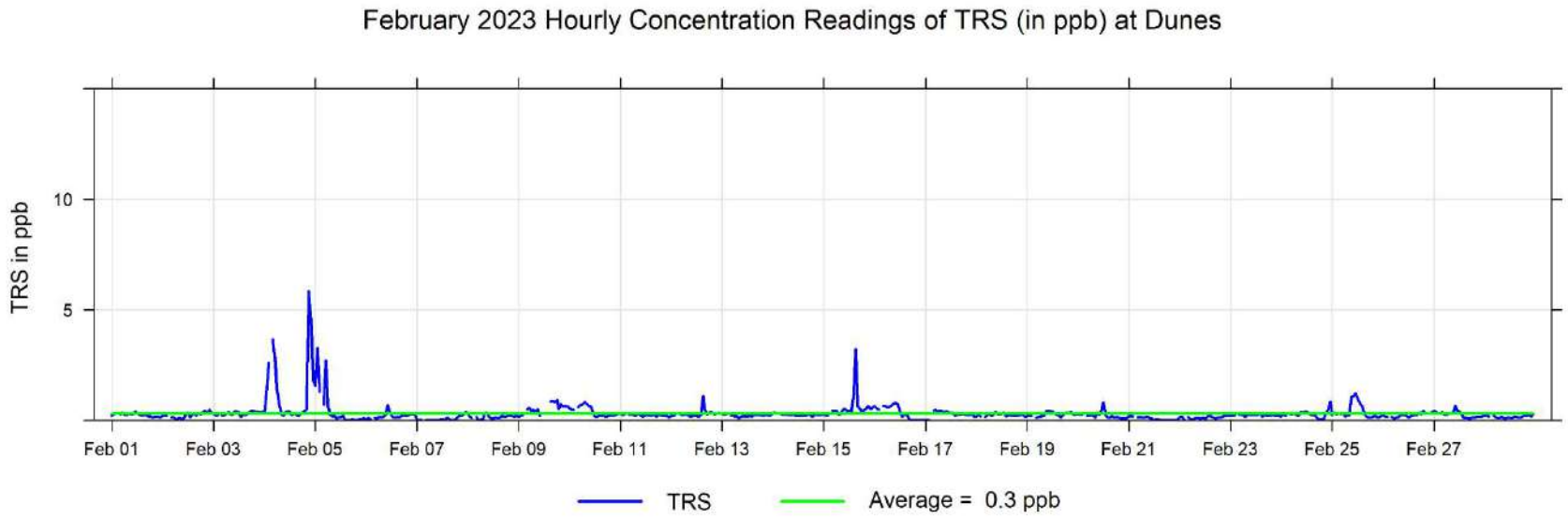
3 Dunes Charts

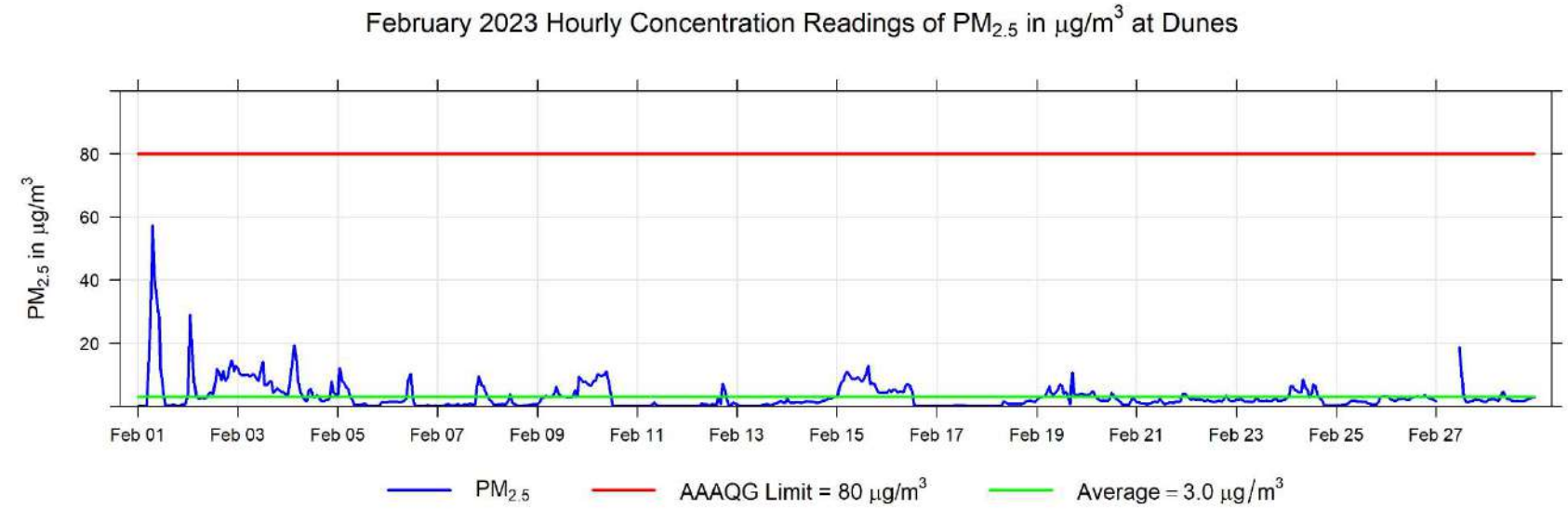
The following pages include the charts and histograms for Dunes Station

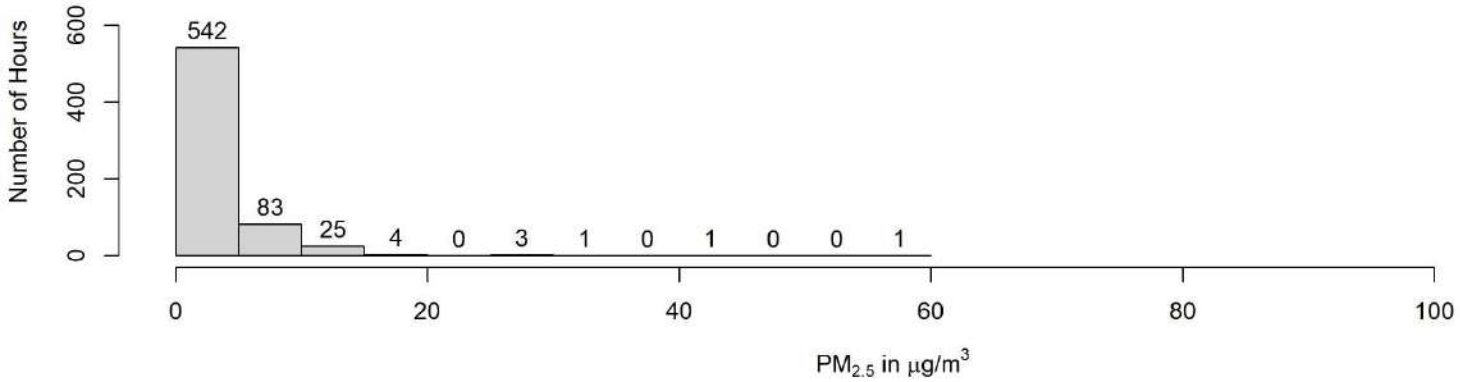


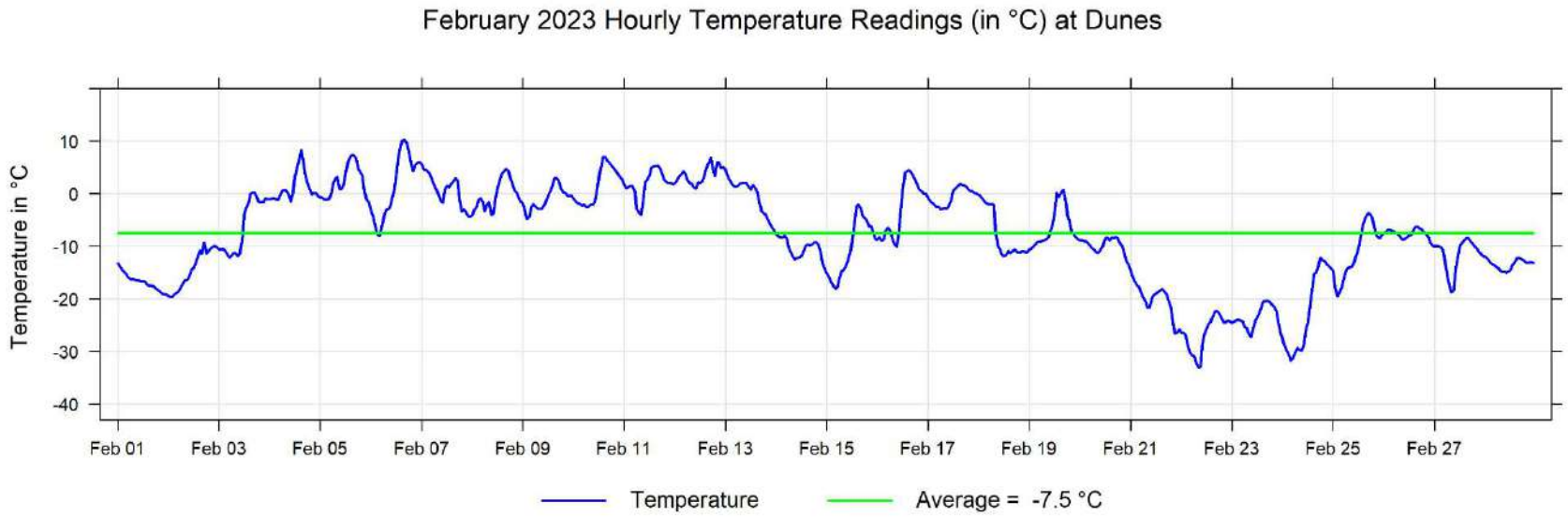

February 2023 Hourly Concentration Readings of SO_2 (in ppb) at Dunes
SO_2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO_2
AAAQO Limit = 172 ppb
Average = 0.4 ppb

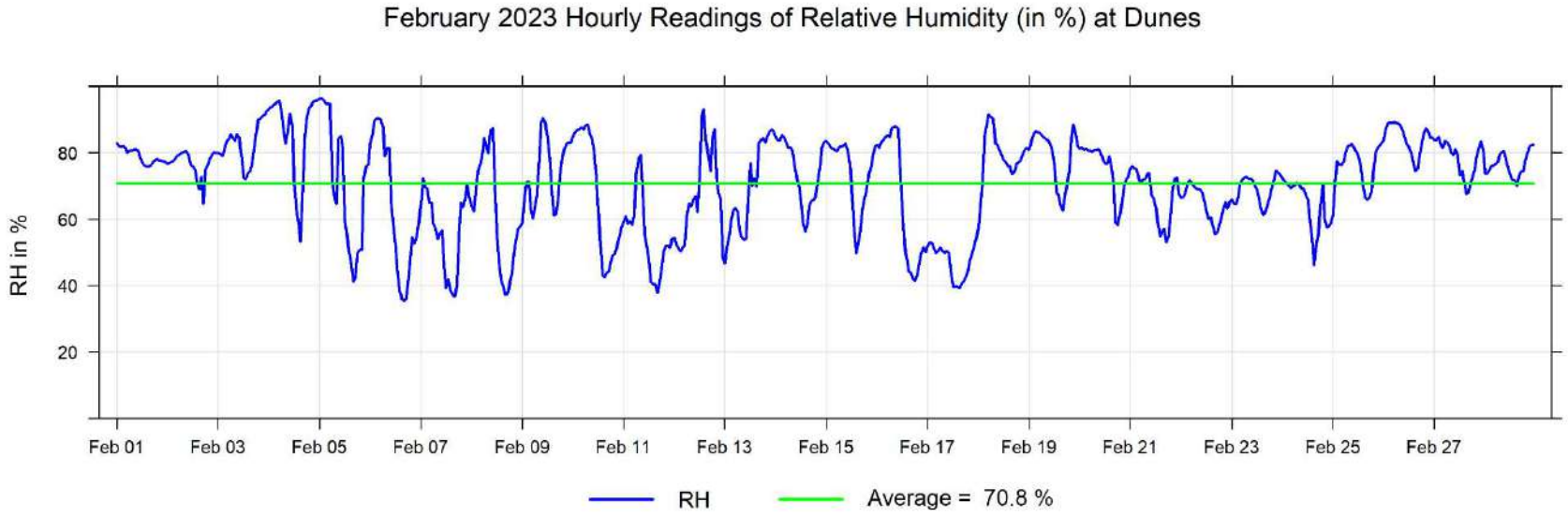

Number of Hours
0
200
400
600
592
31
13
1
2
1
0
0
1
0
5
10
15
SO_2 in ppb


February 2023 Hourly Concentration Readings of TRS (in ppb) at Dunes
TRS in ppb
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
TRS
Average = 0.3 ppb

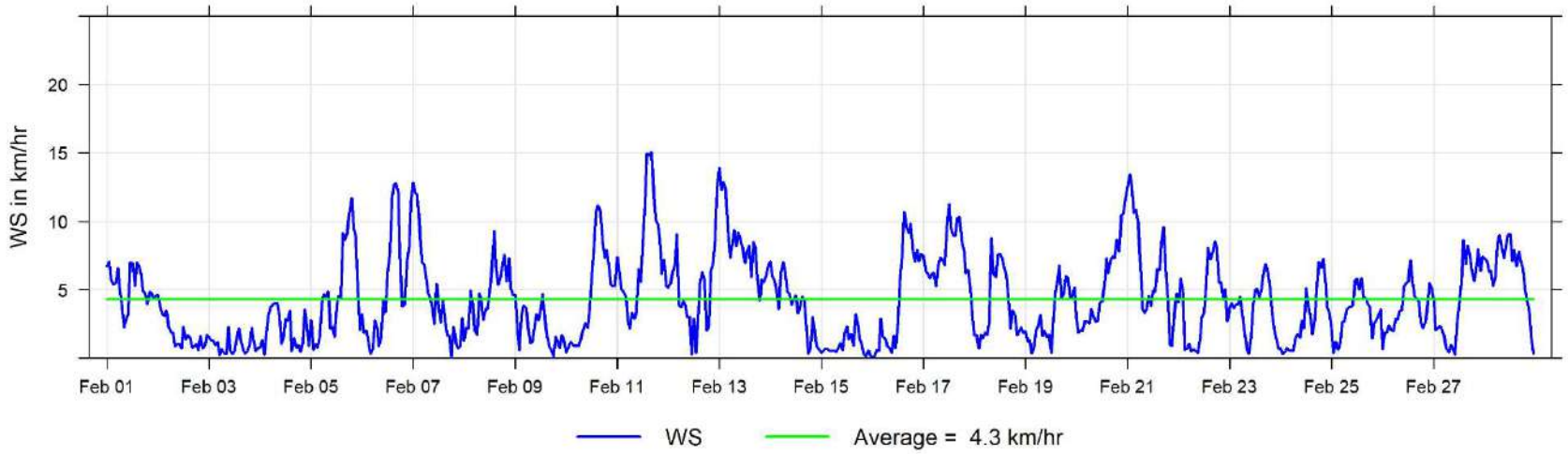

February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Dunes
PM2.5 in µg/m3
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 3.0 µg/m3


Number of Hours
0
200
400
600
542
83
25
4
0
3
1
0
1
0
0
1
0
20
40
60
80
100
PM2.5 in µg/m3

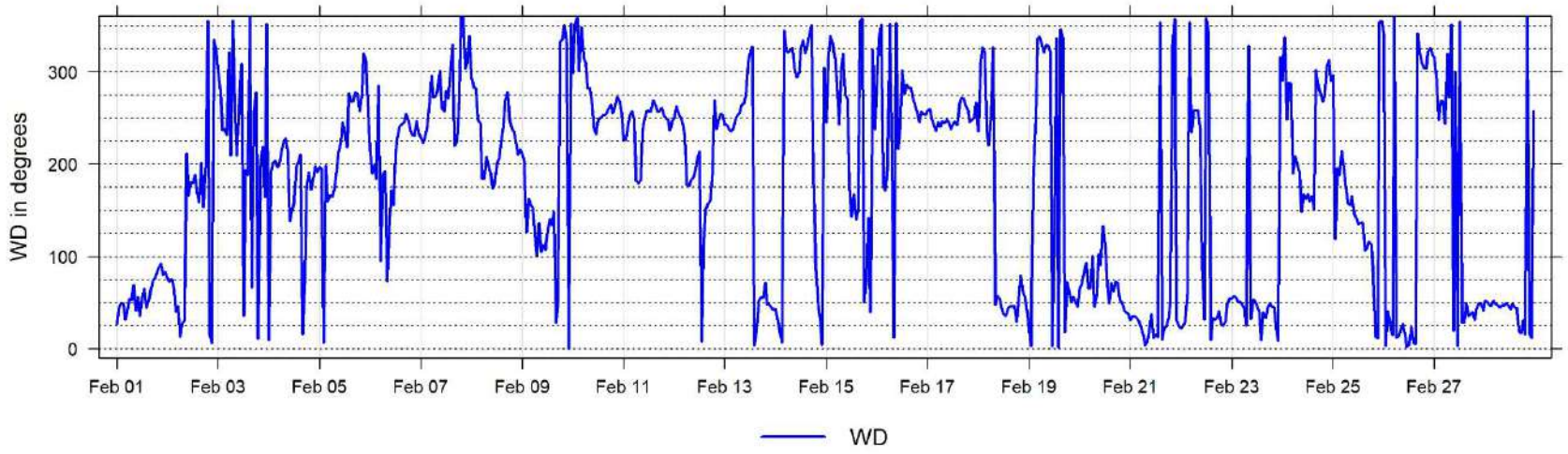

February 2023 Hourly Temperature Readings (in °C) at Dunes
Temperature in °C
10
0
-10
-20
-30
-40
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -7.5 °C

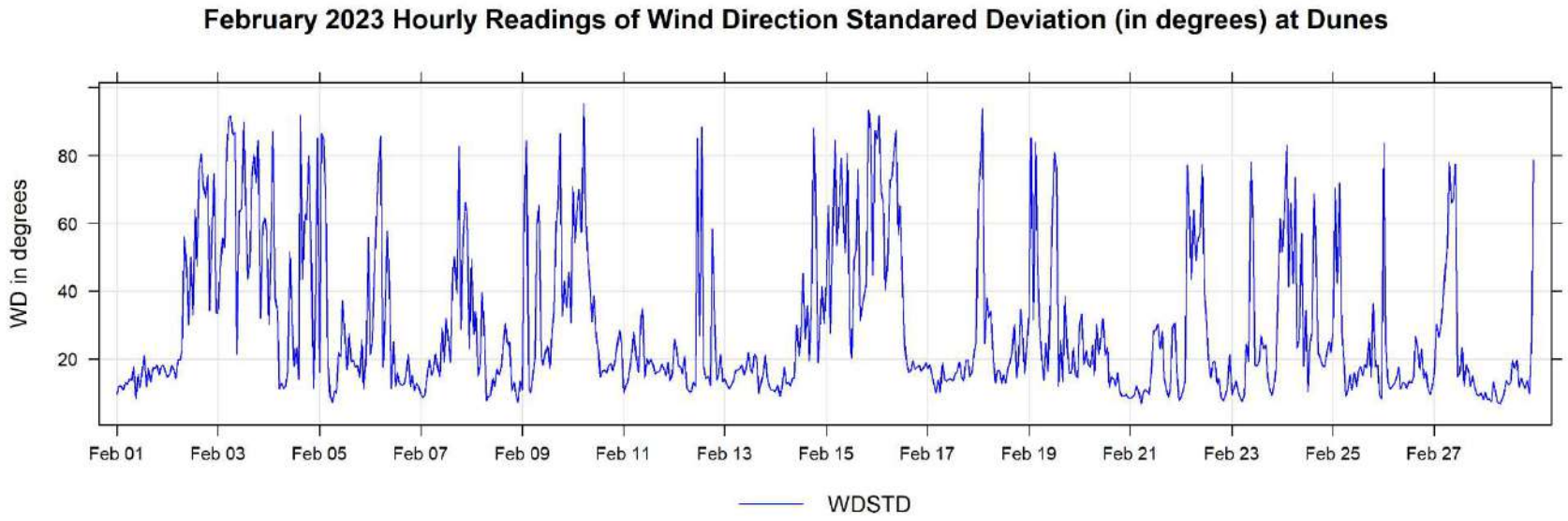

February 2023 Hourly Readings of Relative Humidity (in %) at Dunes
RH in %
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
RH
Average = 70.8 %

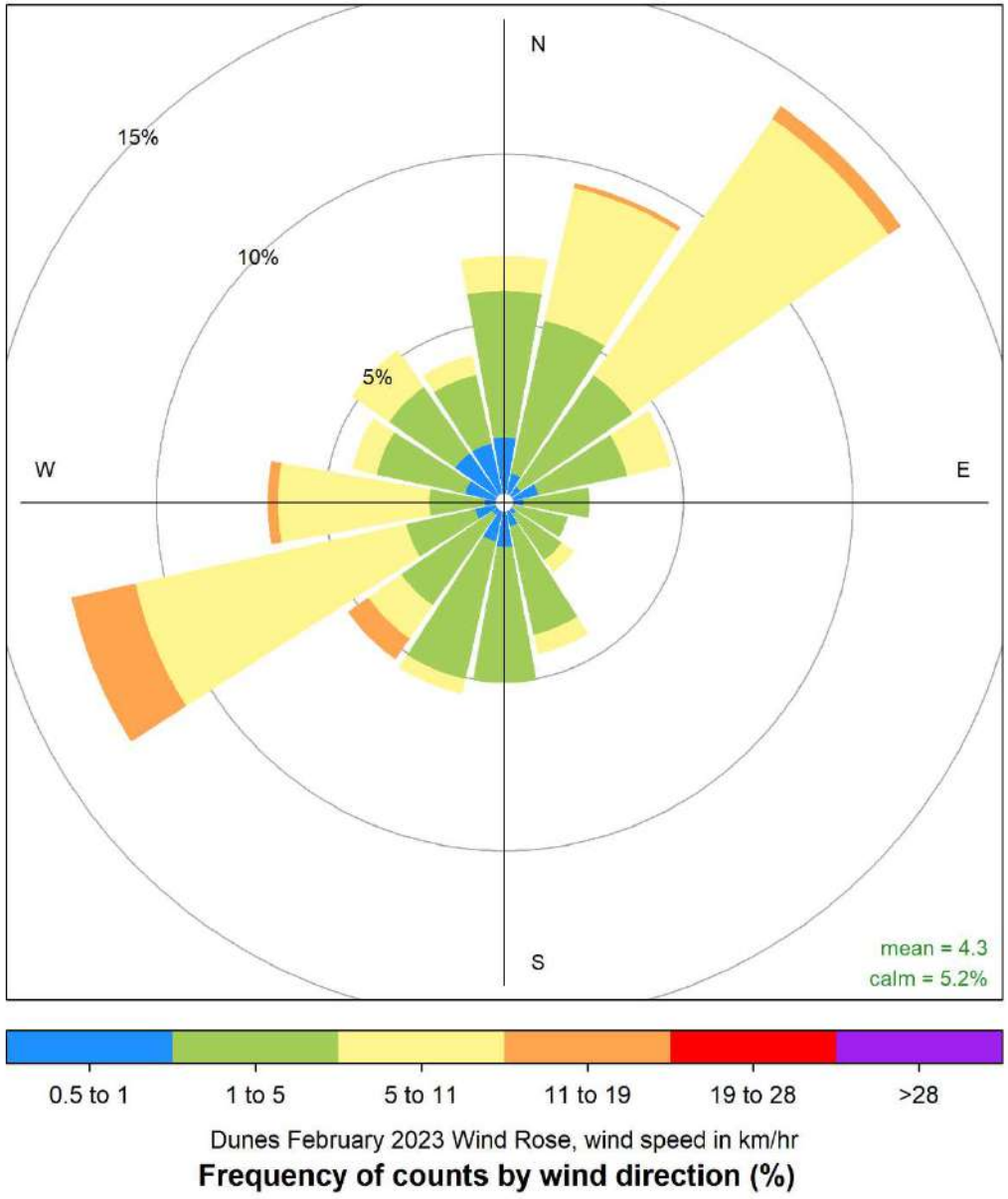
February 2023 Hourly Readings of Wind Speed (in km/hr) at Dunes



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

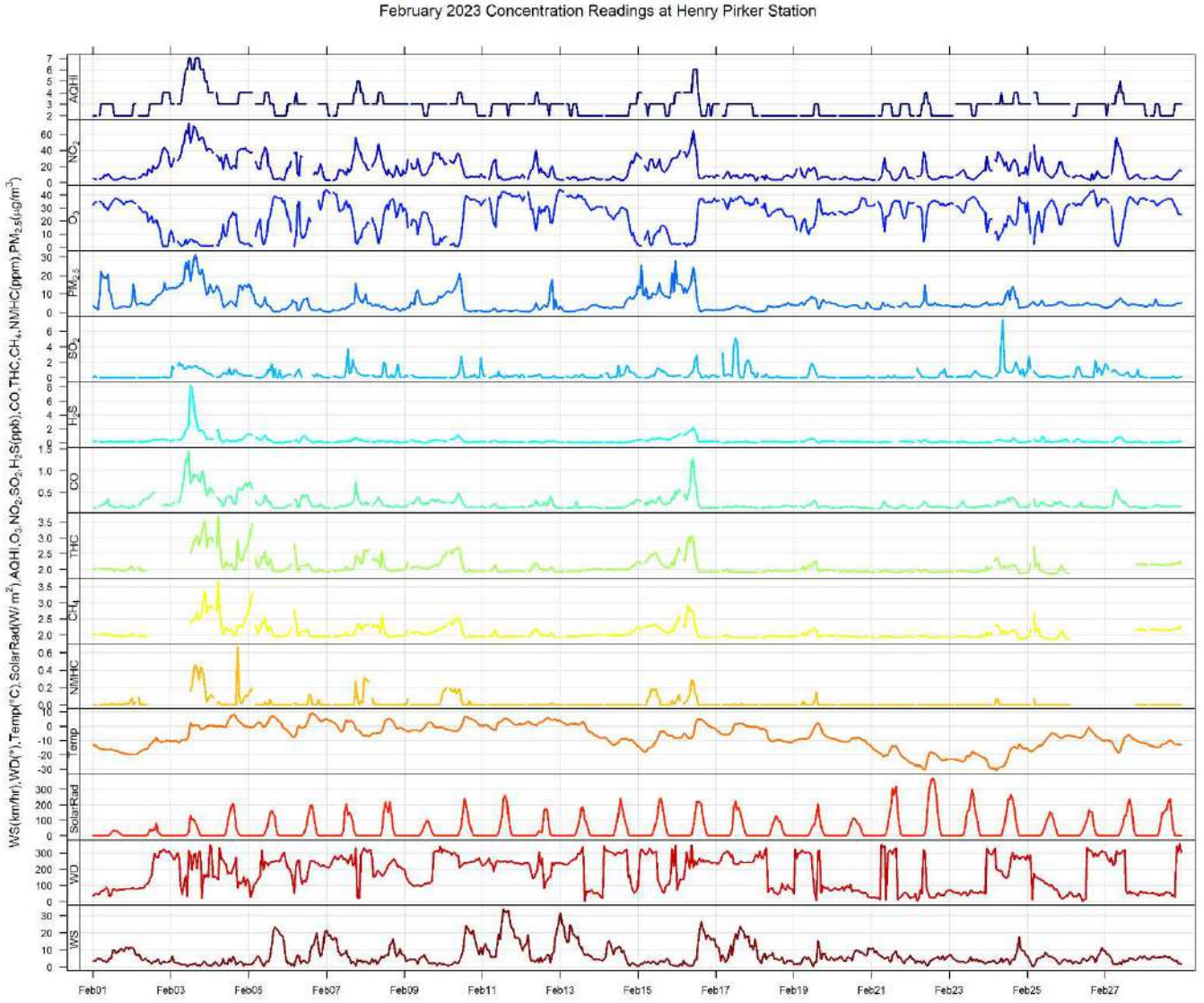


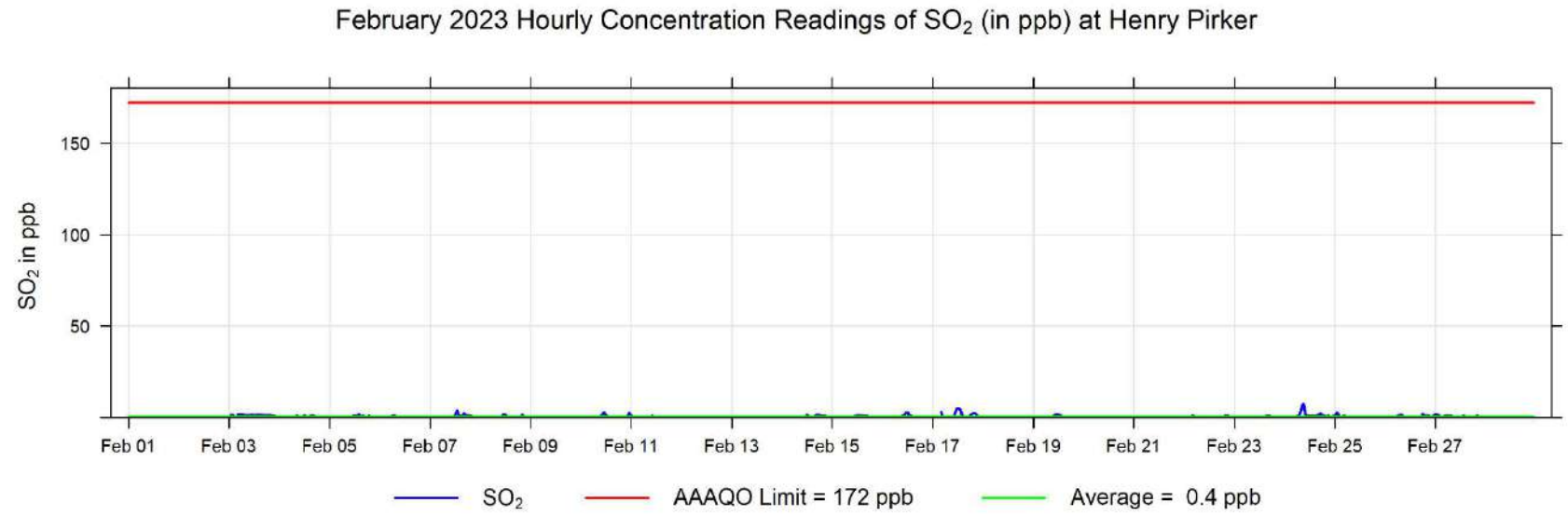

February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Dunes
WD in degrees
20
40
60
80
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WDSTD

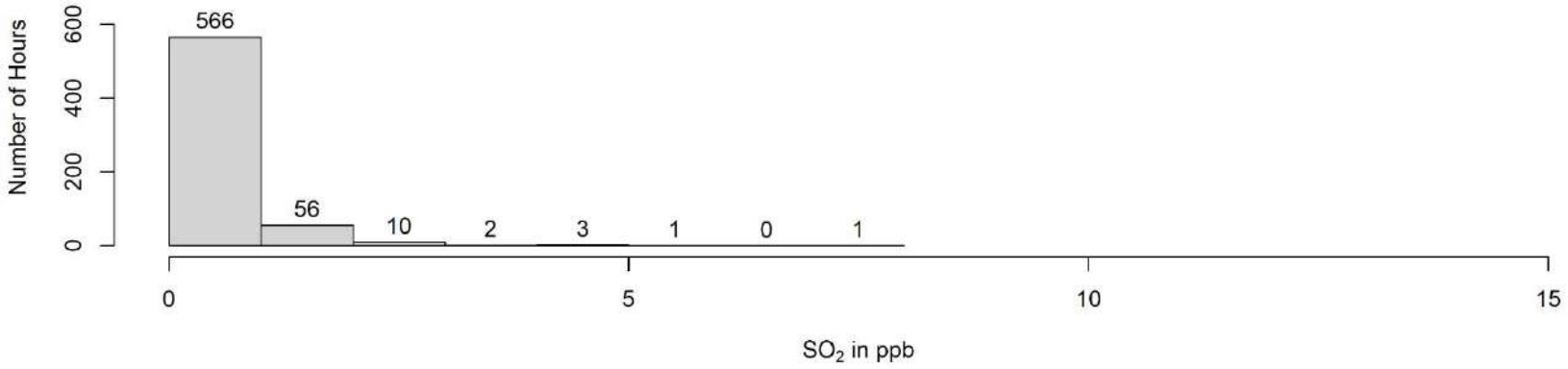

N
15%
10%
5%
W
E
S
mean = 4.3
calm = 5.2%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Dunes February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

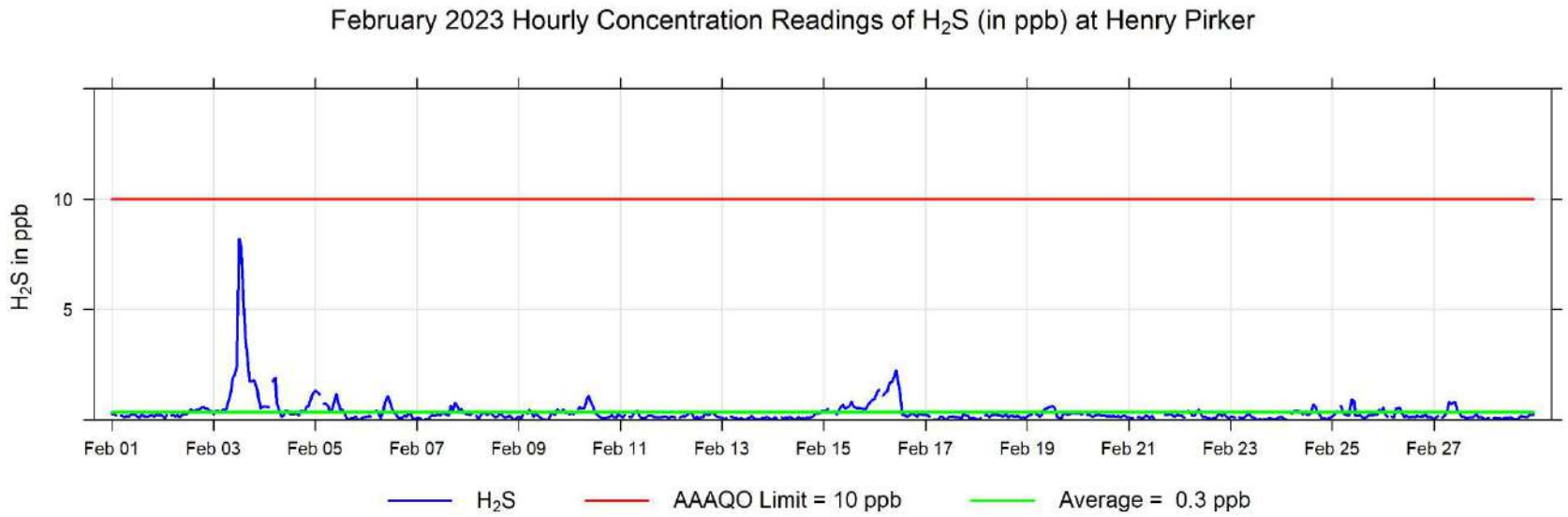
4 Grande Prairie - Henry Pirker Charts

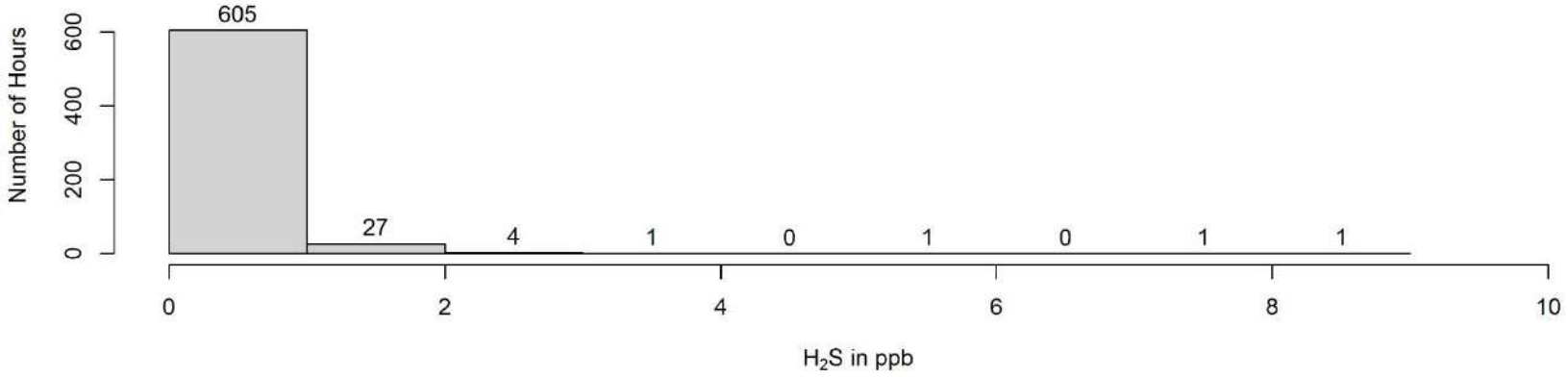
The following pages include the charts and histograms for Henry Pirker Station in Grande Prairie

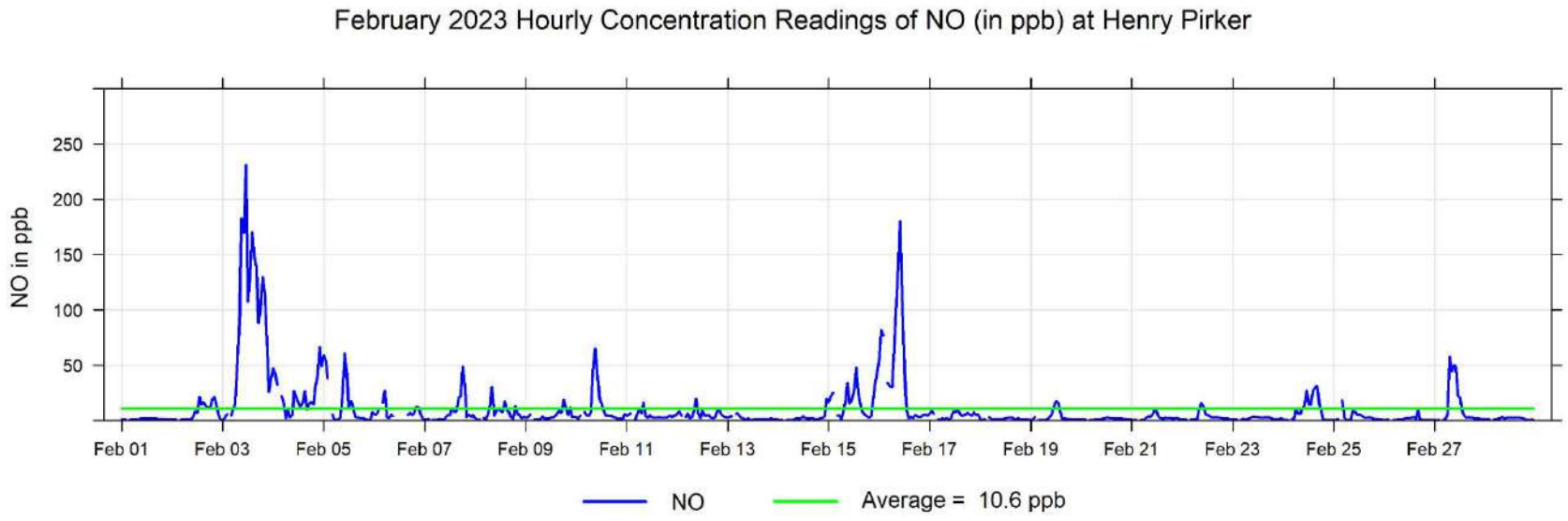


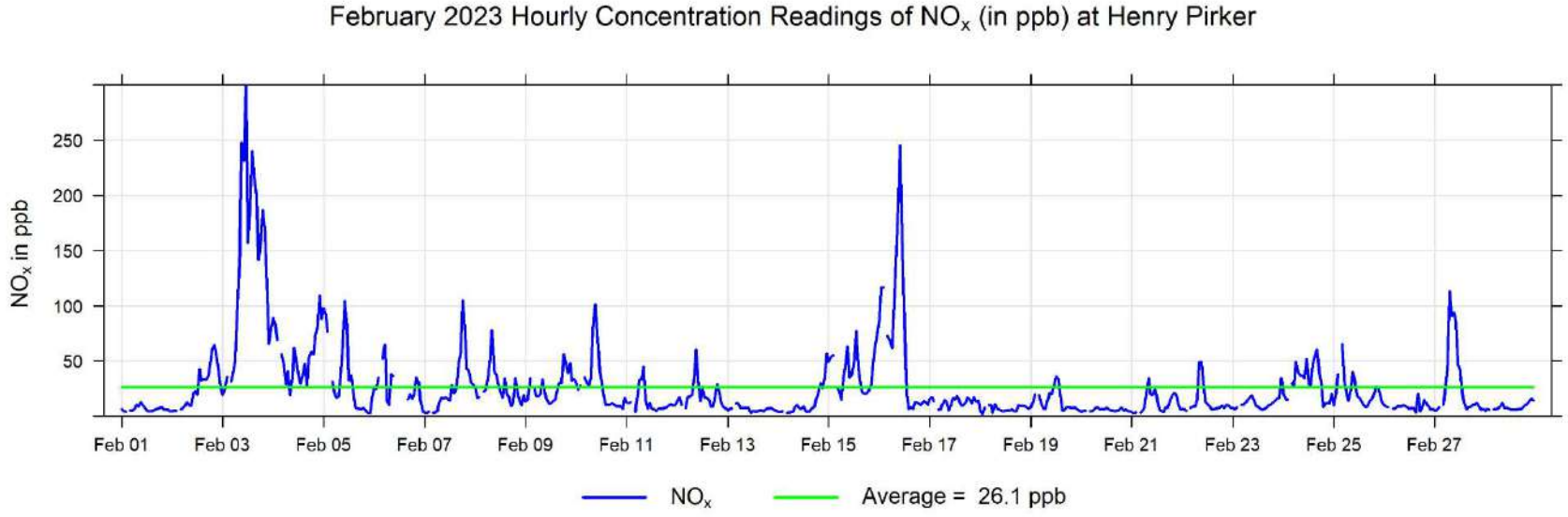

February 2023 Hourly Concentration Readings of SO2 (in ppb) at Henry Pirker
SO2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO2
AAAQO Limit = 172 ppb
Average = 0.4 ppb

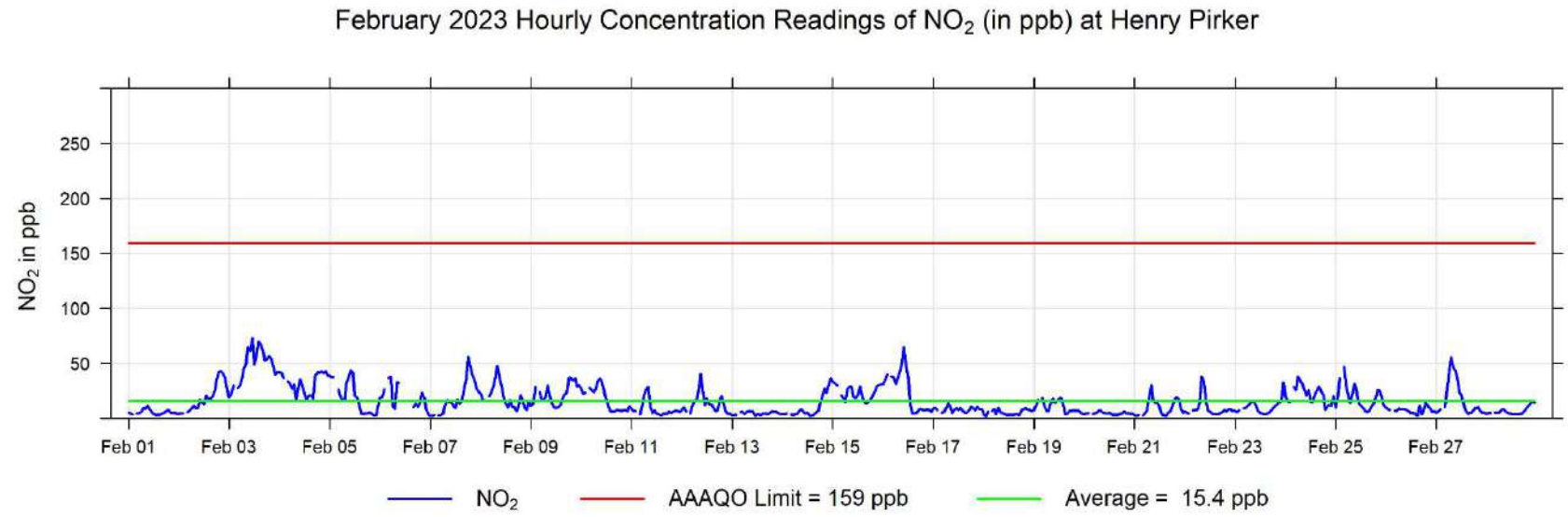

Number of Hours
0
200
400
600
566
56
10
2
3
1
0
1
0
5
10
15
SO2 in ppb

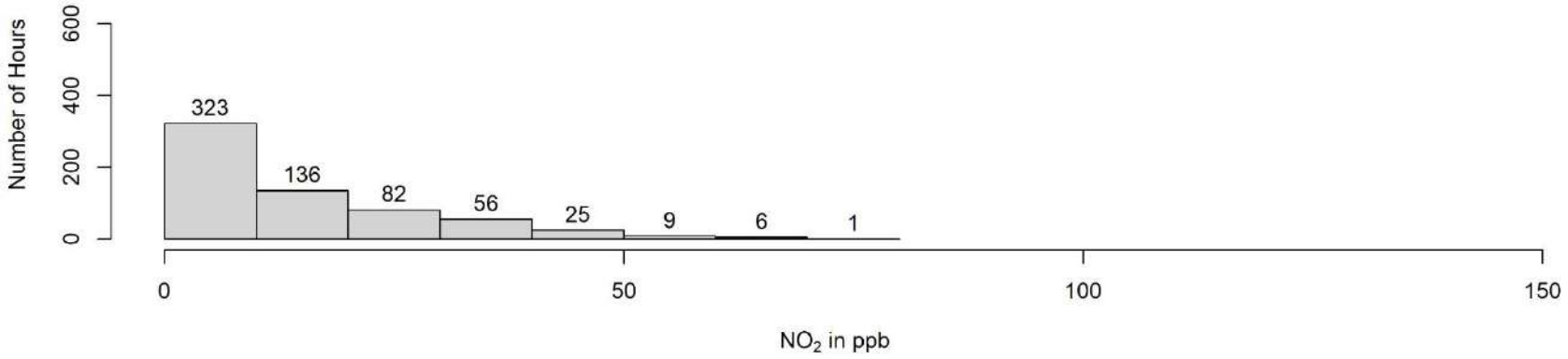

February 2023 Hourly Concentration Readings of H2S (in ppb) at Henry Pirker
H2S in ppb
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
H2S
AAAQO Limit = 10 ppb
Average = 0.3 ppb

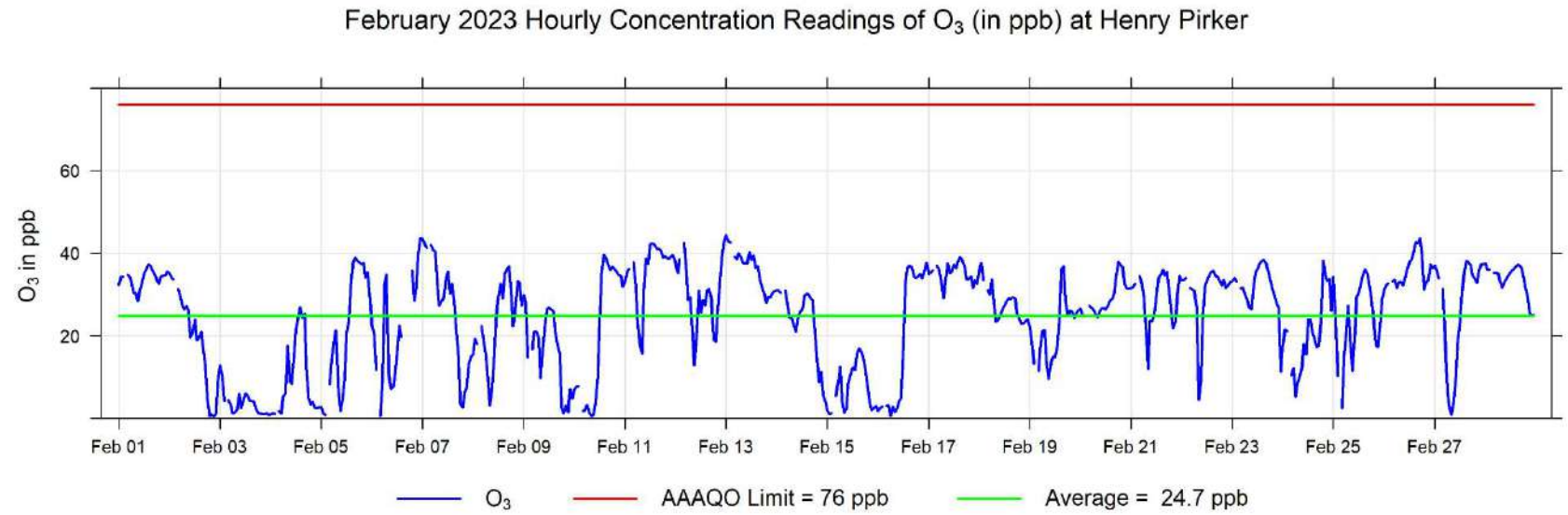

Number of Hours
0
200
400
600
605
27
4
1
0
1
0
1
1
0
2
4
6
8
10
H2S in ppb

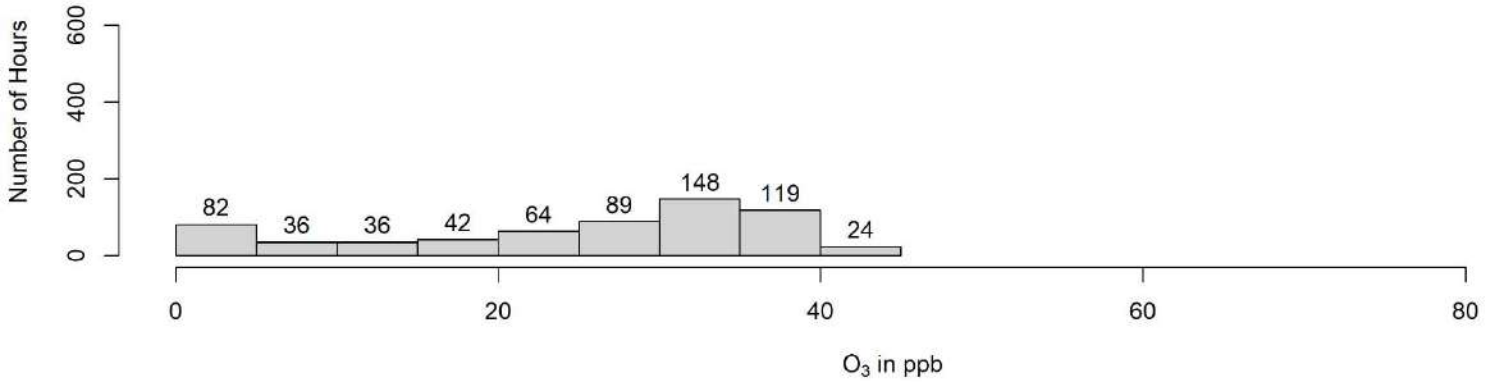

February 2023 Hourly Concentration Readings of NO (in ppb) at Henry Pirker
NO in ppb
250
200
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO
Average = 10.6 ppb

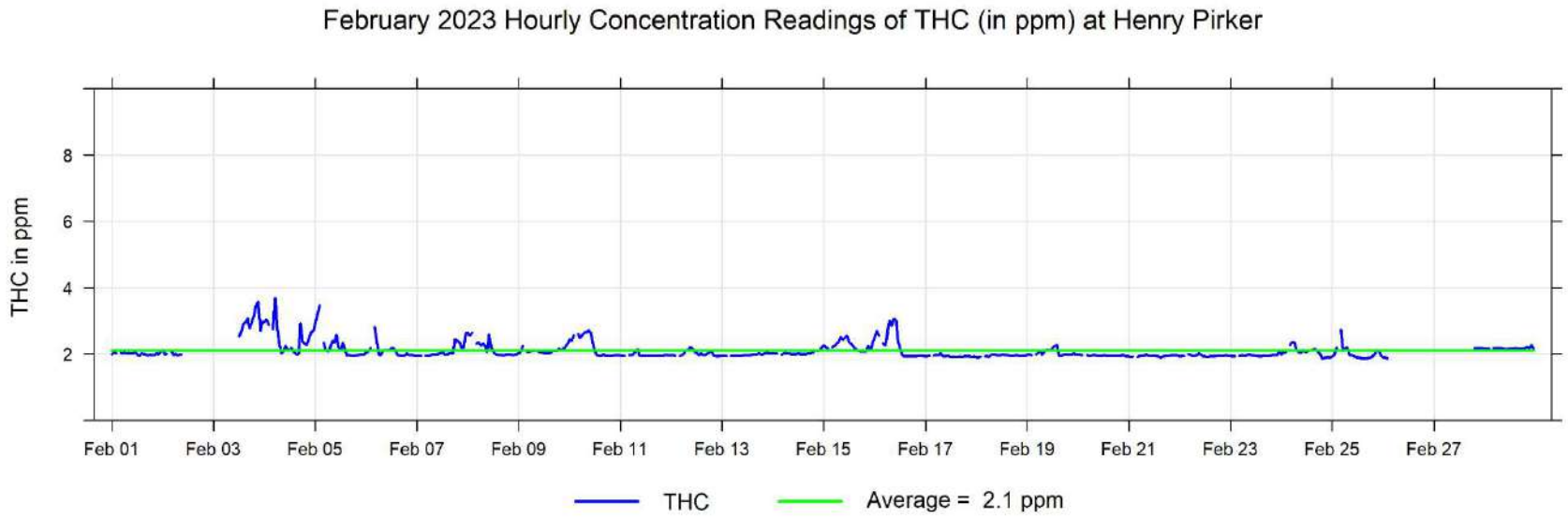

February 2023 Hourly Concentration Readings of NOx (in ppb) at Henry Pirker
NOx in ppb
250
200
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NOx
Average = 26.1 ppb

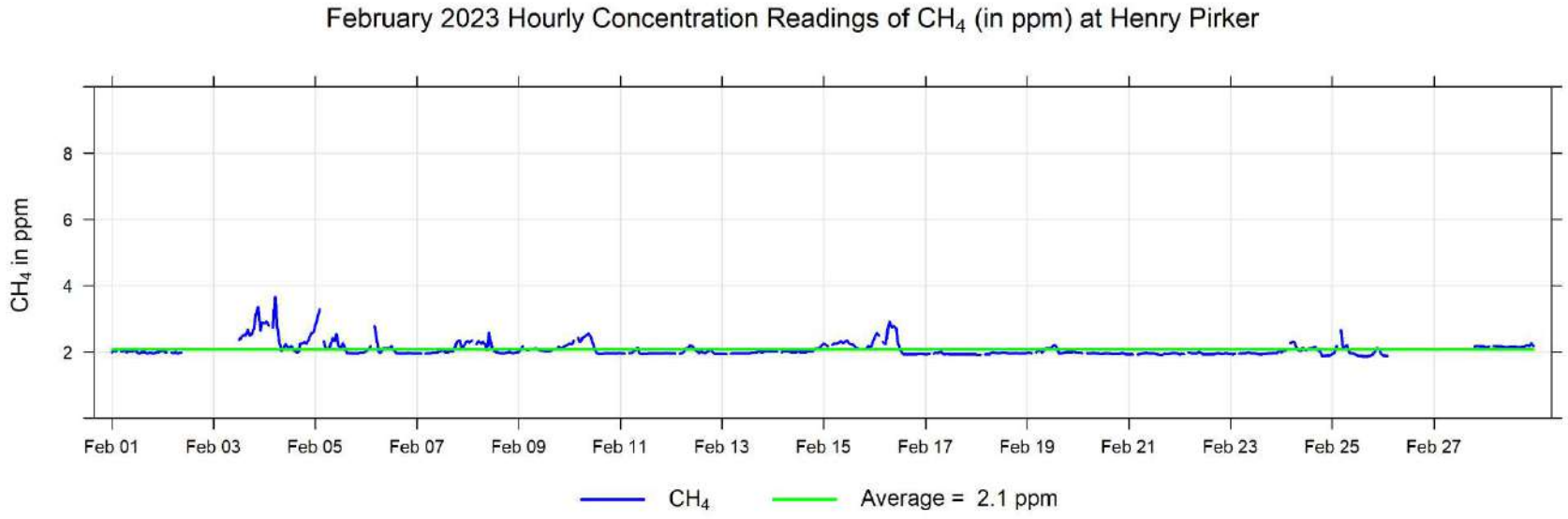

February 2023 Hourly Concentration Readings of NO2 (in ppb) at Henry Pirker
NO2 in ppb
250
200
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO2
AAAQO Limit = 159 ppb
Average = 15.4 ppb

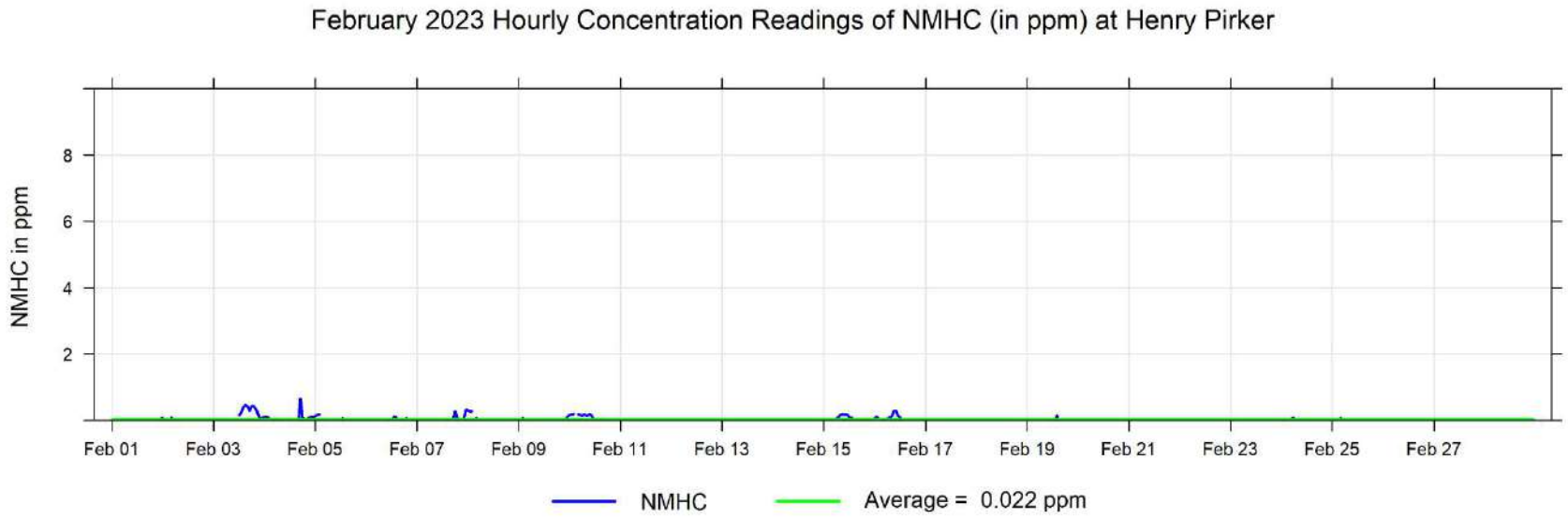

Number of Hours
0
200
400
600
323
136
82
56
25
9
6
1
0
50
100
150
NO2 in ppb

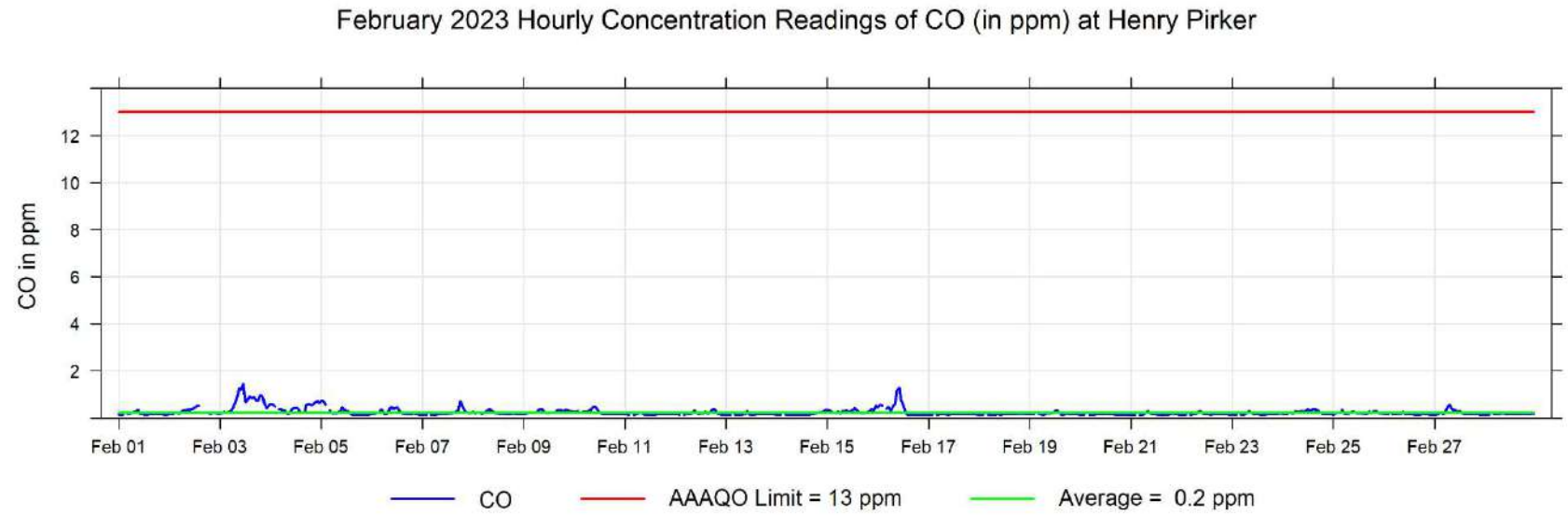

February 2023 Hourly Concentration Readings of O_3 (in ppb) at Henry Pirker
O_3 in ppb
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
O_3
AAAQO Limit = 76 ppb
Average = 24.7 ppb

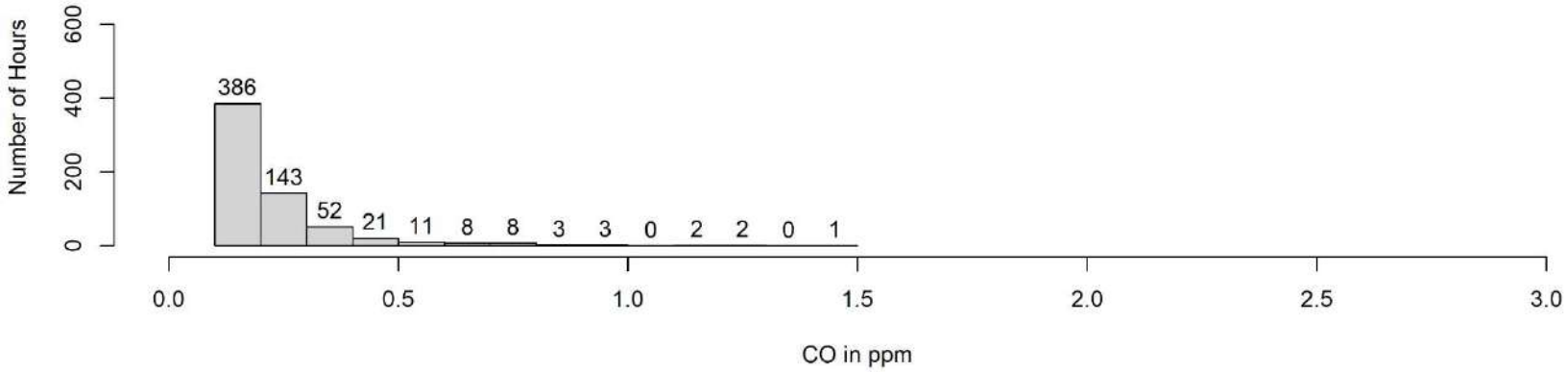

Number of Hours
0
200
400
600
82
36
36
42
64
89
148
119
24
0
20
40
60
80
O_3 in ppb

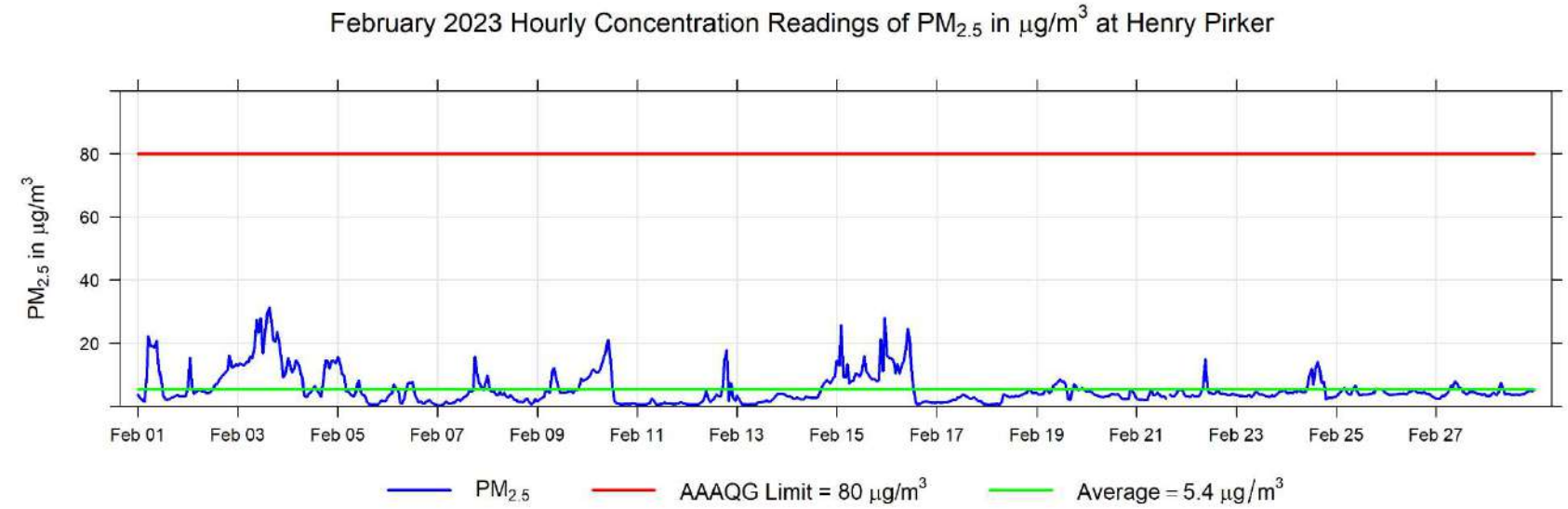

February 2023 Hourly Concentration Readings of THC (in ppm) at Henry Pirker
THC in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
THC
Average = 2.1 ppm

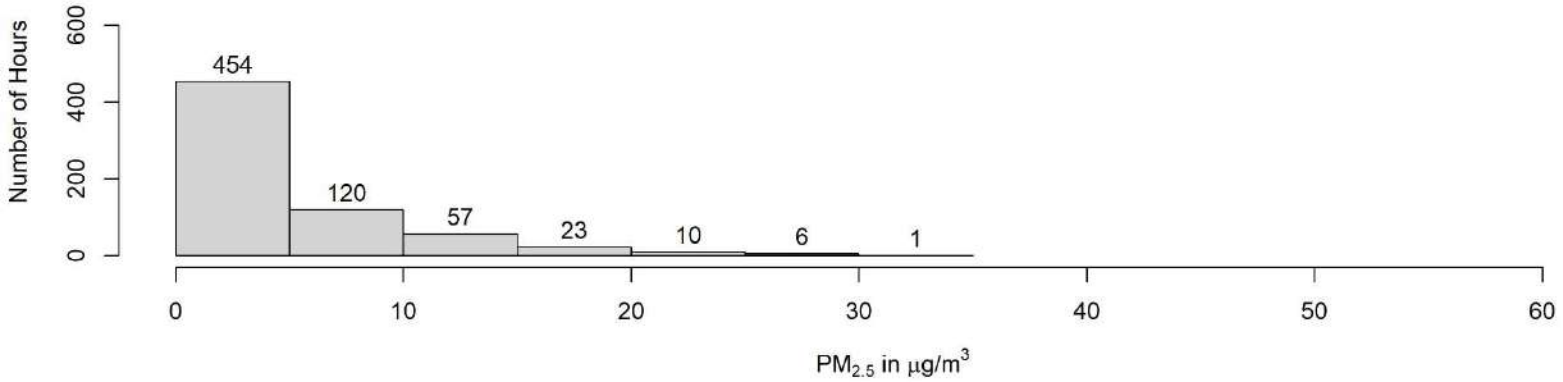

February 2023 Hourly Concentration Readings of CH4 (in ppm) at Henry Pirker
CH4 in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
CH4
Average = 2.1 ppm

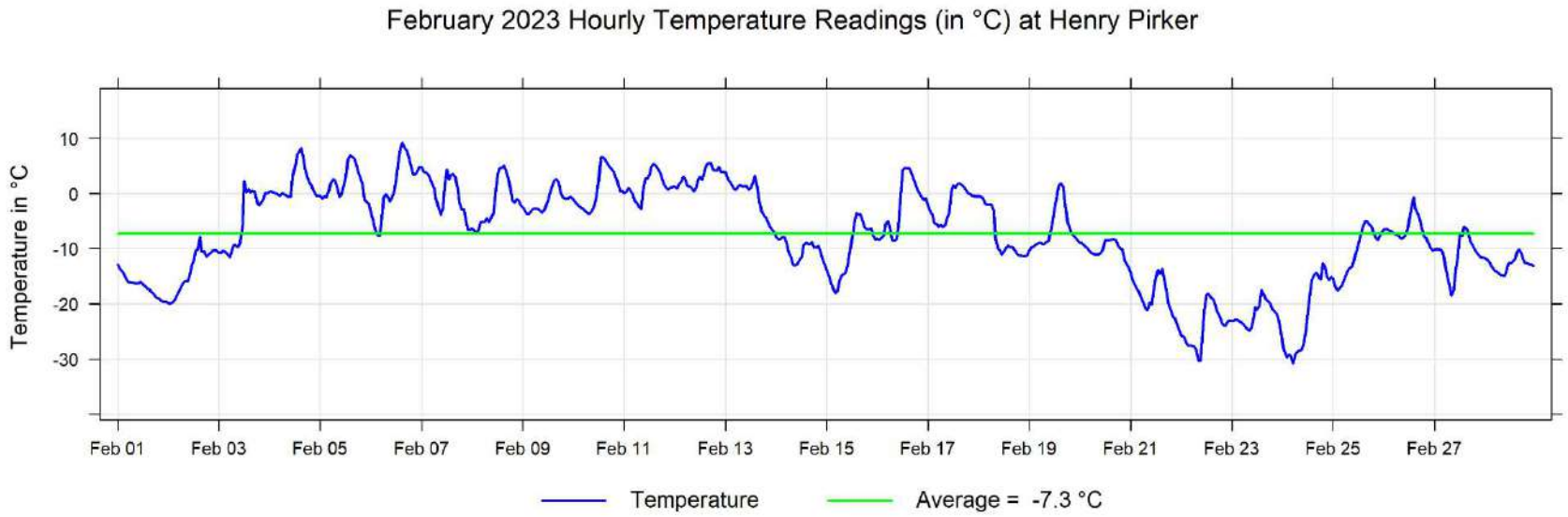

February 2023 Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker
NMHC in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NMHC
Average = 0.022 ppm

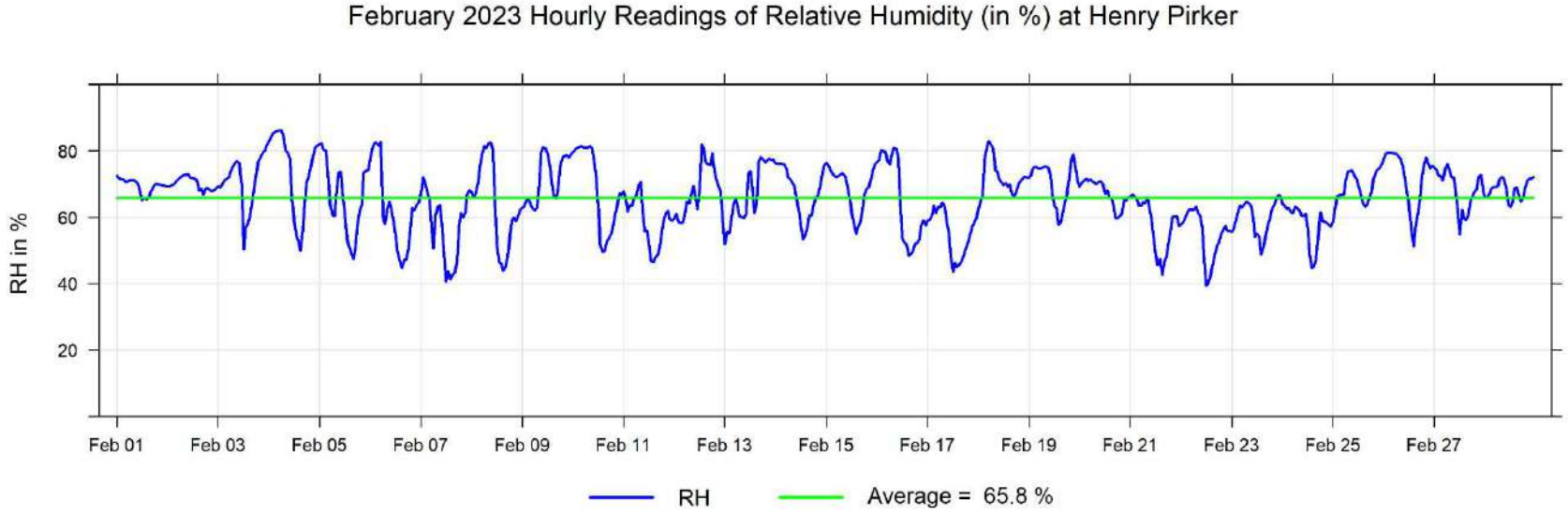

February 2023 Hourly Concentration Readings of CO (in ppm) at Henry Pirker
CO in ppm
12
10
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
CO
AAAQO Limit = 13 ppm
Average = 0.2 ppm

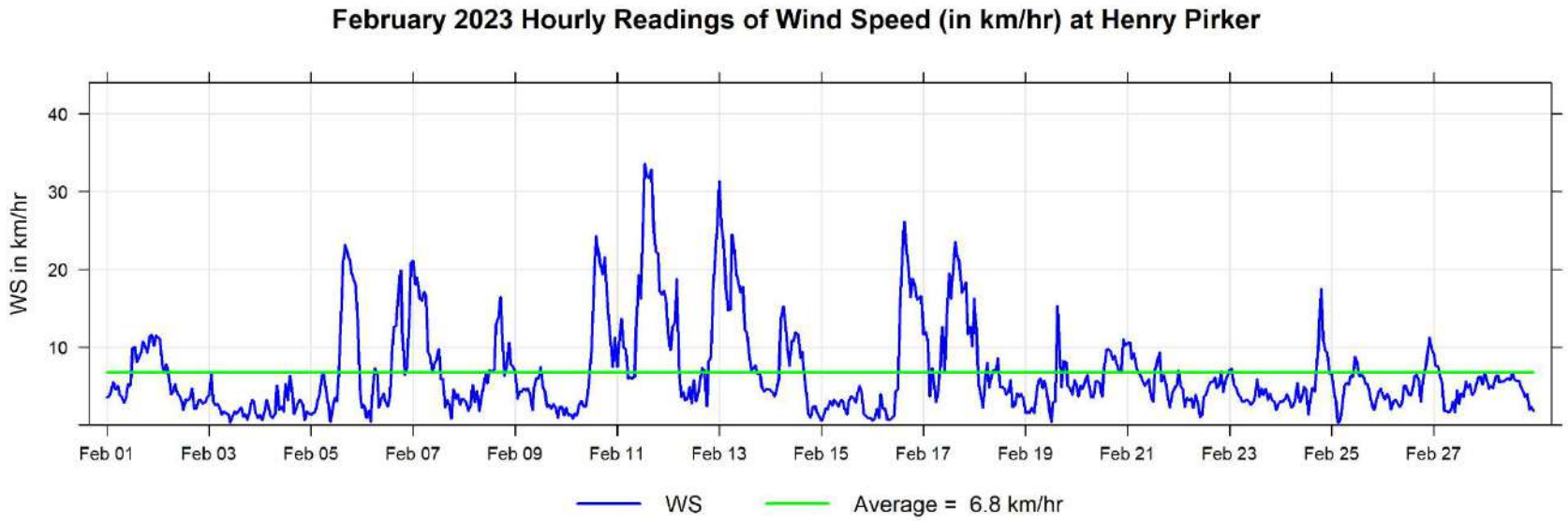

Number of Hours
0
200
400
600
386
143
52
21
11
8
8
3
3
0
2
2
0
1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
CO in ppm

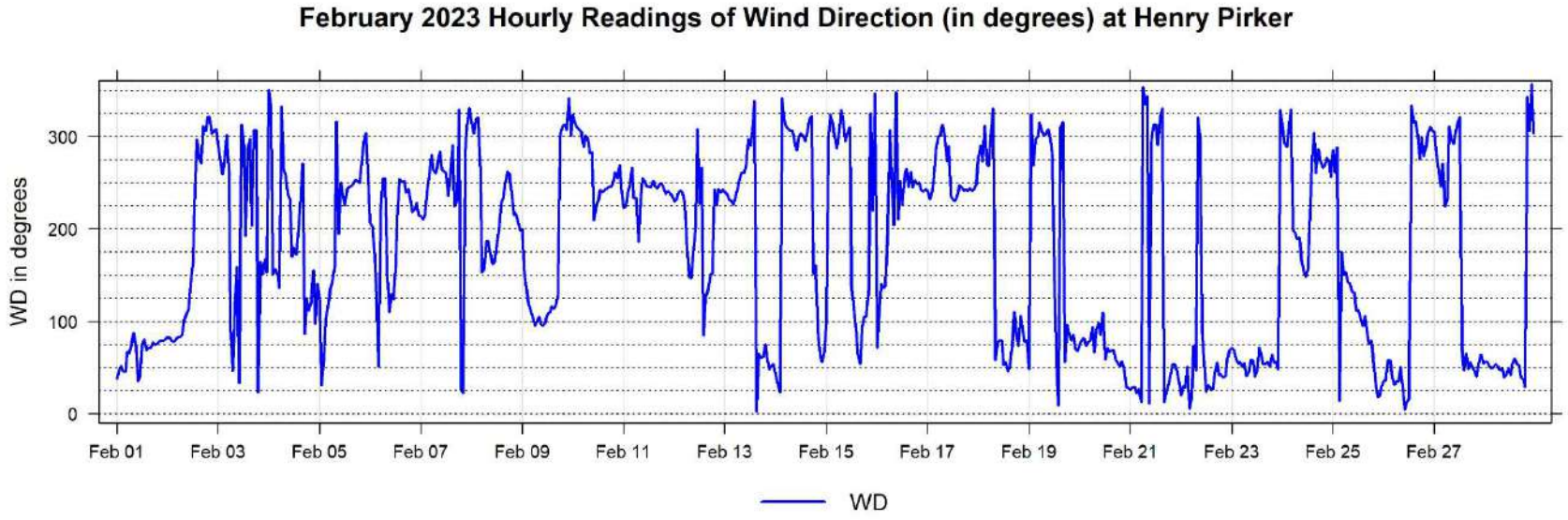

February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Henry Pirker
PM2.5 in µg/m3
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 5.4 µg/m3

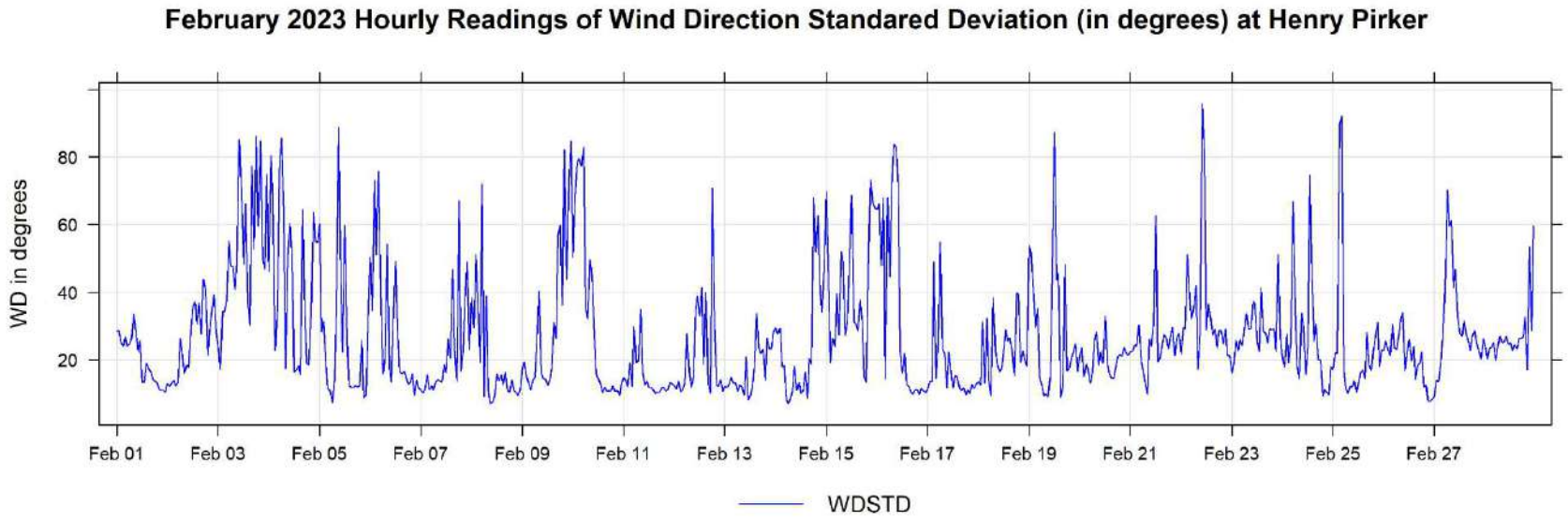

Number of Hours
0
200
400
600
454
120
57
23
10
6
1
0
10
20
30
40
50
60
PM2.5 in µg/m3

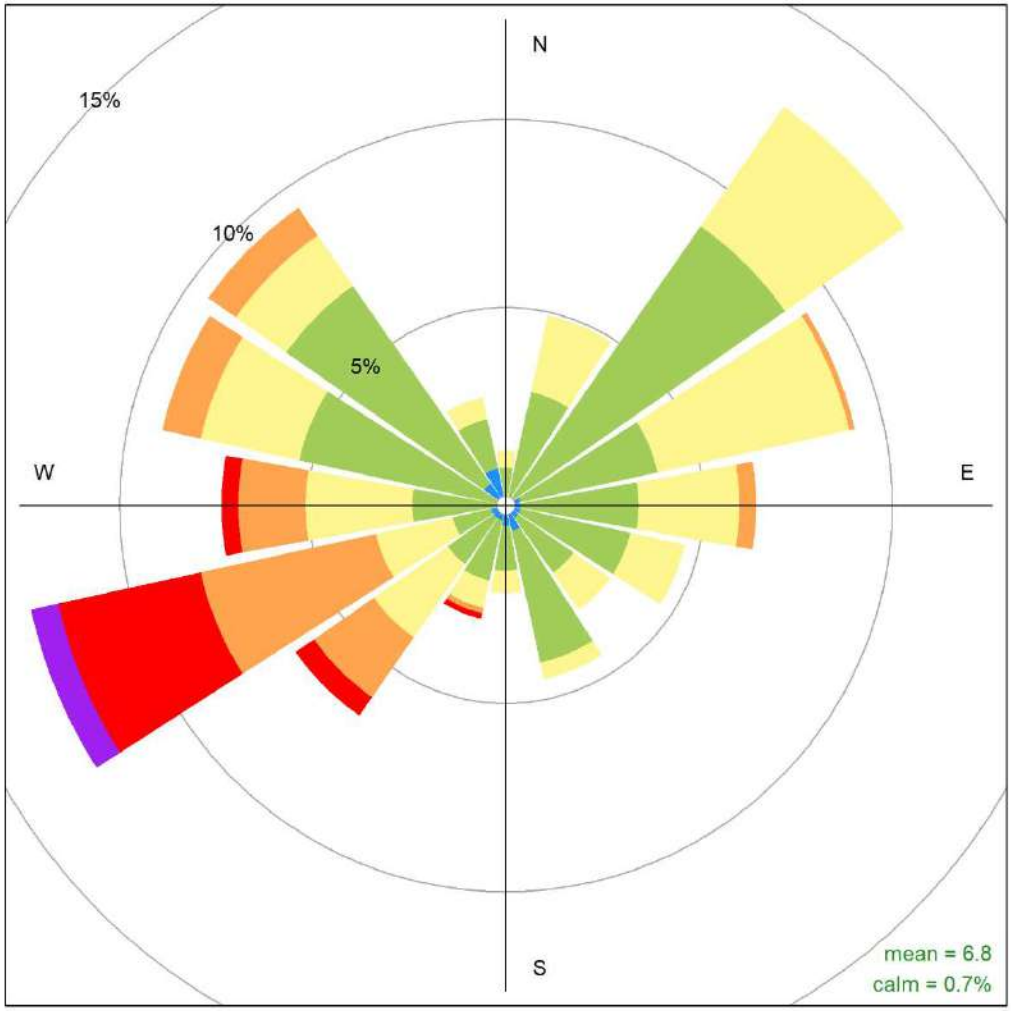

February 2023 Hourly Temperature Readings (in °C) at Henry Pirker
Temperature in °C
10
0
-10
-20
-30
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -7.3 °C


February 2023 Hourly Readings of Relative Humidity (in %) at Henry Pirker
RH in %
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
RH
Average = 65.8 %


February 2023 Hourly Readings of Wind Speed (in km/hr) at Henry Pirker
WS in km/hr
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 6.8 km/hr


February 2023 Hourly Readings of Wind Direction (in degrees) at Henry Pirker
WD in degrees
300
200
100
0
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WD


February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Henry Pirker
WD in degrees
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WDSTD

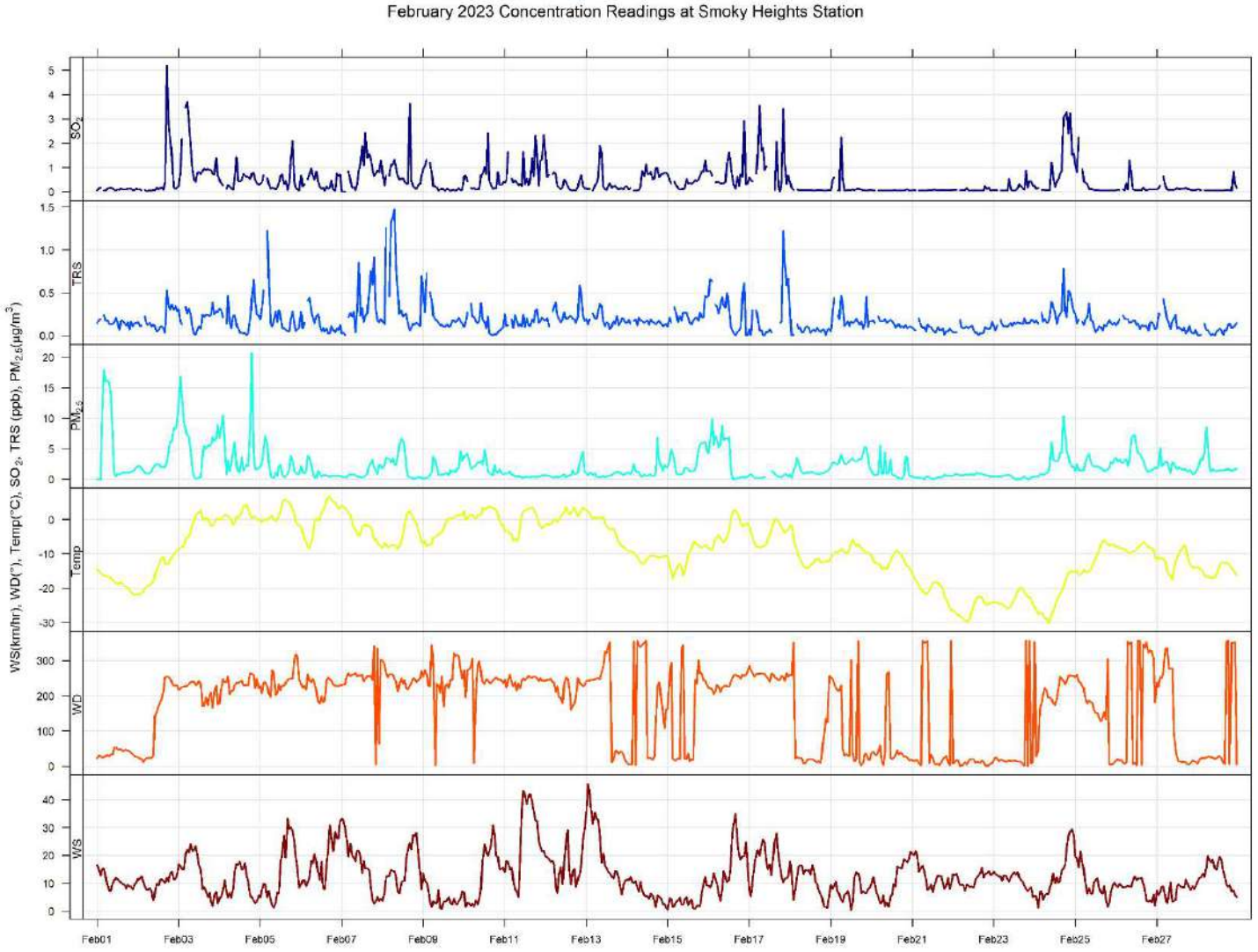


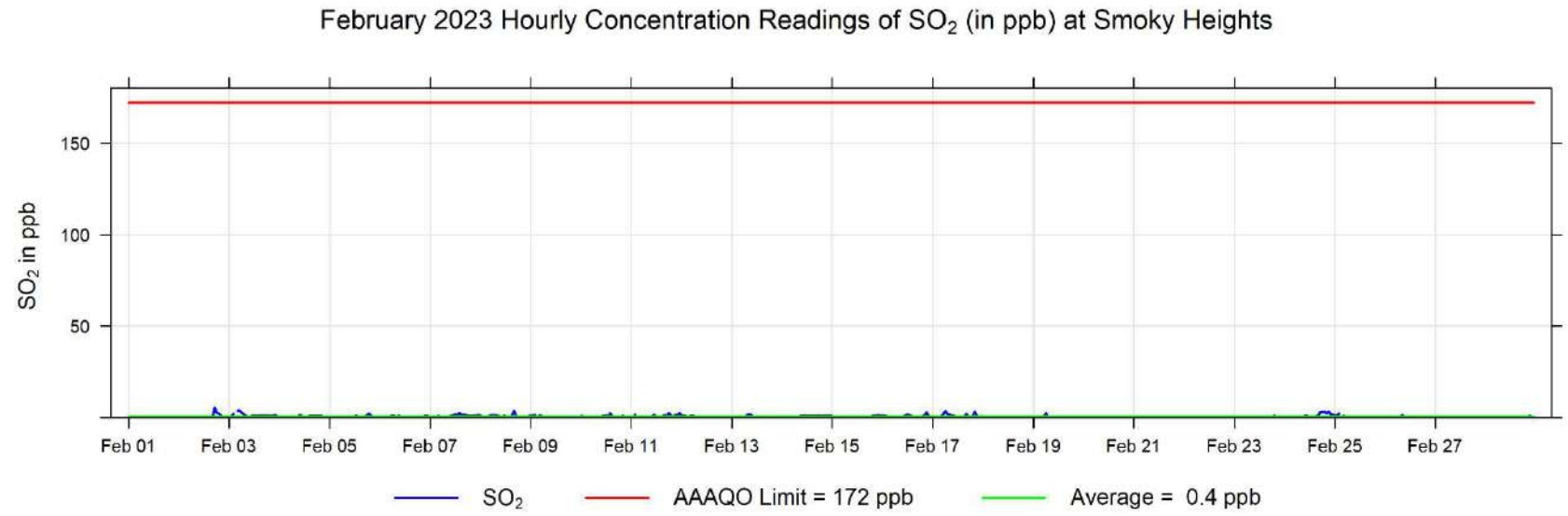
Henry Pirker February 2023 Wind Rose, wind speed in km/hr

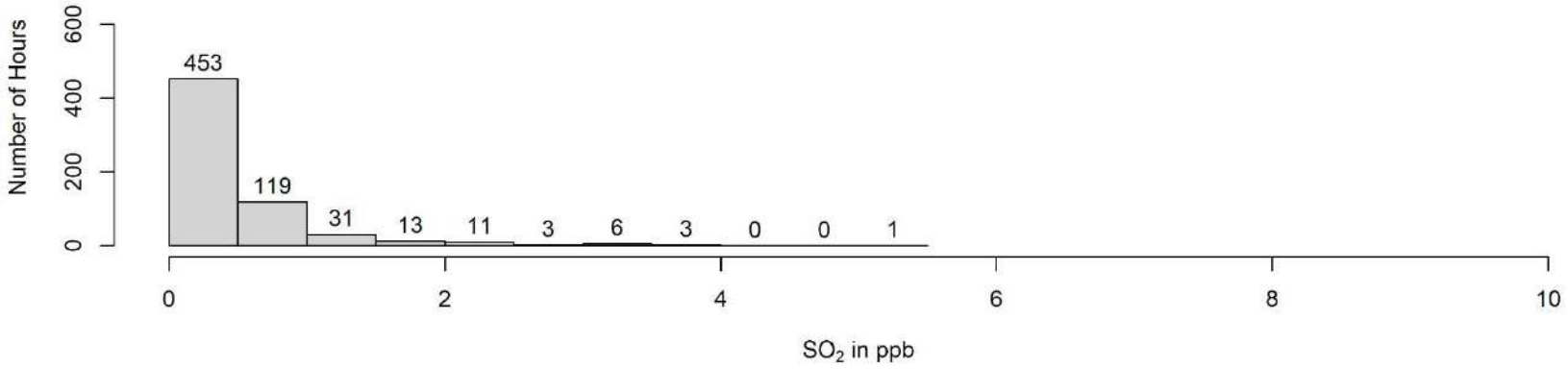
Frequency of counts by wind direction (%)

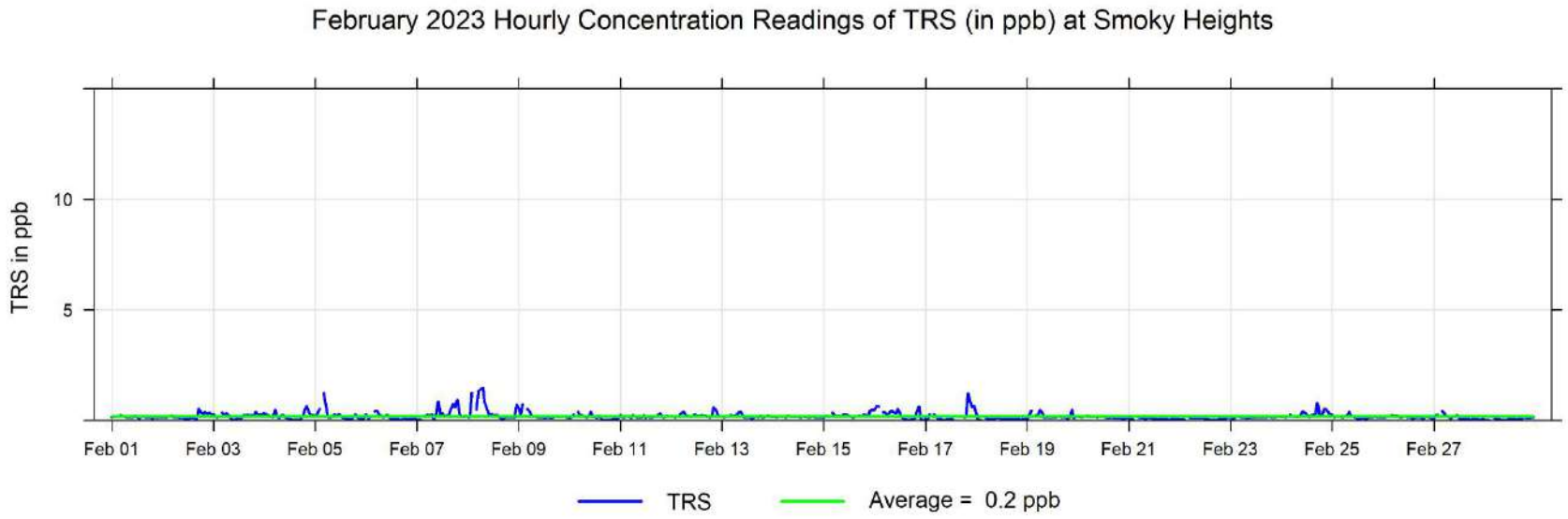
5 Smoky Heights Charts

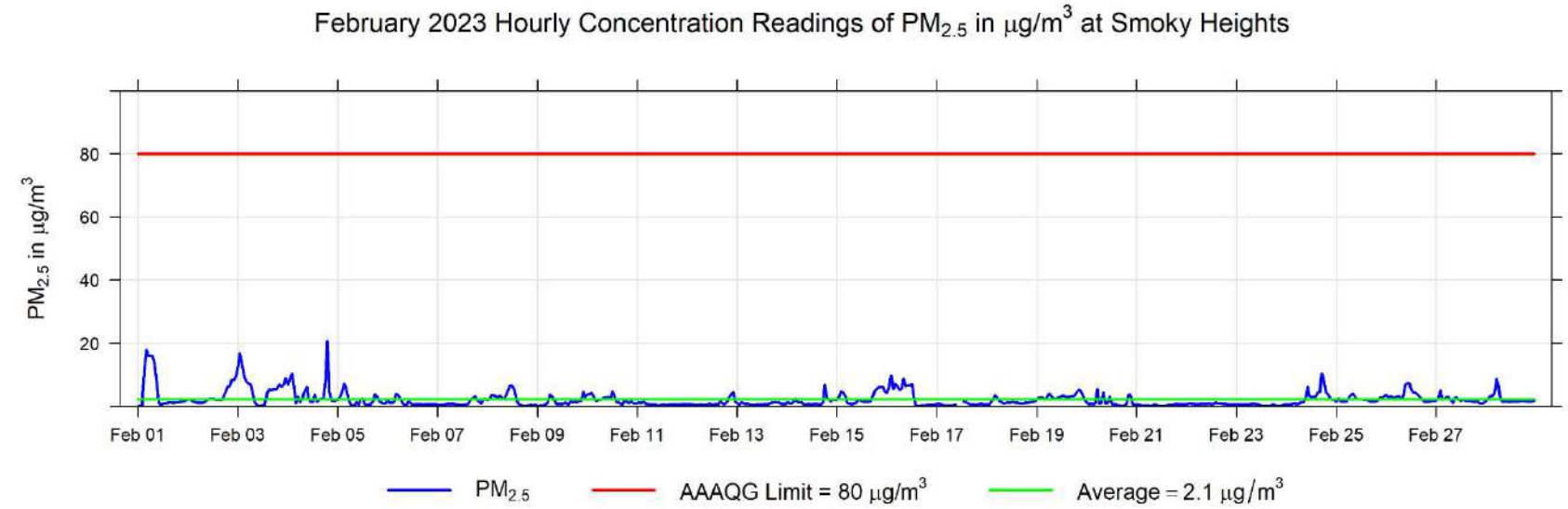
The following pages include the charts and histograms for Smoky Heights Station

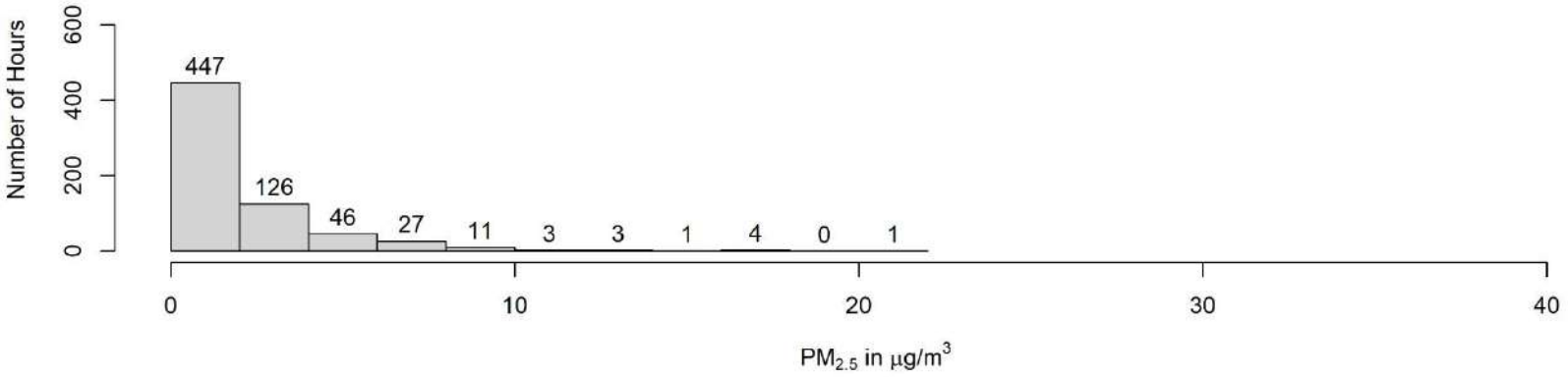


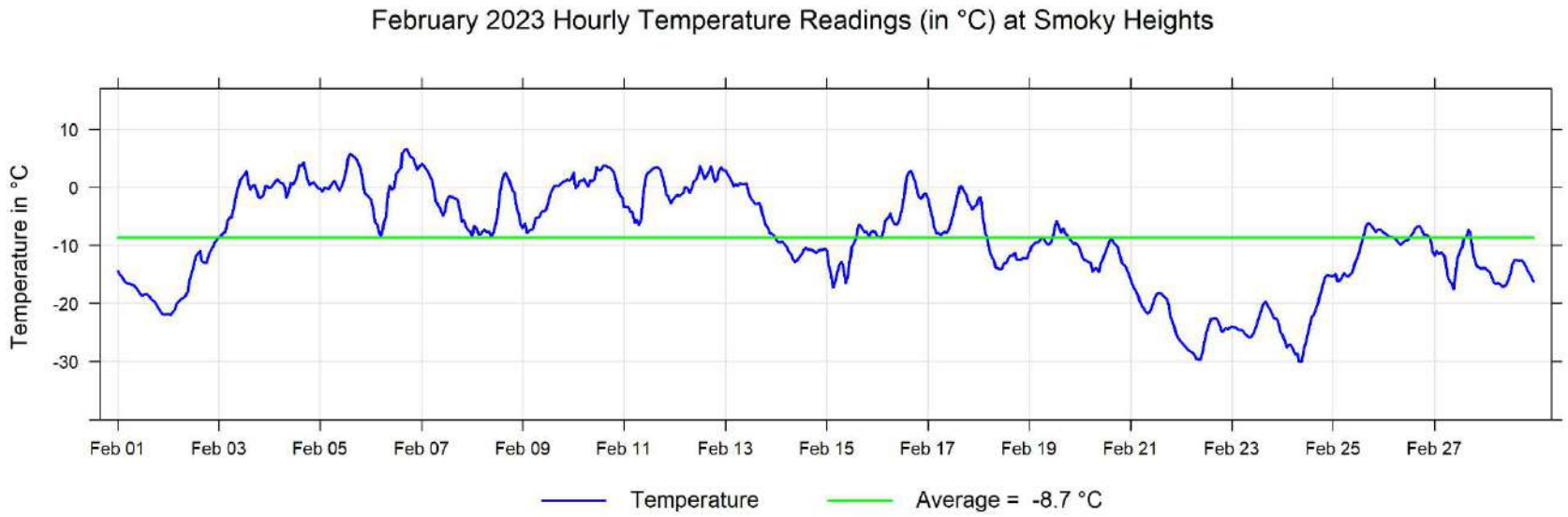

February 2023 Hourly Concentration Readings of SO_2 (in ppb) at Smoky Heights
SO_2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO_2
AAAQO Limit = 172 ppb
Average = 0.4 ppb

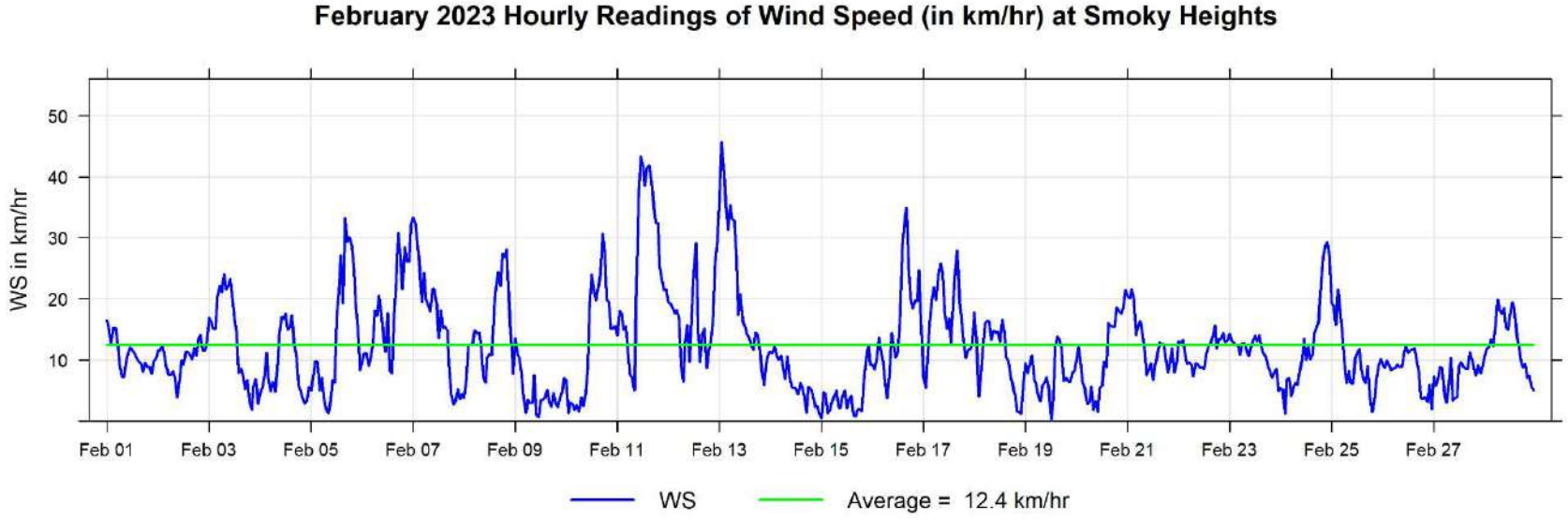

Number of Hours
0
200
400
600
453
119
31
13
11
3
6
3
0
0
1
0
2
4
6
8
10
SO_2 in ppb


February 2023 Hourly Concentration Readings of TRS (in ppb) at Smoky Heights
TRS in ppb
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
TRS
Average = 0.2 ppb

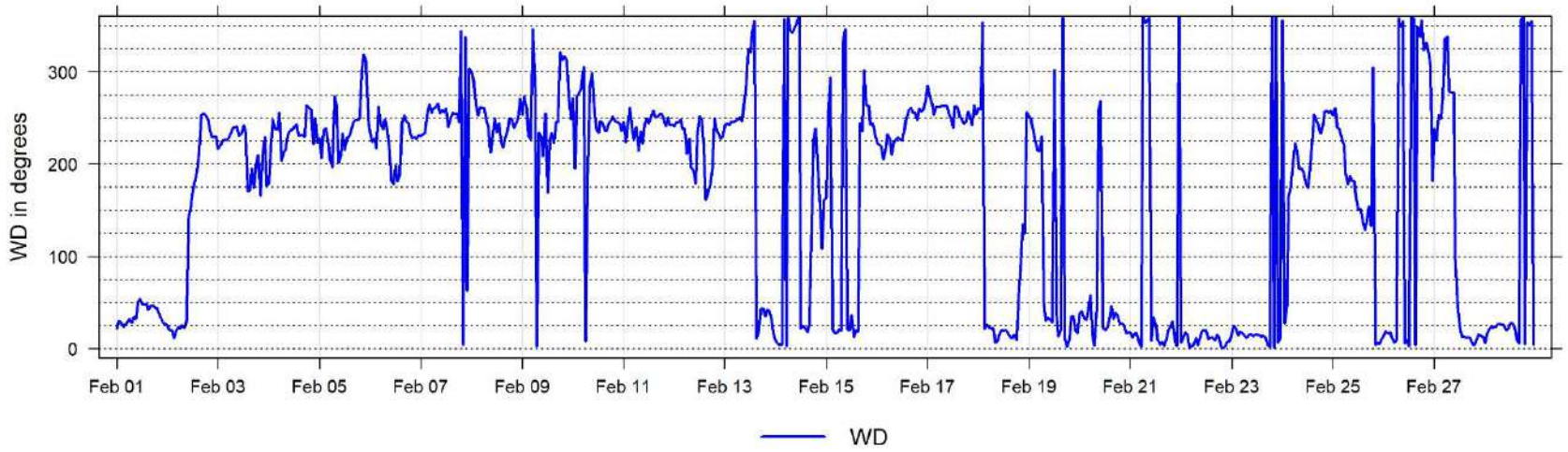

February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Smoky Heights
PM2.5 in µg/m3
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 2.1 µg/m3


Number of Hours
0
200
400
600
447
126
46
27
11
3
3
1
4
0
1
0
10
20
30
40
PM2.5 in µg/m3

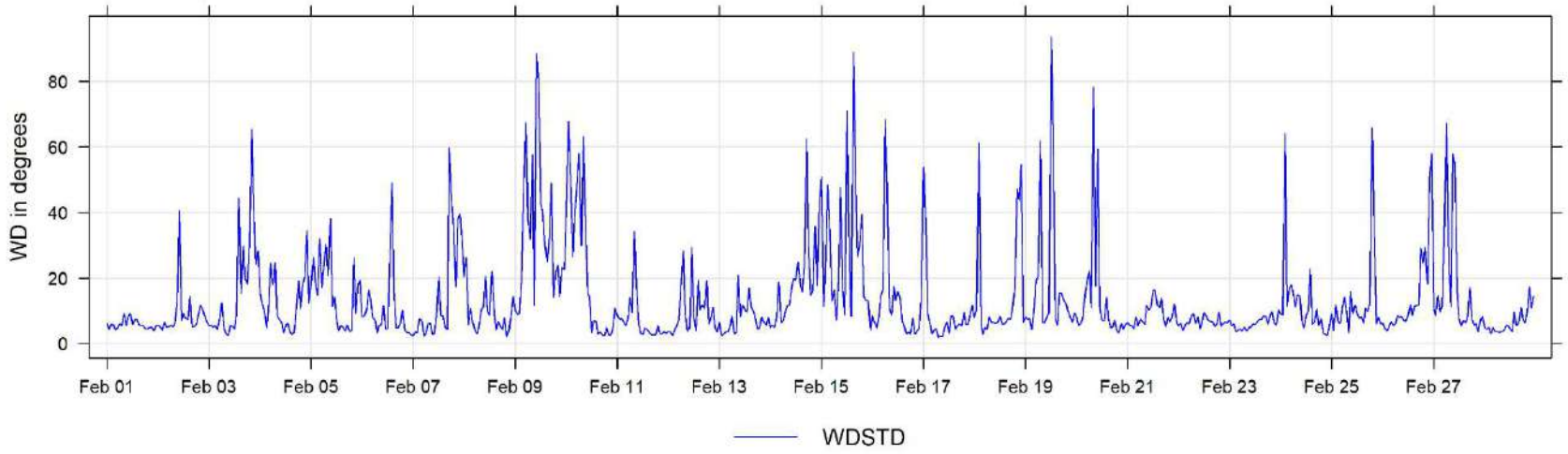

February 2023 Hourly Temperature Readings (in °C) at Smoky Heights
Temperature in °C
10
0
-10
-20
-30
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -8.7 °C

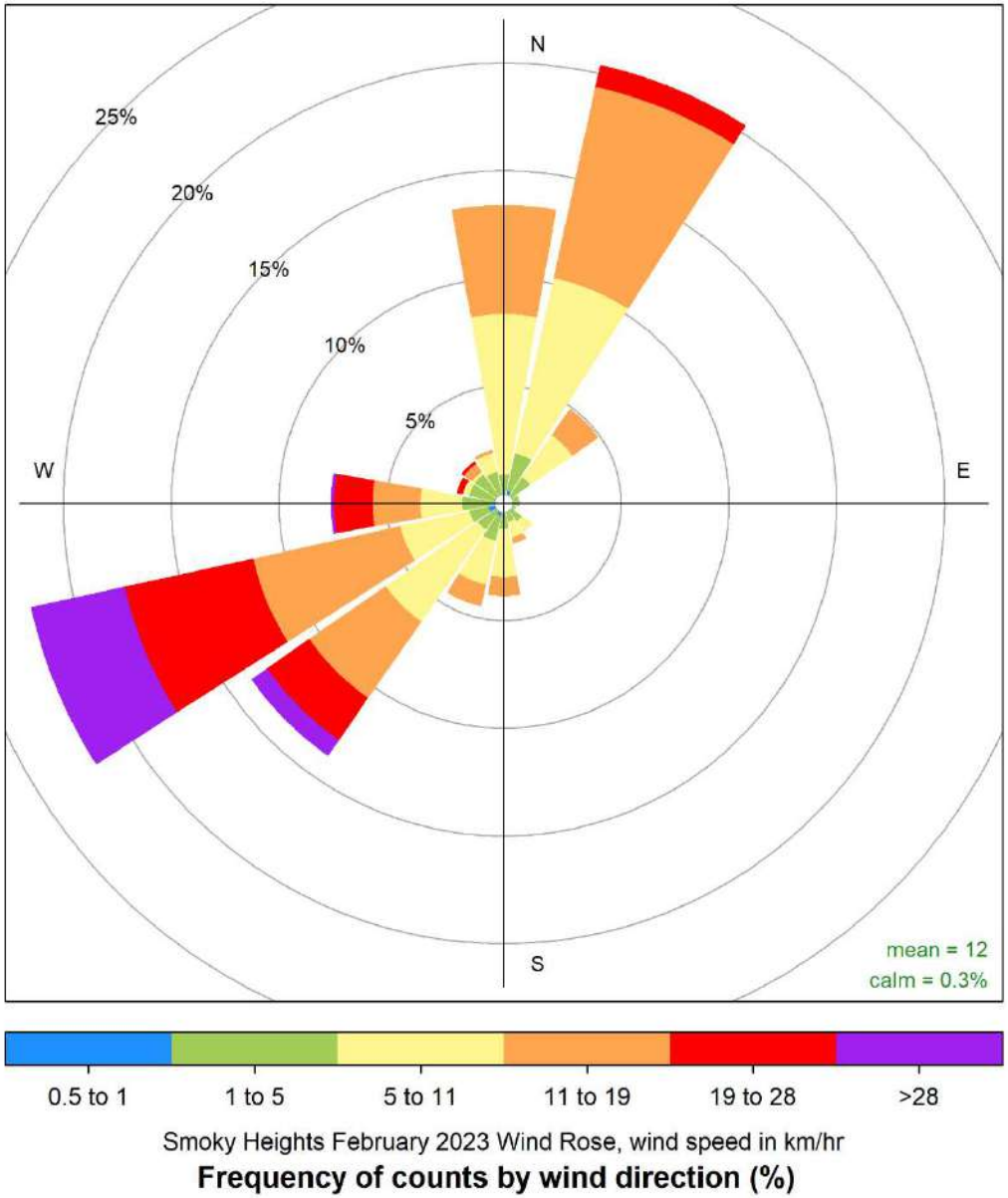

February 2023 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights
WS in km/hr
50
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 12.4 km/hr

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



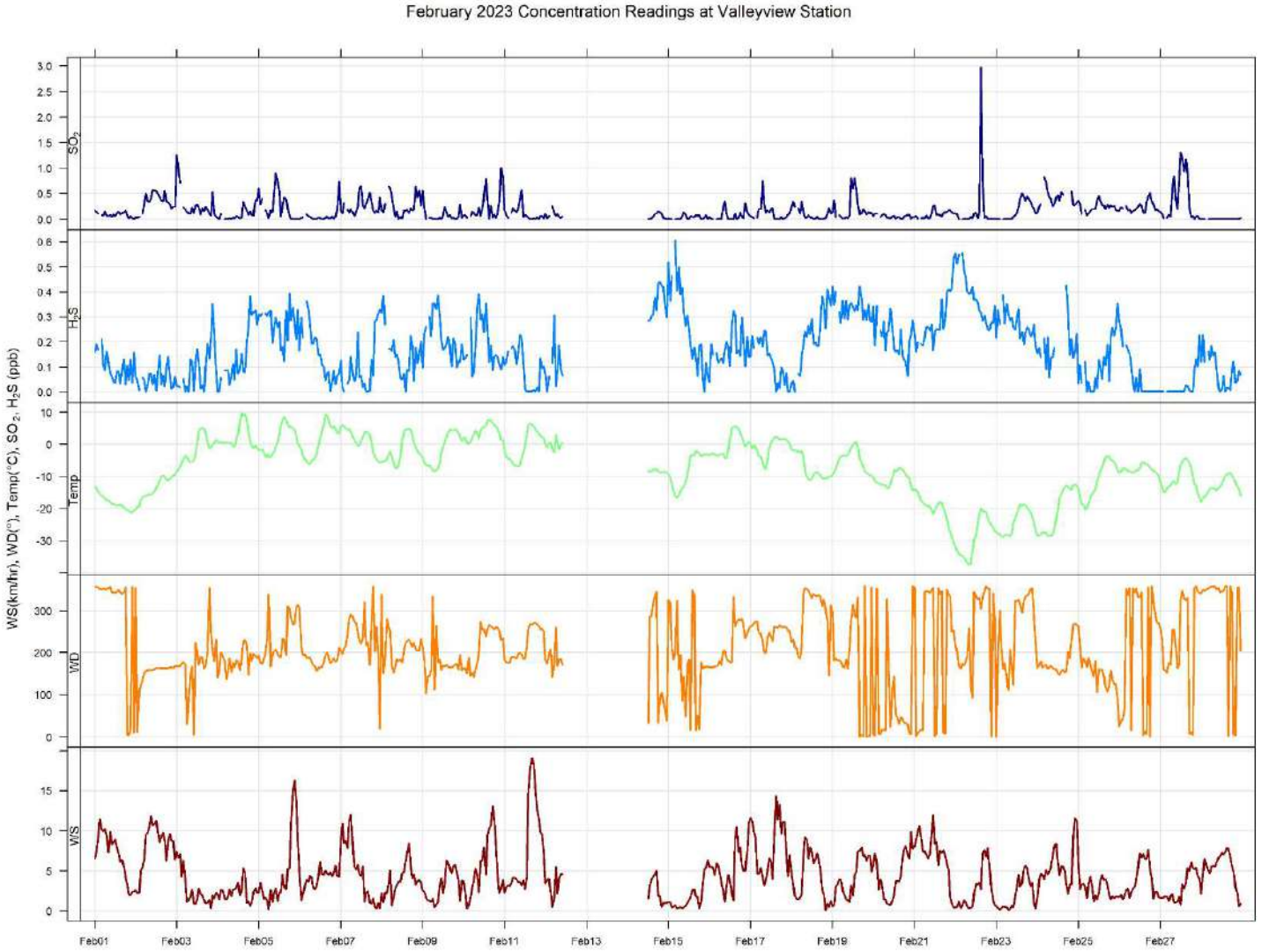
February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Smoky Heights

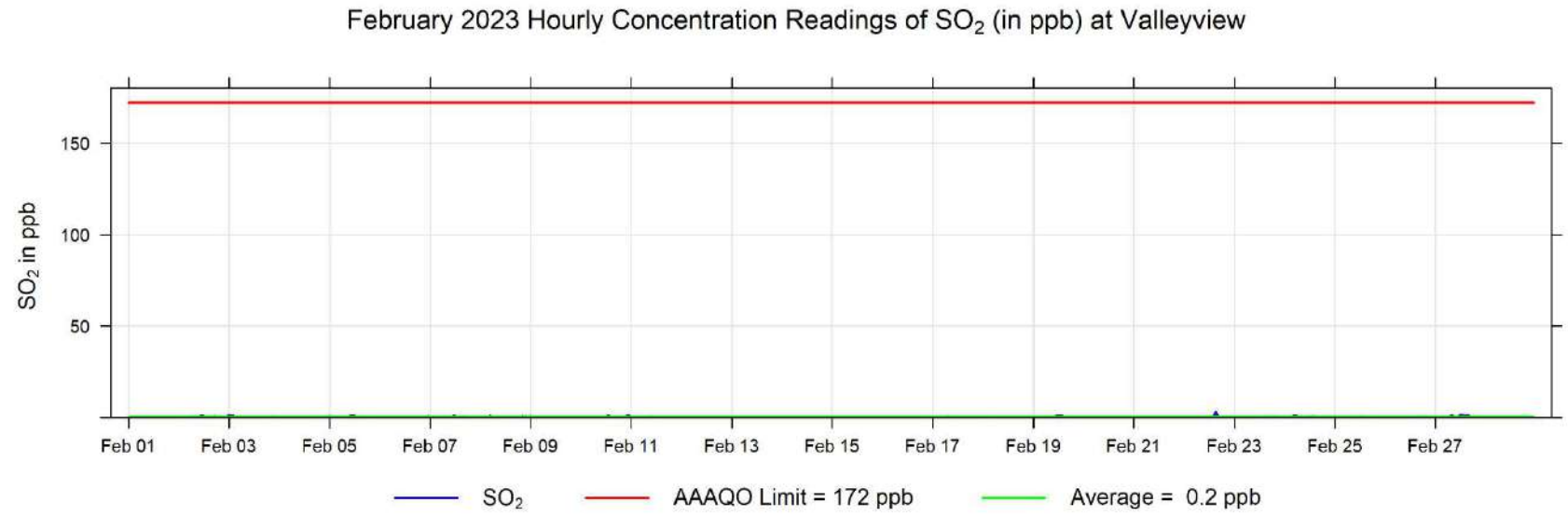


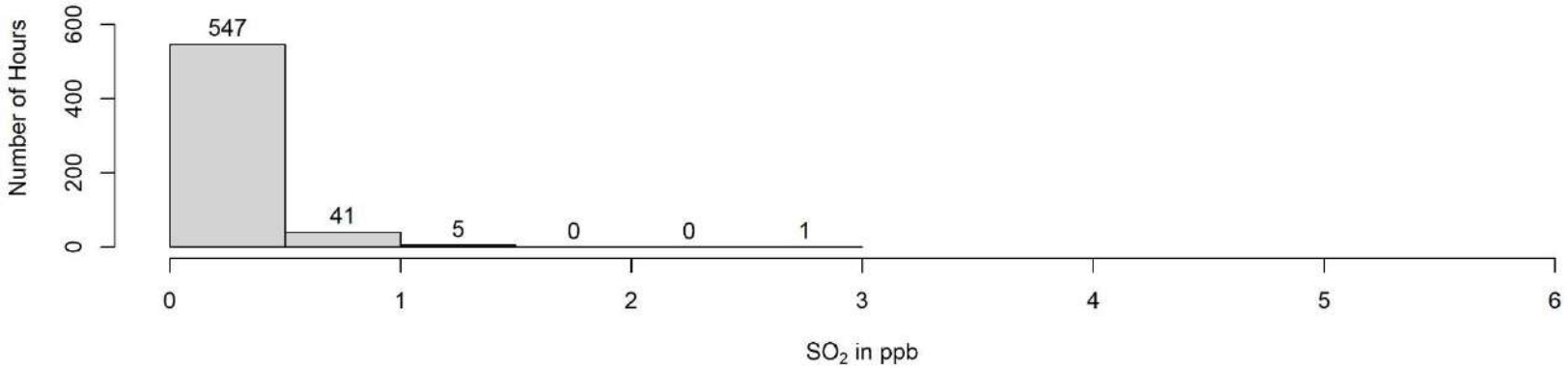

N
25%
20%
15%
10%
5%
W
E
S
mean = 12
calm = 0.3%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Smoky Heights February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

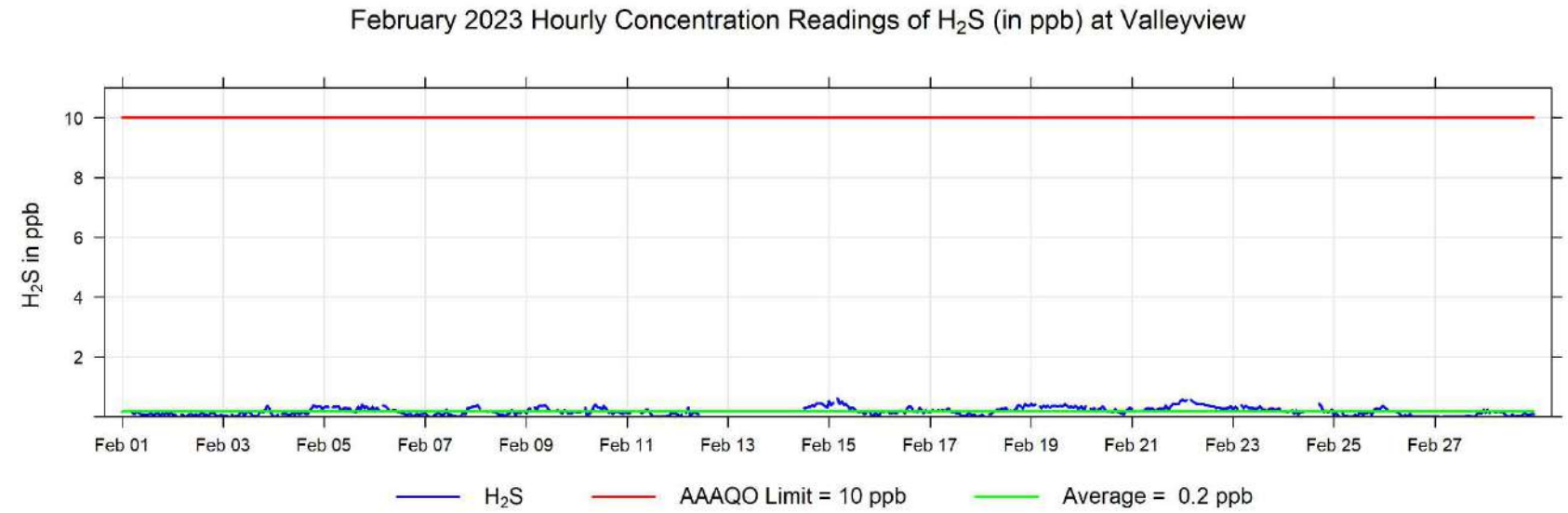
6 Valleyview Charts

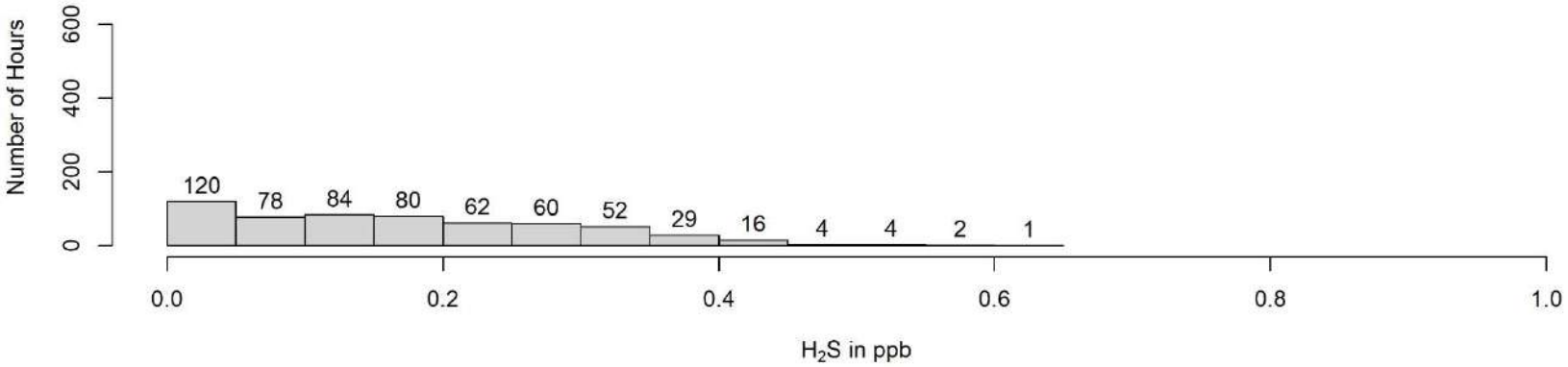
The following pages include the charts and histograms for Valleyview Station

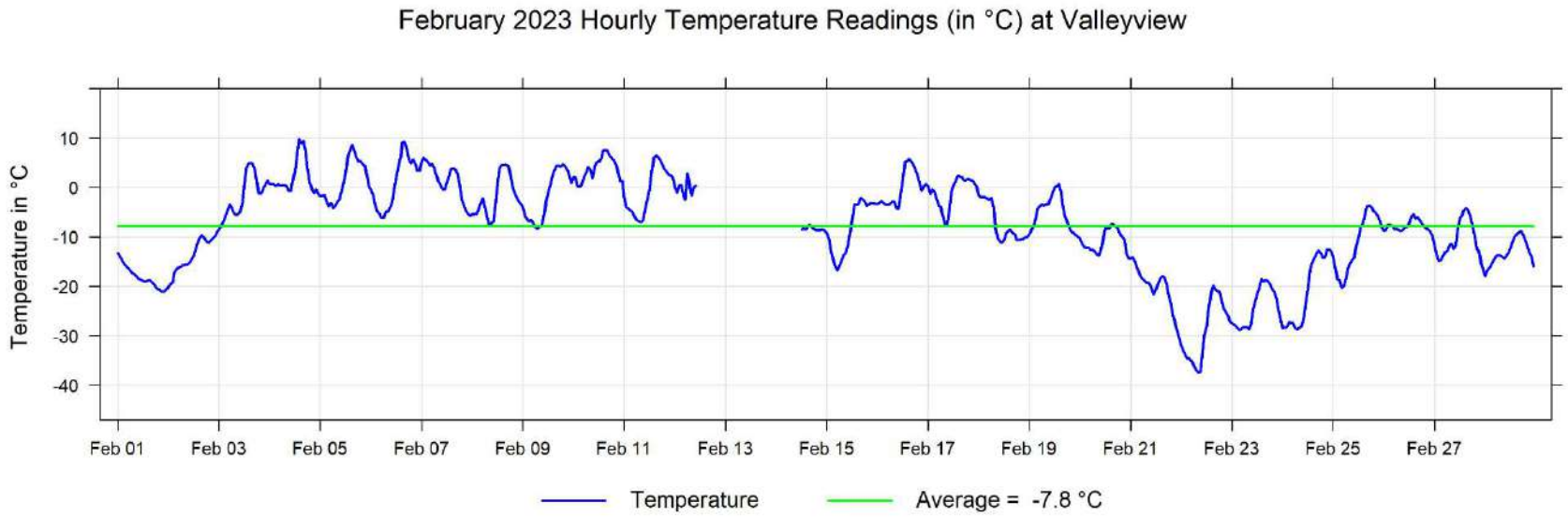


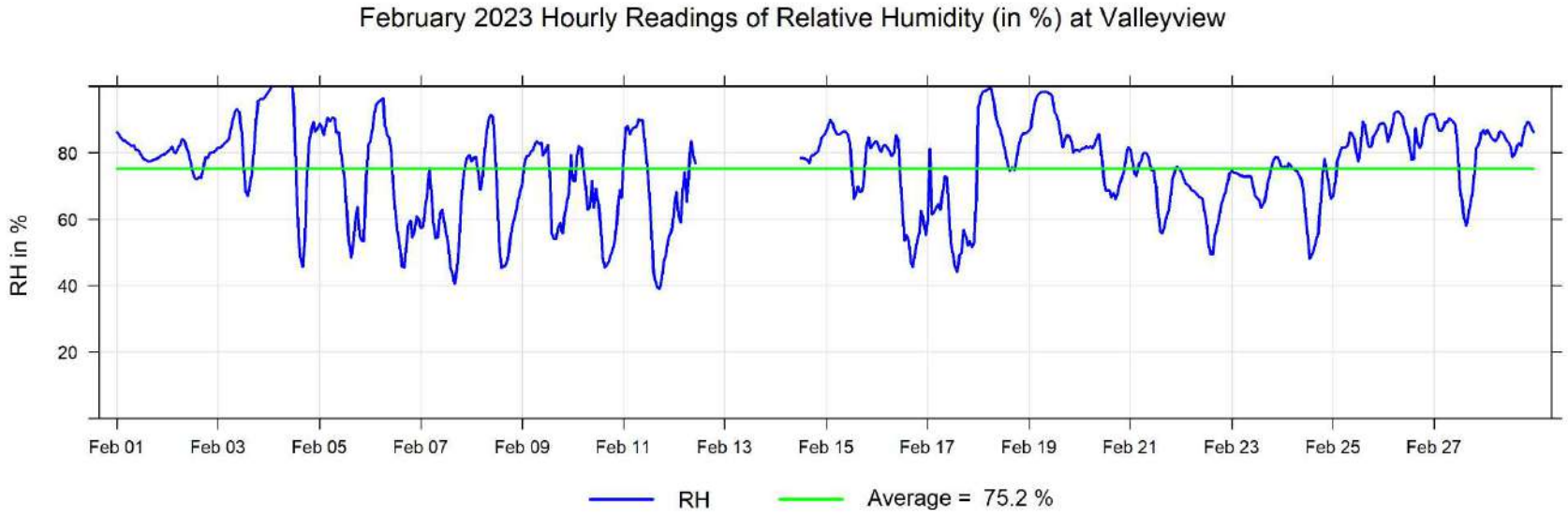

February 2023 Hourly Concentration Readings of SO2 (in ppb) at Valleyview
SO2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO2
AAAQO Limit = 172 ppb
Average = 0.2 ppb

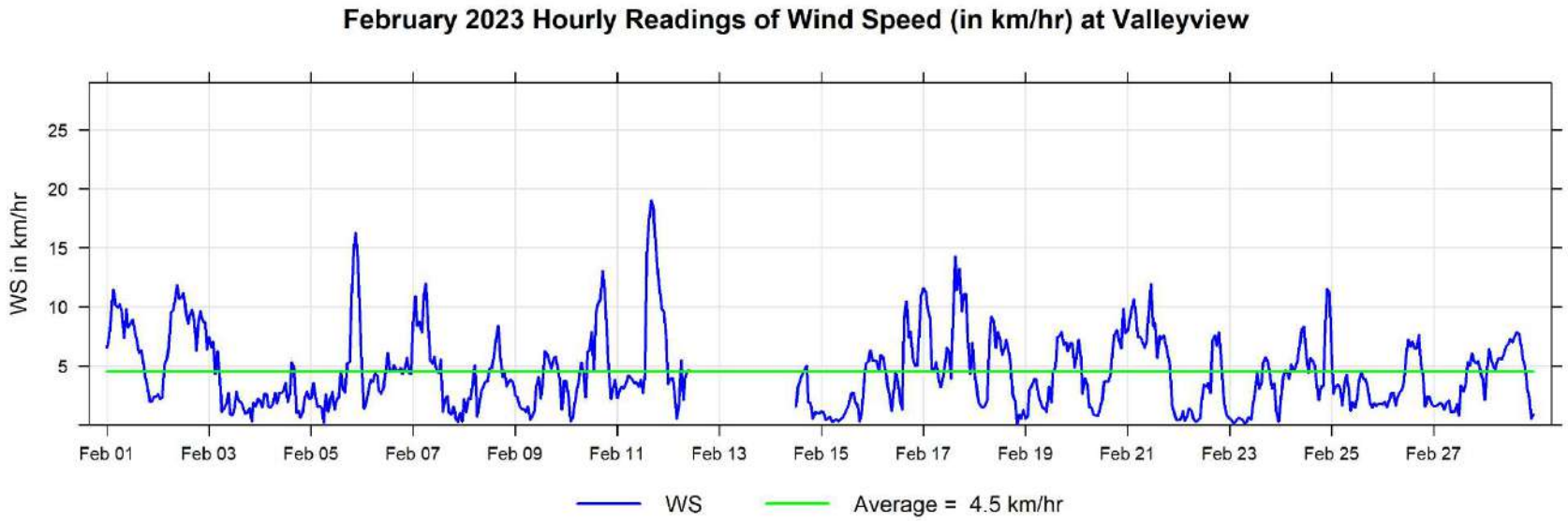

Number of Hours
0
200
400
600
547
41
5
0
0
1
0
1
2
3
4
5
6
SO2 in ppb

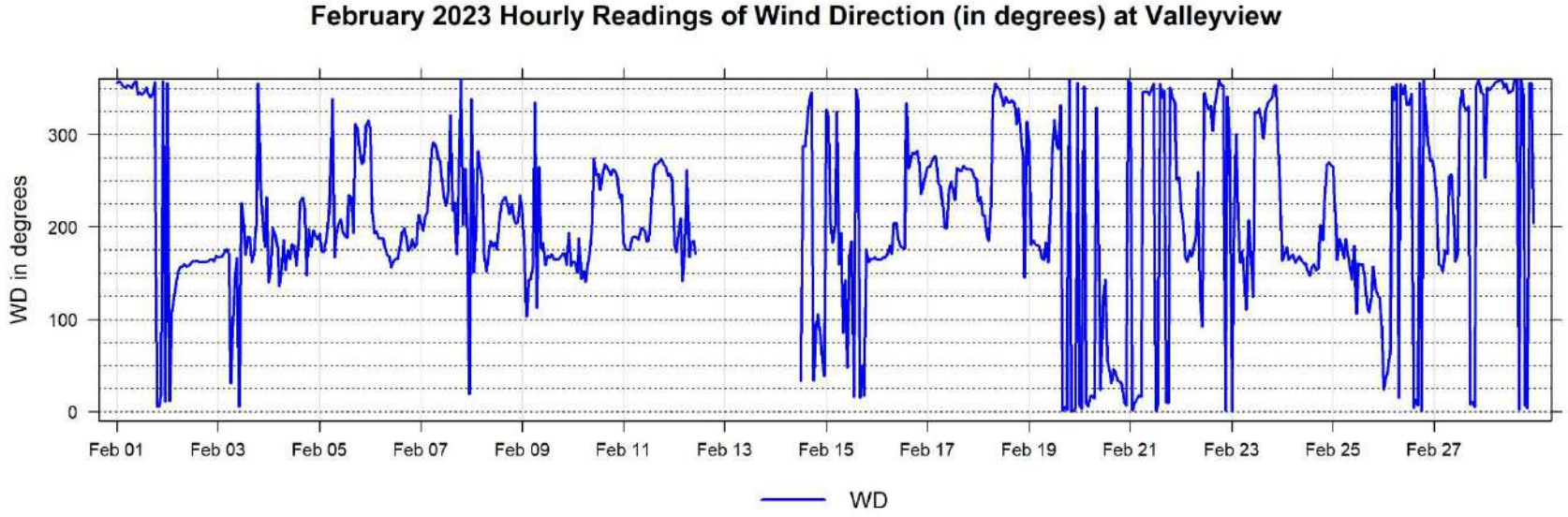

February 2023 Hourly Concentration Readings of H2S (in ppb) at Valleyview
H2S in ppb
10
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
H2S
AAAQO Limit = 10 ppb
Average = 0.2 ppb

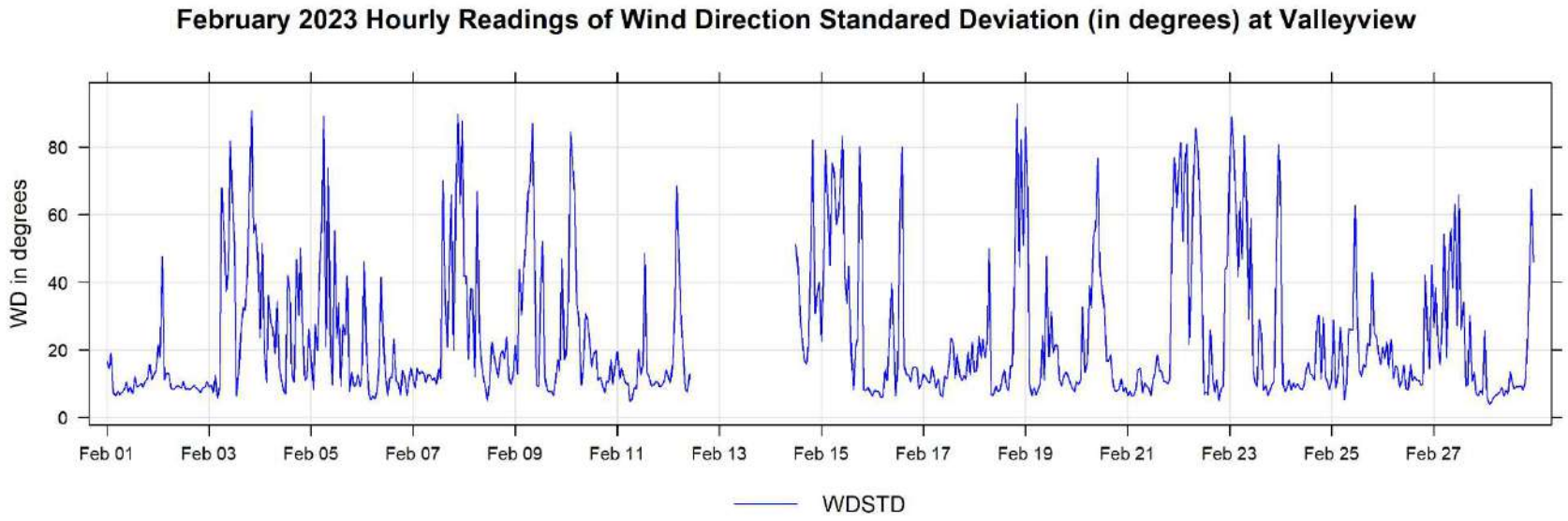

Number of Hours
0
200
400
600
120
78
84
80
62
60
52
29
16
4
4
2
1
0.0
0.2
0.4
0.6
0.8
1.0
H2S in ppb

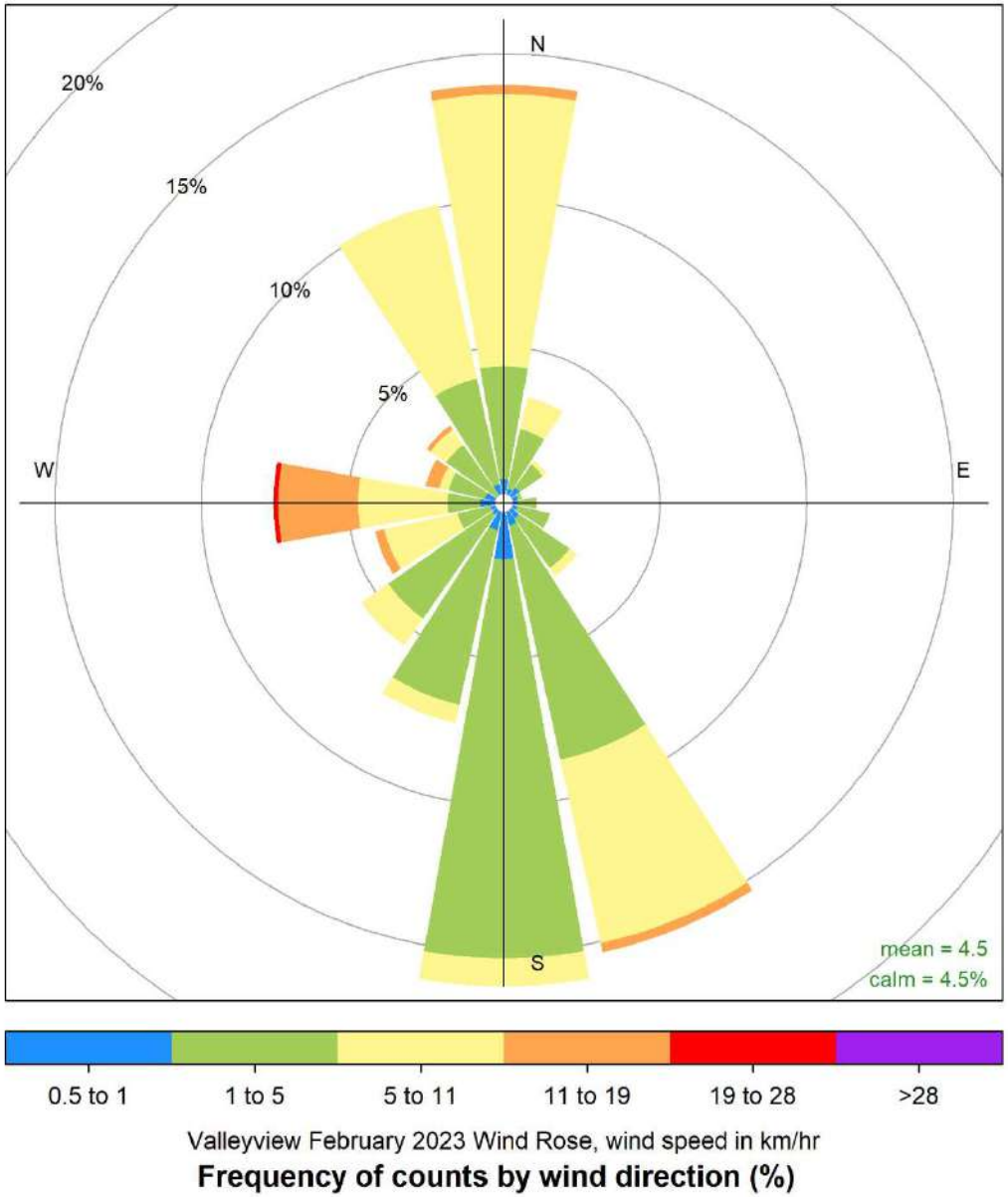

February 2023 Hourly Temperature Readings (in °C) at Valleyview
Temperature in °C
10
0
-10
-20
-30
-40
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -7.8 °C


February 2023 Hourly Readings of Relative Humidity (in %) at Valleyview
RH in %
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
RH
Average = 75.2 %


February 2023 Hourly Readings of Wind Speed (in km/hr) at Valleyview
WS in km/hr
25
20
15
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 4.5 km/hr

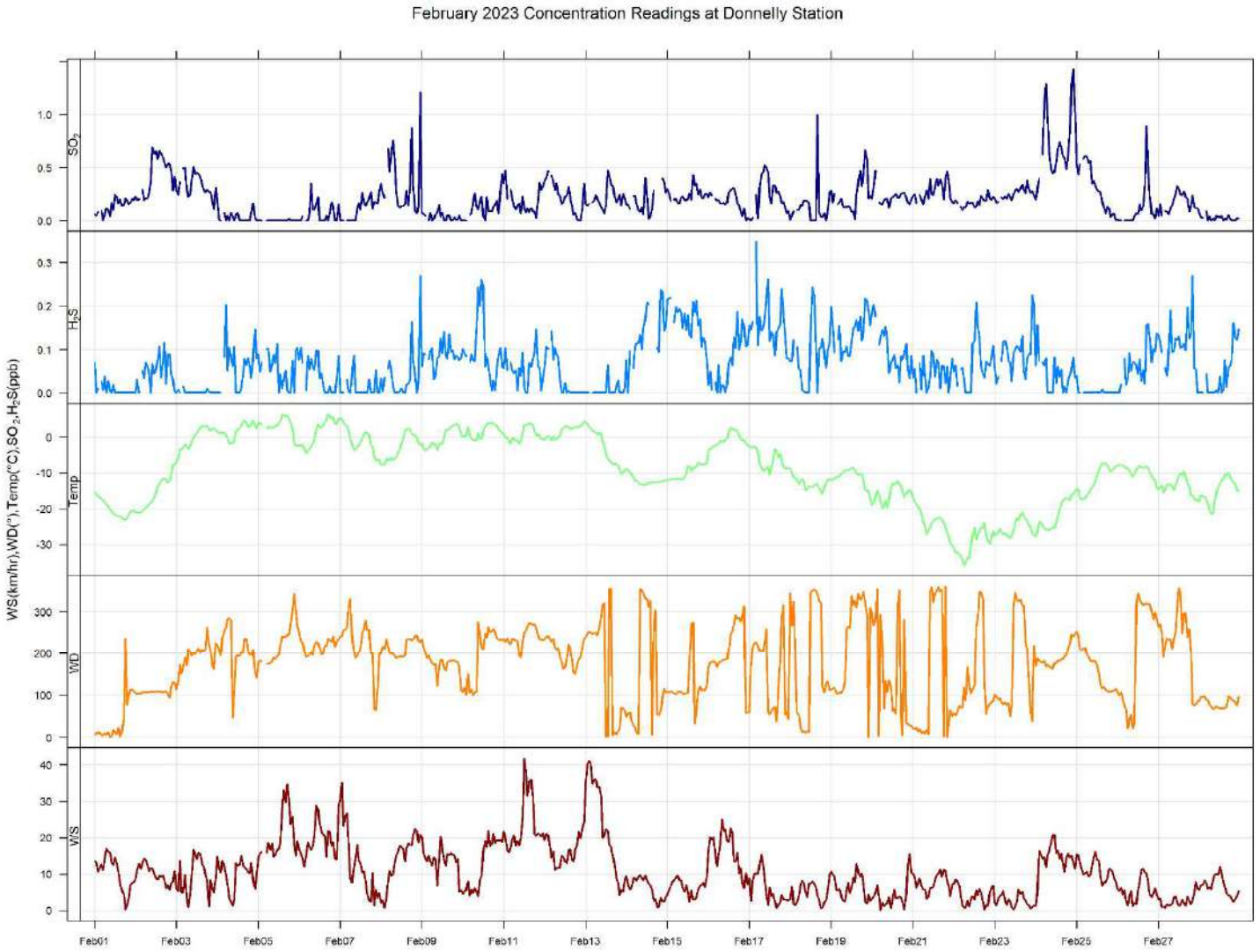

February 2023 Hourly Readings of Wind Direction (in degrees) at Valleyview
WD in degrees
300
200
100
0
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WD

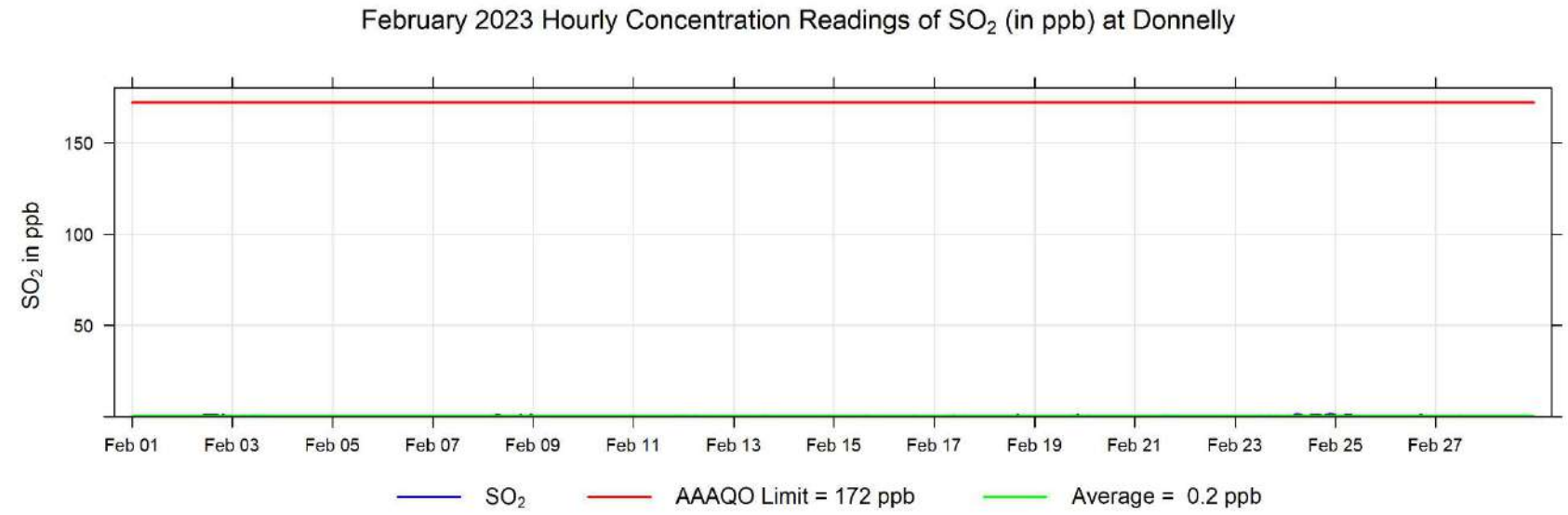

February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Valleyview
WD in degrees
0
20
40
60
80
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WDSTD

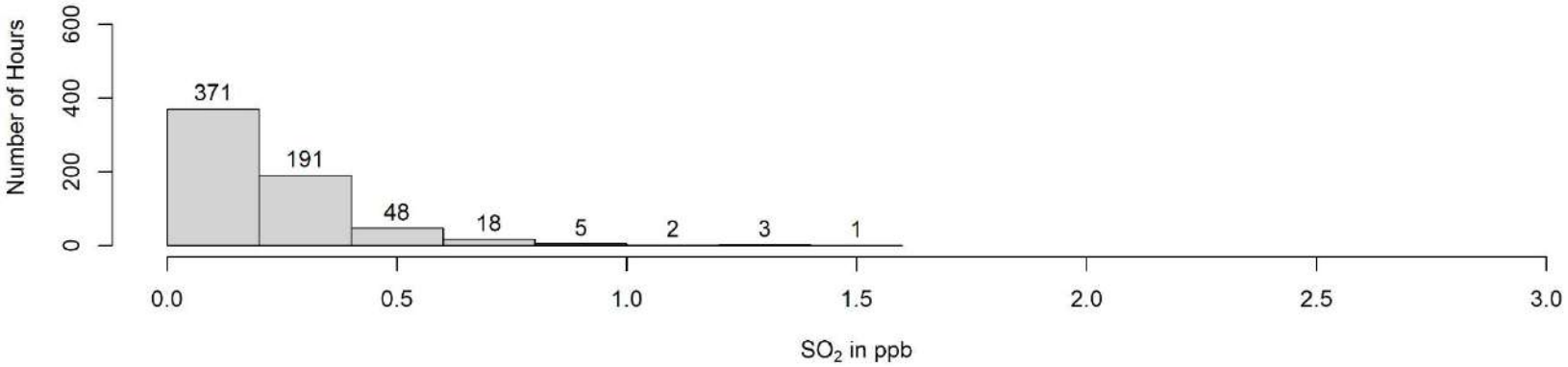

N
20%
15%
10%
5%
W
E
S
mean = 4.5
calm = 4.5%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Valleyview February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

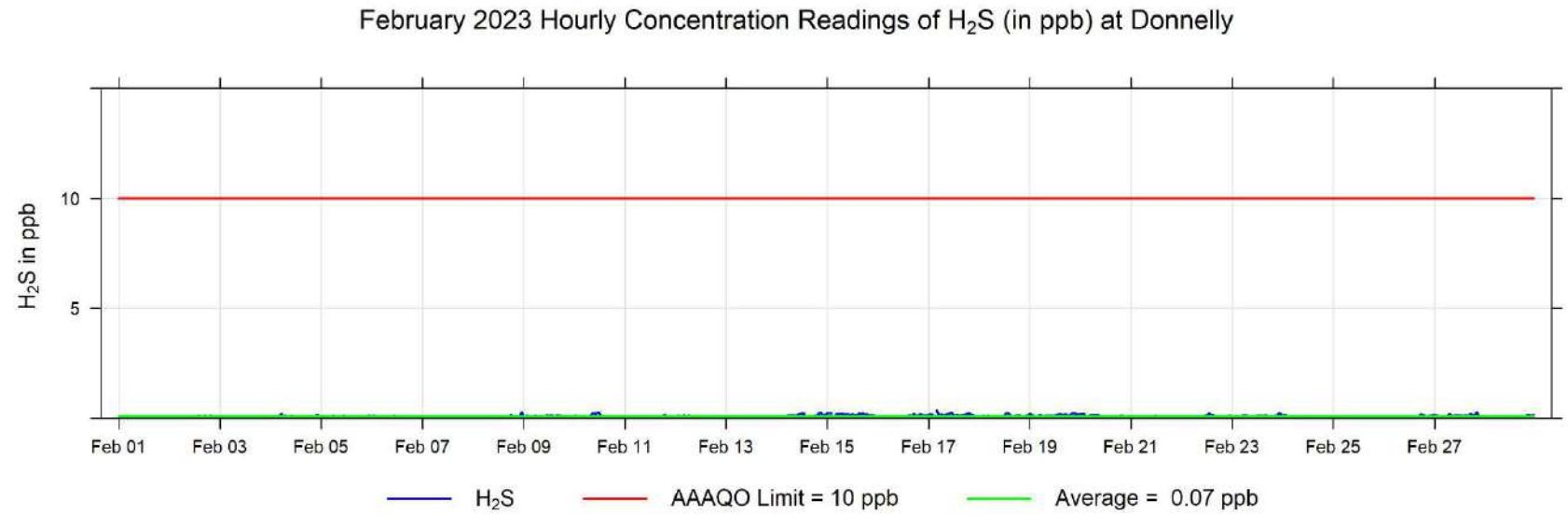
7 Donnelly Charts

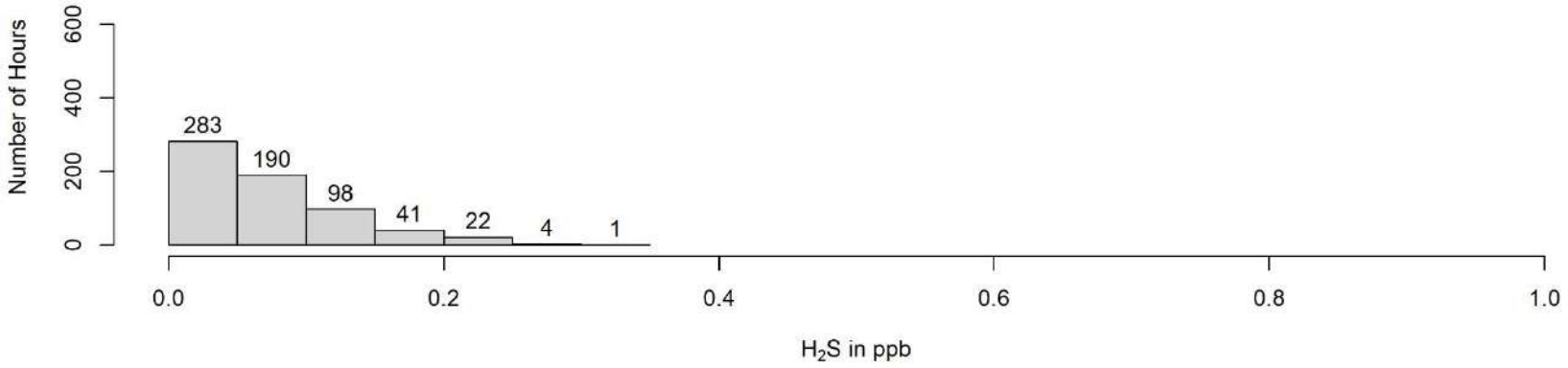
The following pages include the charts and histograms for Donnelly Station

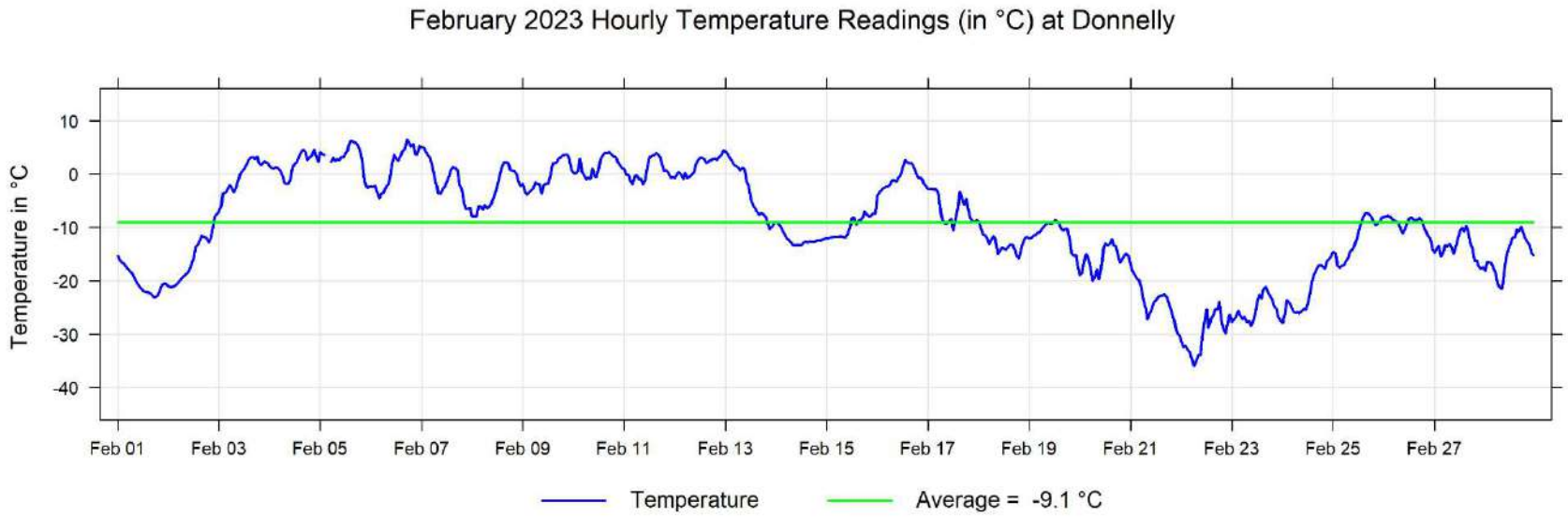


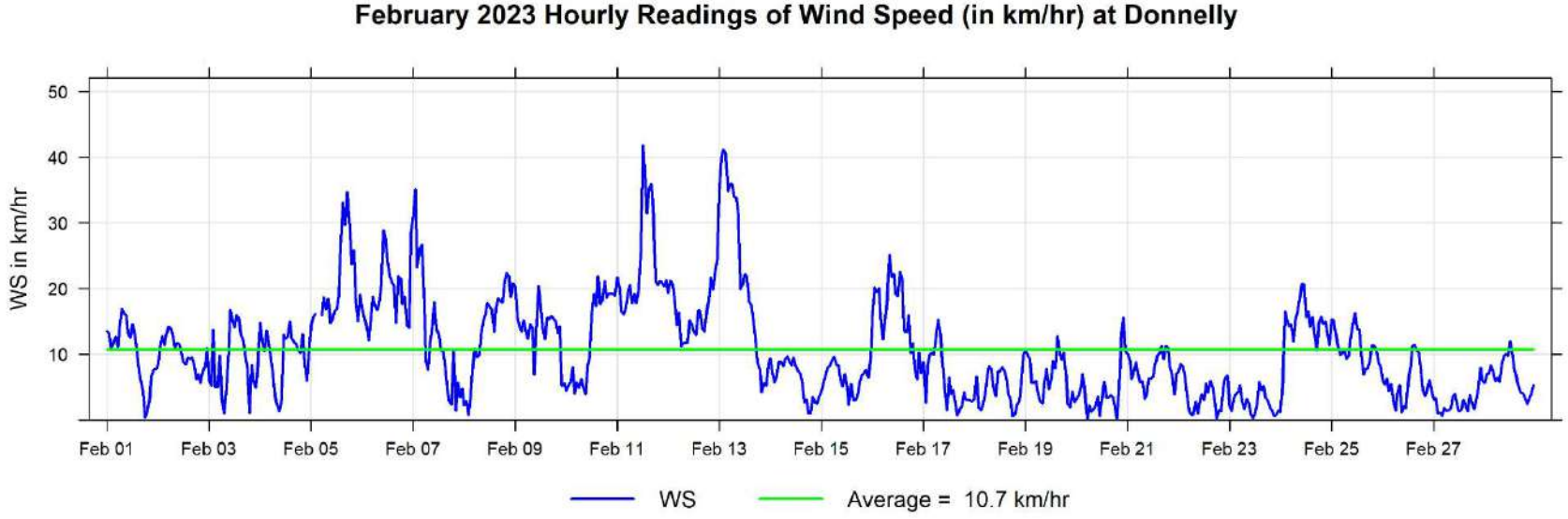

February 2023 Hourly Concentration Readings of SO_2 (in ppb) at Donnelly
SO_2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO_2
AAAQO Limit = 172 ppb
Average = 0.2 ppb


Number of Hours
0
200
400
600
371
191
48
18
5
2
3
1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
SO_2 in ppb

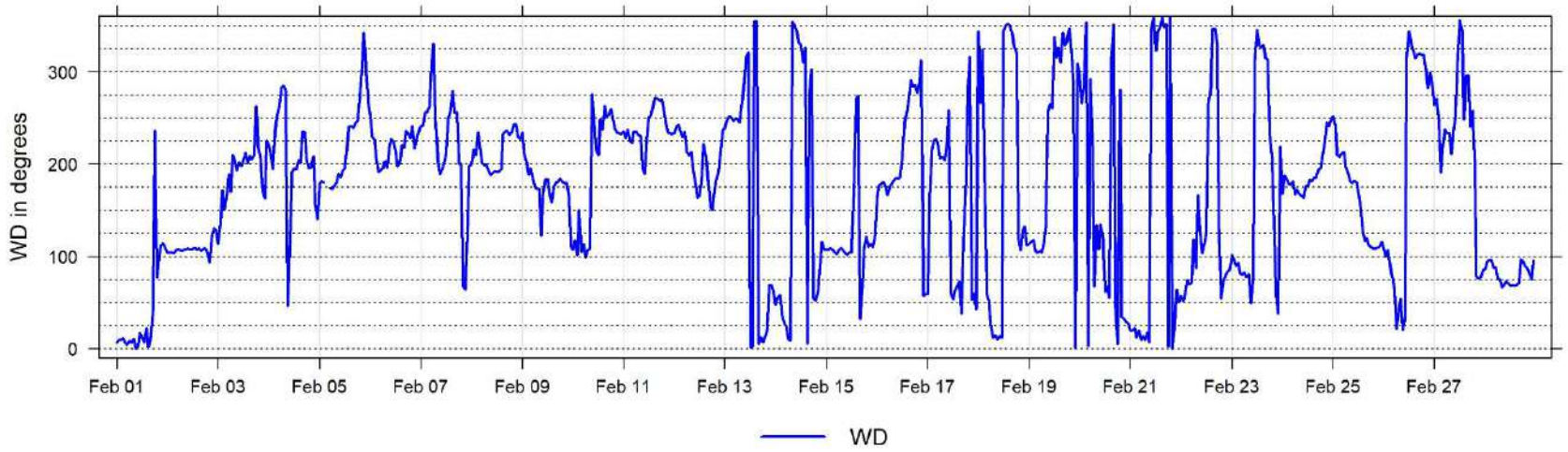

February 2023 Hourly Concentration Readings of H2S (in ppb) at Donnelly
H2S in ppb
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
H2S
AAAQO Limit = 10 ppb
Average = 0.07 ppb


Number of Hours
0
200
400
600
283
190
98
41
22
4
1
0.0
0.2
0.4
0.6
0.8
1.0
H2S in ppb

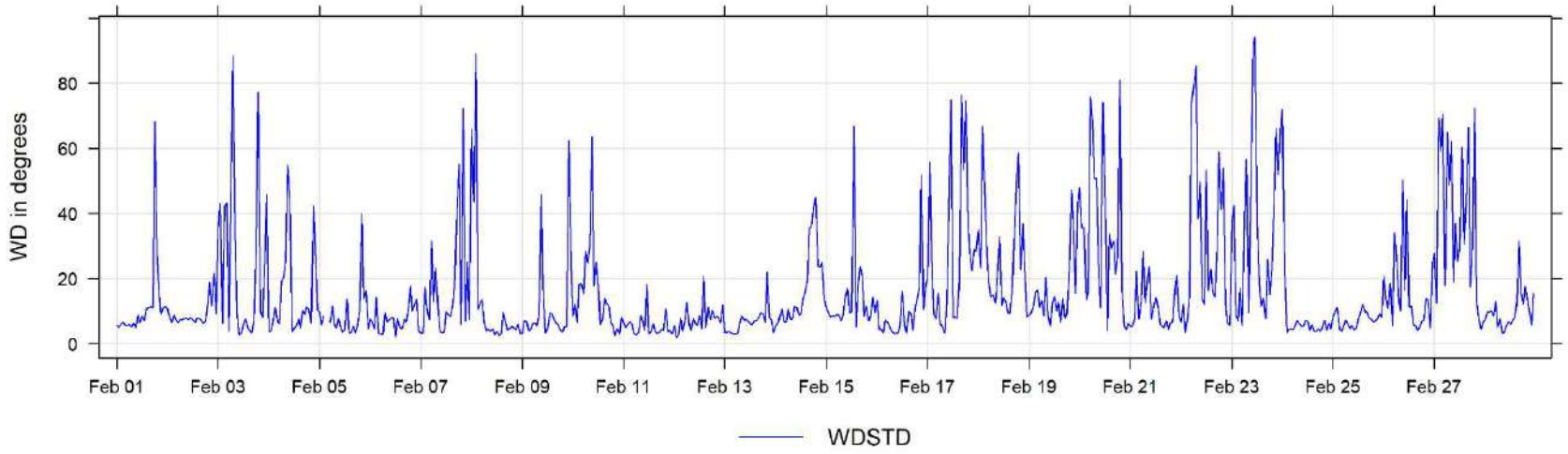

February 2023 Hourly Temperature Readings (in °C) at Donnelly
Temperature in °C
10
0
-10
-20
-30
-40
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -9.1 °C

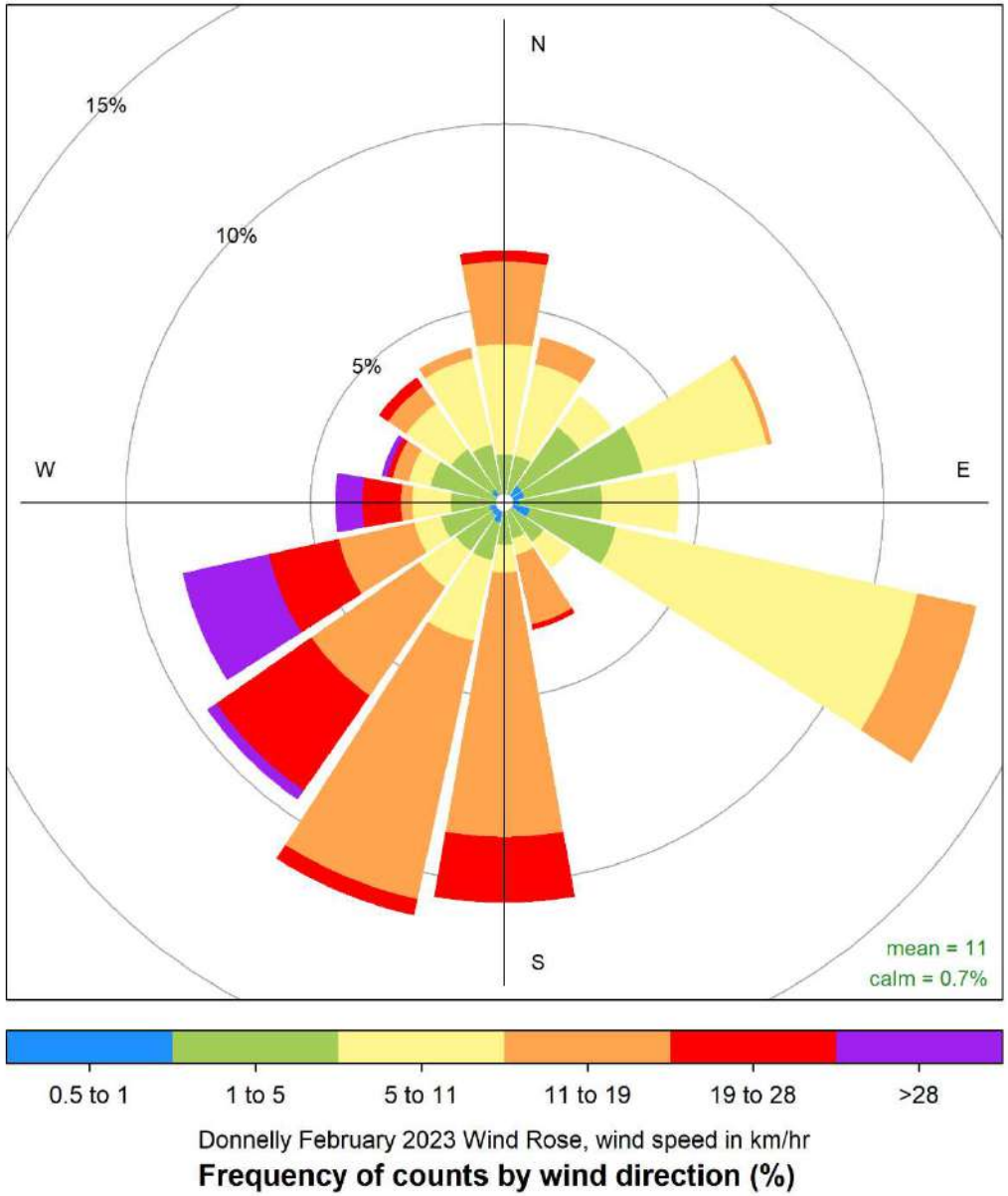

February 2023 Hourly Readings of Wind Speed (in km/hr) at Donnelly
WS in km/hr
50
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 10.7 km/hr

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



February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Donnelly



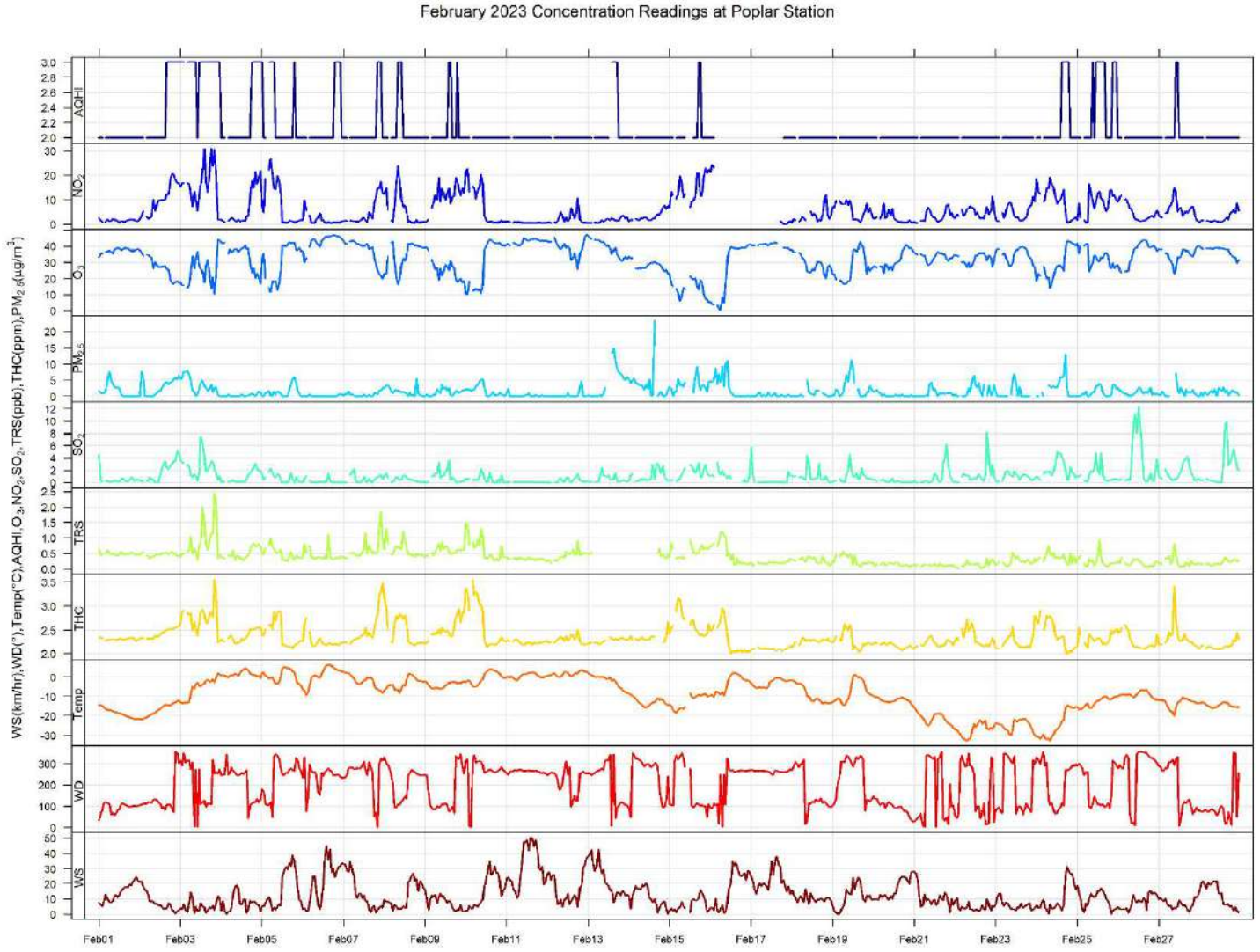


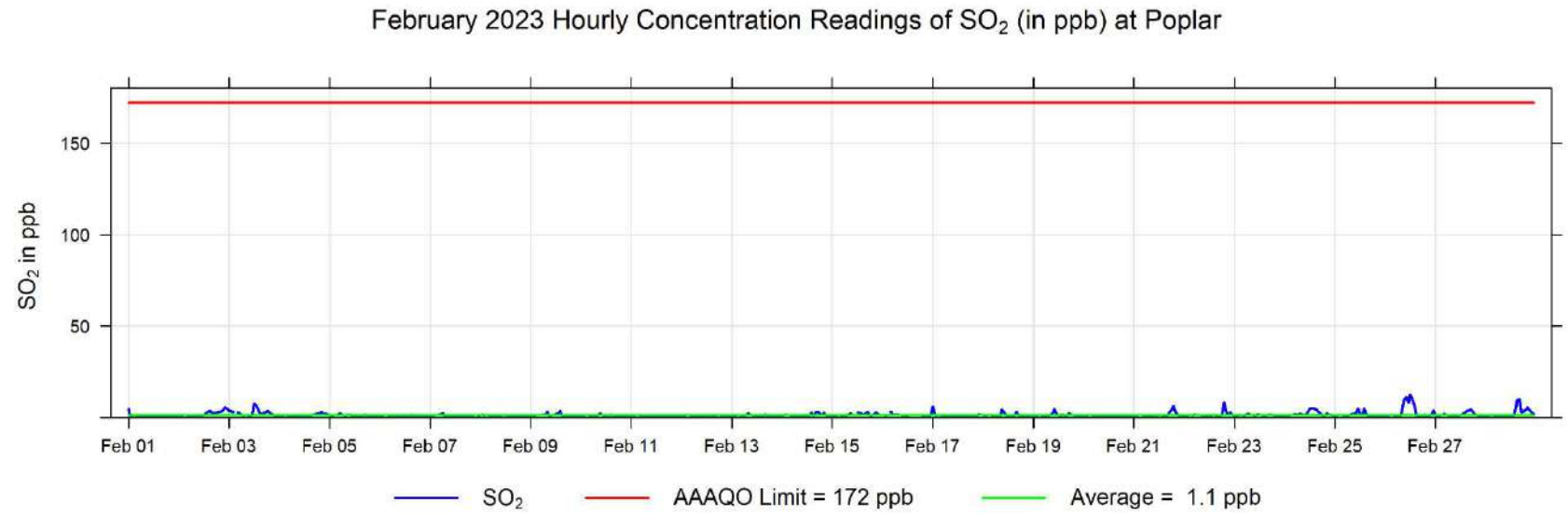
Donnelly February 2023 Wind Rose, wind speed in km/hr

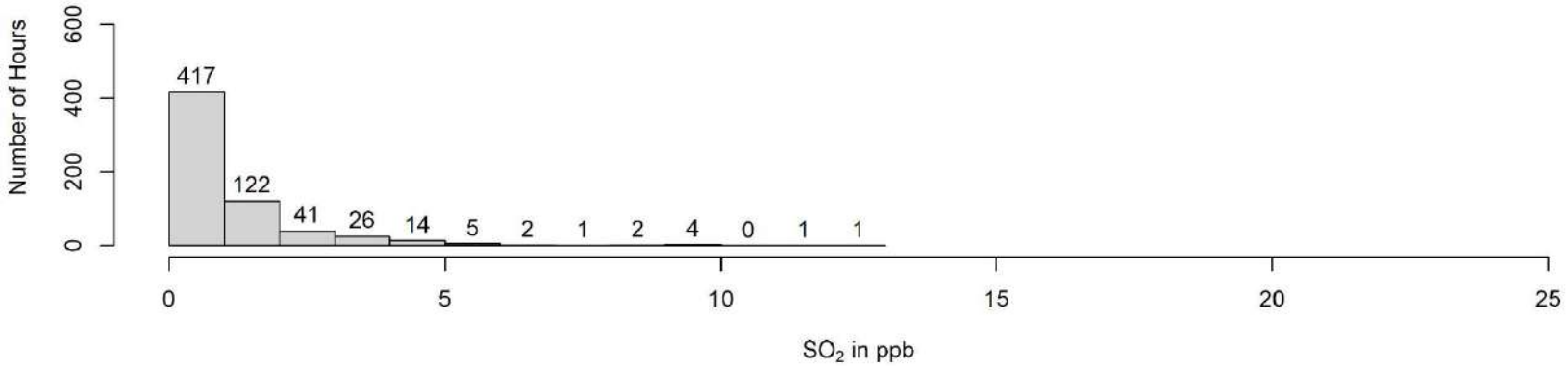
Frequency of counts by wind direction (%)

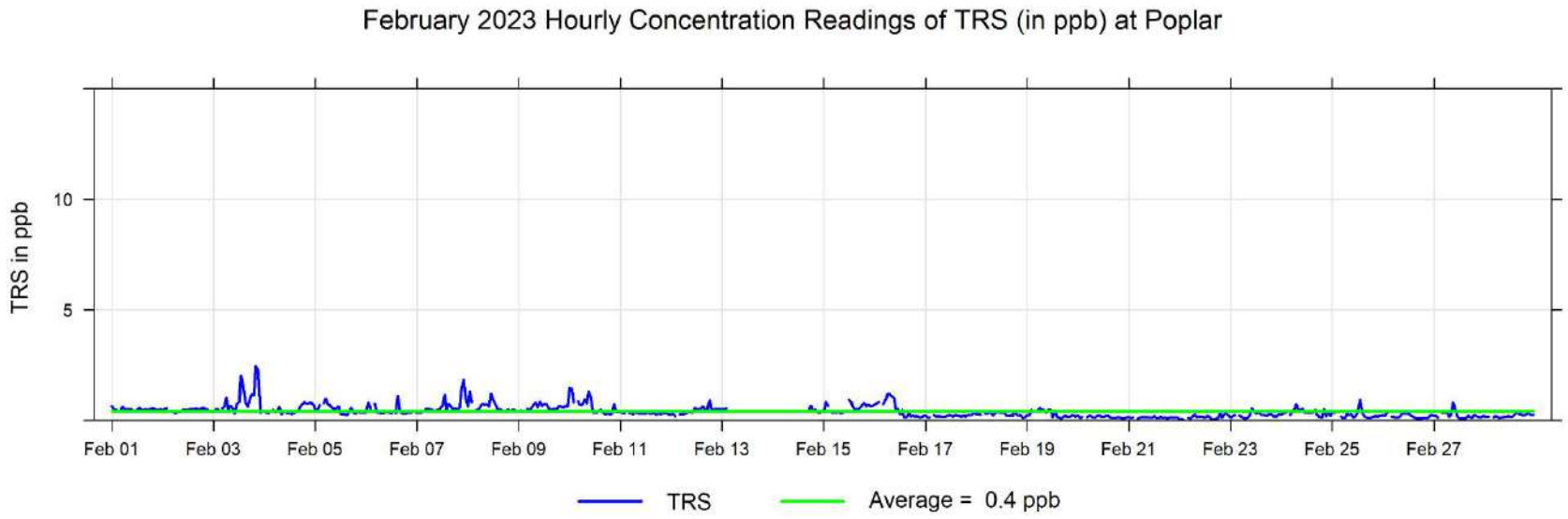
8 Poplar (Portable) Charts

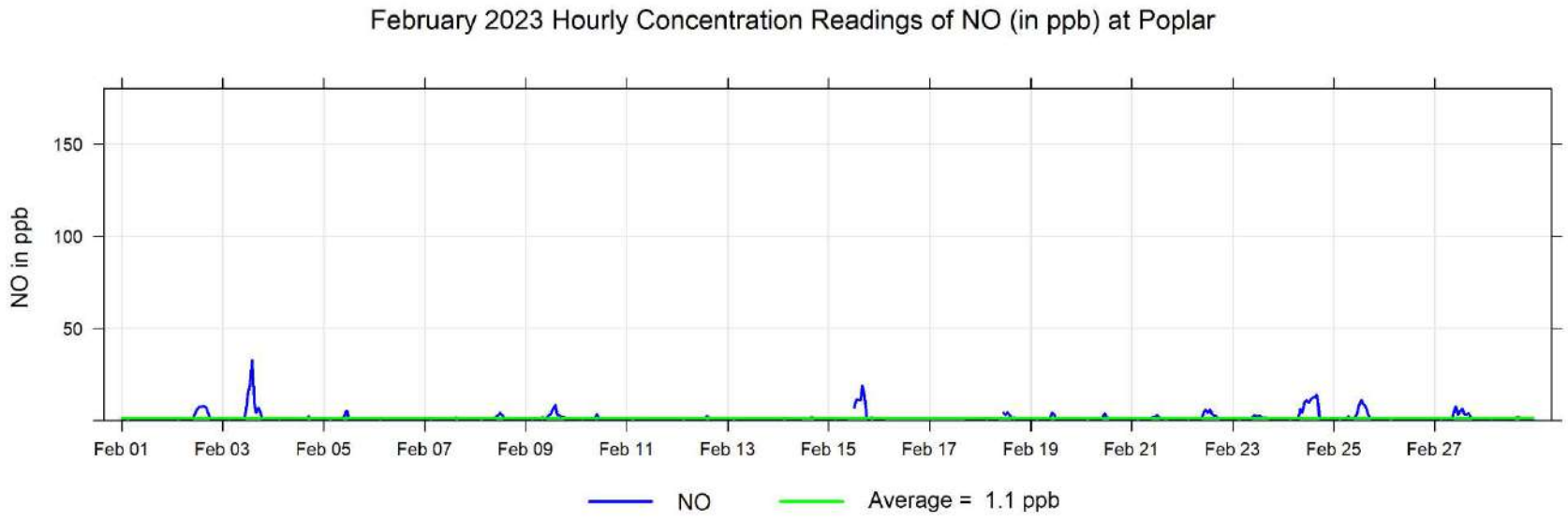
The following pages include the charts and histograms for Poplar Portable Station

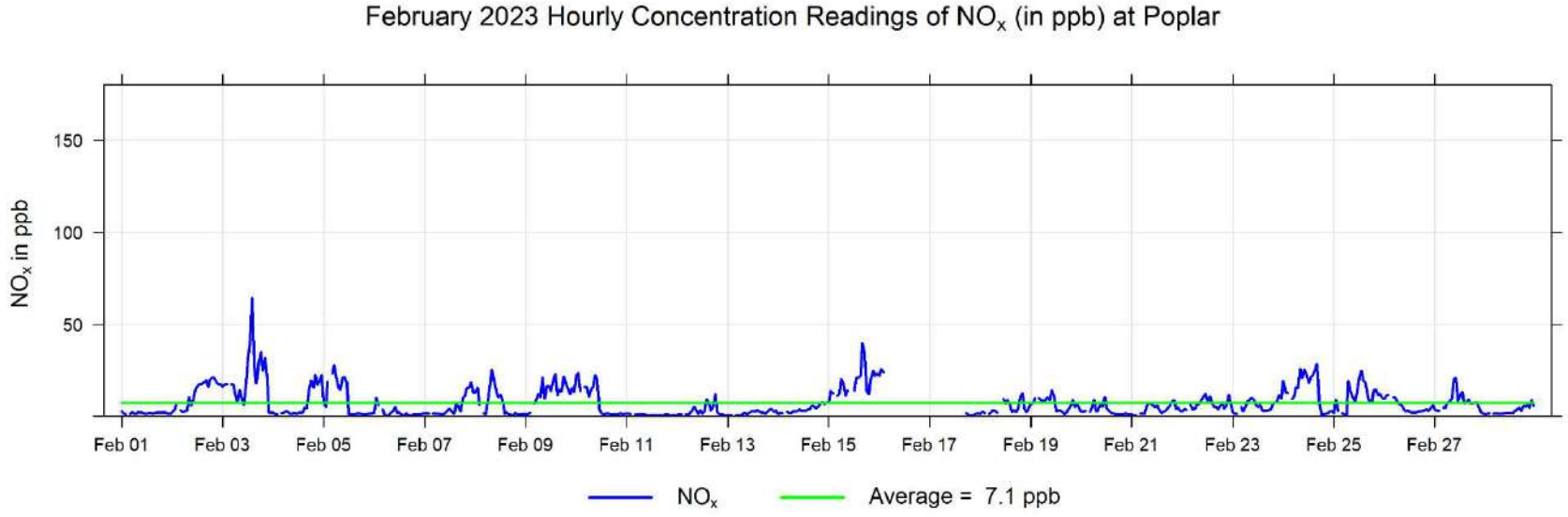


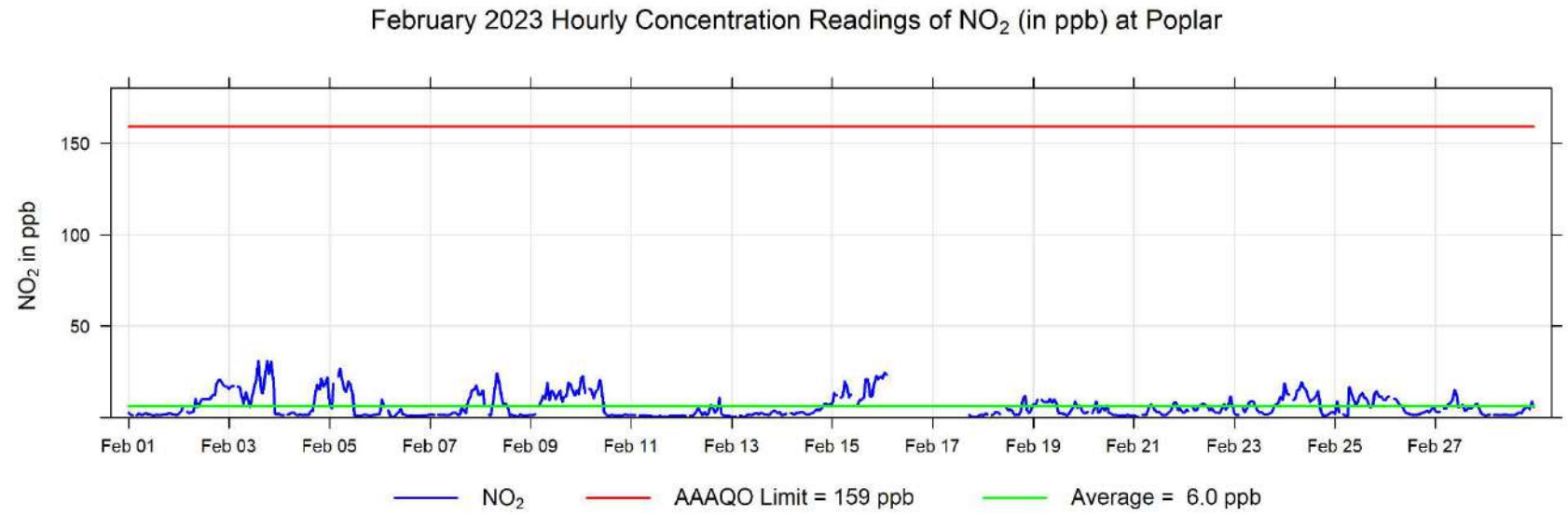

February 2023 Hourly Concentration Readings of SO_2 (in ppb) at Poplar
SO_2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
SO_2
AAAQO Limit = 172 ppb
Average = 1.1 ppb

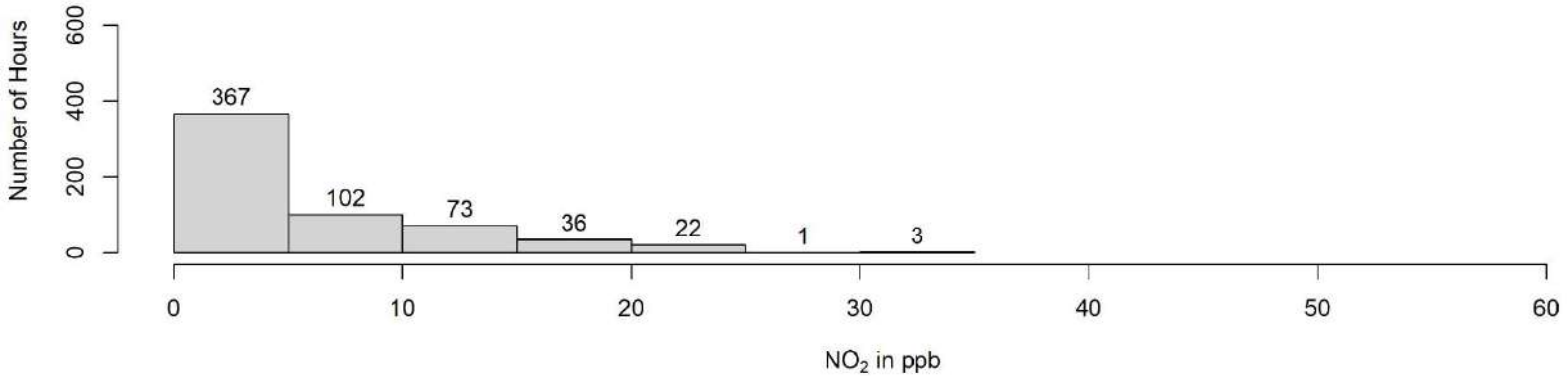

Number of Hours
0
200
400
600
417
122
41
26
14
5
2
1
2
4
0
1
1
0
5
10
15
20
25
SO_2 in ppb

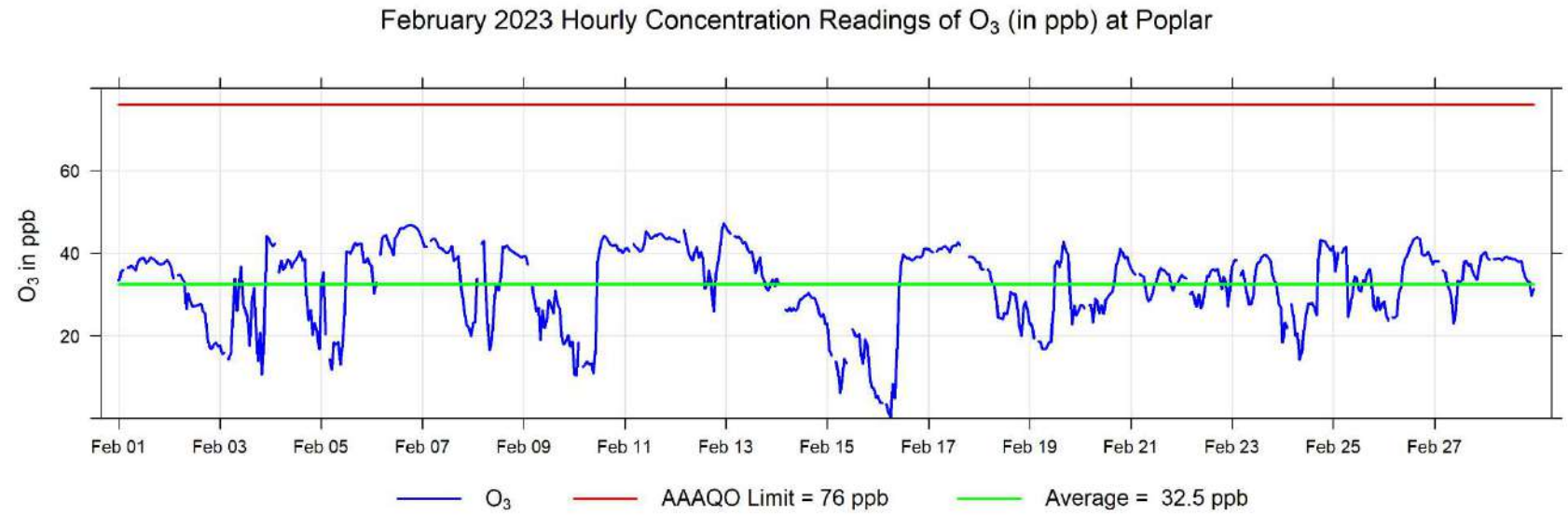

February 2023 Hourly Concentration Readings of TRS (in ppb) at Poplar
TRS in ppb
10
5
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
TRS
Average = 0.4 ppb

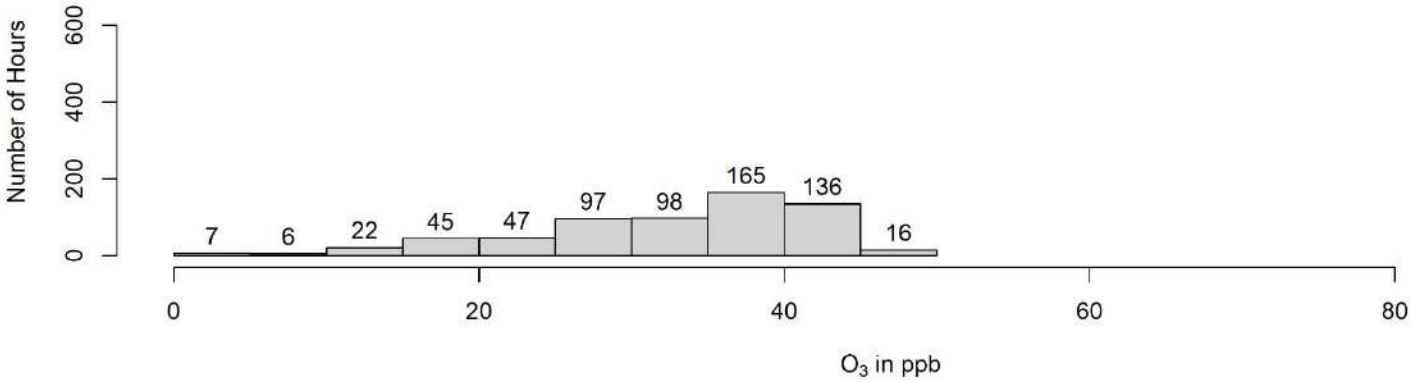

February 2023 Hourly Concentration Readings of NO (in ppb) at Poplar
NO in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO
Average = 1.1 ppb

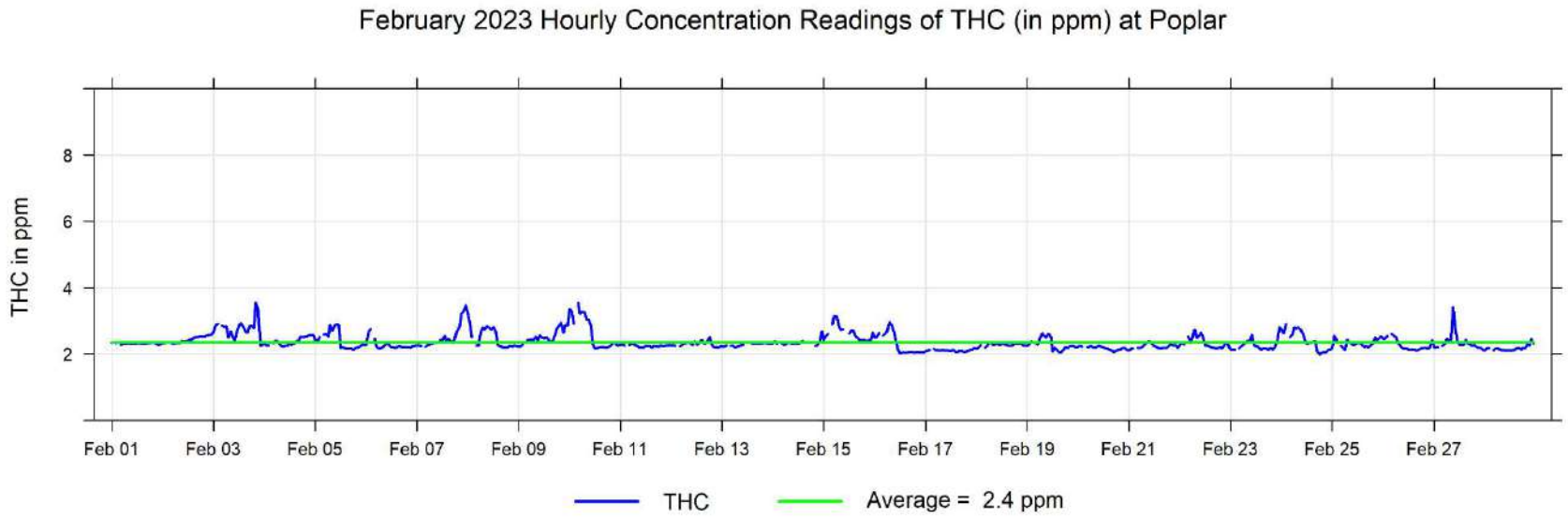

February 2023 Hourly Concentration Readings of NOx (in ppb) at Poplar
NOx in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NOx
Average = 7.1 ppb

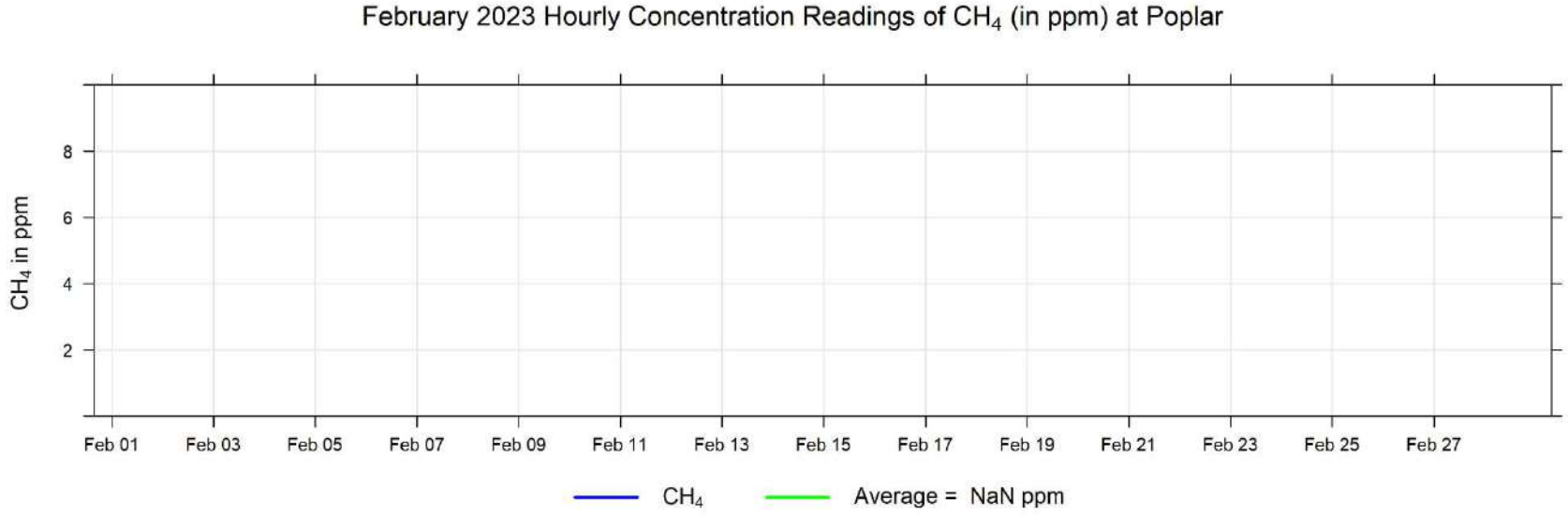

February 2023 Hourly Concentration Readings of NO2 (in ppb) at Poplar
NO2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO2
AAAQO Limit = 159 ppb
Average = 6.0 ppb

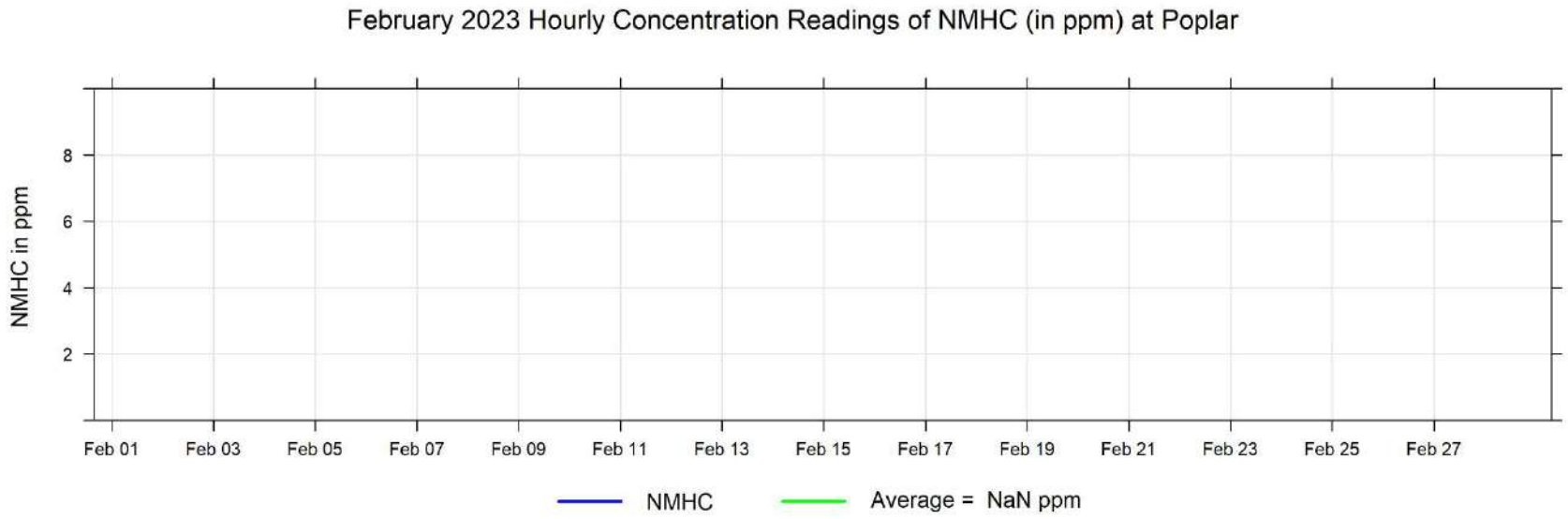

Number of Hours
0
200
400
600
367
102
73
36
22
1
3
0
10
20
30
40
50
60
NO2 in ppb

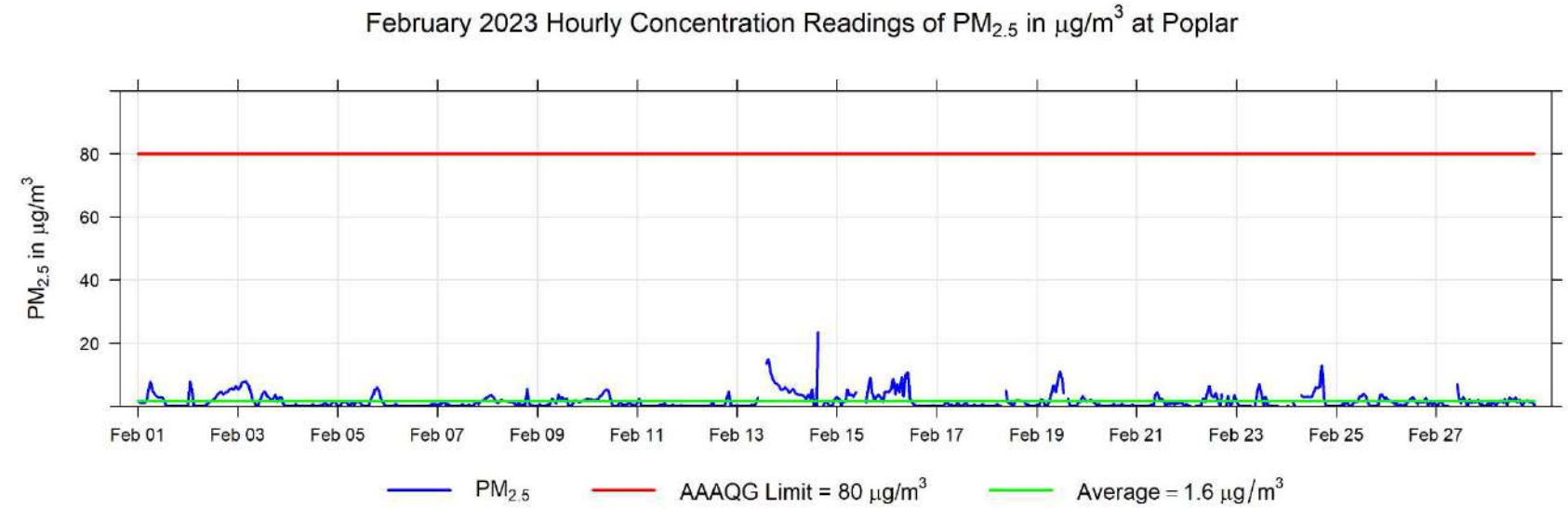

February 2023 Hourly Concentration Readings of O_3 (in ppb) at Poplar
O_3 in ppb
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
O_3
AAAQO Limit = 76 ppb
Average = 32.5 ppb

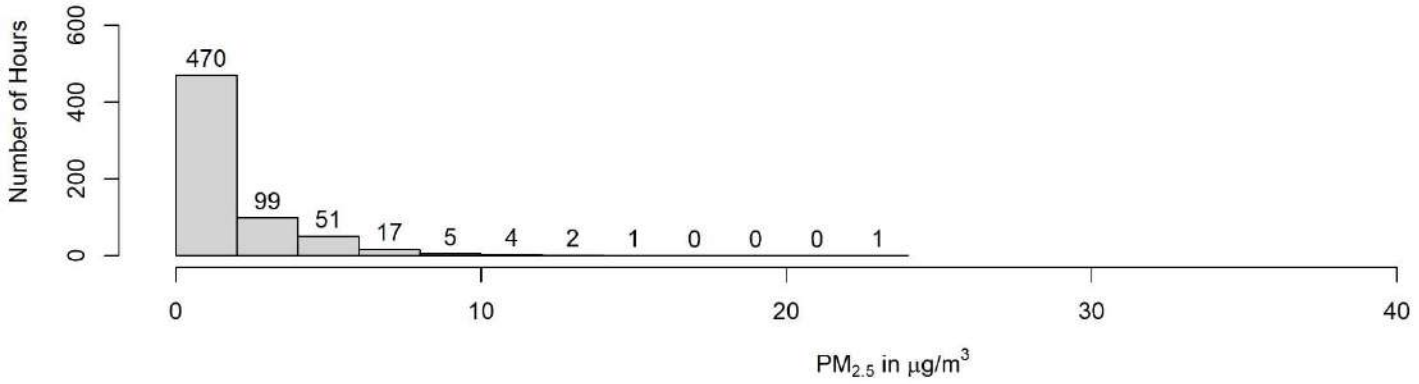

Number of Hours
0
200
400
600
7
6
22
45
47
97
98
165
136
16
0
20
40
60
80
O_3 in ppb

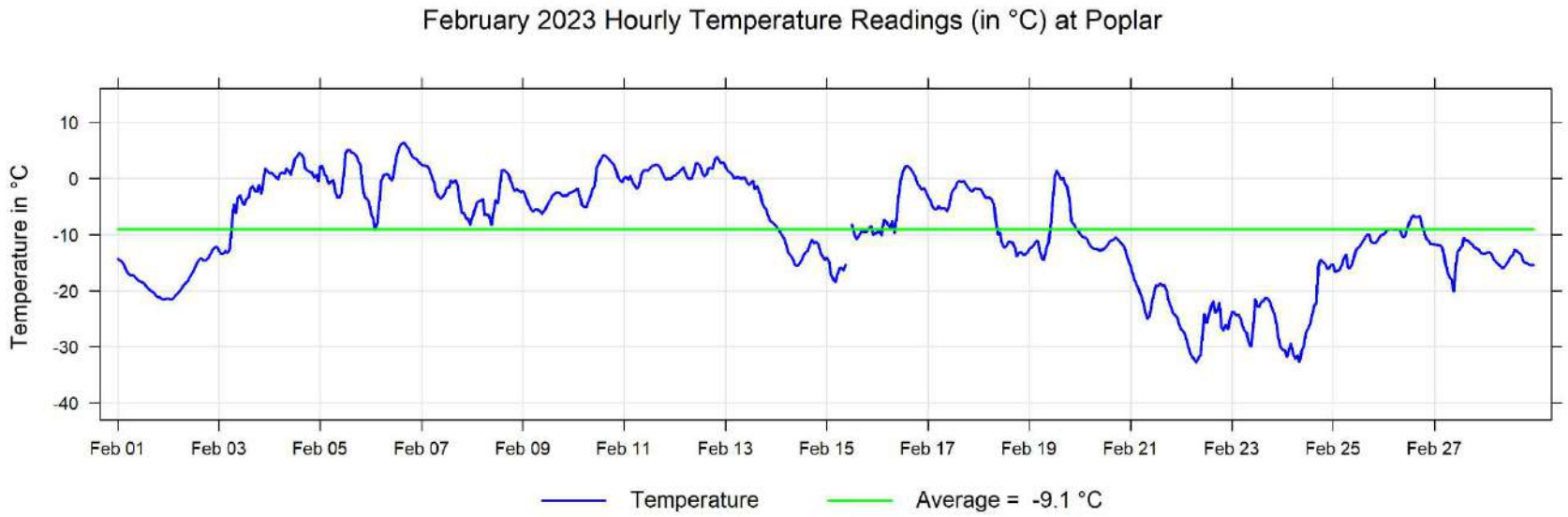

February 2023 Hourly Concentration Readings of THC (in ppm) at Poplar
THC in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
THC
Average = 2.4 ppm

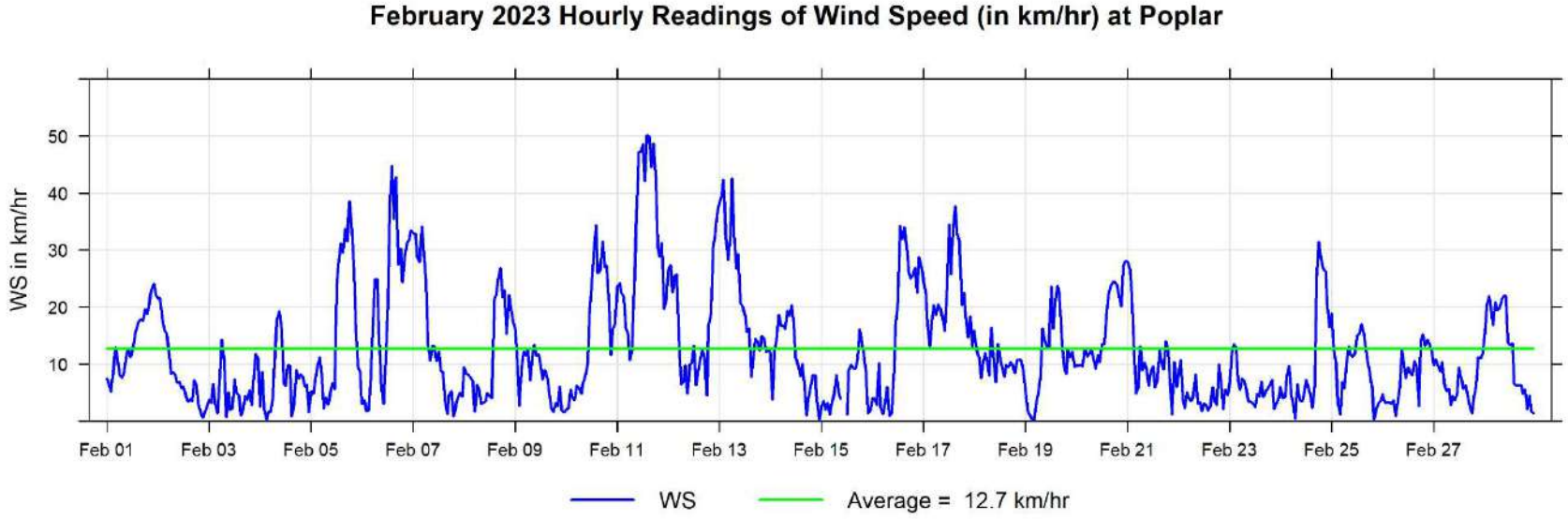

February 2023 Hourly Concentration Readings of CH4 (in ppm) at Poplar
CH4 in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
CH4
Average = NaN ppm

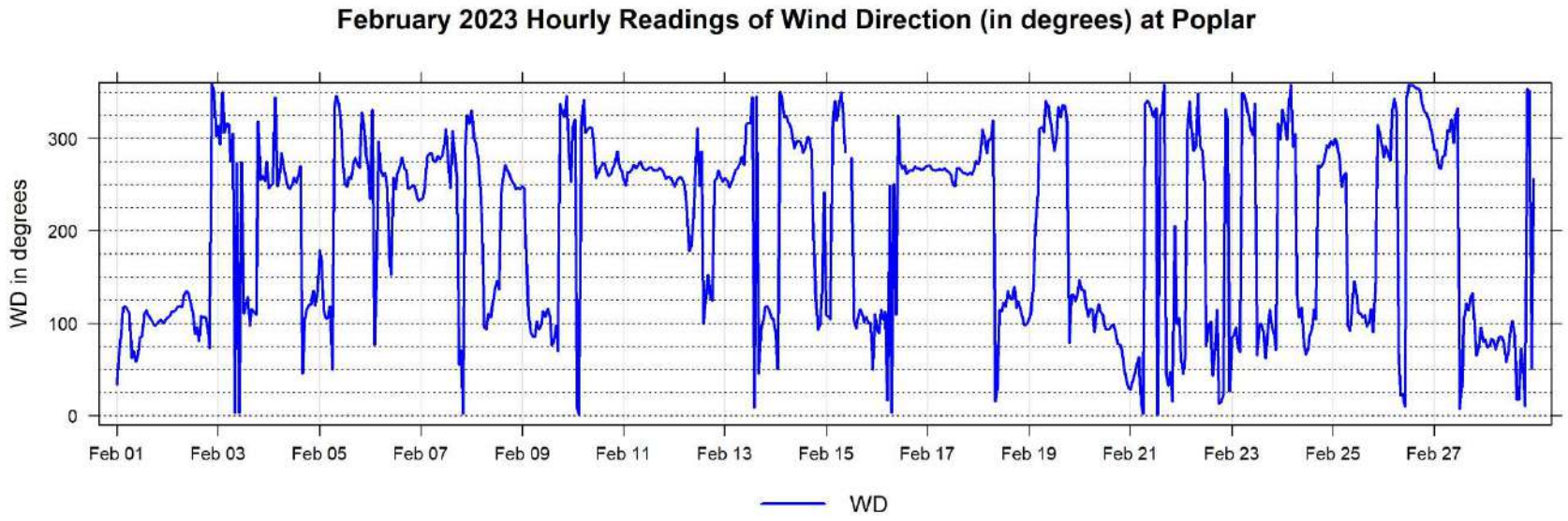

February 2023 Hourly Concentration Readings of NMHC (in ppm) at Poplar
NMHC in ppm
8
6
4
2
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NMHC
Average = NaN ppm

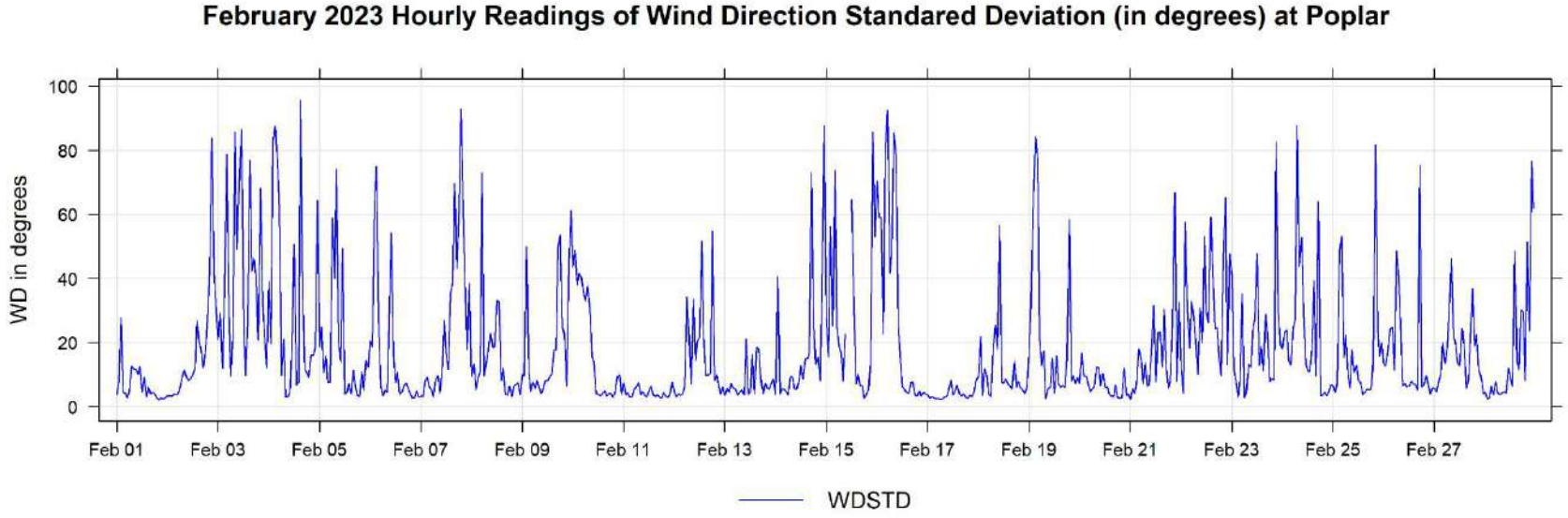

February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Poplar
PM2.5 in µg/m3
80
60
40
20
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 1.6 µg/m3

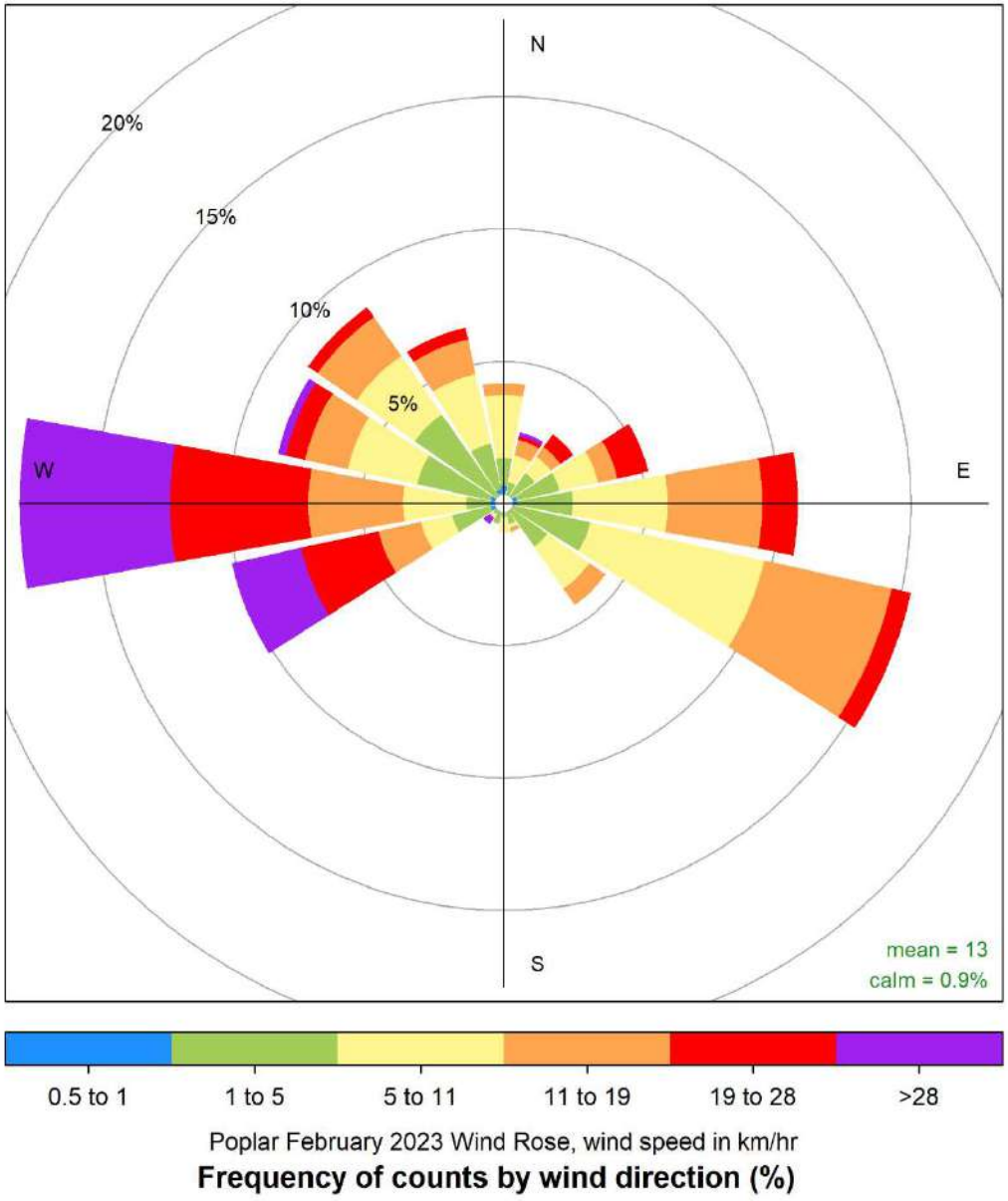

Number of Hours
0
200
400
600
470
99
51
17
5
4
2
1
0
0
0
1
0
10
20
30
40
PM2.5 in µg/m3


February 2023 Hourly Temperature Readings (in °C) at Poplar
Temperature in °C
10
0
-10
-20
-30
-40
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
Temperature
Average = -9.1 °C


February 2023 Hourly Readings of Wind Speed (in km/hr) at Poplar
WS in km/hr
50
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 12.7 km/hr

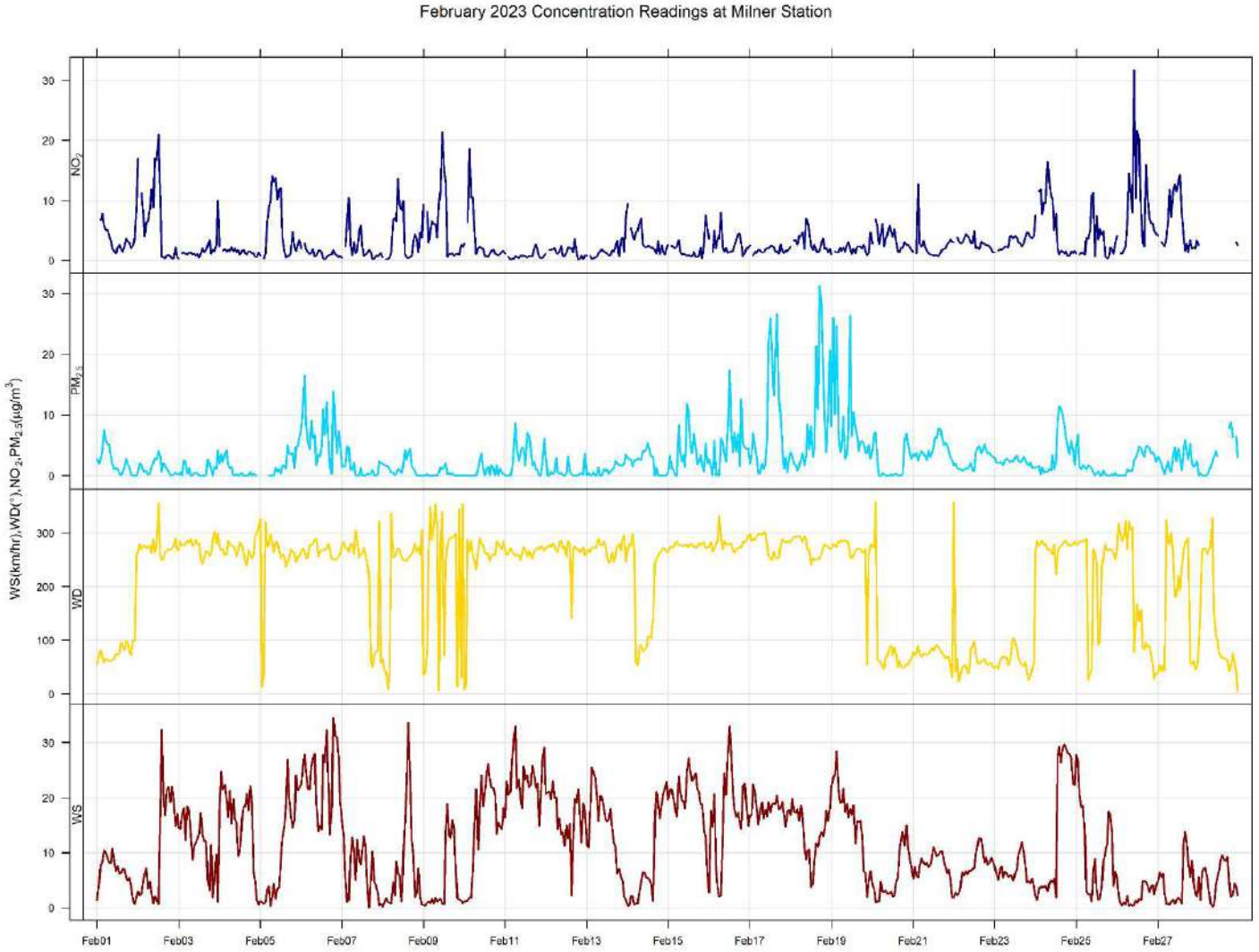

February 2023 Hourly Readings of Wind Direction (in degrees) at Poplar
WD in degrees
0
100
200
300
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WD

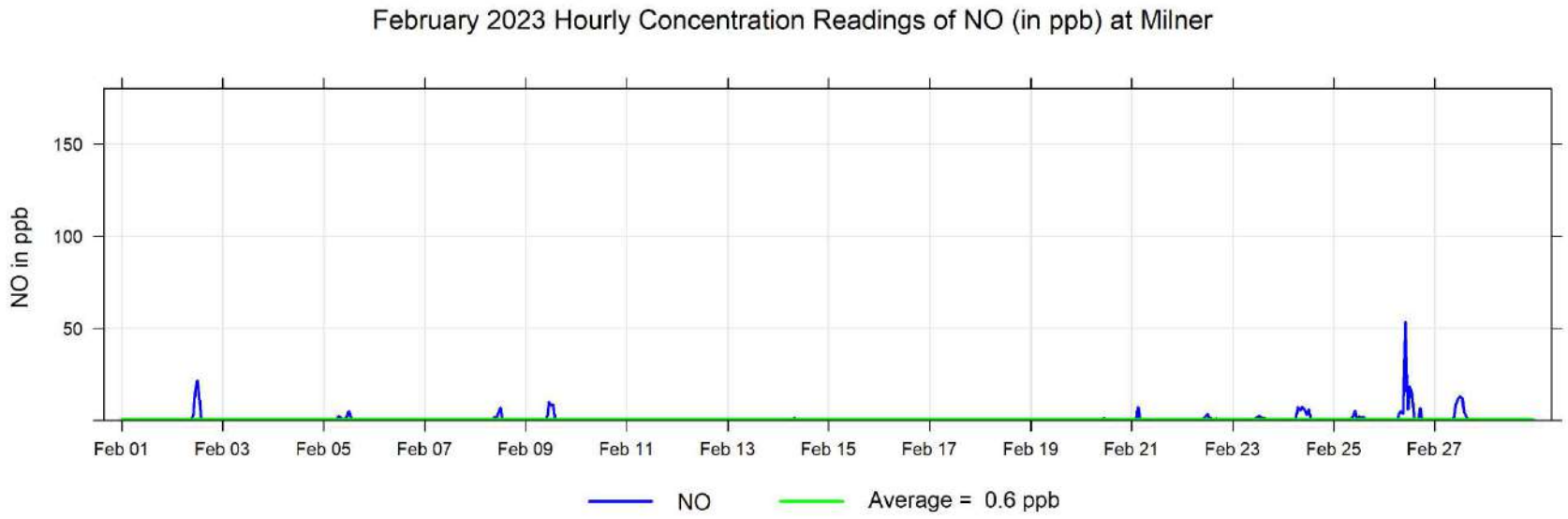

February 2023 Hourly Readings of Wind Direction Standared Deviation (in degrees) at Poplar
WD in degrees
0
20
40
60
80
100
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WDSTD

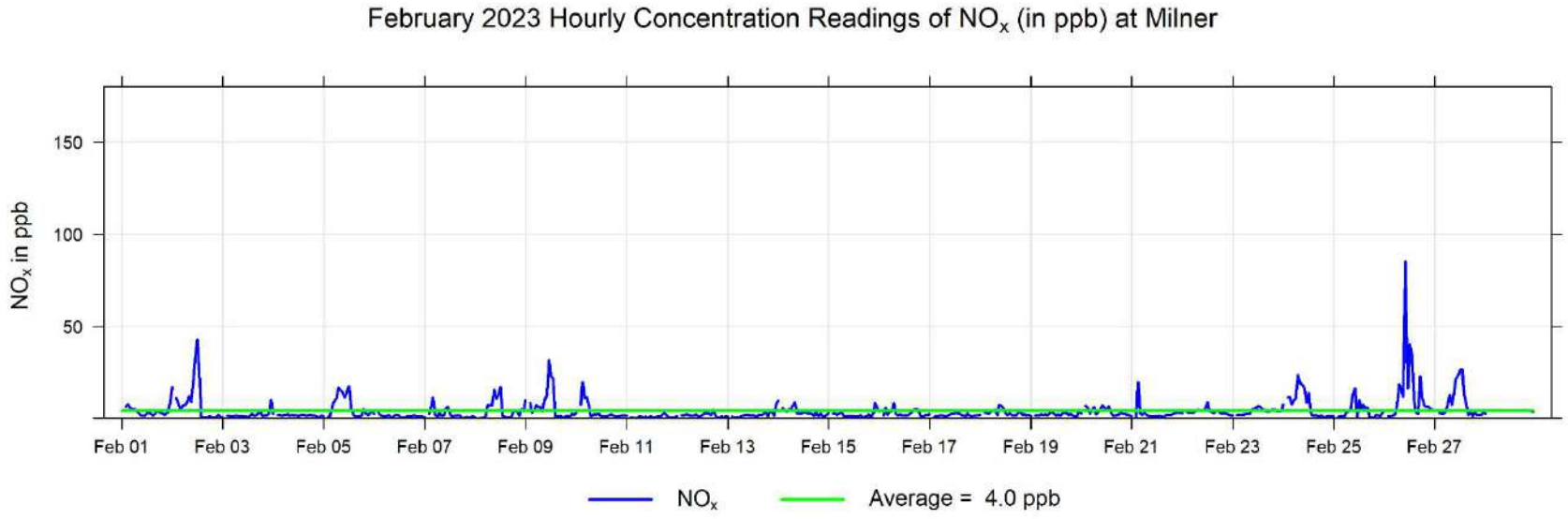

N
E
S
W
20%
15%
10%
5%
mean = 13
calm = 0.9%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Poplar February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

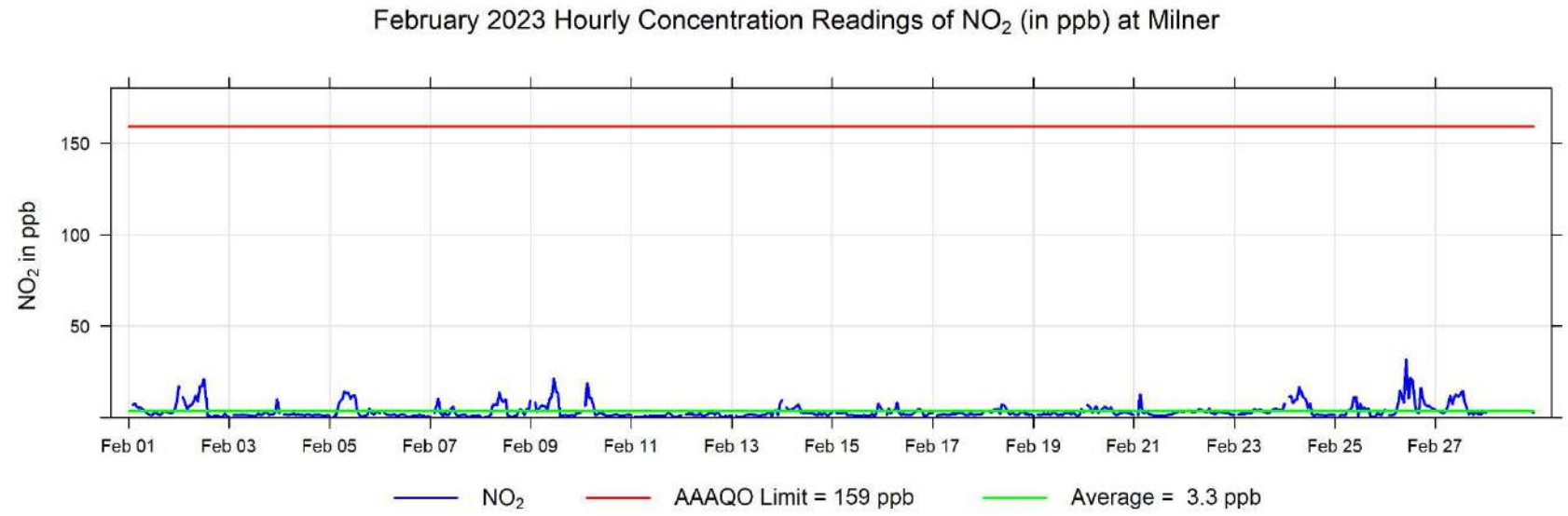
9 Milner Charts

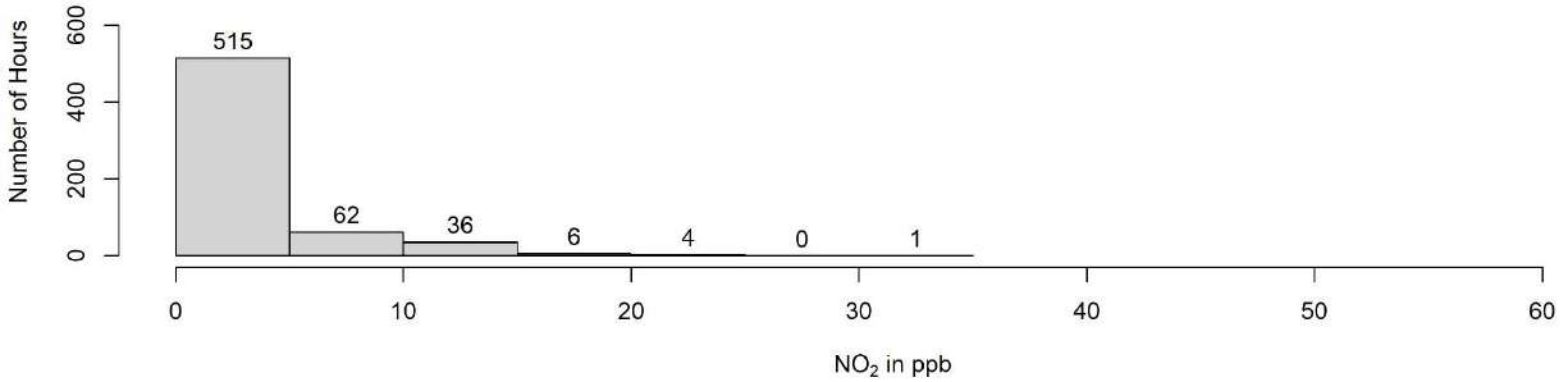
The following pages include the charts and histograms for Milner Station

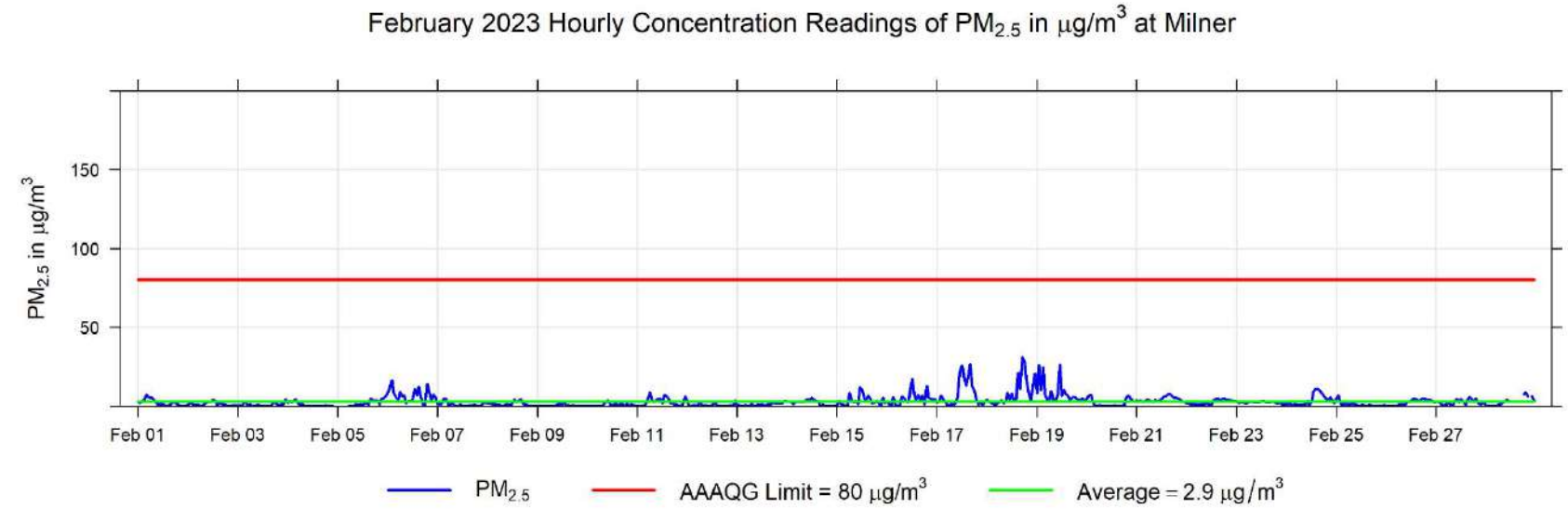


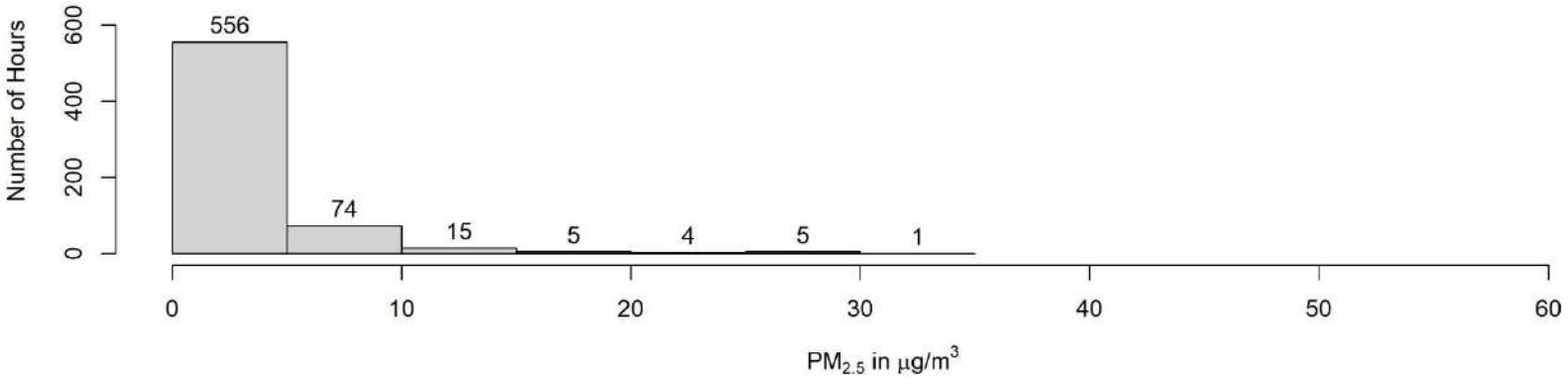

February 2023 Hourly Concentration Readings of NO (in ppb) at Milner
NO in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO
Average = 0.6 ppb

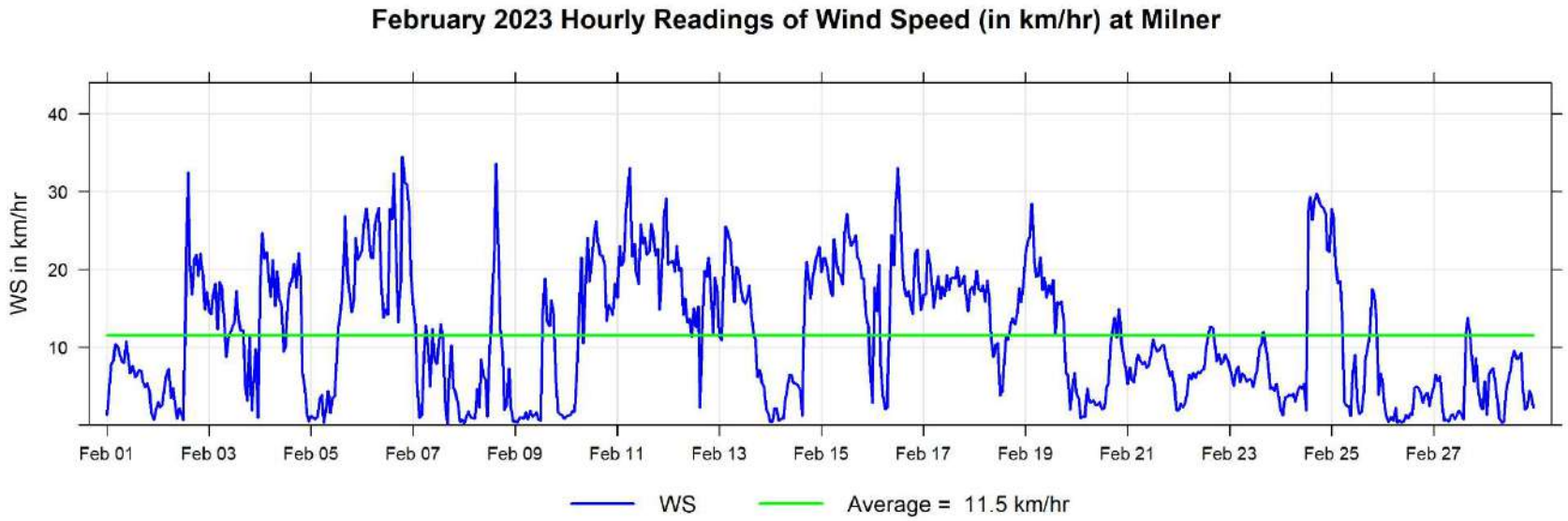

February 2023 Hourly Concentration Readings of NOx (in ppb) at Milner
NOx in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NOx
Average = 4.0 ppb

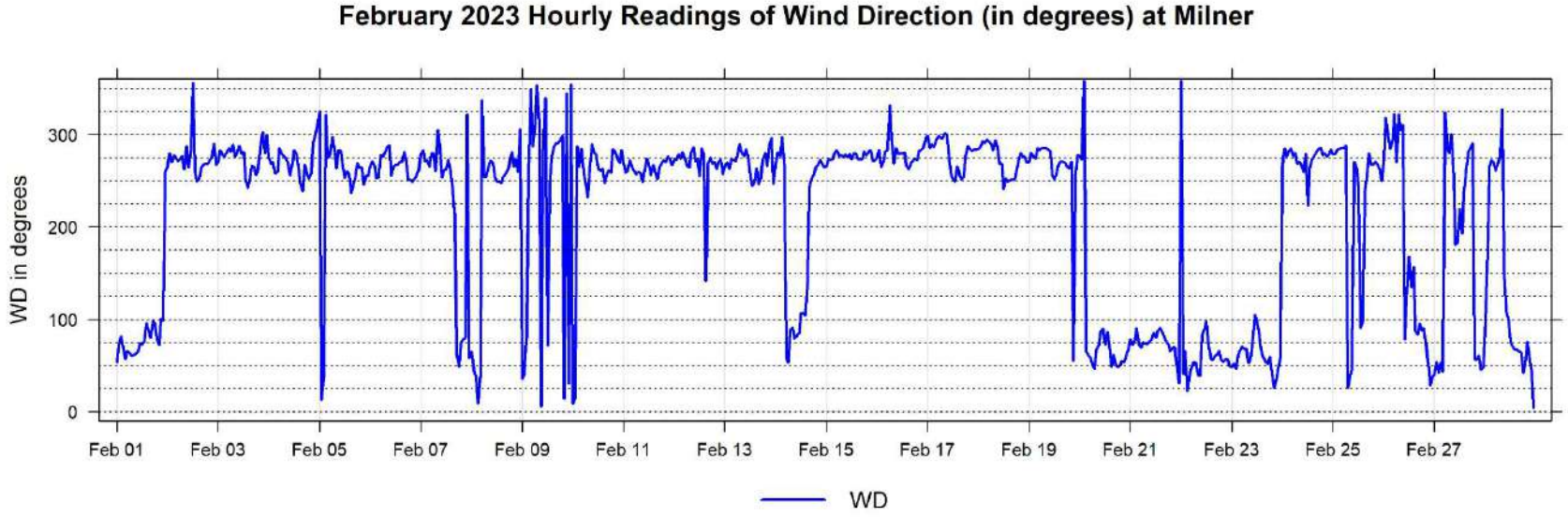

February 2023 Hourly Concentration Readings of NO2 (in ppb) at Milner
NO2 in ppb
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
NO2
AAAQO Limit = 159 ppb
Average = 3.3 ppb

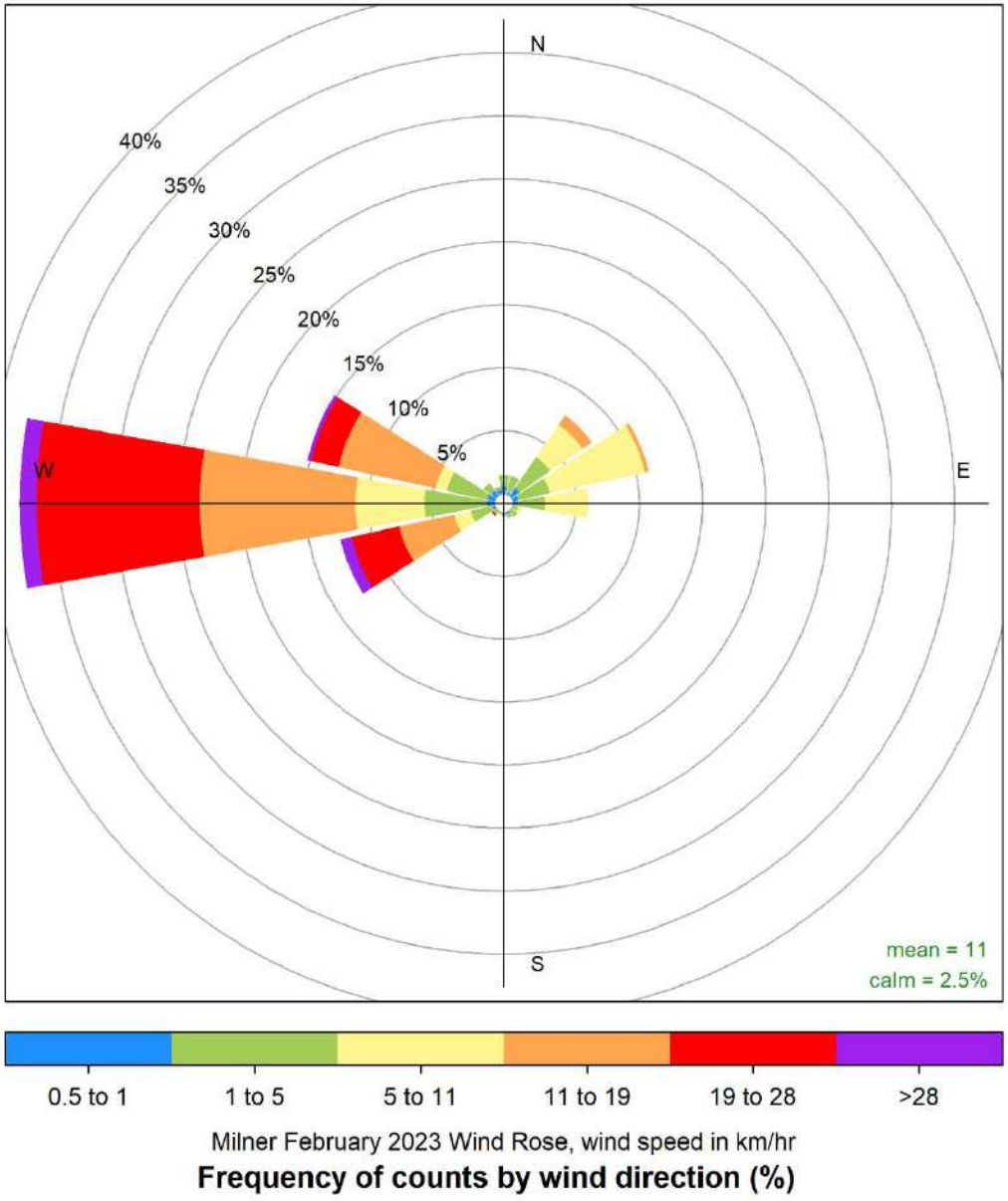

Number of Hours
0
200
400
600
515
62
36
6
4
0
1
0
10
20
30
40
50
60
NO2 in ppb


February 2023 Hourly Concentration Readings of PM2.5 in µg/m3 at Milner
PM2.5 in µg/m3
150
100
50
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
PM2.5
AAAQG Limit = 80 µg/m3
Average = 2.9 µg/m3

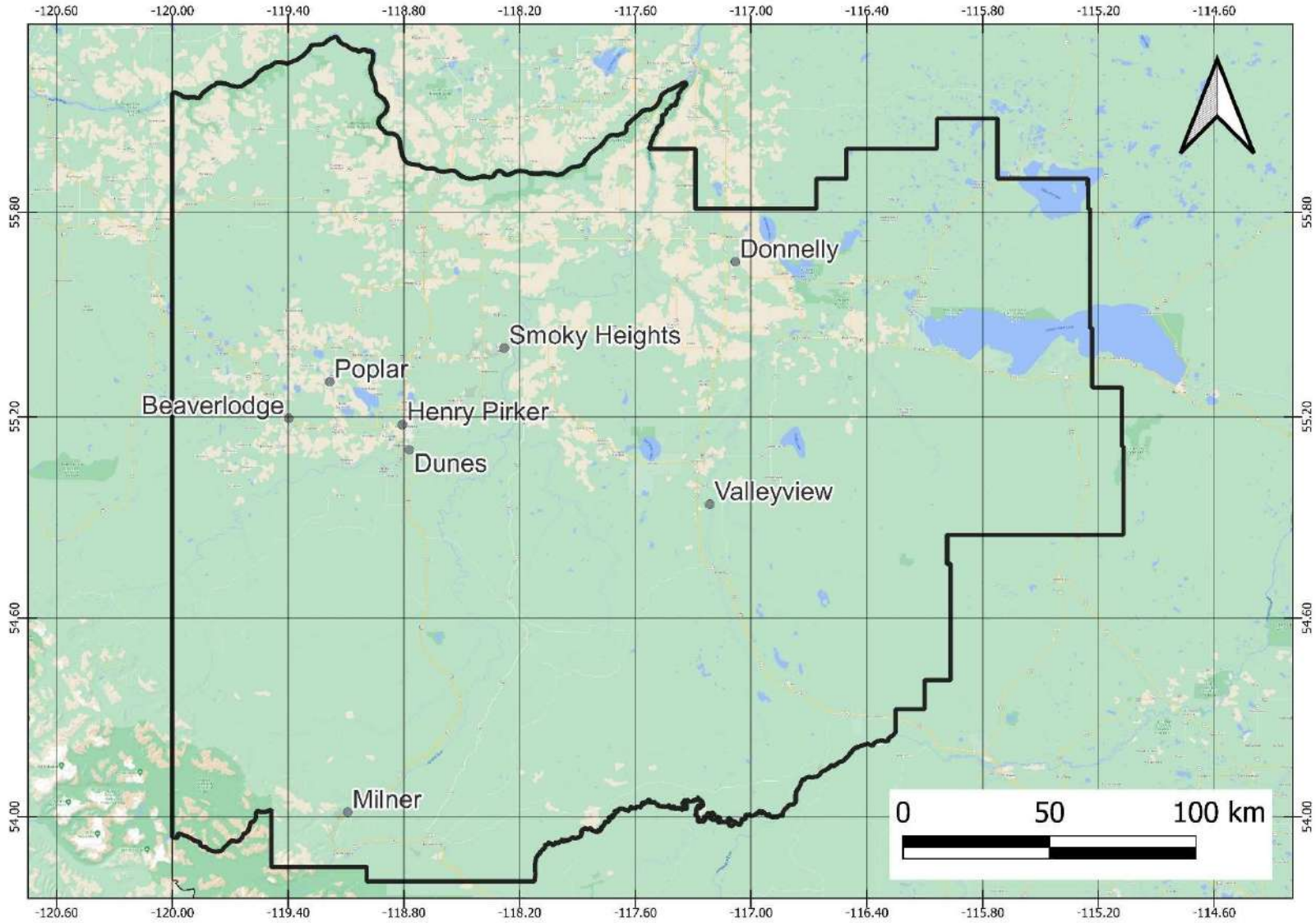

Number of Hours
0
200
400
600
556
74
15
5
4
5
1
0
10
20
30
40
50
60
PM2.5 in µg/m3


February 2023 Hourly Readings of Wind Speed (in km/hr) at Milner
WS in km/hr
40
30
20
10
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WS
Average = 11.5 km/hr

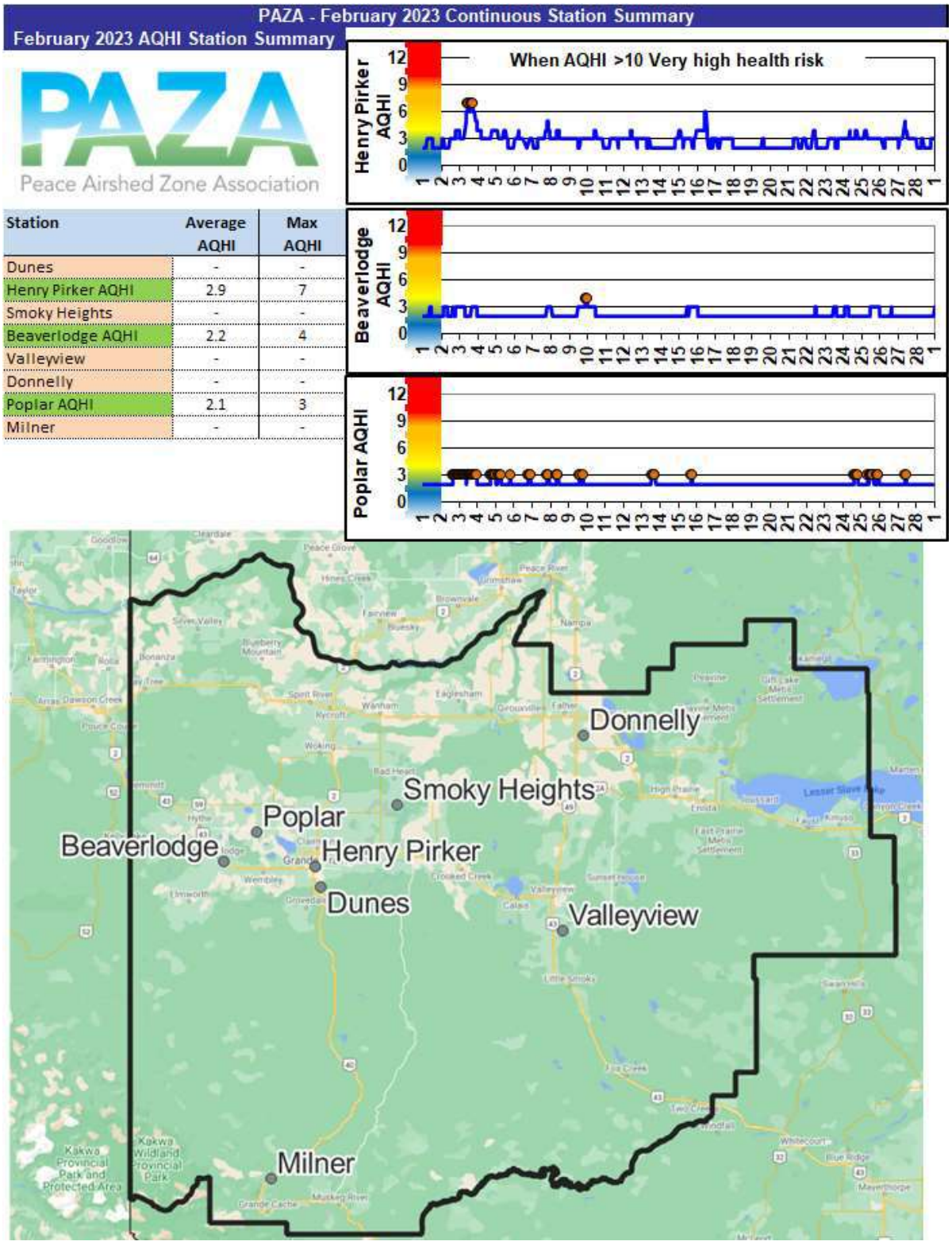

February 2023 Hourly Readings of Wind Direction (in degrees) at Milner
WD in degrees
300
200
100
0
Feb 01
Feb 03
Feb 05
Feb 07
Feb 09
Feb 11
Feb 13
Feb 15
Feb 17
Feb 19
Feb 21
Feb 23
Feb 25
Feb 27
WD


N
E
S
W
40%
35%
30%
25%
20%
15%
10%
5%
mean = 11
calm = 2.5%
0.5 to 1
1 to 5
5 to 11
11 to 19
19 to 28
>28
Milner February 2023 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

10 Concentration Summaries and Roses for PAZA

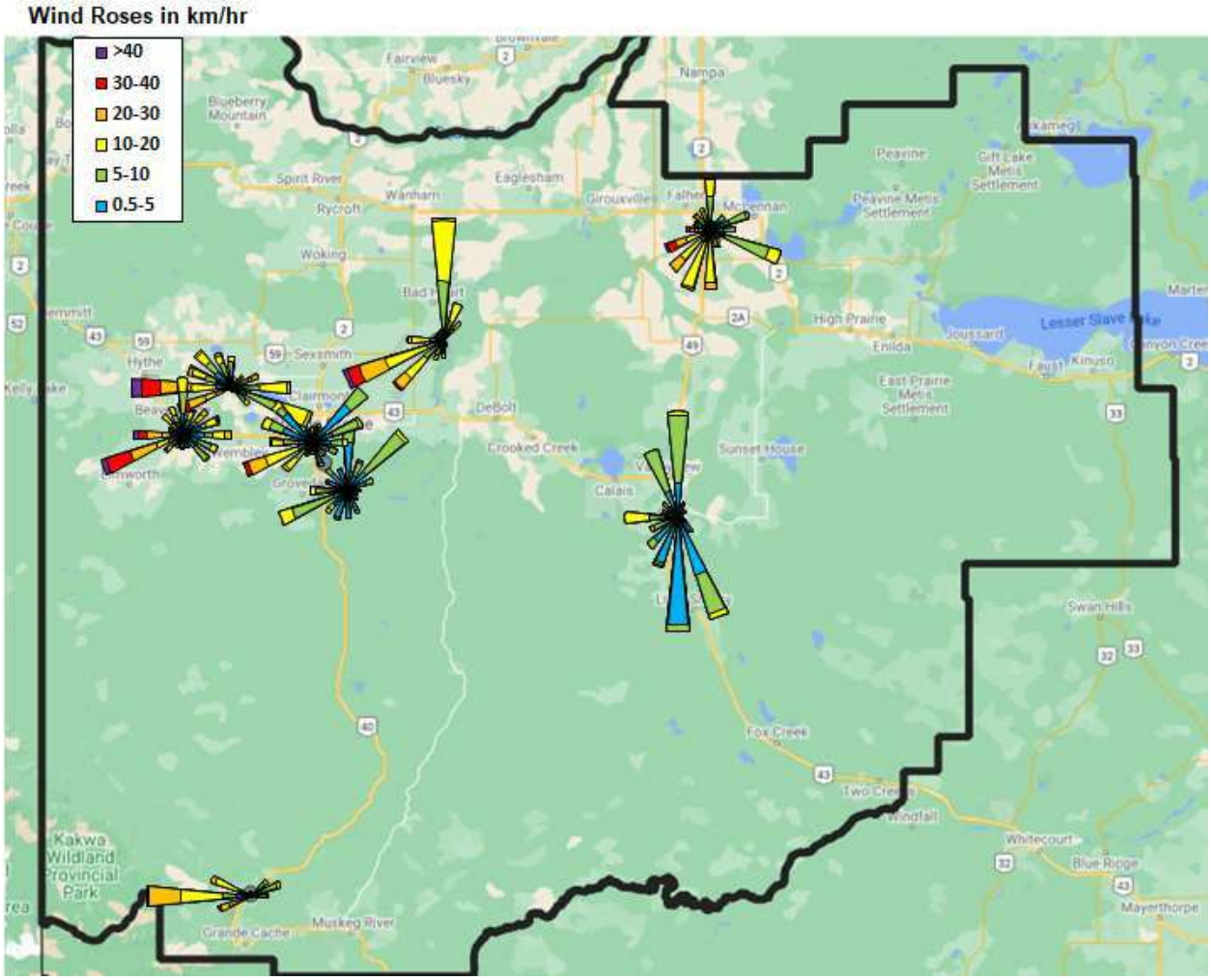


10.1 Air Quality Health Index (AQHI) Plots



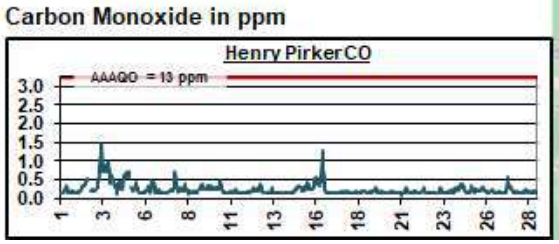
Station	Average AQHI	Max AQHI
Dunes	-	-
Henry Pirker AQHI	2.9	7
Smoky Heights	-	-
Beaverlodge AQHI	2.2	4
Valleyview	-	-
Donnelly	-	-
Poplar AQHI	2.1	3
Milner	-	-

10.2 Wind Roses



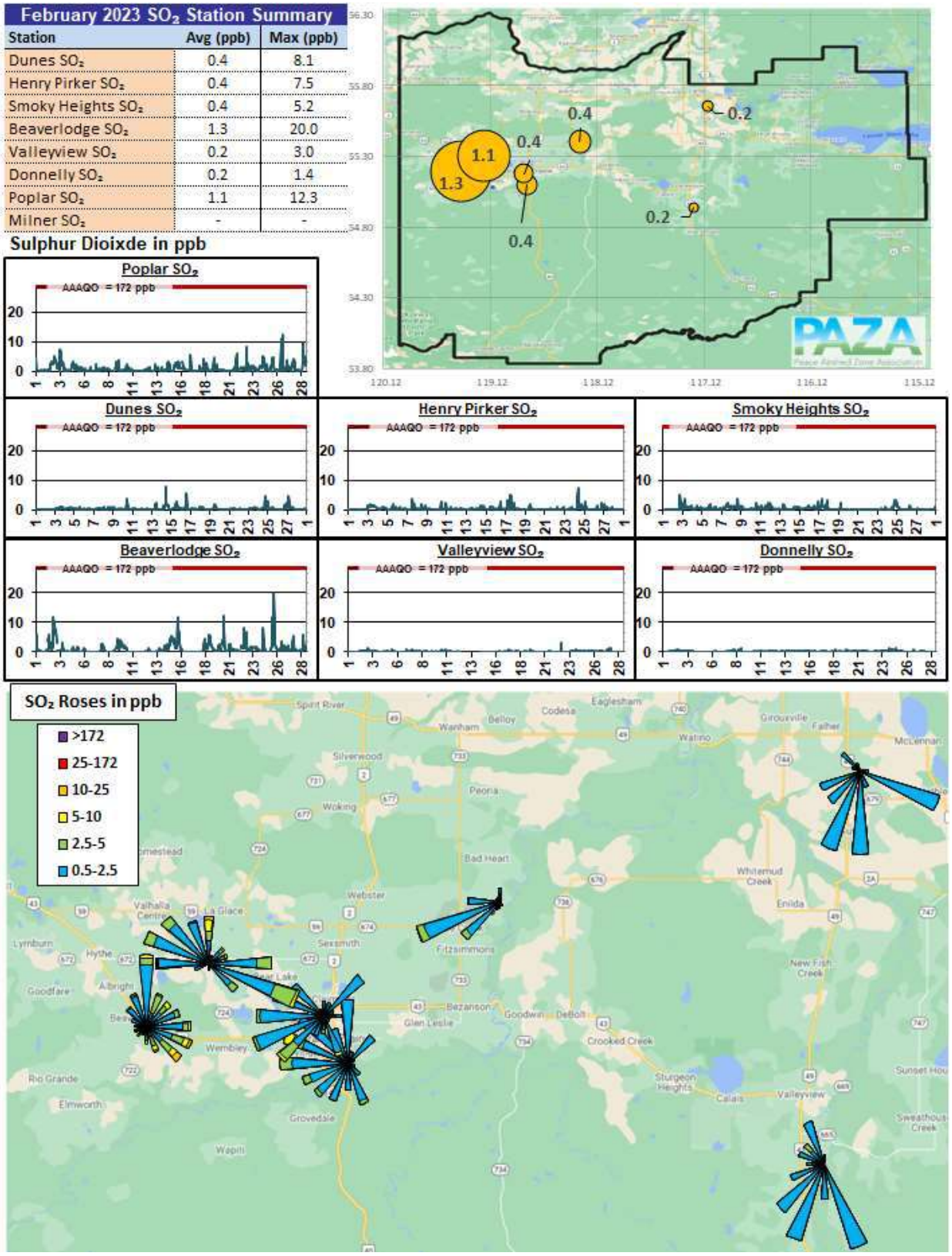
10.3 Carbon Monoxide (CO) Plots

February 2023 CO Station Summary		
Station	Avg (ppm)	Max (ppm)
Henry Pirker CO	0.24	1.45



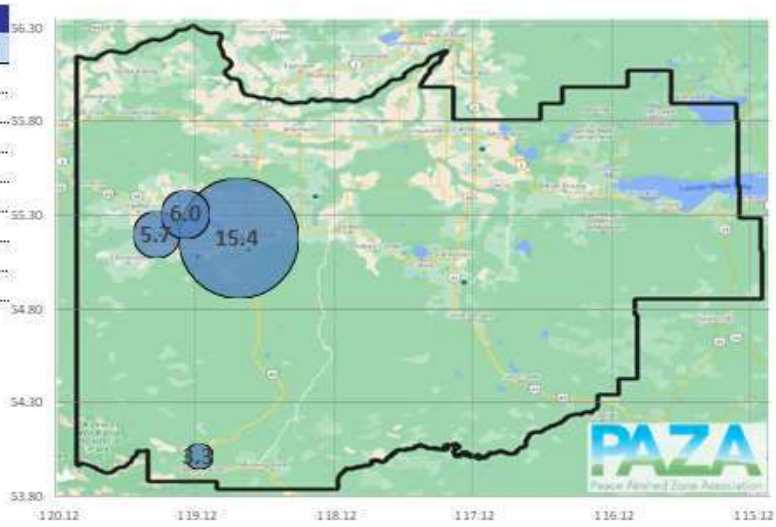
10.4 Sulphur Dioxide (SO_2) Plots

February 2023 SO_2 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes SO_2	0.4	8.1
Henry Pirker SO_2	0.4	7.5
Smoky Heights SO_2	0.4	5.2
Beaverlodge SO_2	1.3	20.0
Valleyview SO_2	0.2	3.0
Donnelly SO_2	0.2	1.4
Poplar SO_2	1.1	12.3
Milner SO_2	-	-

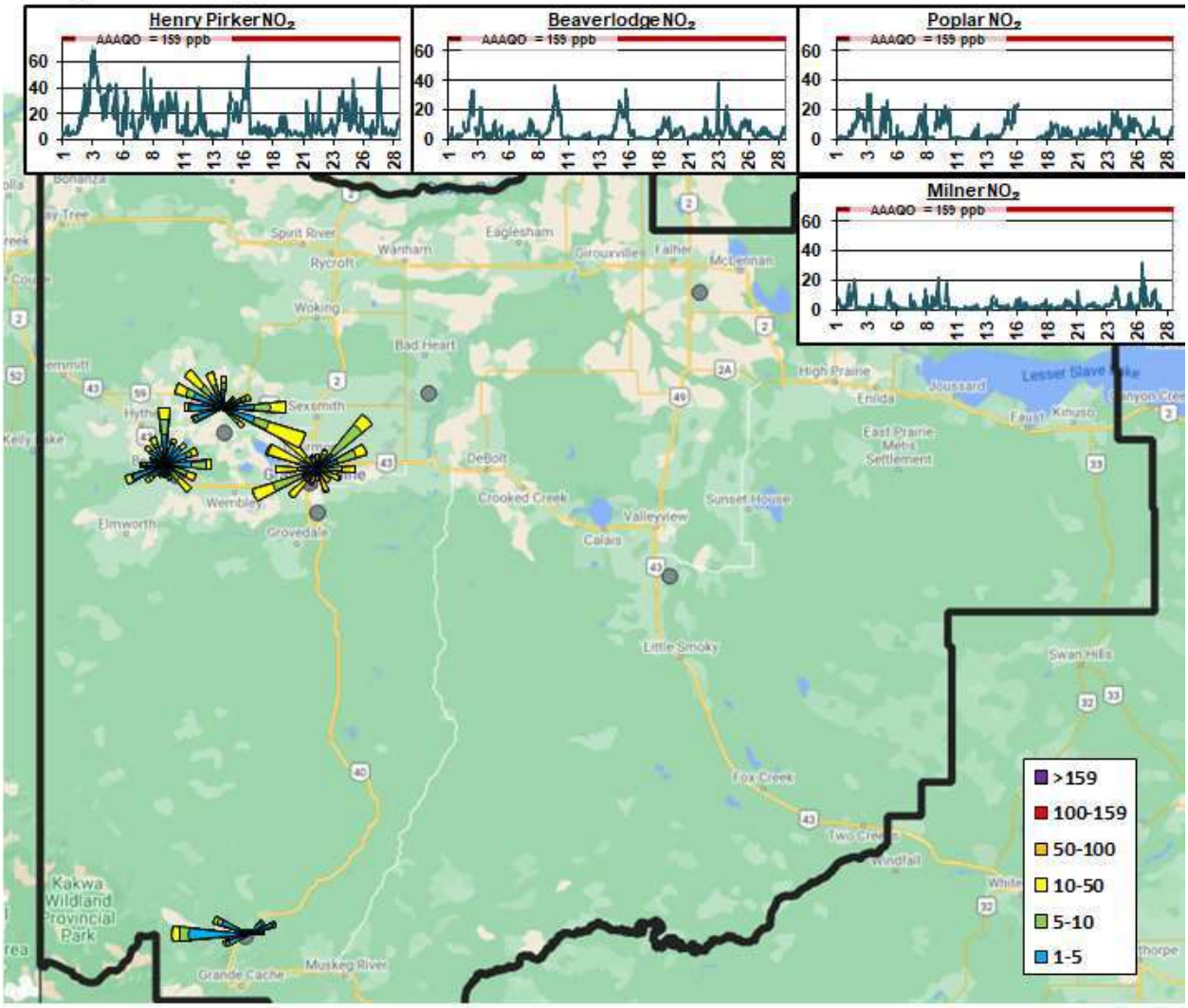


10.5 Nitrogen Dioxide (NO_2) Plots

February 2023 NO_2 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes NO_2	-	-
Henry Pirker NO_2	15.4	72.9
Smoky Heights NO_2	-	-
Beaverlodge NO_2	5.7	38.5
Valleyview NO_2	-	-
Donnelly NO_2	-	-
Poplar NO_2	6.0	31.1
Milner NO_2	3.3	31.7

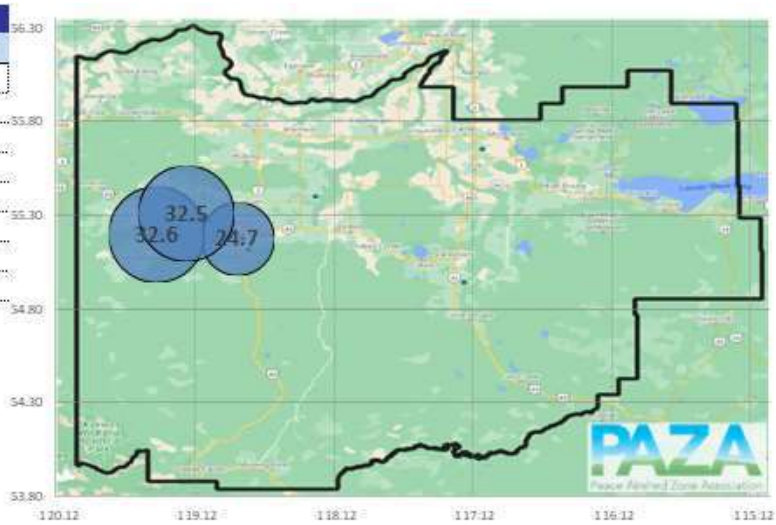


Nitrogen Dioixde in ppb

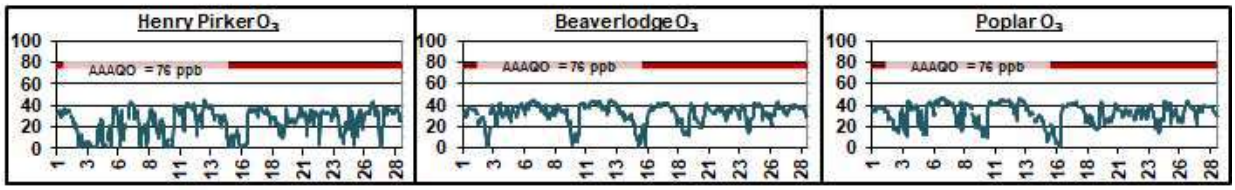


10.6 Ozone (O_3) Plots

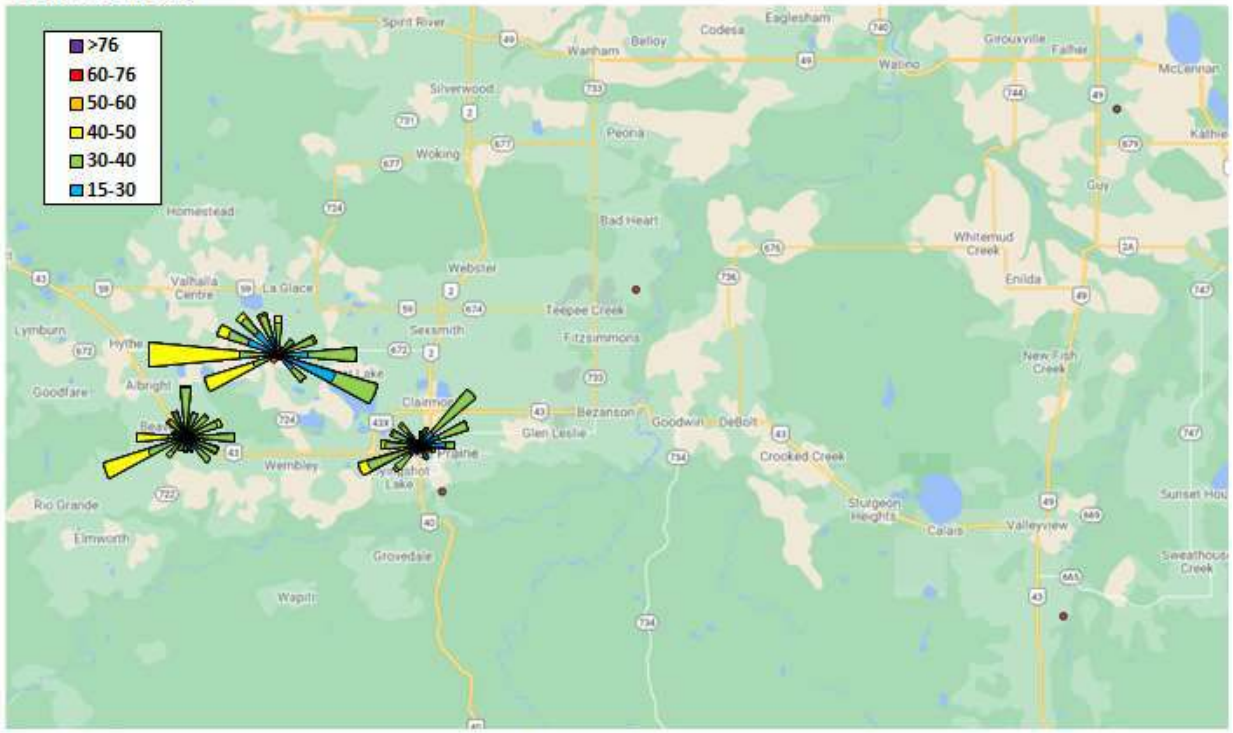
February 2023 O_3 Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes O_3	-	-
Henry Pirker O_3	24.7	44.4
Smoky Heights O_3	-	-
Beaverlodge O_3	32.6	44.7
Valleyview O_3	-	-
Donnelly O_3	-	-
Poplar O_3	32.5	47.2
Milner O_3	-	-



Ozone in ppb

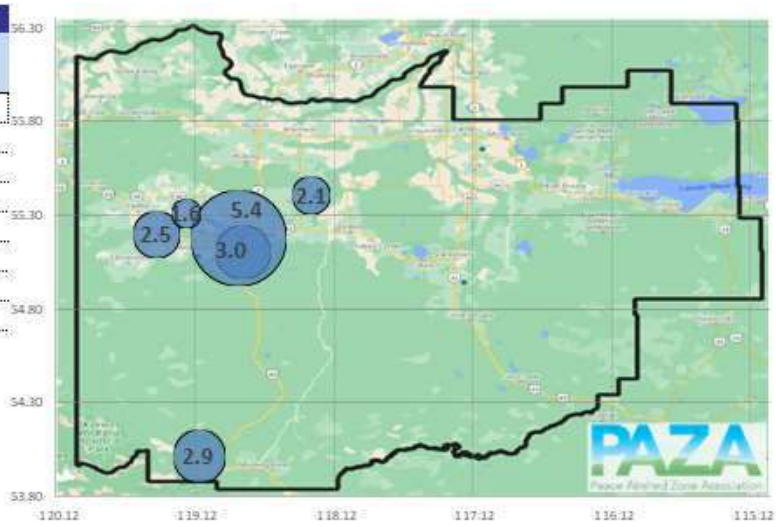


O_3 Roses in ppb

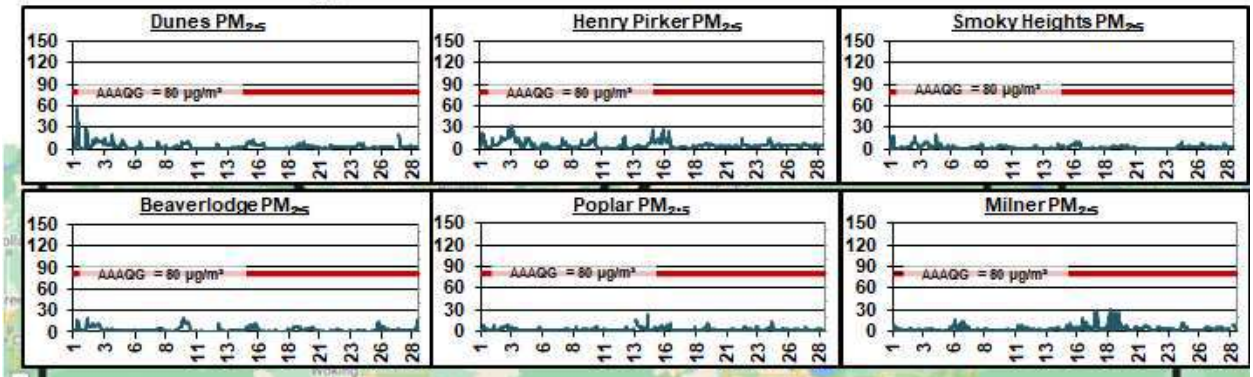


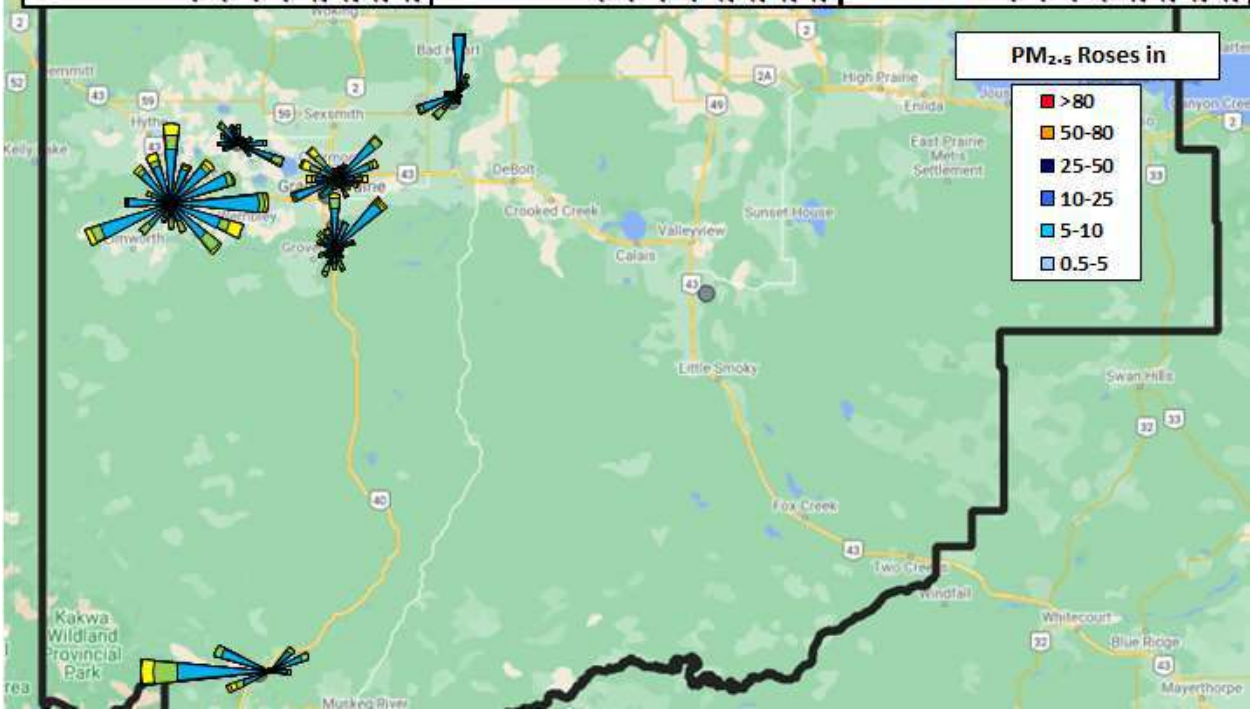
10.7 Fine Particulate Matter ($PM_{2.5}$) Plots

February 2023 $PM_{2.5}$ Station Summary		
Station	Avg µg/m³	Max µg/m³
Dunes $PM_{2.5}$	3.0	57.2
Henry Pirker $PM_{2.5}$	5.4	31.3
Smoky Heights $PM_{2.5}$	2.1	20.7
Beaverlodge $PM_{2.5}$	2.5	19.3
Valleyview $PM_{2.5}$	-	-
Donnelly $PM_{2.5}$	-	-
Poplar $PM_{2.5}$	1.6	23.3
Milner $PM_{2.5}$	2.9	31.2



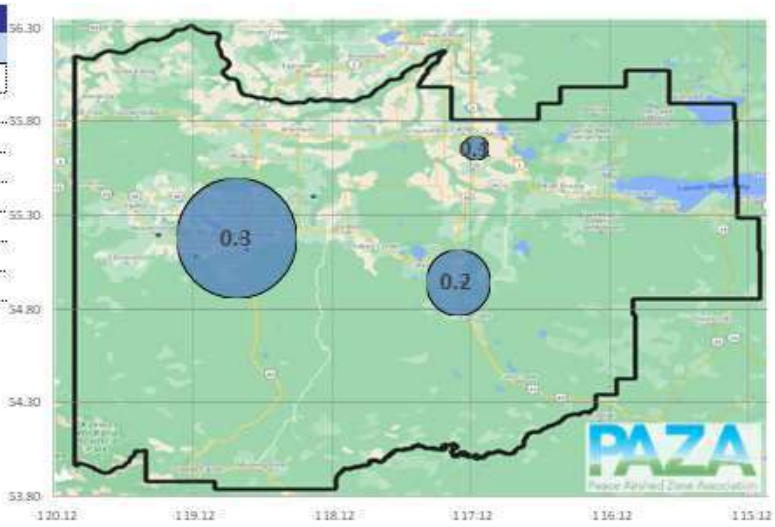
Fine Particulate Matter in µg/m³



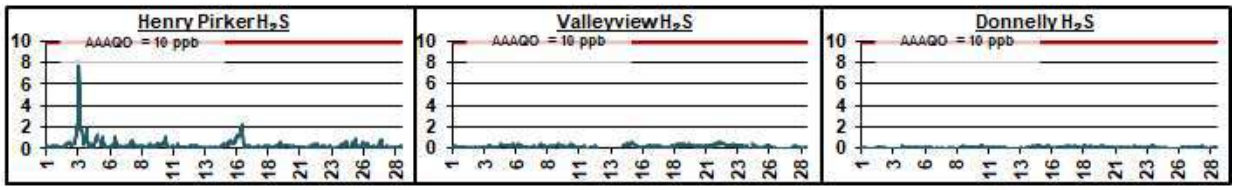


10.8 Hydrogen Sulphide (H_2S) Plots

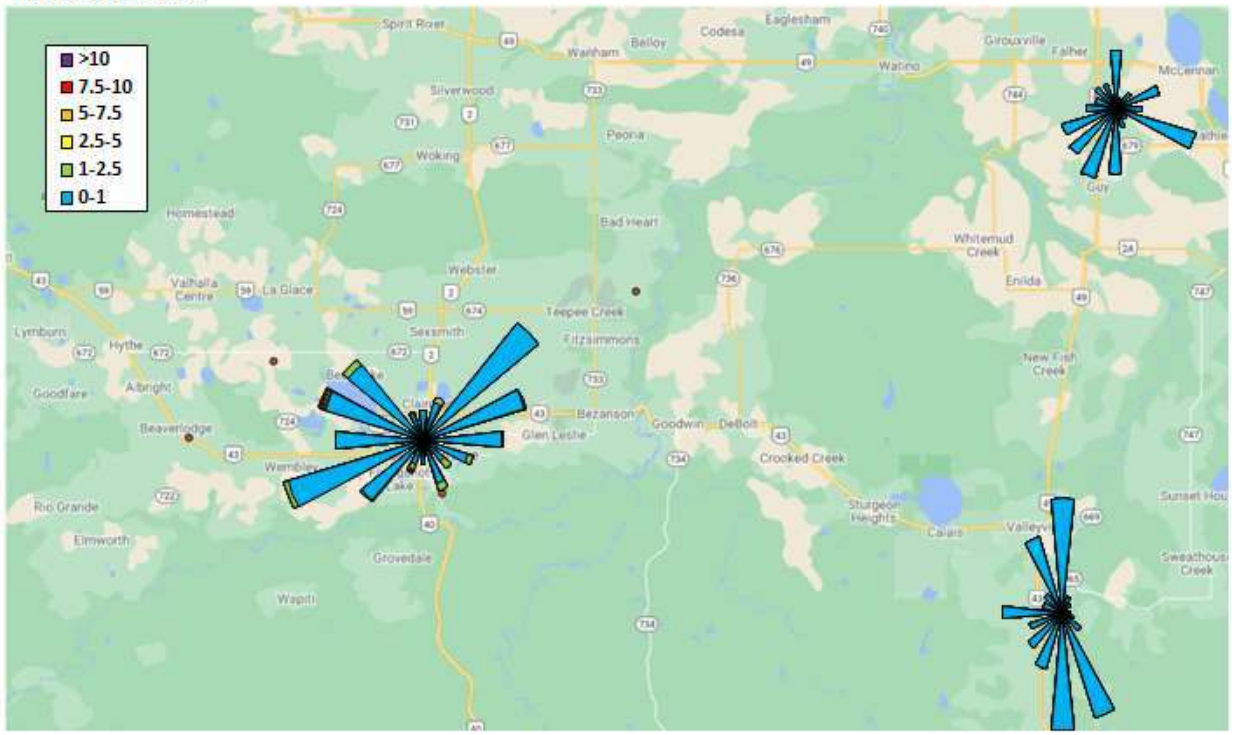
February 2023 H_2S Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes H_2S	-	-
Henry Pirker H_2S	0.3	8.2
Smoky Heights H_2S	-	-
Beaverlodge H_2S	-	-
Valleyview H_2S	0.2	0.6
Donnelly H_2S	0.1	0.3
Poplar H_2S	-	-
Milner H_2S	-	-



Hydrogen Sulphide in ppb

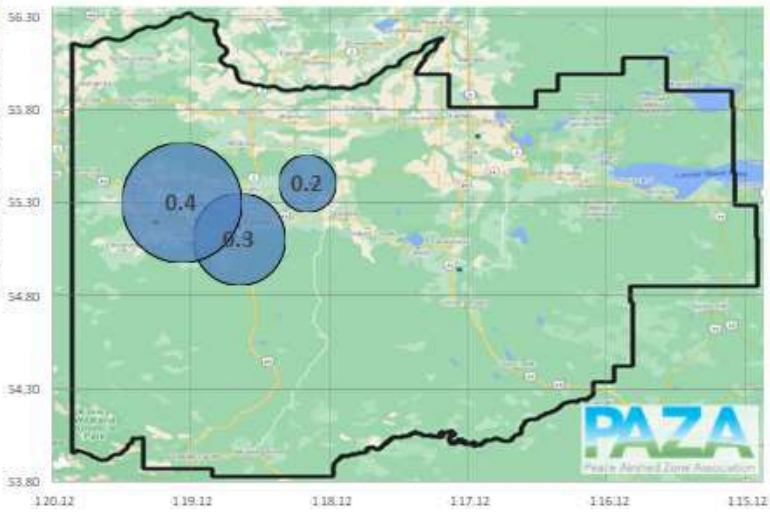


H_2S Roses in ppb

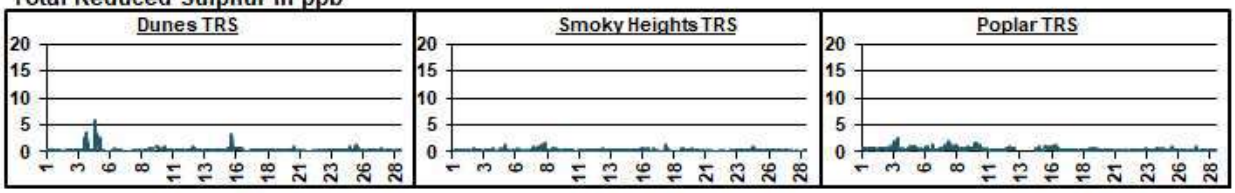


10.9 Total Reduced Sulphur (TRS) Plots

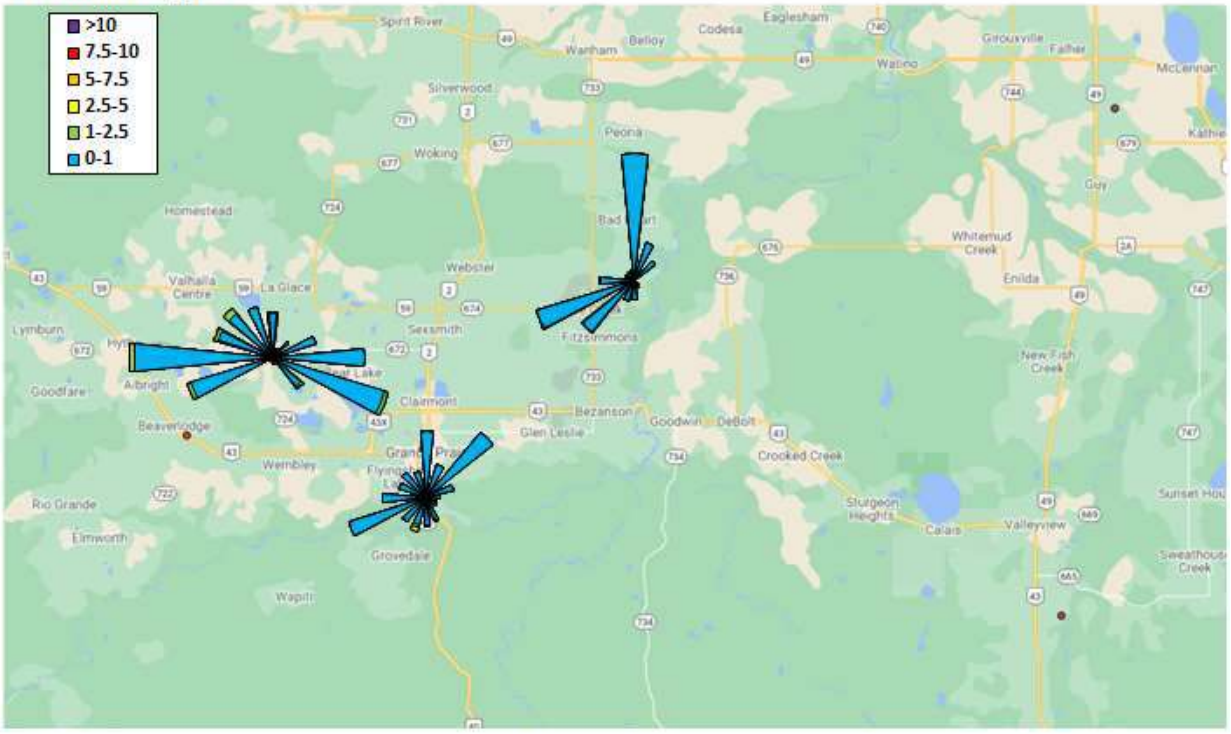
February 2023 TRS Station Summary		
Station	Avg (ppb)	Max (ppb)
Dunes TRS	0.3	5.8
Henry Pirker TRS	-	-
Smoky Heights TRS	0.2	1.5
Beaverlodge TRS	-	-
Valleyview TRS	-	-
Donnelly TRS	-	-
Poplar TRS	0.4	2.4
Milner TRS	-	-



Total Reduced Sulphur in ppb



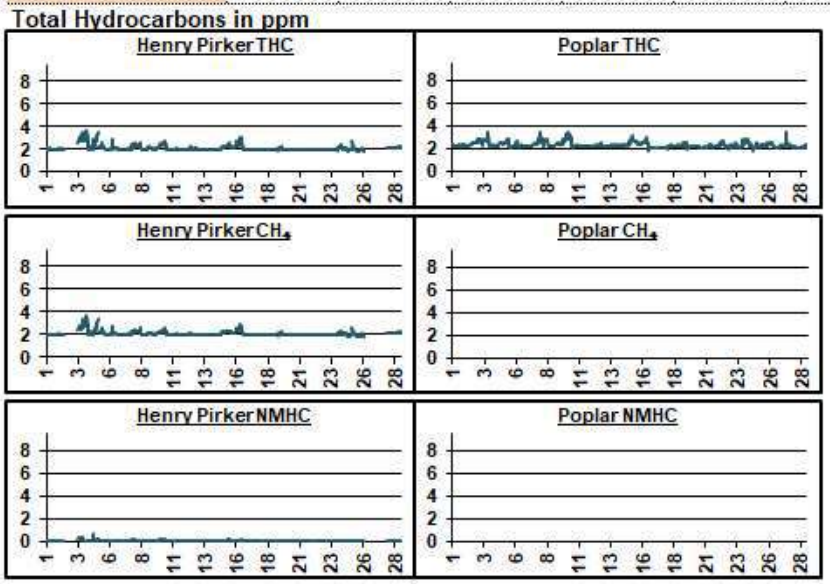
TRS Roses in ppb



10.10 Total Hydrocarbon (THC) Plots

February 2023 THC Station Summary

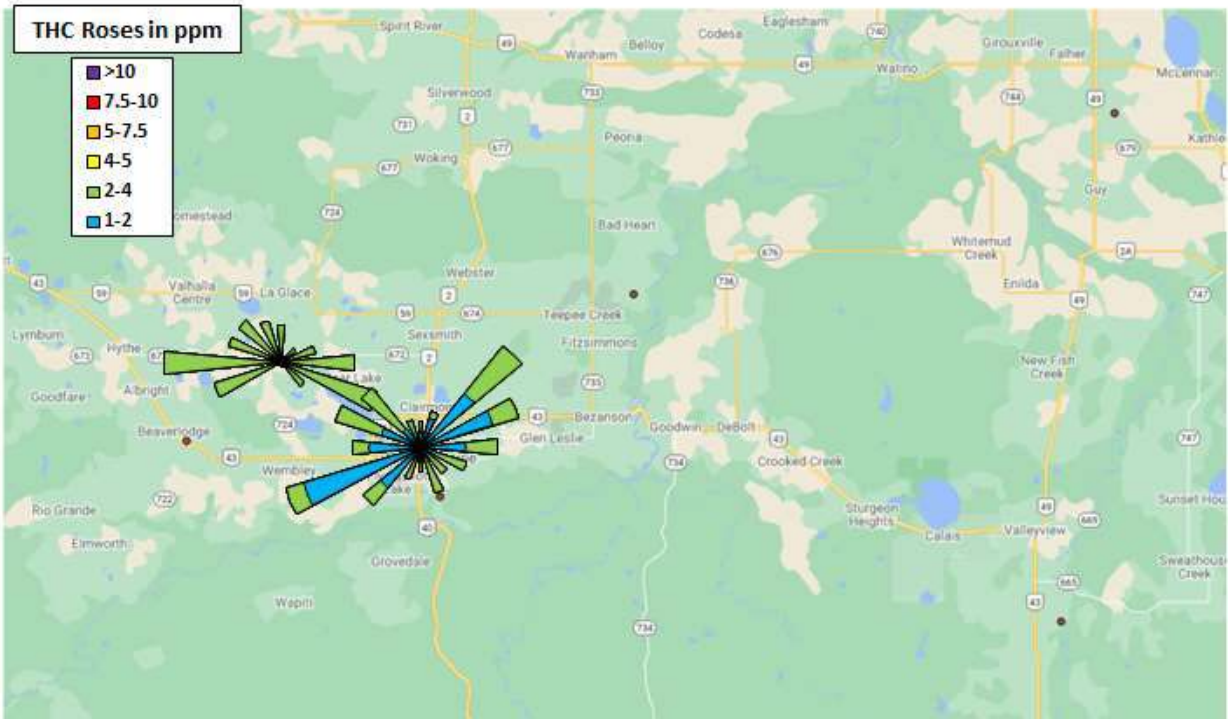
Station	Total Hydrocarbons		Methane		Non-Methane HCs	
	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)	Avg (ppm)	Max (ppm)
Dunes THC	-	-	-	-	-	-
Henry Pirker THC	2.1	3.7	2.1	3.7	0.0	0.7
Smoky Heights THC	-	-	-	-	-	-
Beaverlodge THC	-	-	-	-	-	-
Valleyview THC	-	-	-	-	-	-
Donnelly THC	-	-	-	-	-	-
Poplar THC	2.4	3.6	-	-	-	-



Total Hydrocarbons (THC)

Methane (CH_4)

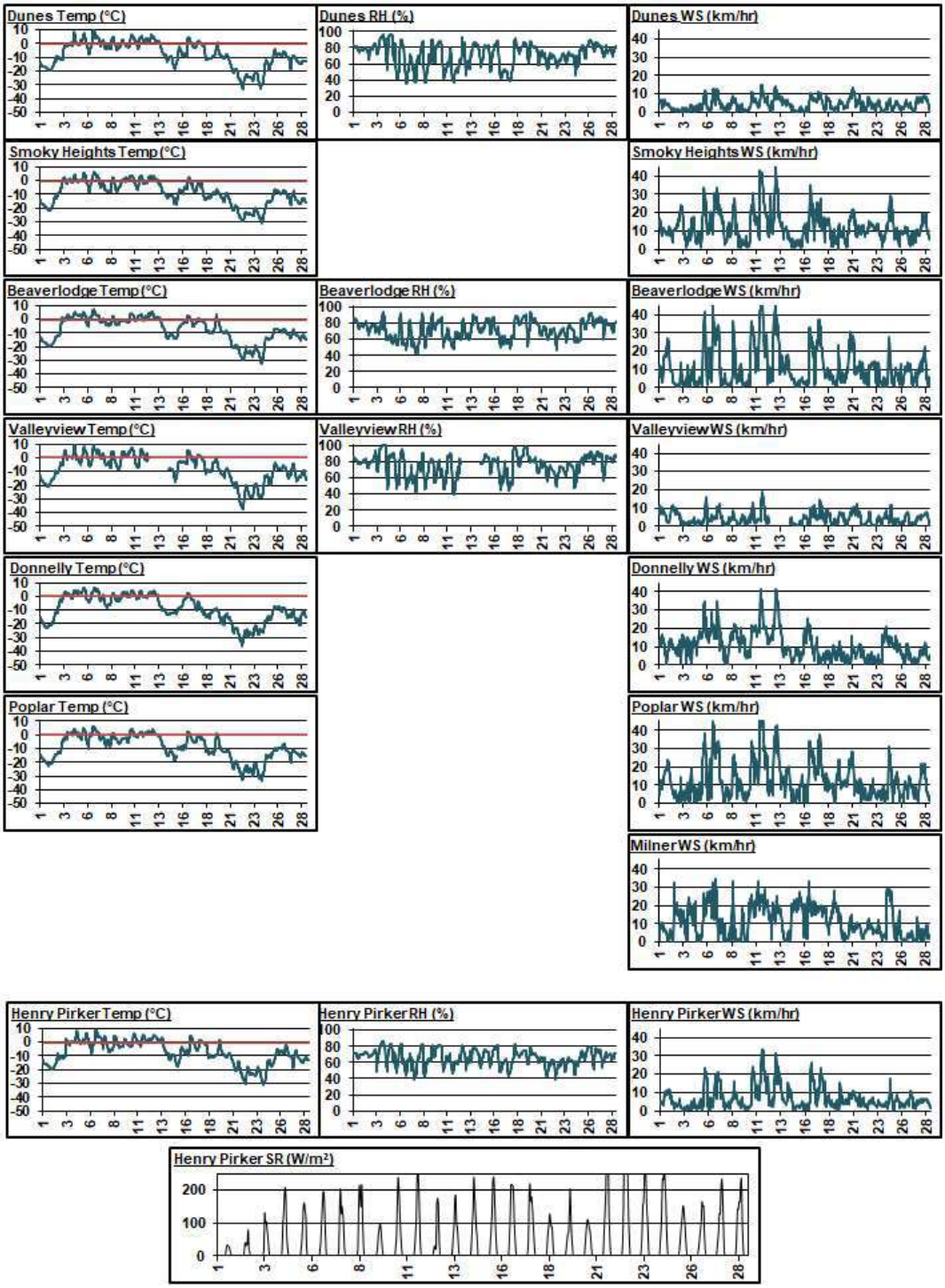
Non-Methane Hydrocarbons (NMHC)



10.11 Meteorology Summary

February 2023 Meterological Summary						
Station	Temp (°C)	RH (%)	SR (W/m²)	WS (km/hr)	WD (deg)	WD
Dunes	-7.5	70.9	-	4.3	310	NW
Henry Pirker	-7.3	65.8	40.6	6.8	261	W
Smoky Heights	-8.7	-	-	12.4	272	W
Beaverlodge	-7.3	71.8	-	11.3	272	W
Valleyview	-7.8	75.2	-	4.5	264	W
Donnelly	-9.1	-	-	10.7	216	SW
Poplar	-9.1	-	-	12.7	277	W
Milner	-	-	-	11.5	275	W

Temp (°C) Outside Temperature
RH (%) Relative Humidity
SR (W/m²) Solar Radiation
WS (km/hr) Wind Speed
WD (deg) Wind Direction
WD Wind Direction



11 Passive Monitoring Data

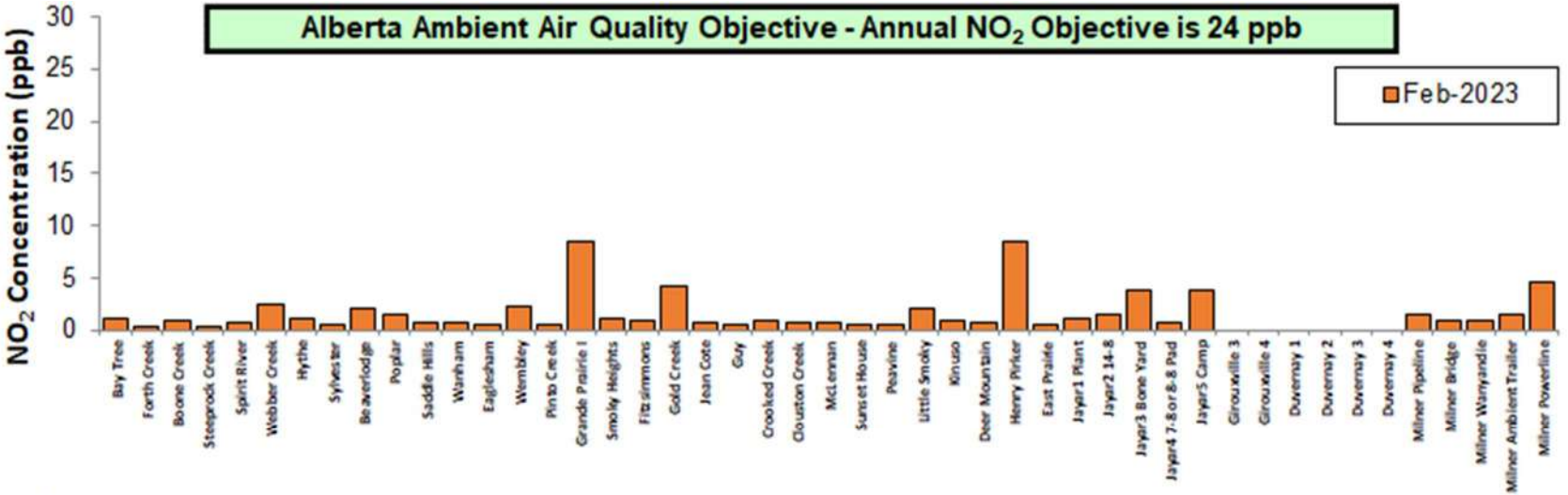
Peace Airshed Zone Association - PAZA Passive Stations for February 2023

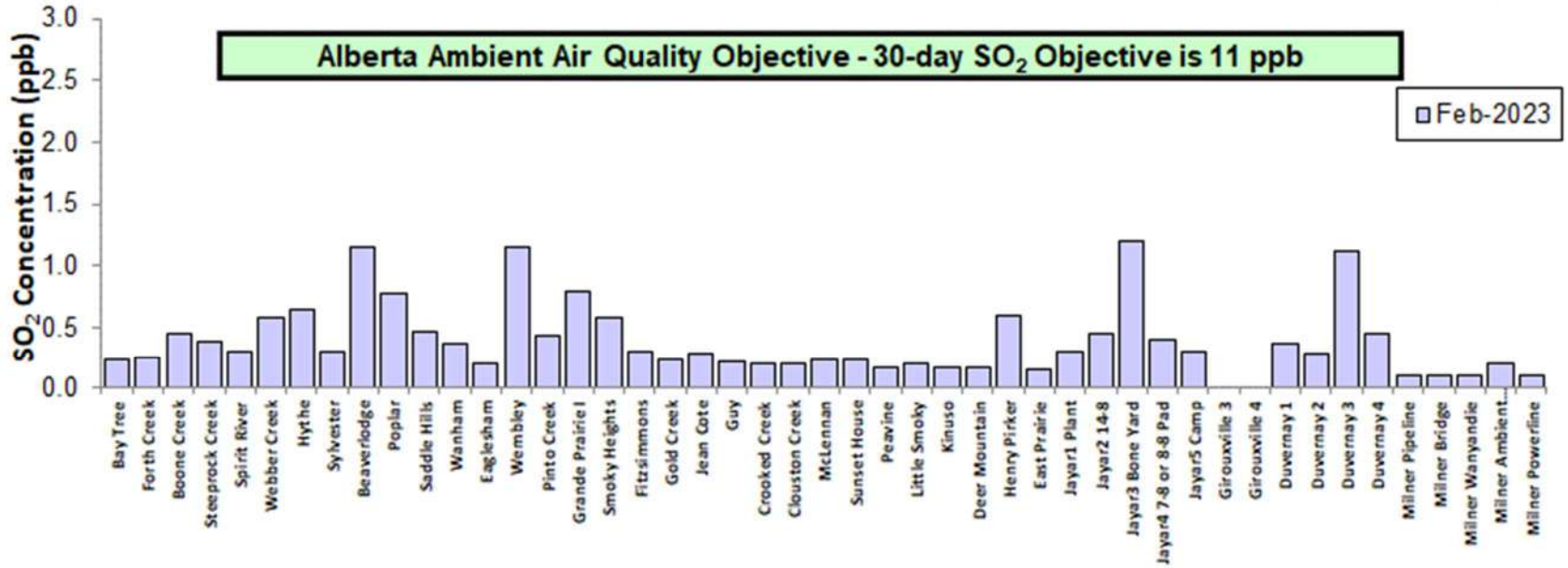
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
2a	Bay Tree	**0.3**	**46.9**			13-16-078-13 W6M
2b	Bay Tree	**0.2**	**44.4**			
5a	Boone Creek			**1.0**		01-23-076-11 W6M
5b	Boone Creek			**0.9**		
25a	Pinto Creek	**0.4**				04-24-069-11 W6M
25b	Pinto Creek	**0.5**				
32a	Gold Creek			**4.8**		06-33-067-05 W6M
32b	Gold Creek			**3.5**		
36a	Guy	**0.2**				03-04-076-22 W5M
36b	Guy	**0.2**				
44a	Peavine	**0.2**				03-05-079-15 W5M
44b	Peavine	**0.2**				
46a	Little Smoky			**2.1**		12-01-065-21 W5M
46b	Little Smoky			**2.0**		
47a	Kinuso			**0.9**		12-10-073-10 W5M
47b	Kinuso			**0.9**		
D4a	Duvernay 4	**0.4**			**0.09**	04-33-062-20 W5M
D4b	Duvernay 4	**0.5**			**0.11**	
G4a	Girouxville 4				**0.22**	04-08-077-22 W5M
G4b	Girouxville 4				**0.25**	
J2a	Jayar2 14-8	**0.4**				07-08-062-03 W6M
J2b	Jayar2 14-8	**0.5**				
J3a	Jayar5 Camp			**3.8**		11-08-062-03 W6M
J3b	Jayar5 Camp			**3.9**		
J4a	Jayar1 Plant				**0.1**	06-08-062-03 W6M
J4b	Jayar1 Plant				**0.1**	
M9a	Milner Powerline			**4.7**		06-14-058-08 W6M
M9b	Milner Powerline			**4.4**		
M10a	Milner Wanyandie	**0.1**				11-13-058-08 W6M
M10b	Milner Wanyandie	**0.1**				

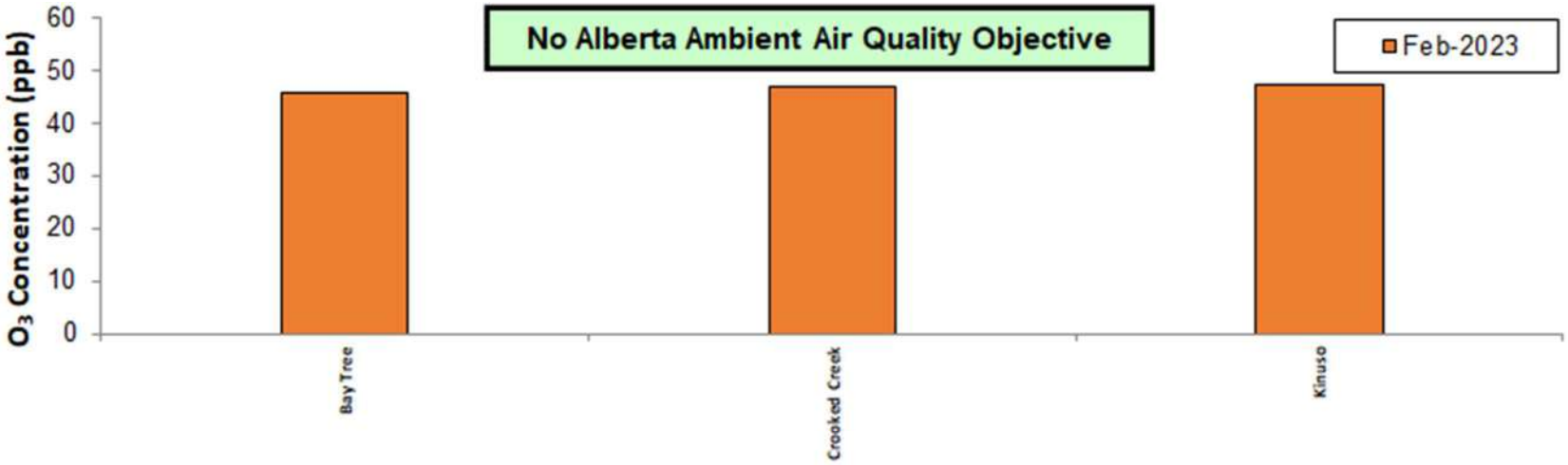
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
2	Bay Tree	0.2	45.7	1.1	-	13-16-078-13 W6M
3	Forth Creek	0.3	-	0.3	-	04-13-082-07 W6M
5	Boone Creek	0.4	-	1.0	-	01-23-076-11 W6M
7	Steeprock Creek	0.4	-	0.4	-	09-35-072-13 W6M
9	Spirit River	0.3	-	0.7	-	08-12-079-07 W6M
11	Webber Creek	0.6	-	2.5	-	09-36-074-09 W6M
12	Hythe	0.6	-	1.1	-	14-36-072-11 W6M
14	Sylvester	0.3	-	0.6	-	08-06-069-12 W6M
16	Beaverlodge	1.2	-	2.1	-	15-36-071-10 W6M
17	Poplar	0.8	-	1.5	-	13-06-073-08 W6M
18	Saddle Hills	0.5	-	0.8	-	04-25-074-07 W6M
19	Wanham	0.4	-	0.7	-	16-22-077-03 W6M
21	Eaglesham	0.2	-	0.5	-	16-21-079-25 W5M
24	Wembley	1.2	-	2.3	-	12-31-070-08 W6M
25	Pinto Creek	0.4	-	0.5	-	04-24-069-11 W6M
27	Grande Prairie I	0.8	-	8.4	-	08-15-071-06 W6M
29	Smoky Heights	0.6	-	1.2	-	04-06-075-02 W6M
30	Fitzsimmons	0.3	-	1.0	-	15-36-072-03 W6M
32	Gold Creek	0.2	-	4.2	-	06-33-067-05 W6M
35	Jean Cote	0.3	-	0.8	-	12-35-079-21 W5M
36	Guy	0.2	-	0.5	0.1	03-04-076-22 W5M
37	Crooked Creek	0.2	47.0	1.0	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	0.7	-	12-01-073-22 W5M
40	McLennan	0.2	-	0.8	-	03-29-077-19 W5M
42	Sunset House	0.2	-	0.5	-	05-32-070-19 W5M
44	Peavine	0.2	-	0.5	-	03-05-079-15 W5M
46	Little Smoky	0.2	-	2.1	-	12-01-065-21 W5M
47	Kinuso	0.2	47.3	0.9	-	12-10-073-10 W5M
48	Deer Mountain	0.2	-	0.8	-	15-22-068-09 W5M
49	Henry Pirker	0.6	-	8.4	-	17-26-071-06 W6M
50	East Prairie	0.2	-	0.6	-	11-13-079-08 W6M
57	Jayar1 Plant	0.3	-	1.1	0.10	06-08-062-03 W6M
58	Jayar2 14-8	0.5	-	1.6	0.10	07-08-062-03 W6M
59	Jayar3 Bone Yard	1.2	-	3.9	0.10	14-08-062-03 W6M
60	Jayar4 7-8 or 8-8 Pad	0.4	-	0.7	0.09	10-08-062-03 W6M
61	Jayar5 Camp	0.3	-	3.8	0.13	11-08-062-03 W6M
G3	Girouxville 3	-	-	-	0.3	14-02-077-23 W5M
G4	Girouxville 4	-	-	-	0.23	04-08-077-22 W5M
D1	Duvernay 1	0.4	-	-	0.10	04-33-062-20 W5M
D2	Duvernay 2	0.3	-	-	0.13	04-33-062-20 W5M
D3	Duvernay 3	1.1	-	-	0.13	04-33-062-20 W5M
D4	Duvernay 4	0.4	-	-	0.10	04-33-062-20 W5M
M1	Milner Pipeline	0.1	-	1.5	-	12-14-058-08 W6M
M2	Milner Bridge	0.1	-	0.9	-	08-06-057-08 W6M
M3	Milner Wanyandie	0.1	-	0.9	-	11-13-058-08 W6M
M4	Milner Ambient Trailer	0.2	-	1.6	-	09-15-058-08 W6M
M5	Milner Powerline	0.1	-	4.6	-	06-14-058-08 W6M

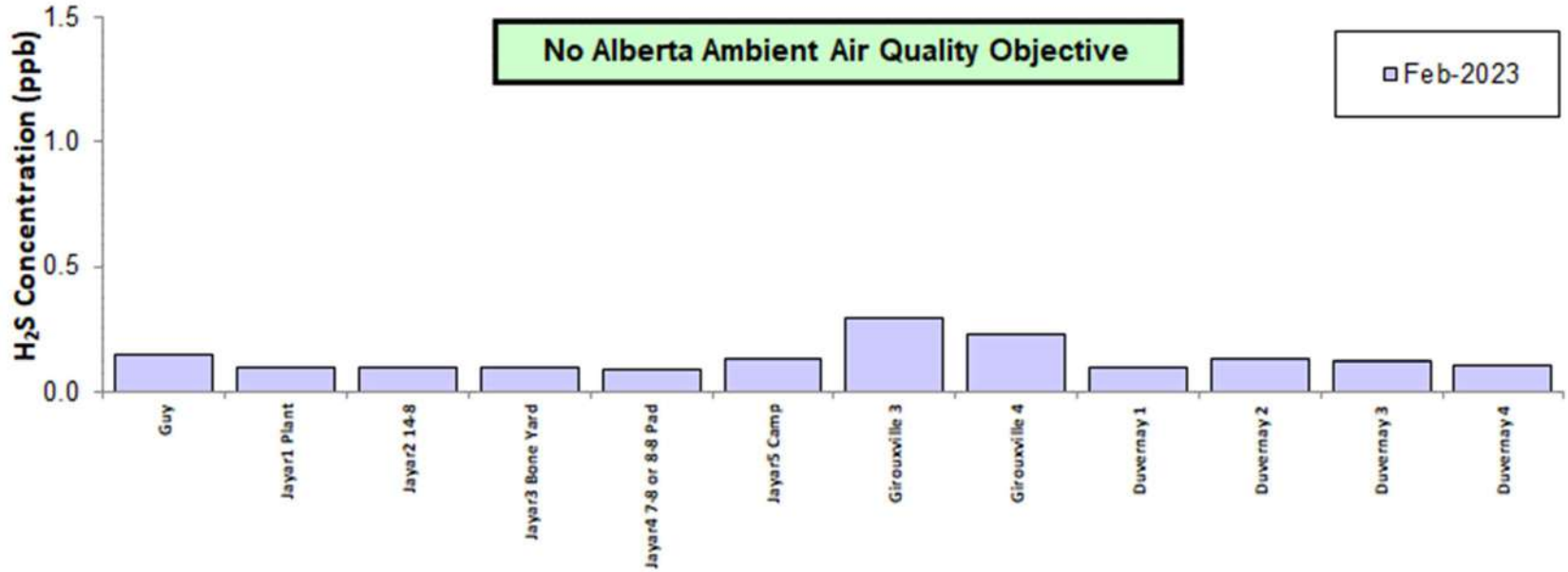
Passive Summary for February 2023

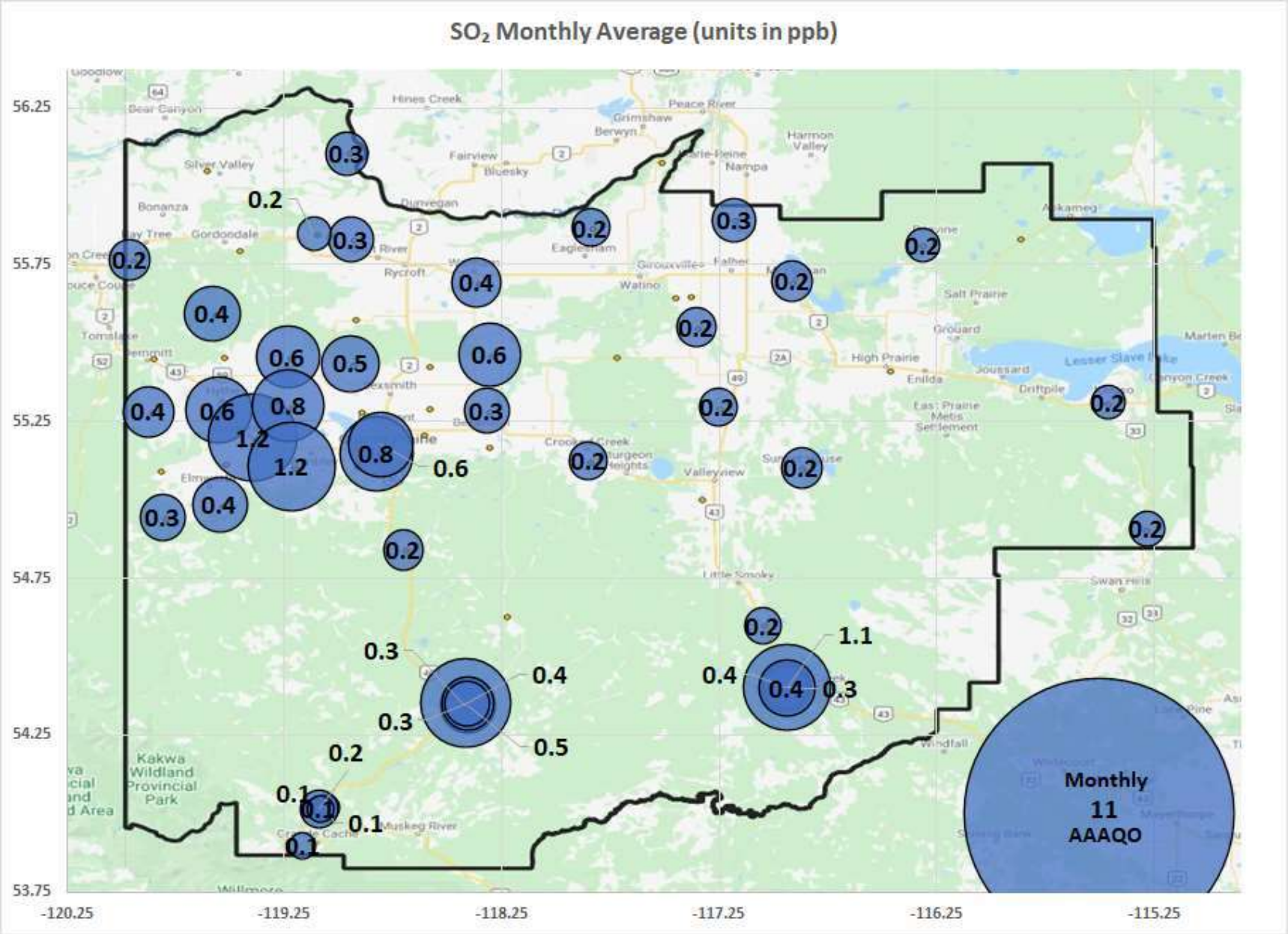
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
Passive Summary for February 2023 (PAZA)				
Mean	0.4	46.6	1.7	0.1
Standard Deviation	0.3	0.8	1.9	0.1
Minimum	0.1 Milner Pipeline (#M1)	45.7 Bay Tree (#2)	0.3 Forth Creek (#3)	0.1 Jayar4 7-8 or 8-8 Pad
Maximum	1.2 Jayar3 Bone Yard (#59)	47.3 Kinuso (#47)	8.4 Grande Prairie I (#27)	0.3 Girouxville 3 (#G3)
Continuous and Passive Monitoring Comparision				
PAZA Beaverlodge Station	**1.3**	**32.6**	**5.7**	-
Beaverlodge Passive (#16)	**1.2**	-	**2.1**	-
PAZA Henry Pirker Station	**0.4**	**24.7**	**15.4**	**0.3**
Henry Pirker passive (#49)	**0.6**	-	**8.4**	-
Milner Station	-	-	**3.3**	-
Henry Pirker passive (#49)	**0.2**	-	**1.6**	-

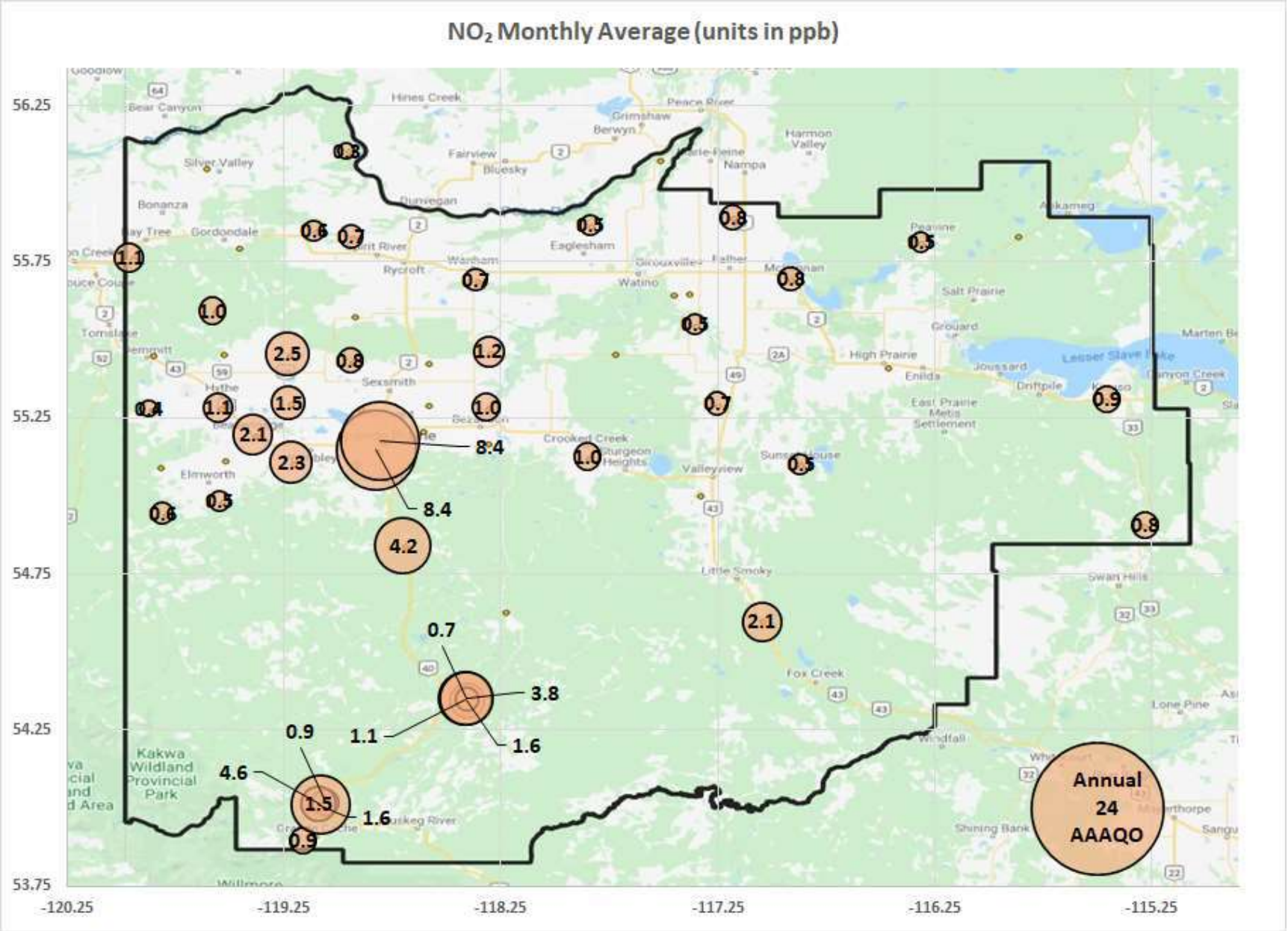

Alberta Ambient Air Quality Objective - Annual NO2 Objective is 24 ppb
NO2 Concentration (ppb)
Feb-2023
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8 Pad
Jayar5 Camp
Girouxville 3
Girouxville 4
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient Trailer
Milner Powerline

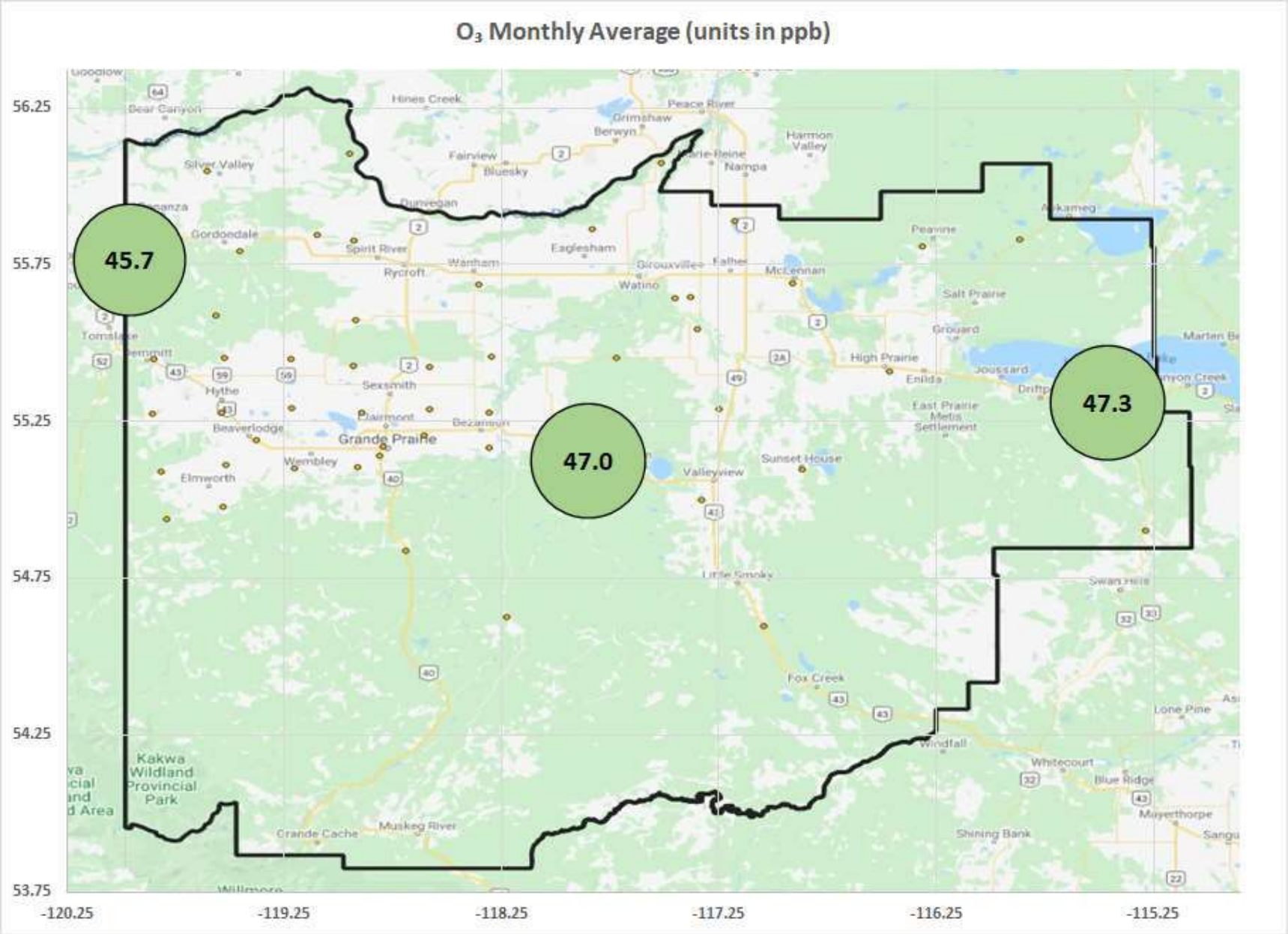

Alberta Ambient Air Quality Objective - 30-day SO2 Objective is 11 ppb
SO2 Concentration (ppb)
Feb-2023
Bay Tree
Forth Creek
Boone Creek
Steeprock Creek
Spirit River
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Fitzsimmons
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Sunset House
Peavine
Little Smoky
Kinuso
Deer Mountain
Henry Pirker
East Prairie
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8 Pad
Jayar5 Camp
Girouxville 3
Girouxville 4
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4
Milner Pipeline
Milner Bridge
Milner Wanyandie
Milner Ambient...
Milner Powerline

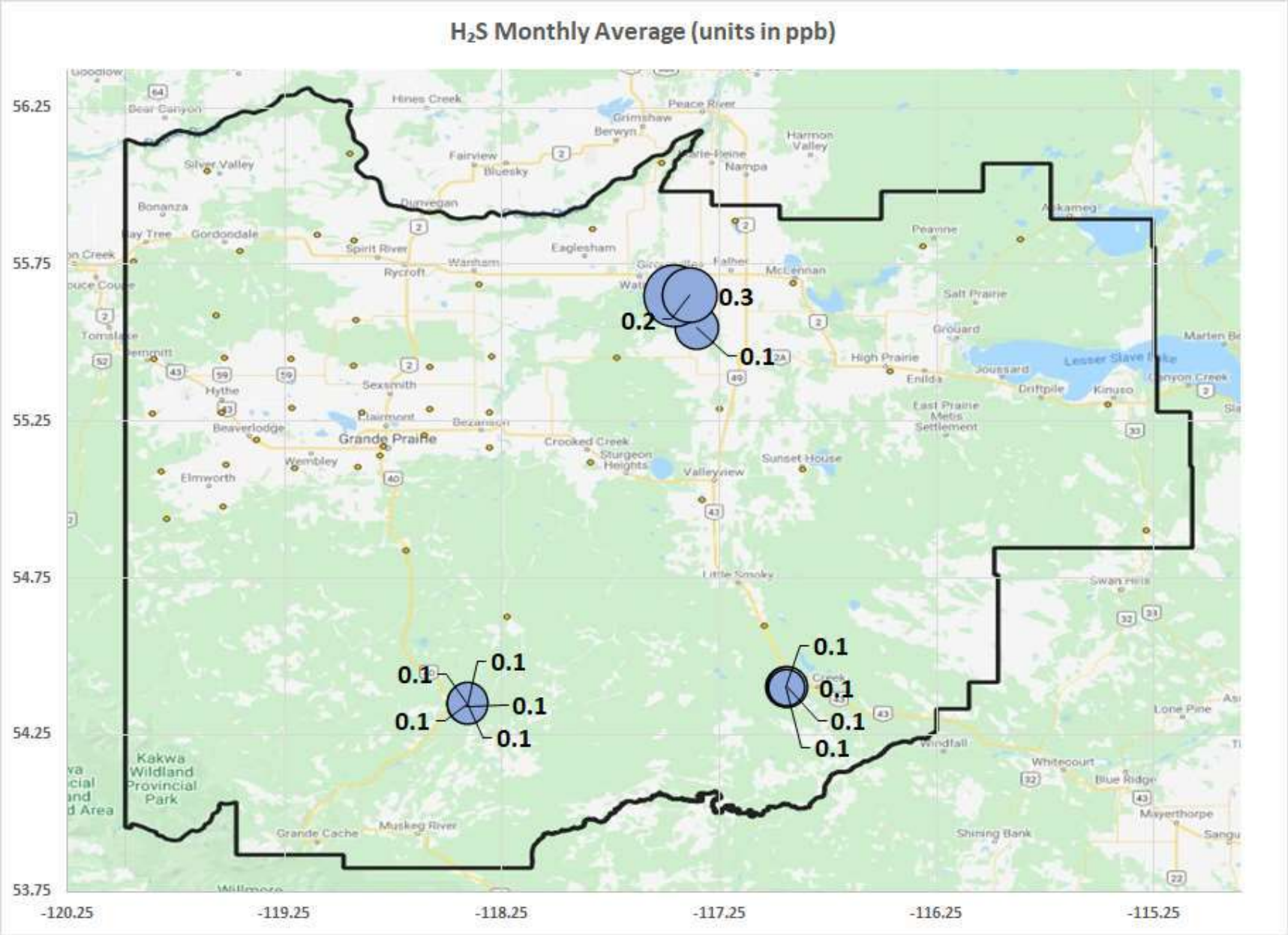

No Alberta Ambient Air Quality Objective
Feb-2023
O3 Concentration (ppb)
60
50
40
30
20
10
0
Bay Tree
Crooked Creek
Kinuso


No Alberta Ambient Air Quality Objective
Feb-2023
H2S Concentration (ppb)
1.5
1.0
0.5
0.0
Guy
Jayar1 Plant
Jayar2 14-8
Jayar3 Bone Yard
Jayar4 7-8 or 8-8 Pad
Jayar5 Camp
Girouxville 3
Girouxville 4
Duvernay 1
Duvernay 2
Duvernay 3
Duvernay 4


SO2 Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Monthly
11
AAAQO


NO2 Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Annual
24
AAAQO

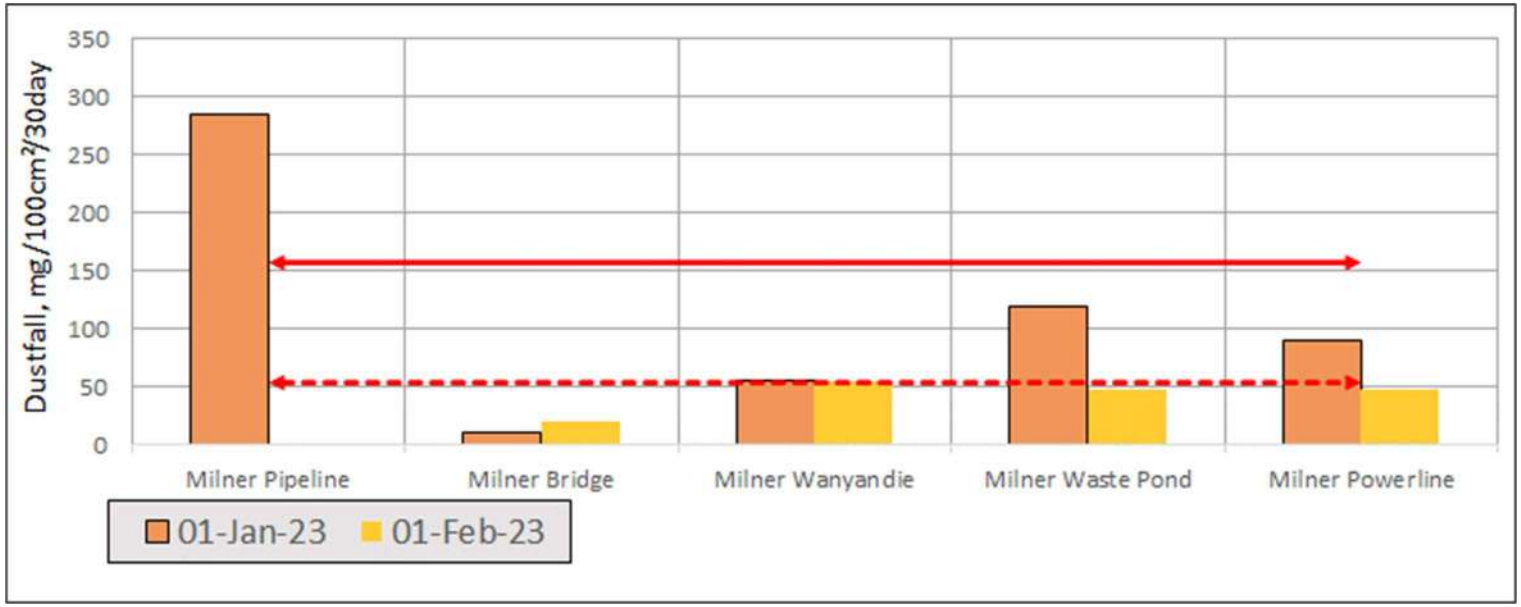

O3 Monthly Average (units in ppb)
45.7
47.0
47.3
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Hines Creek
Peace River
Grimshaw
Berwyn
Harmon Valley
Fairview
Bluesky
Nampa
Silver Valley
Dunvegan
Gordondale
Spirit River
Eaglesham
Rycroft
Wanham
Girouxville
Watino
McLennan
Peavine
Salt Prairie
Grouard
High Prairie
Enilda
Joussard
East Prairie Metis Settlement
Hythe
Beaverlodge
Grande Prairie
Wembley
Elmworth
Sexsmith
Valleyview
Sunset House
Fox Creek
Windfall
Whitecourt
Blue Ridge
Lone Pine
Swan Hills
Kakwa Wildland Provincial Park
Crande Cache
Muskeg River
Shining Bank
Meyerthorpe


H2S Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
0.3
0.2
0.1
0.1
0.1
0.1
0.1
0.1
0.1
0.1
Grande Prairie
Peace River
Hines Creek
Fairview
Dunvegan
Eaglesham
Spirit River
Rycroft
Sexsmith
Beaverlodge
Wembley
Elmworth
Crooked Creek
Sturgeon Heights
Valleyview
Sunset House
High Prairie
Enilda
Joussard
Driftpile
Kinuso
East Prairie Metis Settlement
Salt Prairie
Grouard
McLennan
Peerless Lake
Lesser Slave Lake
Kakwa Wildland Provincial Park
Grande Cache
Muskeg River
Shining Bank
Windfall
Whitecourt
Blue Ridge
Mayerthorpe
Lone Pine
Swan Hills
Little Smoky

12 Dustfall Monitoring Data

Milner Dustfall Samples February 2023

Exposure Month	Year	Sample	Total Dustfall (30 day) mg/100cm²/30day	Fixed Dustfall (30 day) mg/100cm²/30day	Exposure days	Field Notes
February	2023	Milner Pipeline	0.2	< detection	28	
February	2023	Milner Bridge	20.5	16.5	28	
February	2023	Milner Wanyandie	55.1	23.0	28	Above limit (53)
February	2023	Milner Waste Pond	48.0	14.2	28	
February	2023	Milner Powerline	47.2	18.9	28	
February	2023	Milner Powerline Dup	82.6	29.9	28	RPD= 55% / 45%



13 End of Report

End of Report

Peace Airshed Zone Association

Ambient Air Monitoring Report

February 2023