Peace Airshed Zone Association

Ambient Air Monitoring Network Summary

Ambient Air Quality Monitoring Program

Monthly Report

June 2020

July 31, 2020

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

Subject: **Peace Airshed Zone Association (PAZA)**
June 2020 Ambient Air Quality Monitoring Report

Please find enclosed the PAZA Ambient Air Quality Monitoring Network Report for the month of June 2020.

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

Mandeep Dhaliwal, B.Sc., P.Chem.
Program Manager
Box 21135
Grande Prairie, Alberta T8V 6W7
Email: Mandeep@paza.ca
Phone: 403-608-9697

This report was prepared by Matrix Solutions Inc. and reviewed by Mandeep Dhaliwal.

PAZA has retained the services of WSP Canada Inc. to conduct continuous ambient monitoring and Matrix Solutions Inc. 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

Continuous Monitoring: Seven (7) Stations including Henry Pirker (Grande Prairie), Evergreen Park, Smoky Heights, Beaverlodge, Valleyview, Donnelly and Wembley-Portable. Detailed Summaries are included in the report

Calibration and Data Submission:
Monthly report, hourly data and calibration reports for June 2020 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	262479-00-00
Alberta Power (2000) Ltd. (an ATCO company)	Sturgeon	SW-06-069-21-W5	10283-02-02
ATCO Power Canada	Poplar Hill	11-19-073-08-W6	67774-01-01
ATCO Power Canada	Valleyview	SW-06-069-21-W5	147709-01-01
AltaGas Ltd.	Pouce Coupe	03-03-081-13-W6	247673-00-00
	Ante Creek	02-26-068-25-W5	266694-00-00
	Gordondale	02-26-068-25-W5	287474-00-00
Apache Canada Ltd.	House Mountain	01-08-070-10-W5	10137-02-02
Birchcliff Energy Ltd.	Pouce Coupe	03-22-078-12-W6	252529-00-00
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	1633-02-00
Canfor Forest Products	Grande Prairie	SW-23-071-06-W6	152645-01-00
Conocophillips Canada Energy Partnership	Wembley	06-19-073-08-W6	00000212-01-00
Devon Canada	NW Belloy (Dunvegan)	16-36-079-03-W6	00009810-02-00
	Eaglesham (South)	02-14-077-25-W5	00047669-01-00
	North Normanville	03-36-079-23-W5	00047455-01-00
	West Culp	05-34-078-25-W6	00136284-00-00
	Cecil	08-15-084-08-W6	00010032-02-00
Encana Corporation	Sexsmith	04-08-075-07-W6	00010002-01-00
Enerplus Resources	Pouce Coupe	SW-06-069-21-W5	1464-02-03
Exshaw Oil Corporation	Spirit River	03-10-077-07-W6	344521-00-00
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
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	138884-01-00
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	11351-02-00
	Spirit River	08-34-077-06-W6	11096-02-00
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	3-23-080-13-W6	00070203-01-01
Suncor Energy Inc.	Progress	07-22-078-09-W6	00011428-02-00
TAQA North Ltd.	Valhalla	13-21-076-09-W6	00017620-01-00
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 were no exceedances of the AAAQO or AAAQG in June 2020

Operational times less than 90 percent:

There were no **operational times** less than 90% in June 2020.
There were no **valid times** less than 75% in June 2020.

Air Incidents

None were reported to PAZA

Deviations from Authorized Monitoring Methods

Trees nearby to Valleyview air monitoring station exceed the height allowed under section 2.3 of the siting criteria in Chapter 3 of the AMD. This variance was authorized in writing by the director on February 4, 2019.

Passive Monitoring 33 Stations throughout the PAZA zone
The passive sample analyses were performed by Bureau Veritas Laboratories (formally Maxxam Analytics Inc.)

- There were eight duplicate sites sampled in the month of June with RPD all less than 50% except the three NO_2 duplicates 57% to 80% (results 0.2 to 0.7ppb)
  - For sulphur dioxide duplicates at Wembley, Smoky Heights, and Peavine stations
  - For ozone duplicate at Kinuso station
  - For nitrogen dioxide duplicates at Wanham, Pinto Creek, and Gift Lake stations
  - For hydrogen sulphide duplicate at Girouxville 3 station
- There were no recorded field issues with passives.
- There were no exceedances of the AAAQOs for all monitored parameters at any of the passive monitoring stations during this month.

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

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

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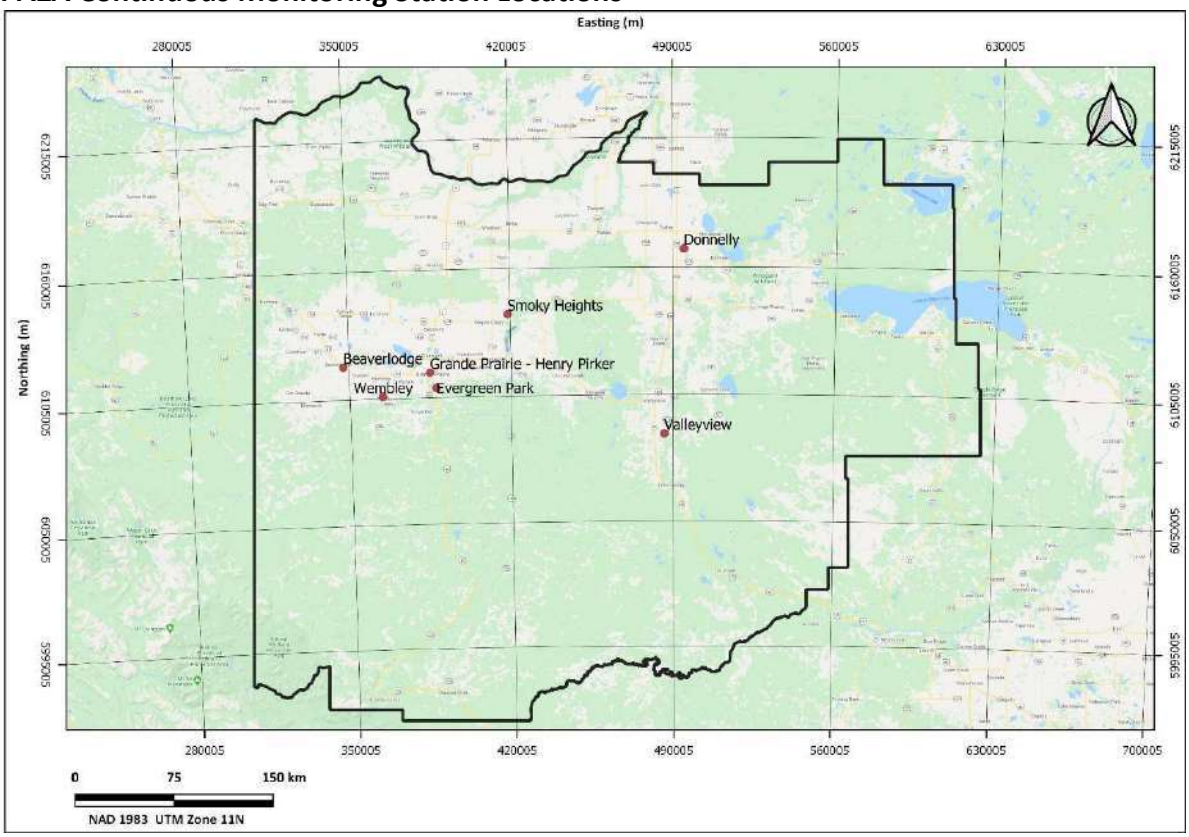
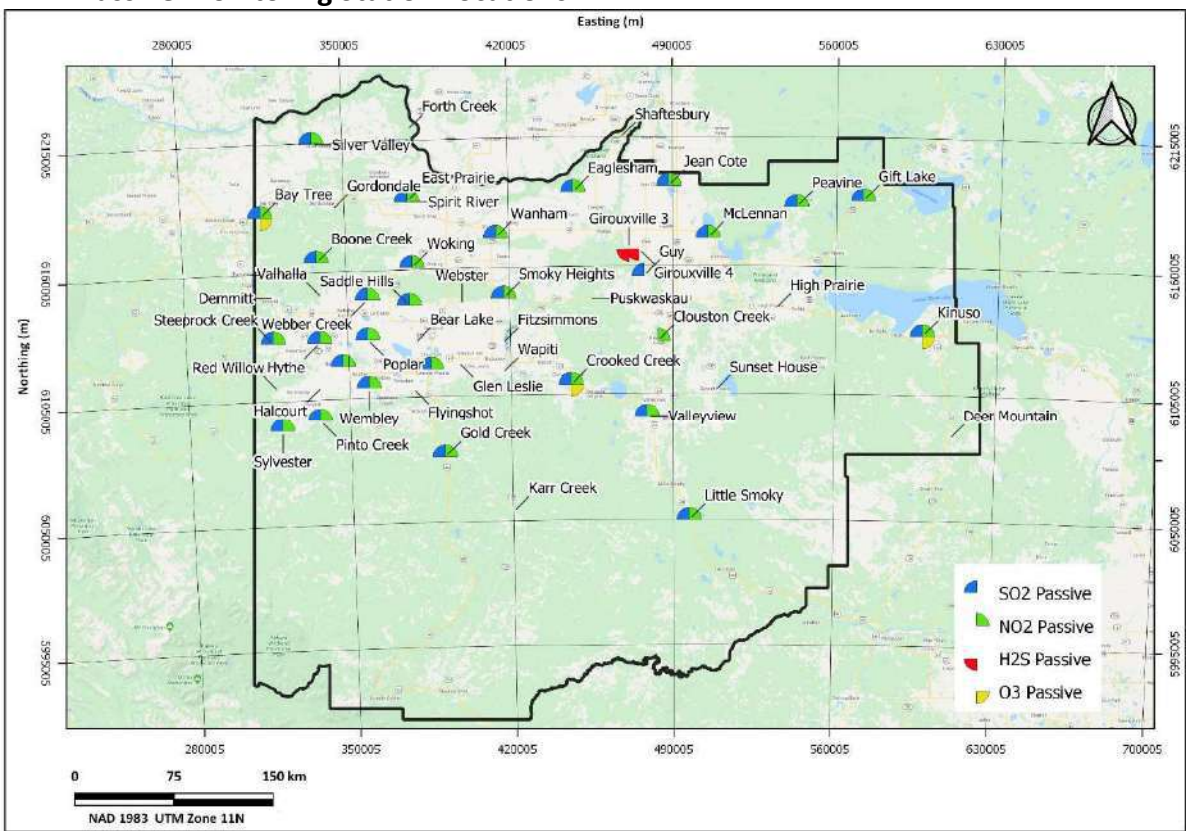
PAZA Continuous Monitoring Station Locations



PAZA Passive Monitoring Station Locations



1 June 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 - June 2020 Beaverlodge Station Report

Parameter	June 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)	0.2	0.0	94.9%	99.9%	2.9	-	Jun-18 08:00	0.5	-	Jun-18	-	-	-	-	Jun 02, 2020
NO_2 (ppb)	1.4	0.0	94.9%	99.9%	7.7	159	Jun-12 08:00	2.2	-	Jun-05	0	-	-	-	Jun 02, 2020
NO_x (ppb)	1.6	0.2	94.9%	99.9%	9.0	-	Jun-12 07:00	2.7	-	Jun-05	-	-	-	-	Jun 02, 2020
O_3 (ppb)	26.6	6.3	95.1%	99.9%	44.2	76	Jun-12 18:00	35.3	-	Jun-11	0	-	-	-	Jun 02, 2020
$PM_{2.5}$ (µg/m³)	3.5	0.6	97.4%	97.8%	16.6	80	Jun-20 04:00	11.9	29	Jun-01	0	-	0	-	Jun 30, 2020
SO_2 (ppb)	0.1	0.0	95.1%	99.9%	3.7	172	Jun-05 10:00	0.7	48	Jun-01	0	-	0	0	Jun 03, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	13.9	3.8	100.0%	100.0%	25.4
RH (%)	61.3	21.8	100.0%	100.0%	100.0
WS (km/hr)	13.7	0.2	100.0%	100.0%	38.7
WD (deg)	271	1.7	100.0%	100.0%	360.0

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

Average Wind Direction 271 W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42I	Manifold cleaning flagged as maintenance June 26
O_3	Thermo	49i	Manifold cleaning flagged as maintenance June 26
$PM_{2.5}$	Sharp	5030	Data removed due to maintenance along with negative and positive drift end of June
SO_2	Thermo	43i-TLE	Manifold cleaning flagged as maintenance June 26
Met Equip	MetOne	50.5	No Operational issues noted during the month

1.2 Evergreen Park Air Monitoring Station

PAZA - June 2020 Evergreen Park Station Report

Parameter	June 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)	4.0	0.0	99.0%	99.3%	40.1	80	Jun-25 13:00	8.5	29	Jun-25	0	-	0	-	Jun-15-2020
SO_2 (ppb)	0.2	0.0	94.0%	99.2%	9.8	172	Jun-11 04:00	1.6	48	Jun-11	0	-	0	0	Jun-15-2020
TRS (ppb)	0.5	0.0	95.0%	99.7%	3.5	-	Jun-25 12:00	0.6	-	Jun-25	-	-	-	-	Jun-15-2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	14.7	3.1	99.7%	99.7%	26.9
RH (%)	60.7	19.4	99.7%	99.7%	98.7
WS (km/hr)	4.9	0.1	99.7%	99.7%	14.8
WD (deg)	258	1.6	99.7%	99.7%	360.0

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

Average Wind Direction 258 WSW

Update Summary:

Parameter	Make	Model	Equipment summary
$PM_{2.5}$	Thermo	TEOM AB	Data missing June 13, hour removed as not valid
SO_2	TECO	43i	Data missing June 13, hour removed as not valid
TRS	TECO	43C	Data missing June 13, hour removed as not valid
Met Equip	Gil/RMYoung	MetPak/RMY86004	Data missing June 13, hour removed as not valid

1.3 Grande Prairie - Henry Pirker Air Monitoring Station

PAZA - June 2020 Henry Pirker Station Report

Parameter	June 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)	0.5	0.0	94.6%	99.4%	14.4	-	Jun-10 09:00	1.6	-	Jun-19	-	-	-	-	Jun 01, 2020
NO_2 (ppb)	2.9	0.5	94.6%	99.4%	11.9	159	Jun-05 06:00	4.3	-	Jun-17	0	-	-	-	Jun 01, 2020
NO_x (ppb)	3.5	0.6	94.6%	99.4%	19.8	-	Jun-10 09:00	6.0	-	Jun-17	-	-	-	-	Jun 01, 2020
O_3 (ppb)	26.4	1.7	94.5%	99.2%	48.6	76	Jun-11 16:00	33.5	-	Jun-11	0	-	-	-	Jun 01, 2020
$PM_{2.5}$ (µg/m³)	3.5	0.0	99.7%	99.9%	34.2	80	Jun-02 02:00	9.6	29	Jun-19	0	-	0	-	Jun 02, 2020
SO_2 (ppb)	0.1	0.0	95.0%	99.7%	6.7	172	Jun-11 06:00	0.9	48	Jun-01	0	-	0	0	Jun 01, 2020
H_2S (ppb)	0.2	0.0	95.3%	99.9%	0.9	10	Jun-13 06:00	0.4	3	Jun-21	0	-	0	-	Jun 11, 2020
CH_4 (ppm)	2.0	1.5	91.5%	96.4%	2.5	-	Jun-20 08:00	2.1	-	Jun-01	-	-	-	-	Jun 02, 2020
THC (ppm)	2.1	1.5	91.5%	96.4%	2.5	-	Jun-20 08:00	2.1	-	Jun-01	-	-	-	-	Jun 02, 2020
NMHC (ppm)	0.0	0.0	91.5%	96.4%	0.0	-	Jun-05 06:00	0.0	-	Jun-05	-	-	-	-	Jun 02, 2020
CO (ppm)	0.1	0.0	95.0%	99.7%	0.4	13	Jun-18 23:00	0.2	5	Jun-18	0	0	-	-	Jun 03, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	15.3	4.1	99.9%	99.9%	27.9
RH (%)	57.3	20.7	99.9%	99.9%	90.2
SR (W/m²)	190.3	0.0	99.9%	99.9%	780.7
WS (km/hr)	9.3	0.7	99.9%	99.9%	26.7
WD (deg)	267	0.3	99.9%	99.9%	351.3

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

Average Wind Direction	267	W

Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	Thermo	42i	Data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
O_3	TECO	49i	June 9th negative drift removed; data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
$PM_{2.5}$	Sharp	5030	Missing data June 13 resulted in 1hr removed
SO_2	TEI	43i-TLE	Data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
H_2S	TEI	450i	Data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
$THC/CH_4/NMHC$	TEI	55i	Two hours removed on June 1 due to <1.5ppm hour readings; June 2-3 multiple cals and maintenance to correct baseline; data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
CO	TEI	48i-TLE	Data not valid during June 11 manifold cleaning; missing data June 13 resulted in 1hr removed
Met Equip	MetOne	50.5	Missing data June 13 resulted in 1hr removed

1.4 Smoky Heights Air Monitoring Station

PAZA - June 2020 Smoky Heights Station Report

Parameter	June 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)	3.4	0.0	99.7%	100.0%	28.7	80	Jun-20 05:00	7.4	29	Jun-20	0	-	0	-	Jun 16, 2020
SO_2 (ppb)	0.2	0.0	95.4%	100.0%	9.8	172	Jun-21 05:00	0.8	48	Jun-21	0	-	0	0	Jun 16, 2020
TRS (ppb)	0.2	0.0	95.1%	100.0%	1.1	-	Jun-04 05:00	0.3	-	Jun-22	-	-	-	-	Jun 16, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	14.1	1.5	100.0%	100.0%	26.3
WS (km/hr)	13.2	0.9	100.0%	100.0%	42.8
WD (deg)	260	1.8	100.0%	100.0%	357.9

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

Average Wind Direction	260	WNW

Update Summary:

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

1.5 Valleyview Air Monitoring Station

PAZA - June 2020 Valleyview Station Report

Parameter	June 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)	0.1	0.0	95.1%	99.9%	1.1	172	Jun-20 11:00	0.2	48	Jun-20	0	-	0	0	Jun 09, 2020
H_2S (ppb)	0.1	0.0	95.3%	99.9%	2.0	10	Jun-18 02:00	0.3	3	Jun-20	0	-	0	-	Jun 09, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	14.8	3.1	99.9%	99.9%	29.0
RH (%)	70.6	24.6	99.9%	99.9%	100.2
WS (km/hr)	3.6	0.1	99.9%	99.9%	13.1
WD (deg)	292	0.1	99.9%	99.9%	359.9

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

Average Wind Direction	292	NW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	TEI	43i-APSCB	No Operational issues noted during the month; missing data June 13 removal of hour
H2S	TEI	450i-APHAA	No Operational issues noted during the month; missing data June 13 removal of hour
Met Equip	RMYoung	RMY86004	No Operational issues noted during the month; missing data June 13 removal of hour

1.6 Donnelly Air Monitoring Station

PAZA - June 2020 Donnelly Station Report

Parameter	June 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)	0.1	0.0	95.3%	100.0%	0.5	172	Jun-20 10:00	0.2	48	Jun-20	0	-	0	0	Jun 17, 2020
H_2S (ppb)	0.1	0.0	95.0%	100.0%	1.3	10	Jun-30 20:00	0.2	3	Jun-01	0	-	0	-	Jun 17, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	14.5	3.2	100.0%	100.0%	27.4
WS (km/hr)	11.4	0.8	100.0%	100.0%	34.6
WD (deg)	255	0.9	100.0%	100.0%	359.6

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

Average Wind Direction	255	WSW

Update Summary:

Parameter	Make	Model	Equipment summary
SO_2	Teco	43i	No Operational issues noted during the month
H2S	Thermo	45C	No Operational issues noted during the month
Met Equip	RMYoung	5103	No Operational issues noted during the month

1.7 Wembley Air Monitoring Station

PAZA - June 2020 Wembley Station Report

Parameter	June 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)	0.2	0.0	94.9%	100.0%	6.6	-	Jun-12 06:00	0.6	-	Jun-18	-	-	-	-	Jun 05, 2020
NO_2 (ppb)	1.4	0.0	94.9%	100.0%	13.2	159	Jun-20 01:00	3.0	-	Jun-20	0	-	-	-	Jun 05, 2020
NO_x (ppb)	1.6	0.0	94.9%	100.0%	17.1	-	Jun-20 01:00	3.5	-	Jun-20	-	-	-	-	Jun 05, 2020
O_3 (ppb)	26.7	3.9	95.3%	100.0%	45.8	76	Jun-25 19:00	34.8	-	Jun-11	0	-	-	-	Jun 05, 2020
$PM_{2.5}$ (µg/m³)	1.3	0.0	99.7%	100.0%	15.0	80	Jun-19 22:00	4.2	29	Jun-05	0	-	0	-	Jun 05, 2020
SO_2 (ppb)	0.2	0.0	95.0%	100.0%	7.8	172	Jun-30 10:00	0.7	48	Jun-30	0	-	0	0	Jun 05, 2020
TRS (ppb)	0.2	0.0	95.3%	100.0%	0.9	-	Jun-18 21:00	0.3	-	Jun-06	-	-	-	-	Jun 04, 2020
CH4 (ppm)	2.1	1.9	93.5%	98.1%	2.7	-	Jun-20 04:00	2.1	-	Jun-01	-	-	-	-	Jun 28, 2020
THC (ppm)	2.1	1.9	93.5%	98.1%	2.7	-	Jun-20 04:00	2.1	-	Jun-01	-	-	-	-	Jun 28, 2020
NMHC (ppm)	0.0	0.0	93.5%	98.1%	0.0	-	Jun-10 21:00	0.0	-	Jun-10	-	-	-	-	Jun 28, 2020

	Average	Minimum	Valid	Operational	Maximum
Temp (°C)	14.6	3.2	100.0%	100.0%	27.1
WS (km/hr)	9.7	0.3	100.0%	100.0%	24.6
WD (deg)	287	0.2	100.0%	100.0%	358.9

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

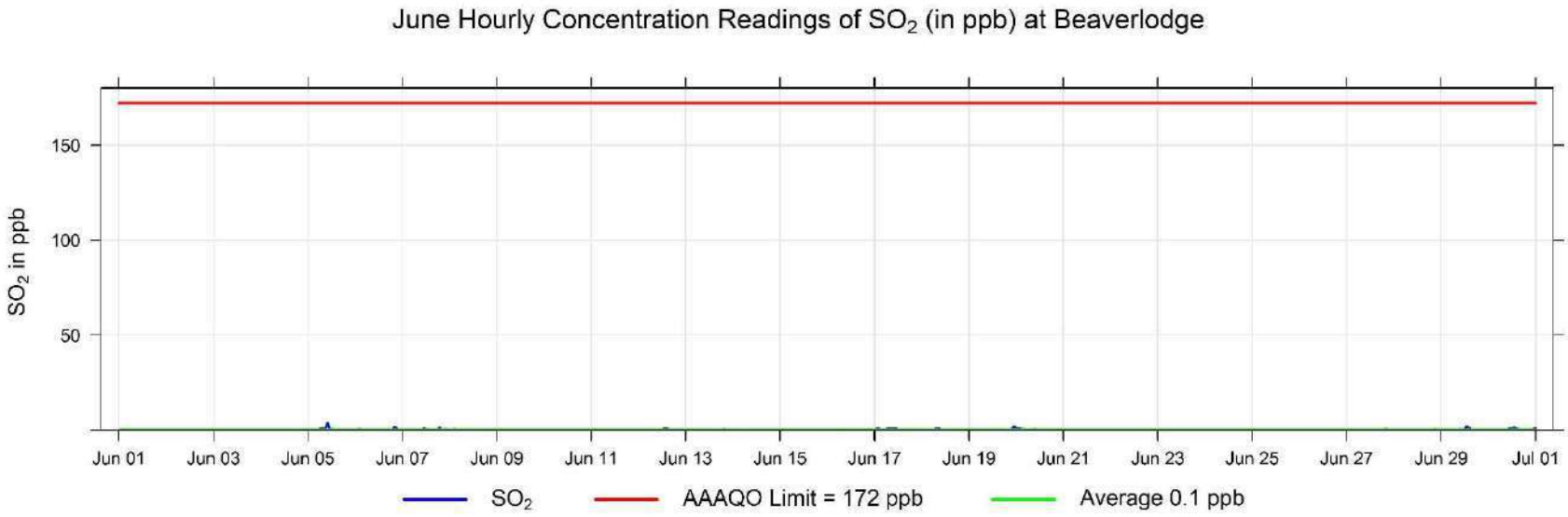
Average Wind Direction	287	WNW

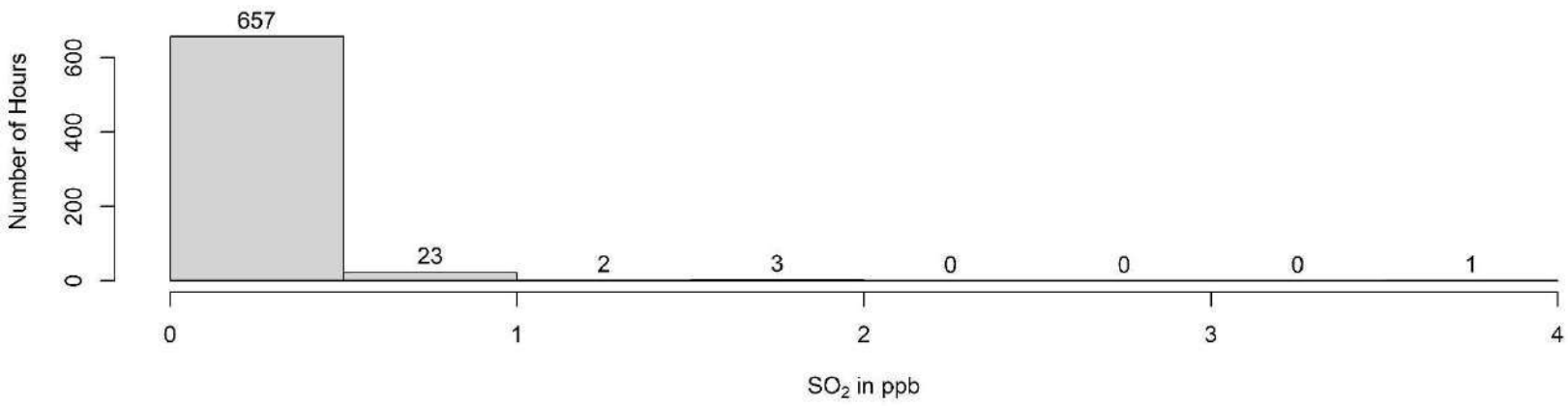
Update Summary:

Parameter	Make	Model	Equipment summary
$NO/NO_2/NO_x$	TEI	42i	No Operational issues noted during the month
O_3	TEI	49I	No Operational issues noted during the month
$PM_{2.5}$	Thermo	TEOM AB	No Operational issues noted during the month
SO_2	TEI	43I	No Operational issues noted during the month
TRS	TEI	43I	No Operational issues noted during the month
THC/CH4/NMHC	TEI	55I-A3PHAA	June 5 manual span check performed; Nitrogen cylinder replaced June 28, invalidated several hours prior due to loss of gas
Met Equip	MetOne	50.5	No Operational issues noted during the month

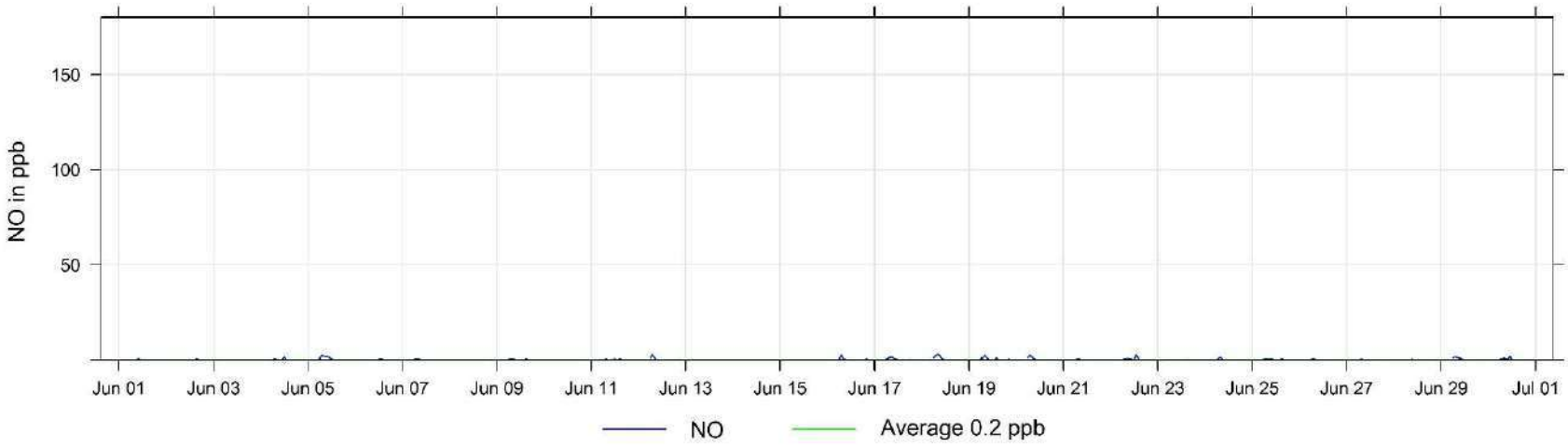
2 Beaverlodge Charts

The following pages include the charts and histograms for Beaverlodge Station

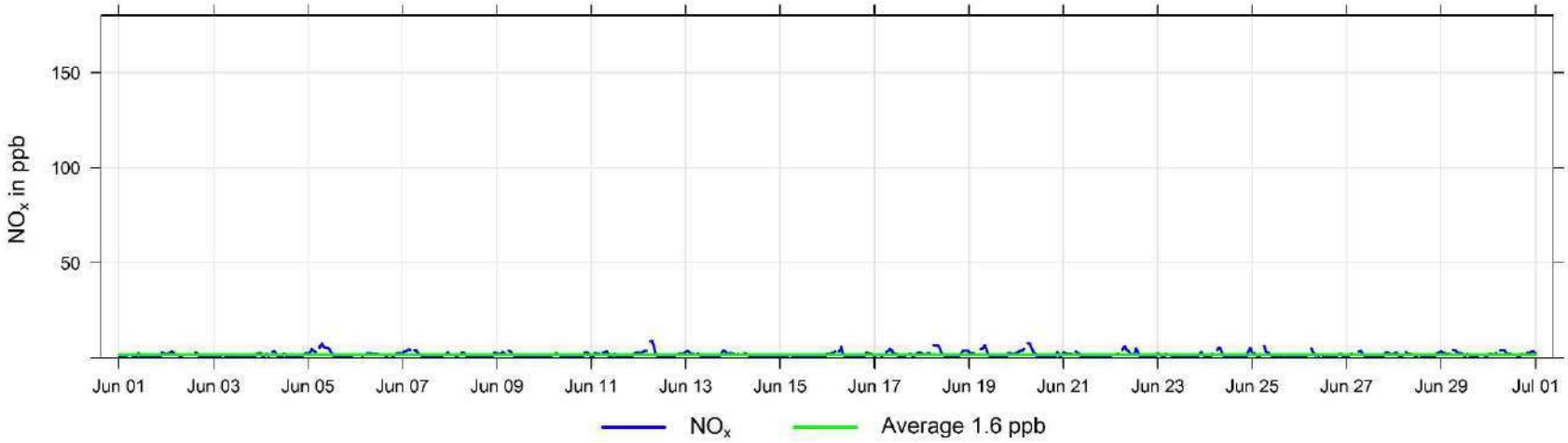

June Hourly Concentration Readings of SO_2 (in ppb) at Beaverlodge
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.1 ppb

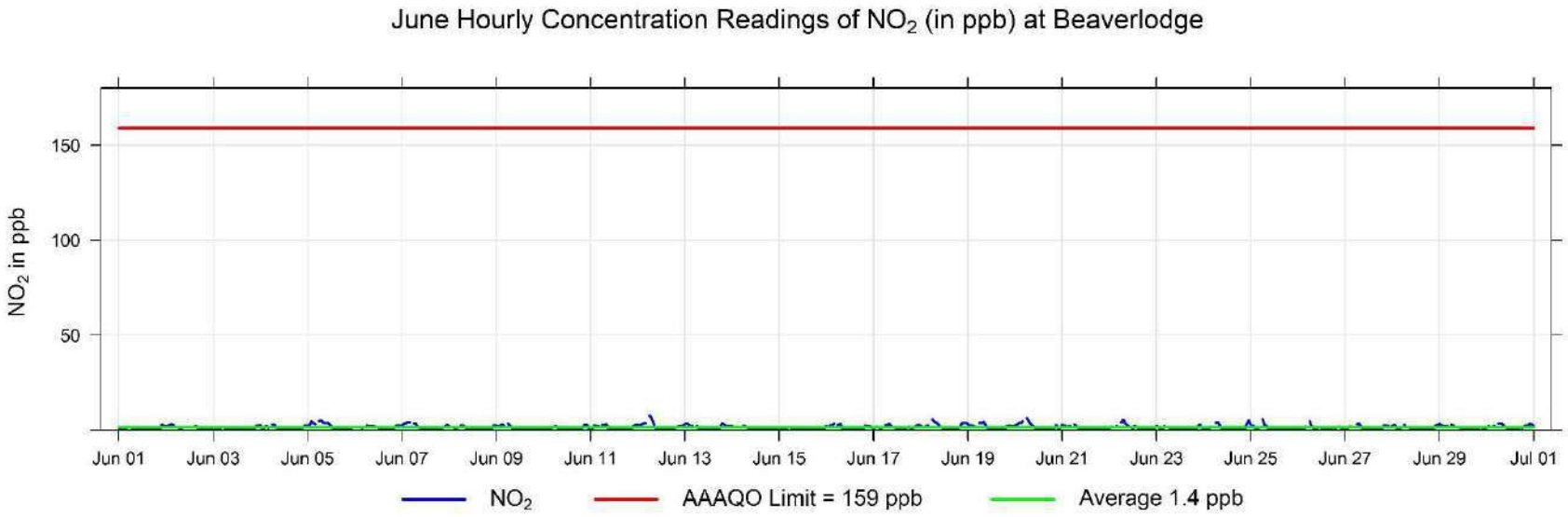

Number of Hours
0
200
400
600
657
23
2
3
0
0
0
1
0
1
2
3
4
SO_2 in ppb

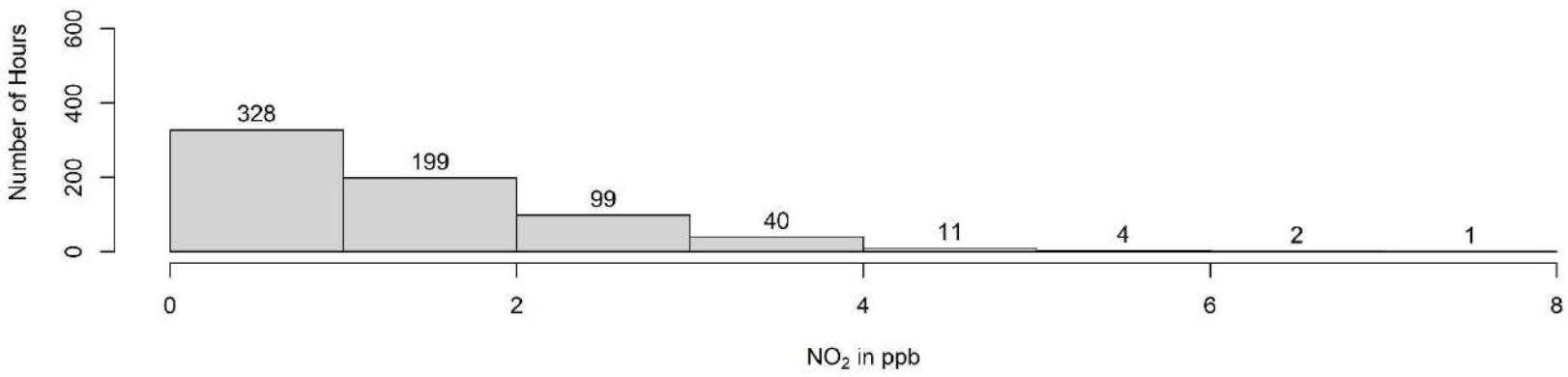
June Hourly Concentration Readings of NO (in ppb) at Beaverlodge

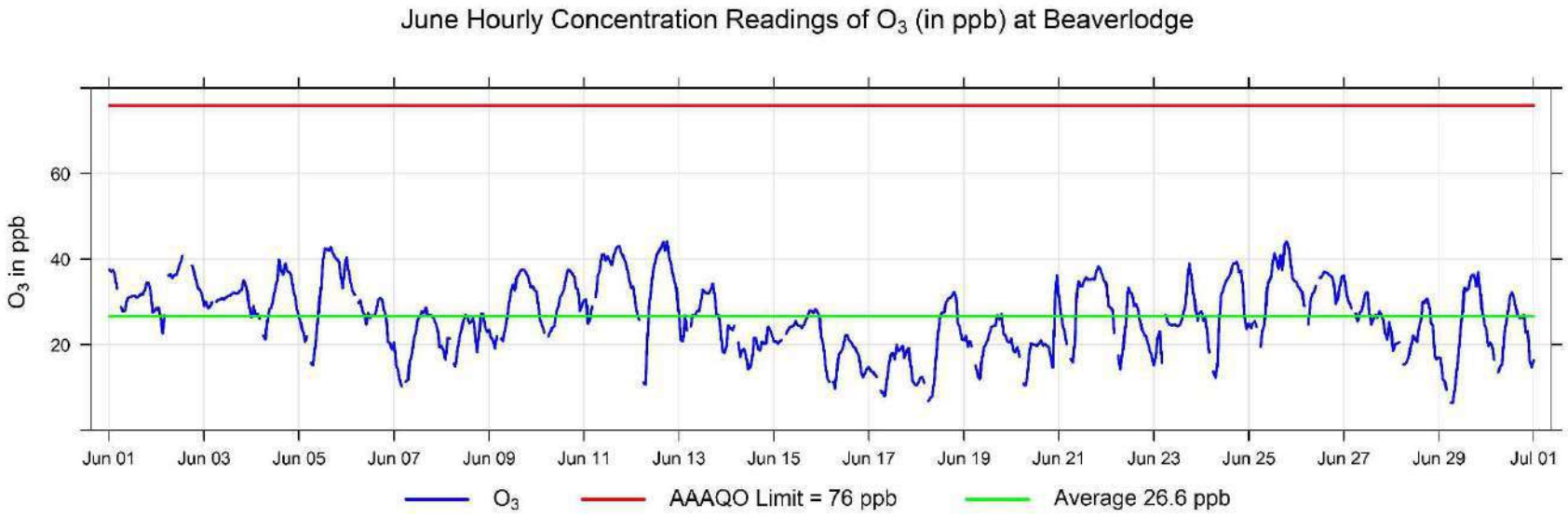


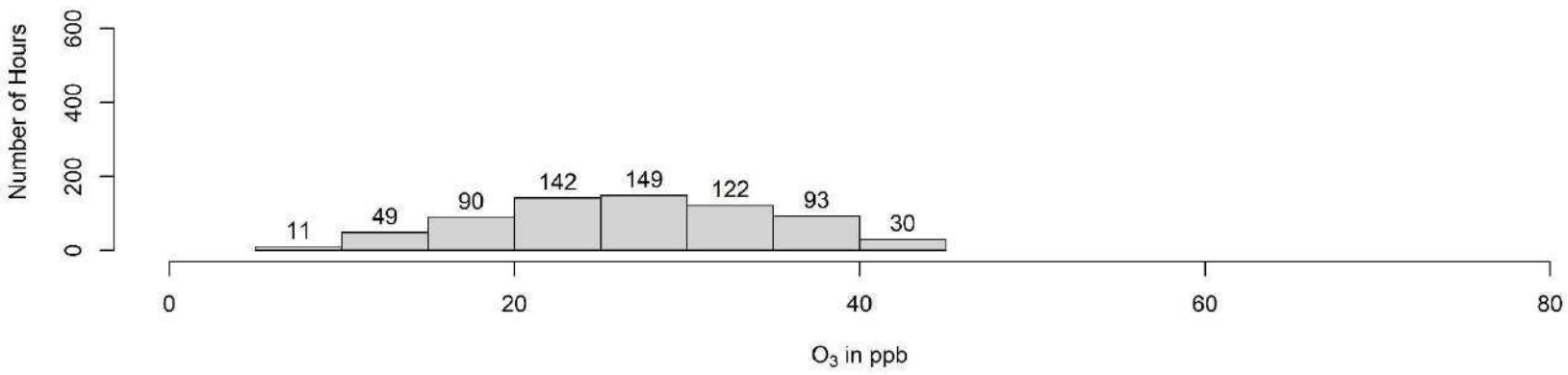
June Hourly Concentration Readings of NO_x (in ppb) at Beaverlodge

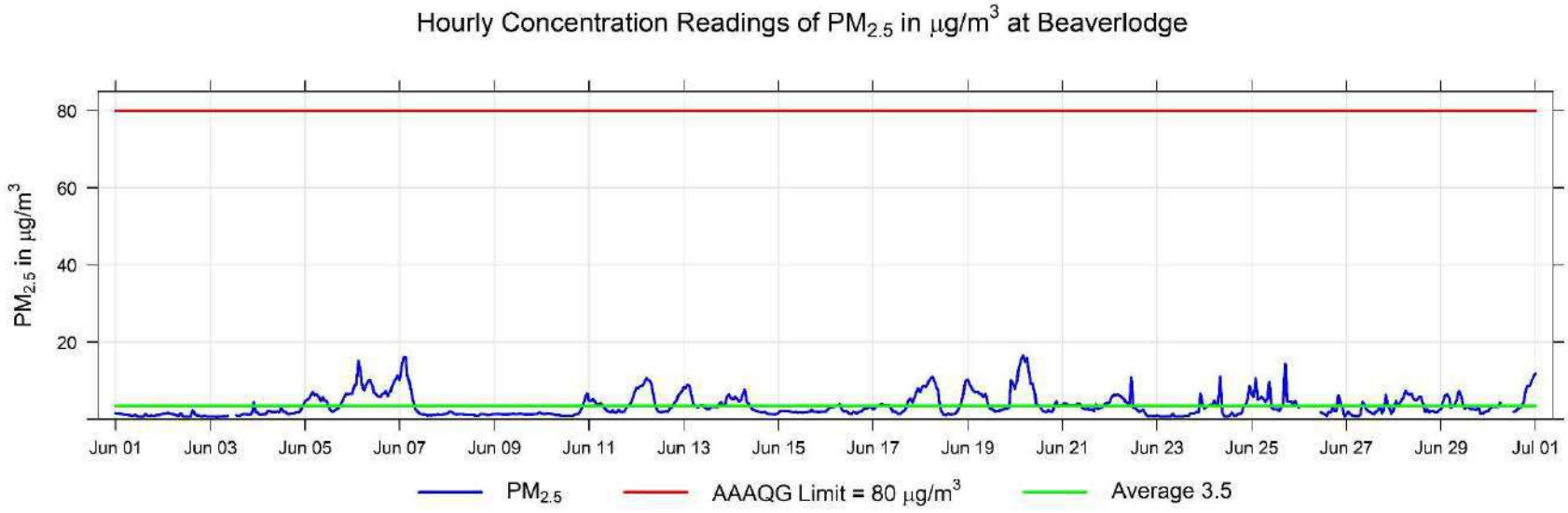


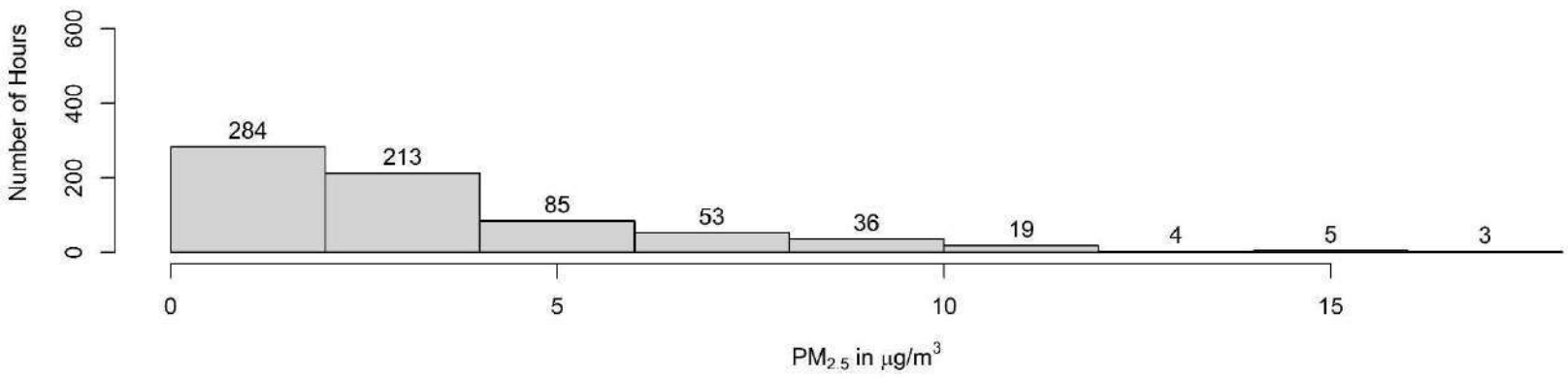

June Hourly Concentration Readings of NO_2 (in ppb) at Beaverlodge
NO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
NO_2
AAAQO Limit = 159 ppb
Average 1.4 ppb

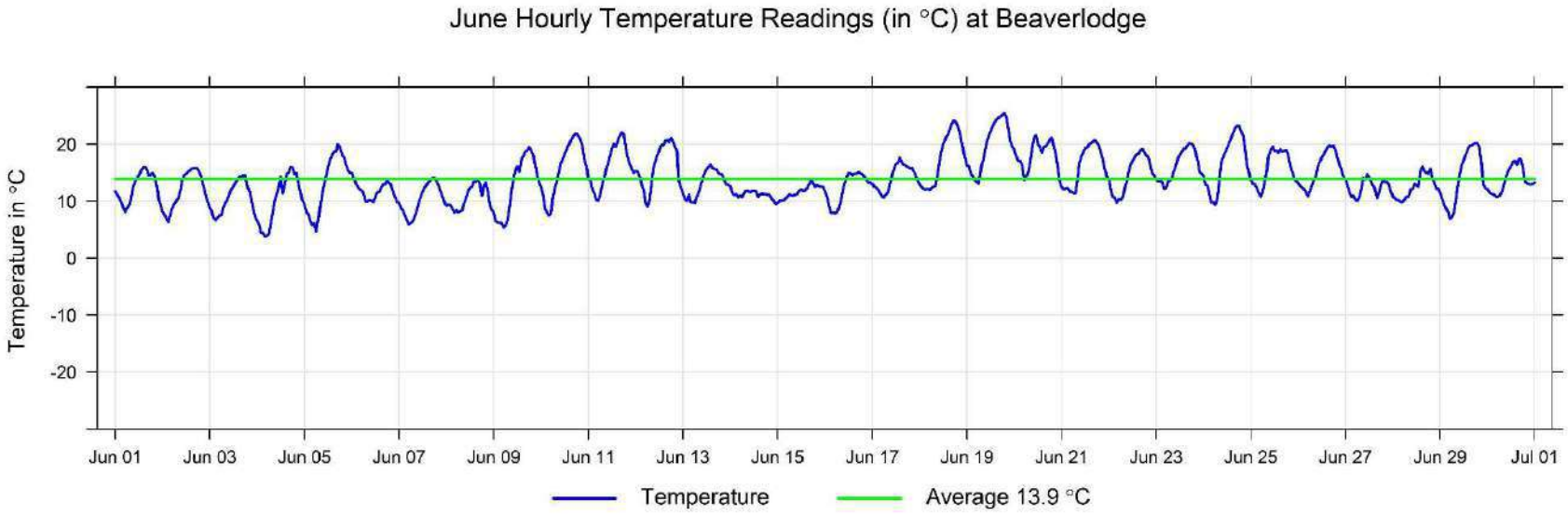

Number of Hours
0
200
400
600
328
199
99
40
11
4
2
1
0
2
4
6
8
NO_2 in ppb


June Hourly Concentration Readings of O_3 (in ppb) at Beaverlodge
O_3 in ppb
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
O_3
AAAQO Limit = 76 ppb
Average 26.6 ppb

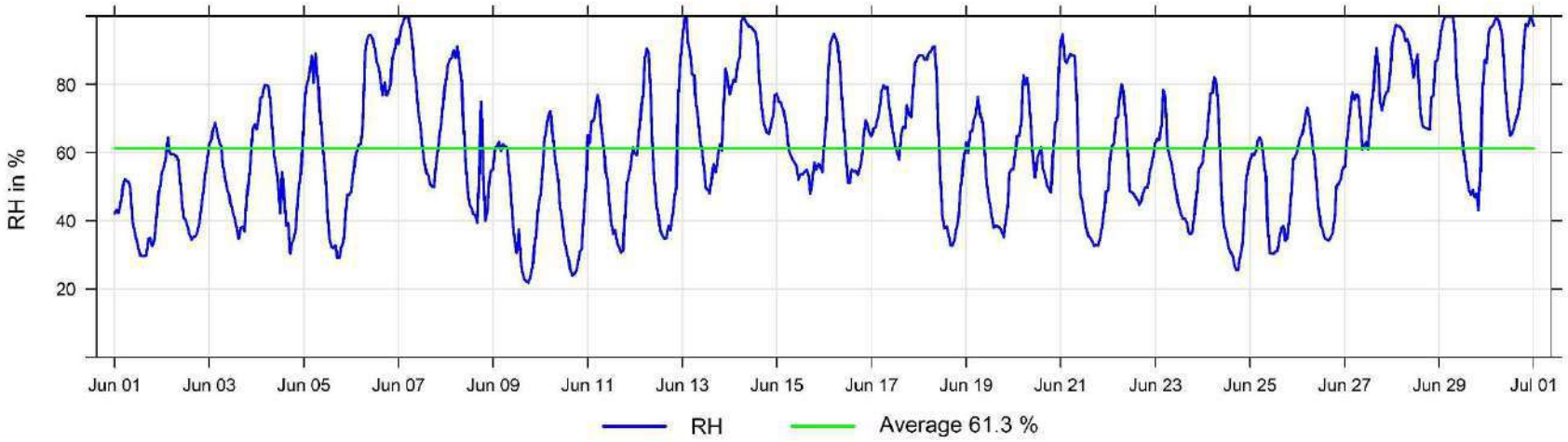

Number of Hours
0
200
400
600
11
49
90
142
149
122
93
30
0
20
40
60
80
O_3 in ppb


Hourly Concentration Readings of PM2.5 in μg/m3 at Beaverlodge
PM2.5 in μg/m3
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
PM2.5
AAAQG Limit = 80 μg/m3
Average 3.5

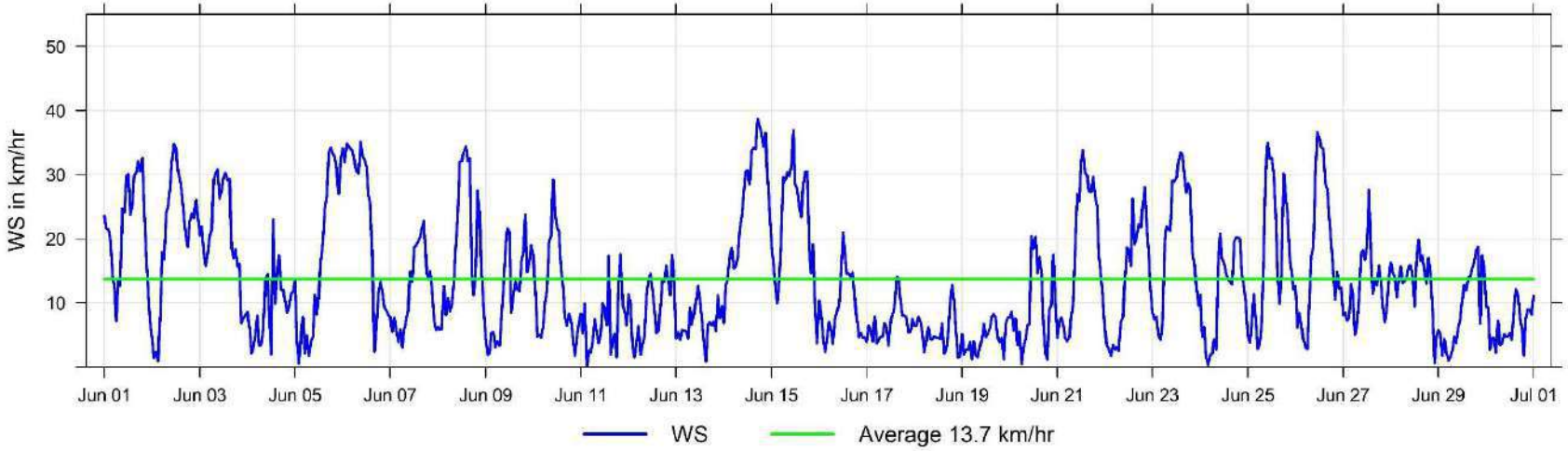

Number of Hours
0
200
400
600
284
213
85
53
36
19
4
5
3
0
5
10
15
PM2.5 in μg/m3

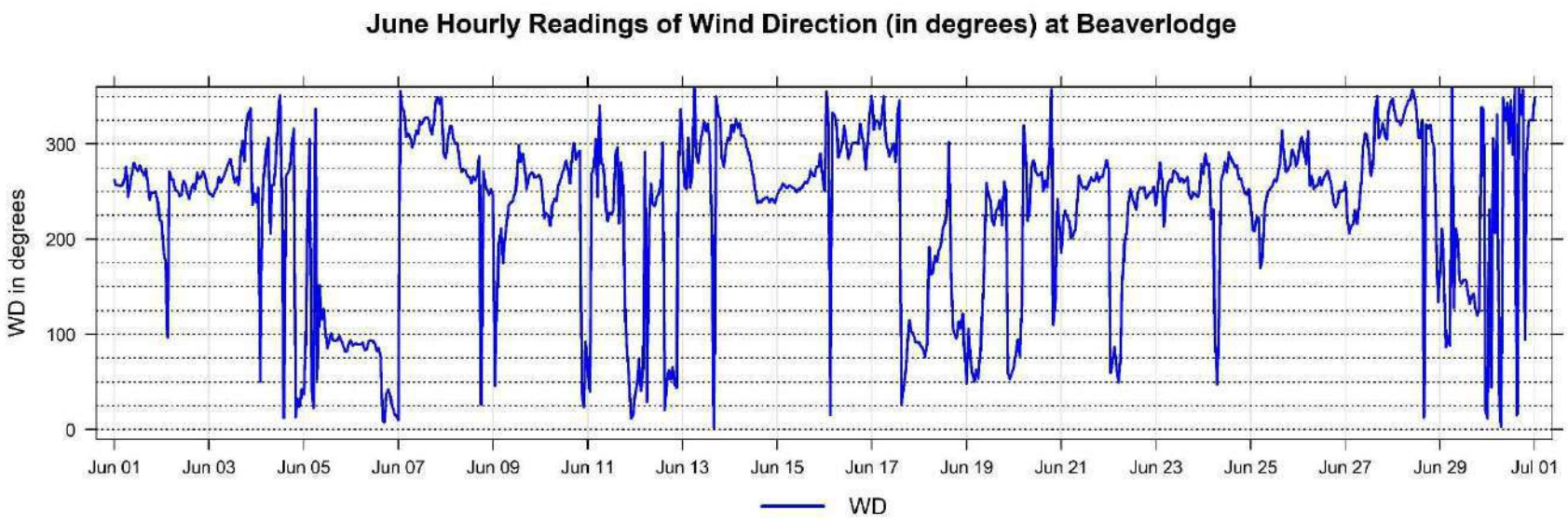

June Hourly Temperature Readings (in °C) at Beaverlodge
Temperature in °C
20
10
0
-10
-20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
Temperature
Average 13.9 °C

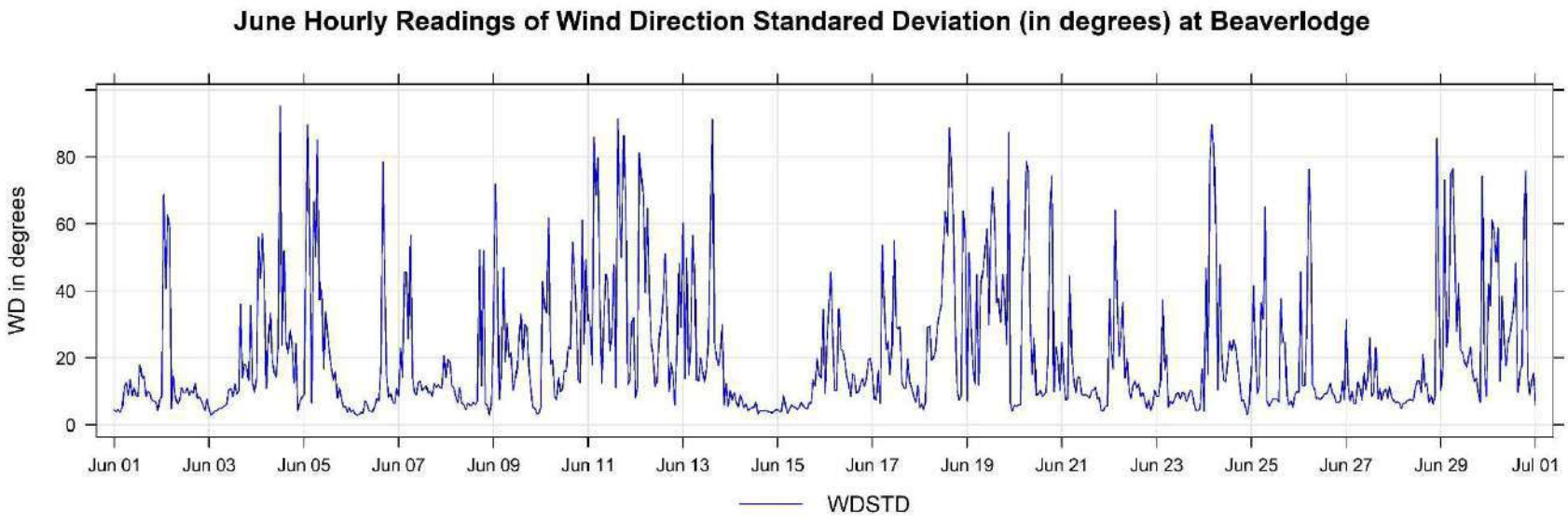
June Hourly Readings of Relative Humidity (in %) at Beaverlodge

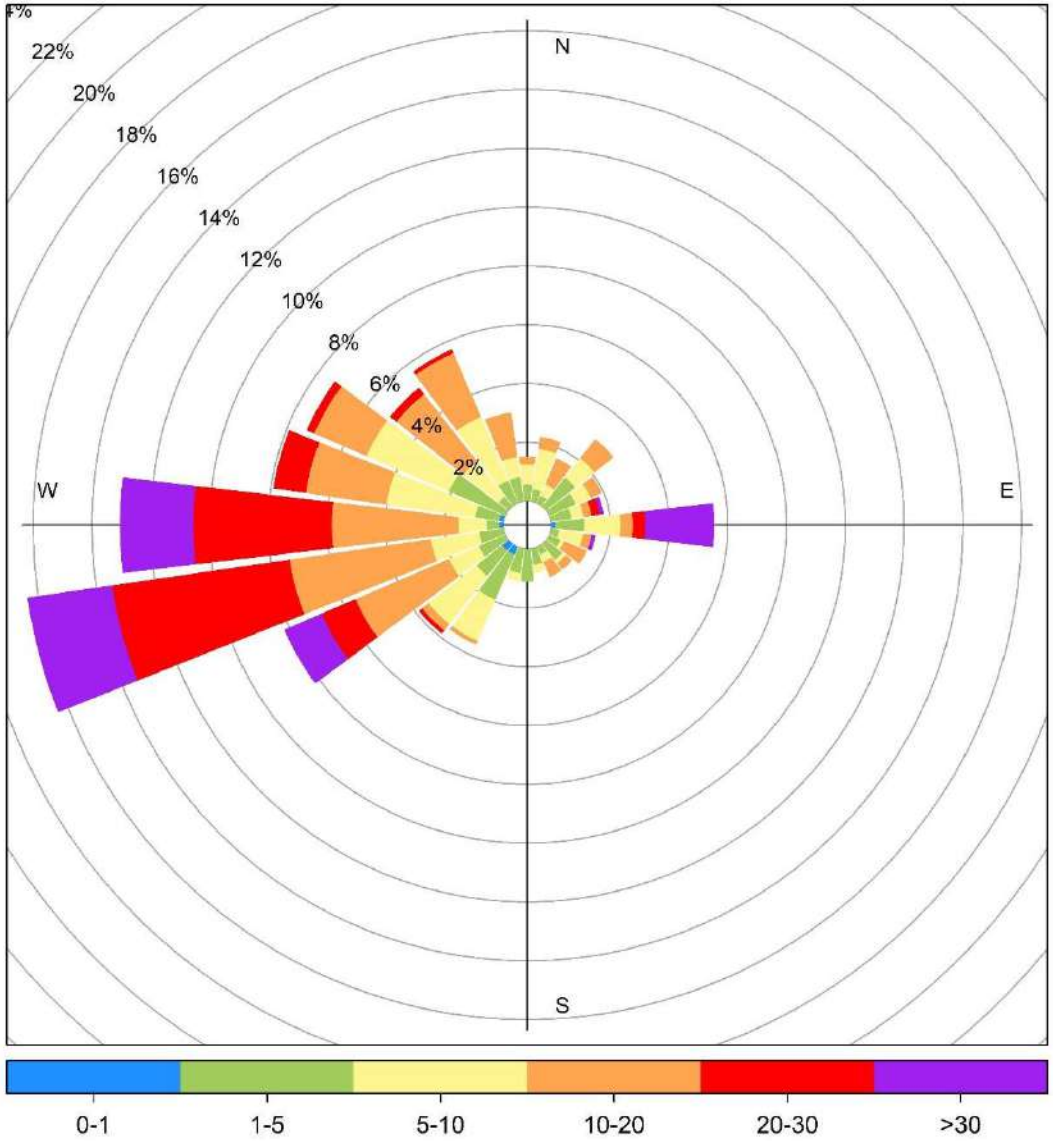


June Hourly Readings of Wind Speed (in km/hr) at Beaverlodge




June Hourly Readings of Wind Direction (in degrees) at Beaverlodge
WD in degrees
0
100
200
300
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

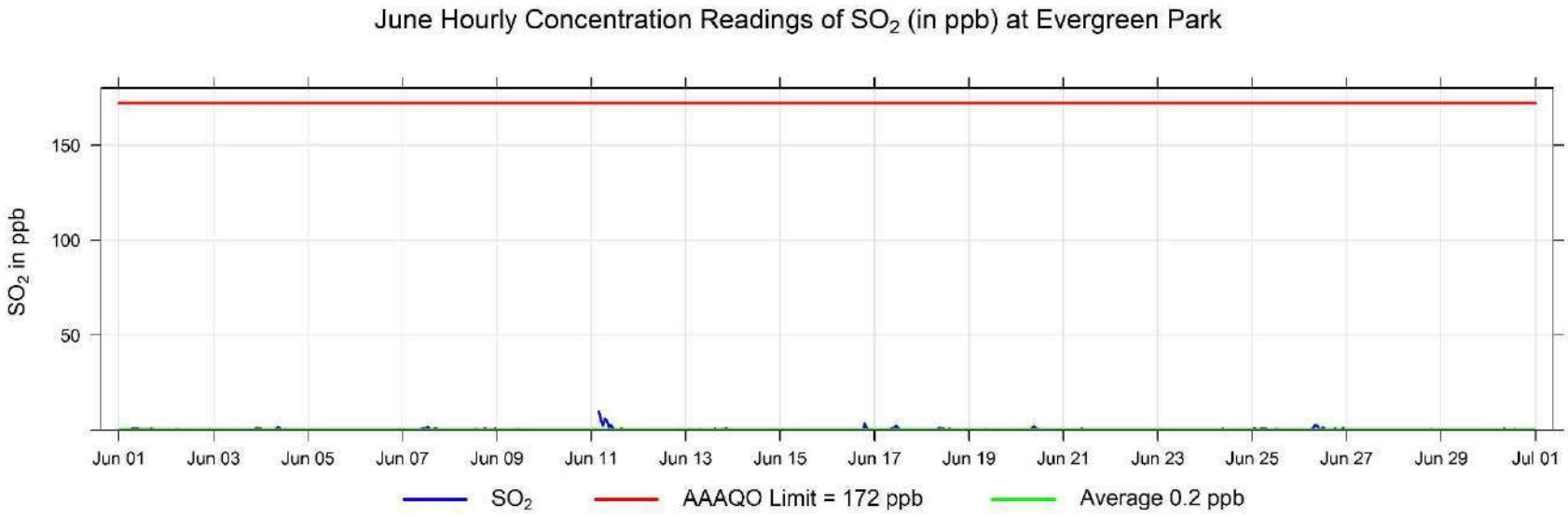

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Beaverlodge
WD in degrees
0
20
40
60
80
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

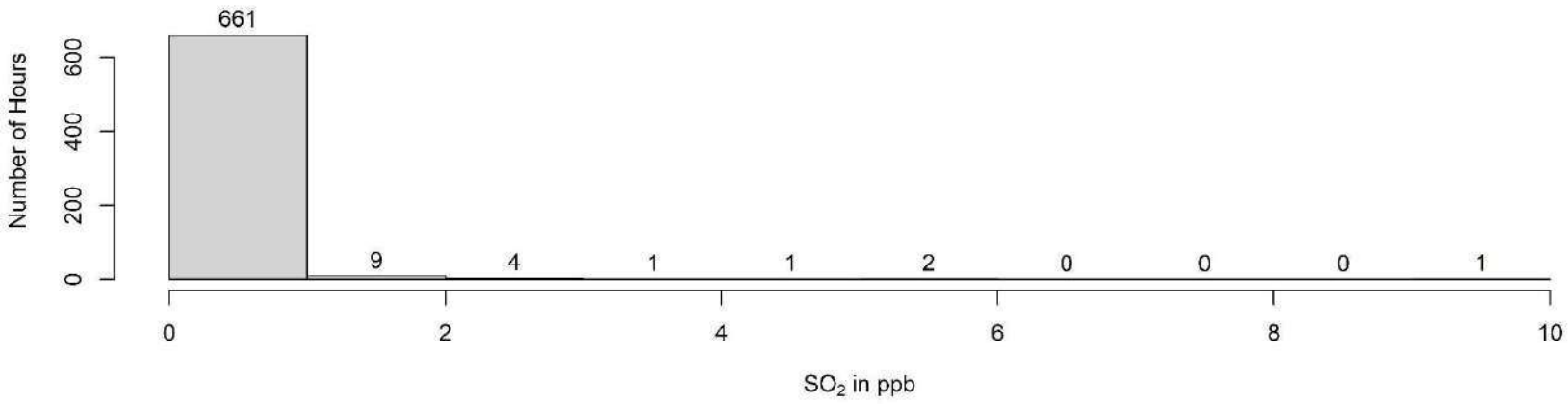


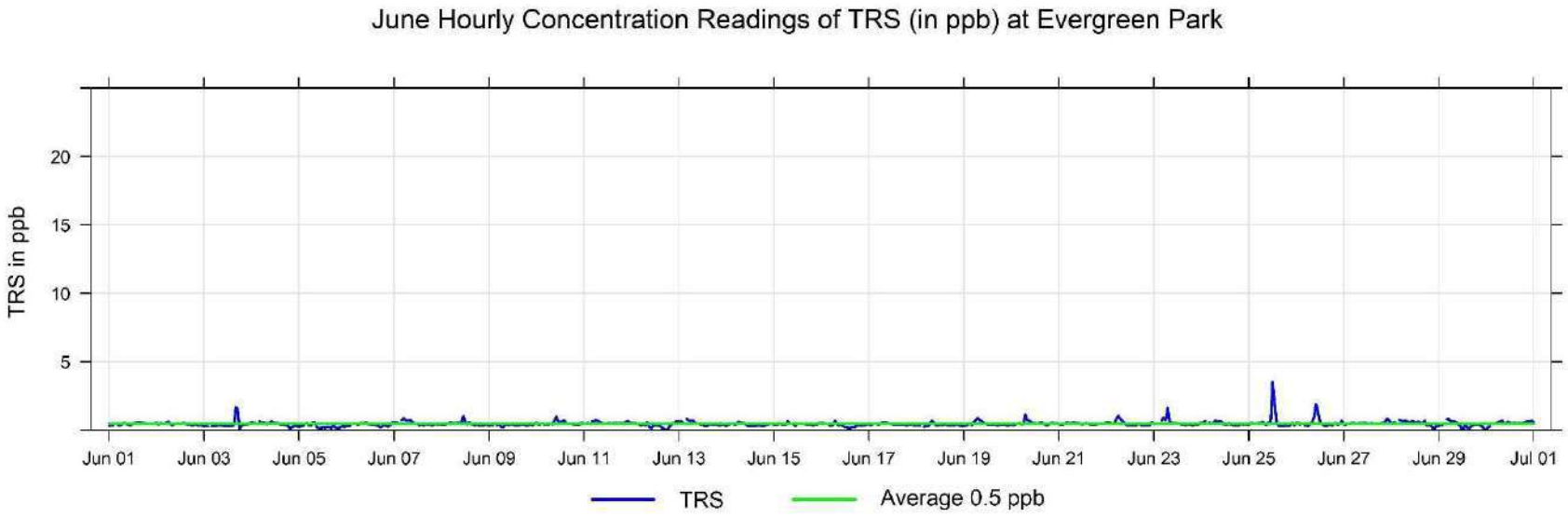
Beaverlodge June Wind Rose, wind speed in km/hr

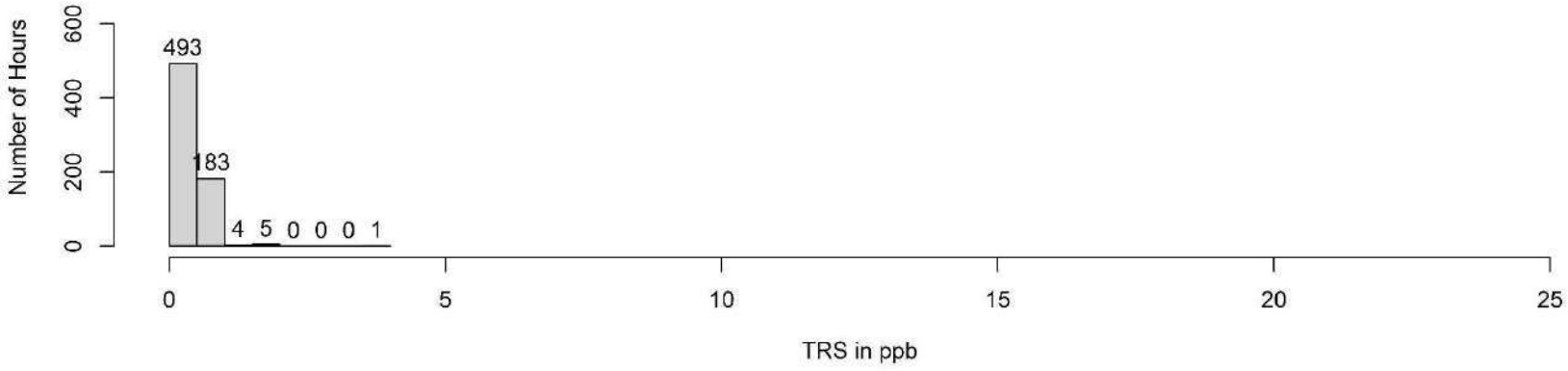
3 Evergreen Park Charts

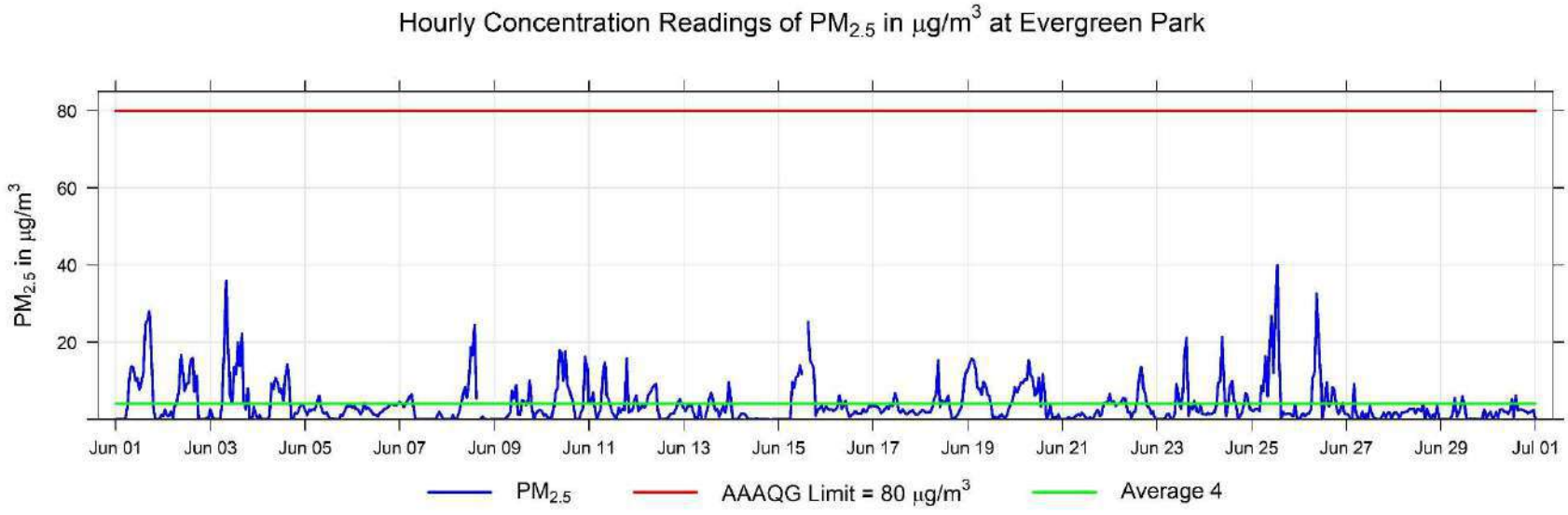
The following pages include the charts and histograms for Evergreen Park Station

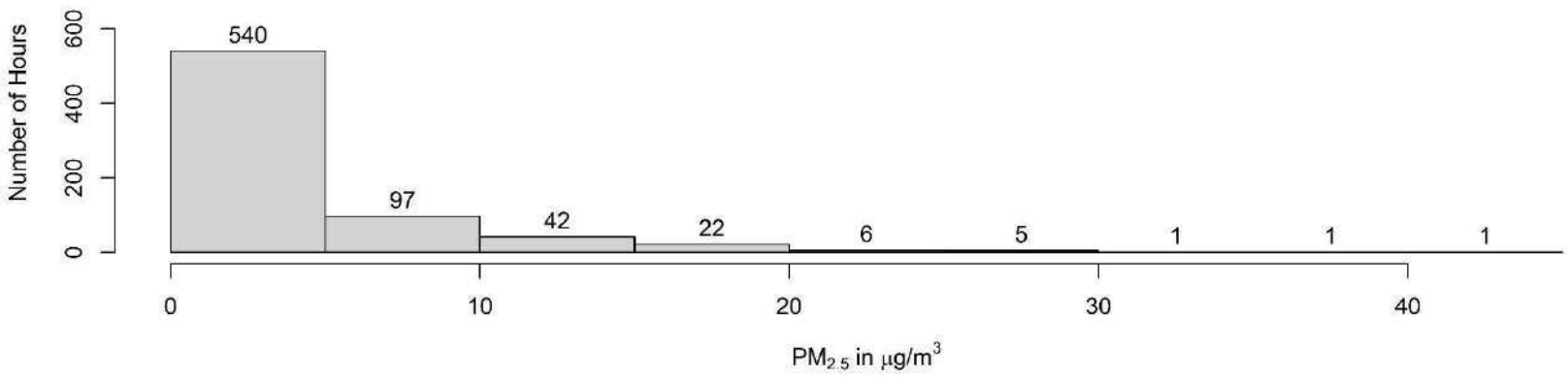

June Hourly Concentration Readings of SO_2 (in ppb) at Evergreen Park
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.2 ppb


Number of Hours
0
200
400
600
661
9
4
1
1
2
0
0
0
1
0
2
4
6
8
10
SO_2 in ppb

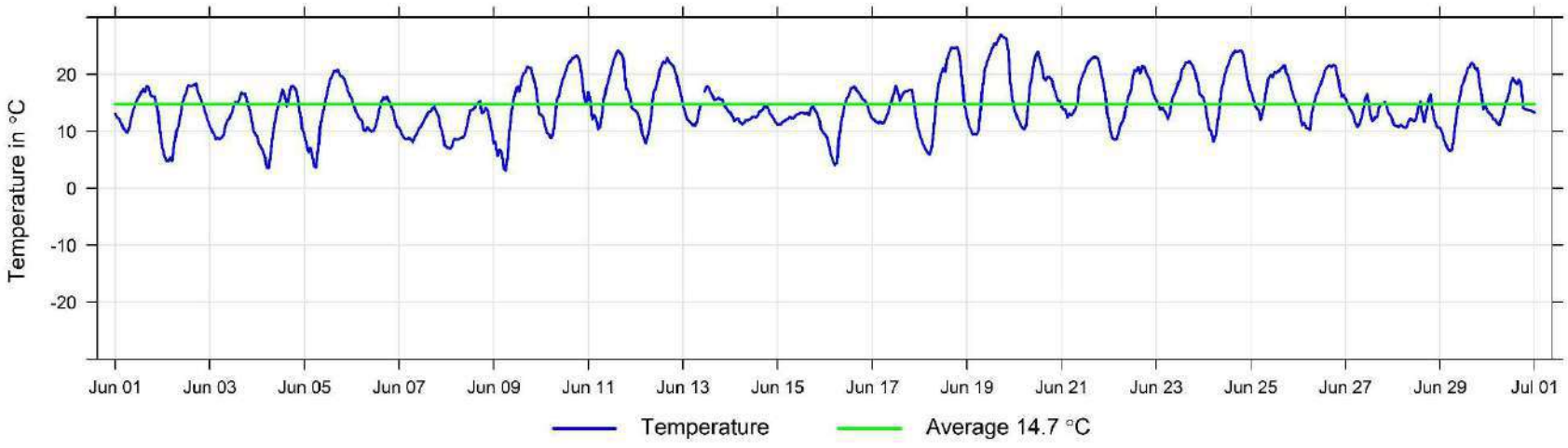

June Hourly Concentration Readings of TRS (in ppb) at Evergreen Park
TRS in ppb
20
15
10
5
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
TRS
Average 0.5 ppb


Number of Hours
0
200
400
600
493
183
4
5
0
0
0
1
0
5
10
15
20
25
TRS in ppb

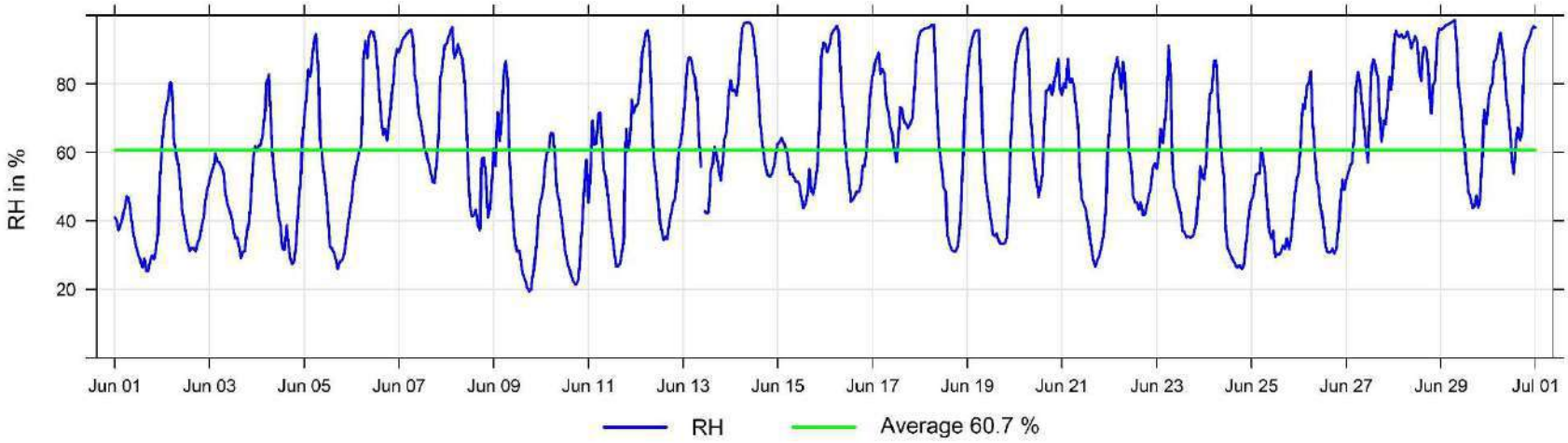

Hourly Concentration Readings of PM2.5 in μg/m3 at Evergreen Park
PM2.5 in μg/m3
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
PM2.5
AAAQG Limit = 80 μg/m3
Average 4

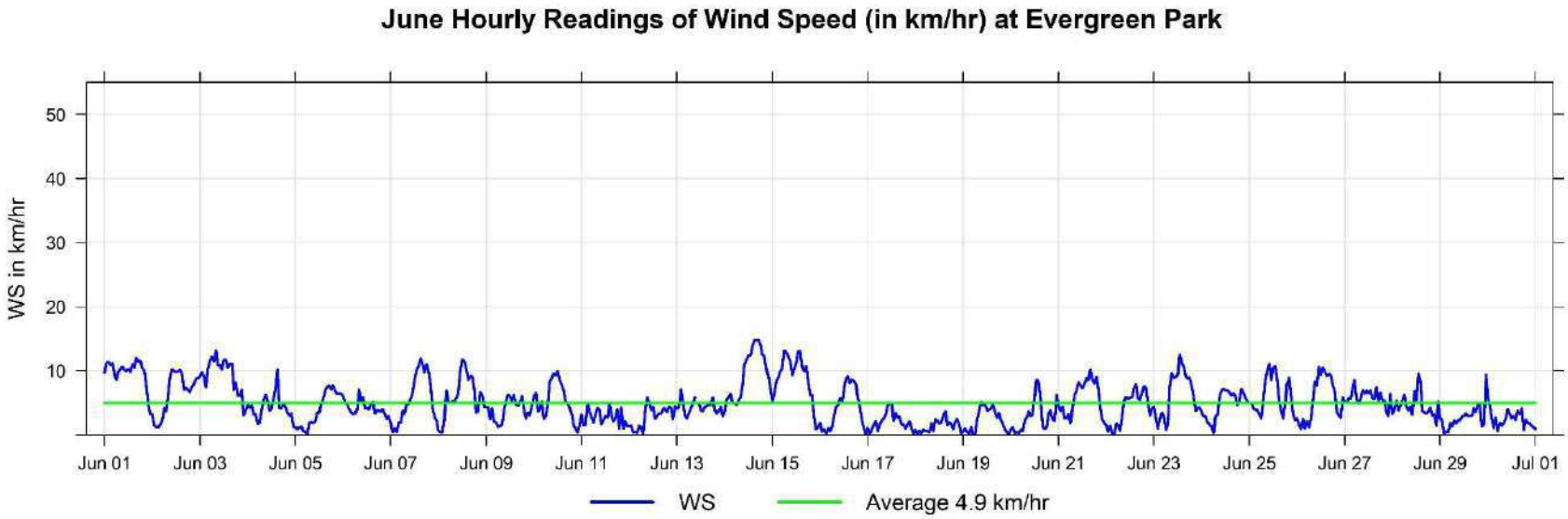

Number of Hours
0
200
400
600
540
97
42
22
6
5
1
1
1
0
10
20
30
40
PM2.5 in μg/m3

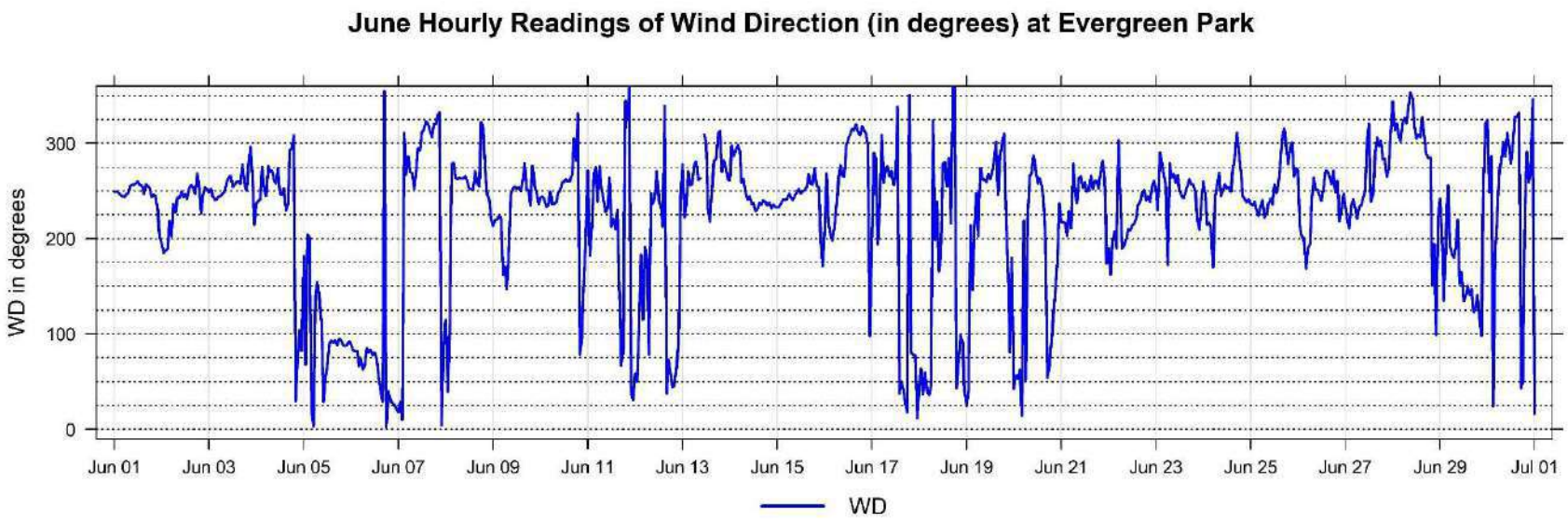
June Hourly Temperature Readings (in °C) at Evergreen Park

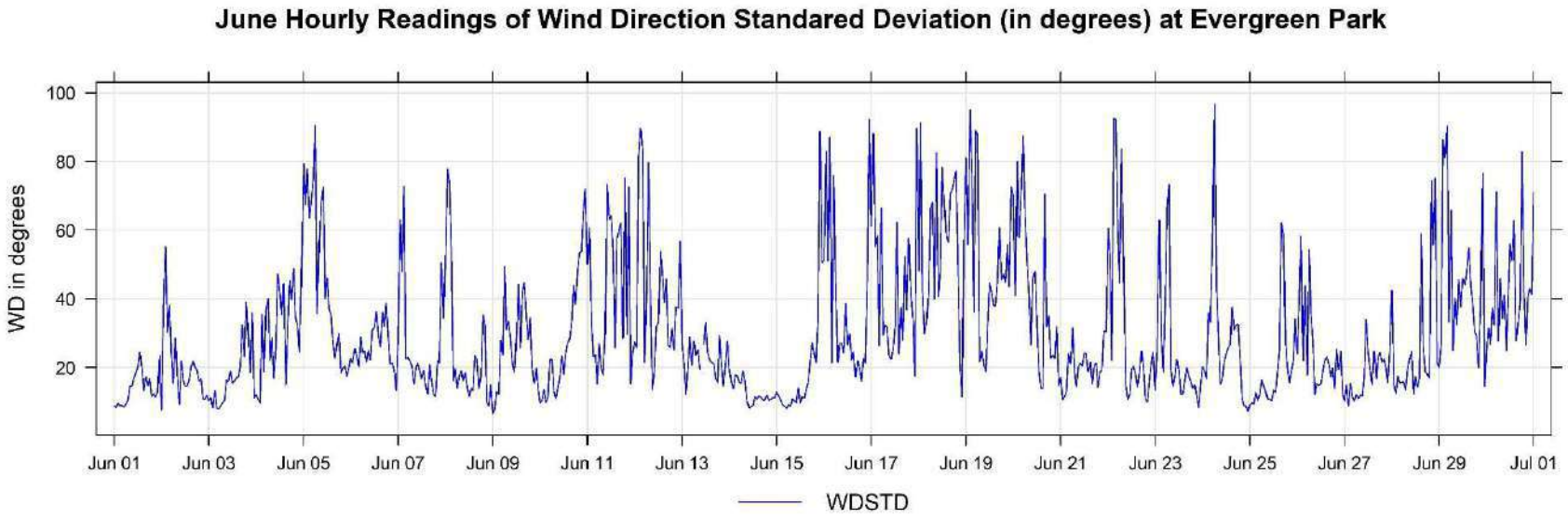


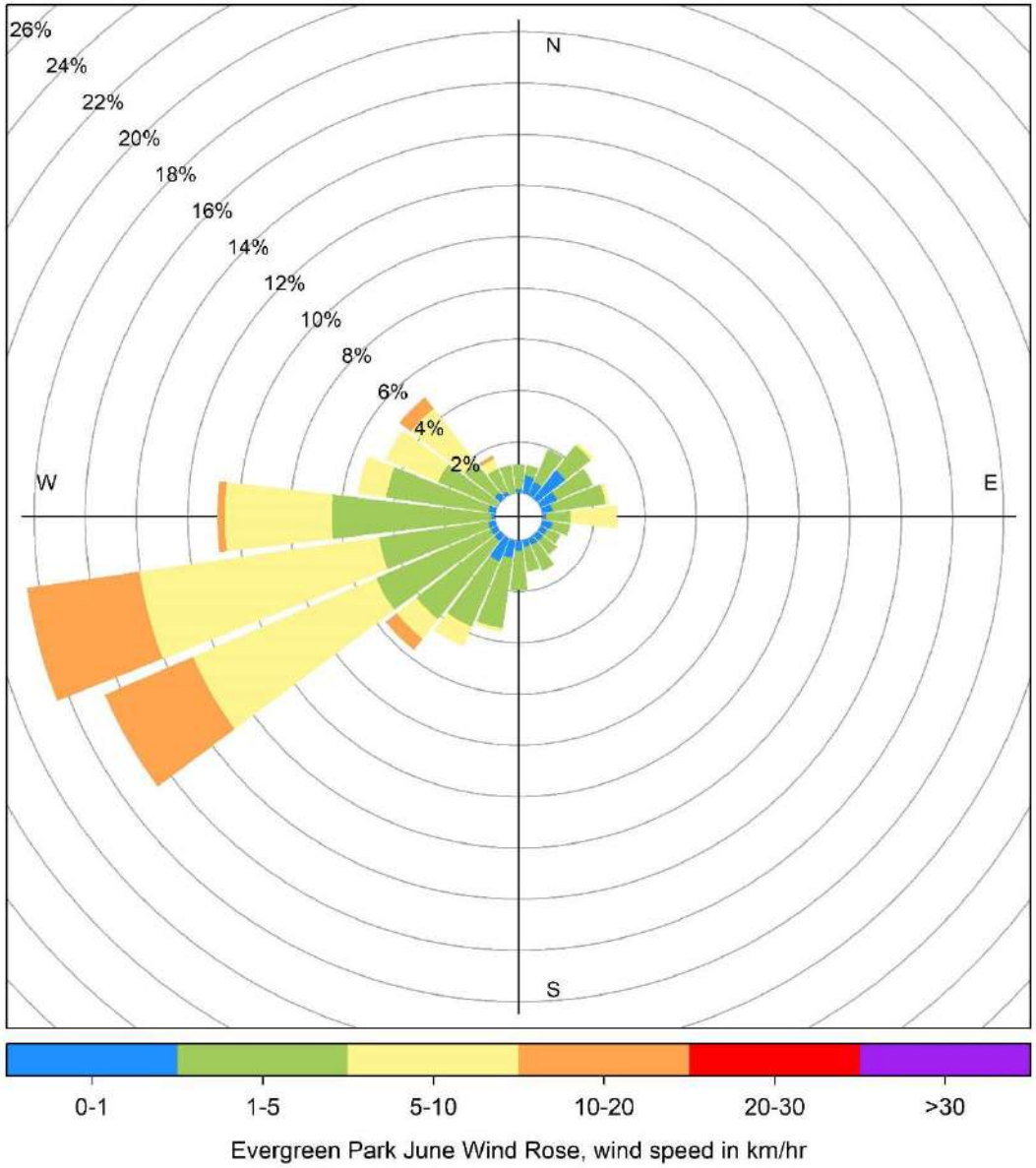
June Hourly Readings of Relative Humidity (in %) at Evergreen Park




June Hourly Readings of Wind Speed (in km/hr) at Evergreen Park
WS in km/hr
50
40
30
20
10
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WS
Average 4.9 km/hr


June Hourly Readings of Wind Direction (in degrees) at Evergreen Park
WD in degrees
300
200
100
0
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

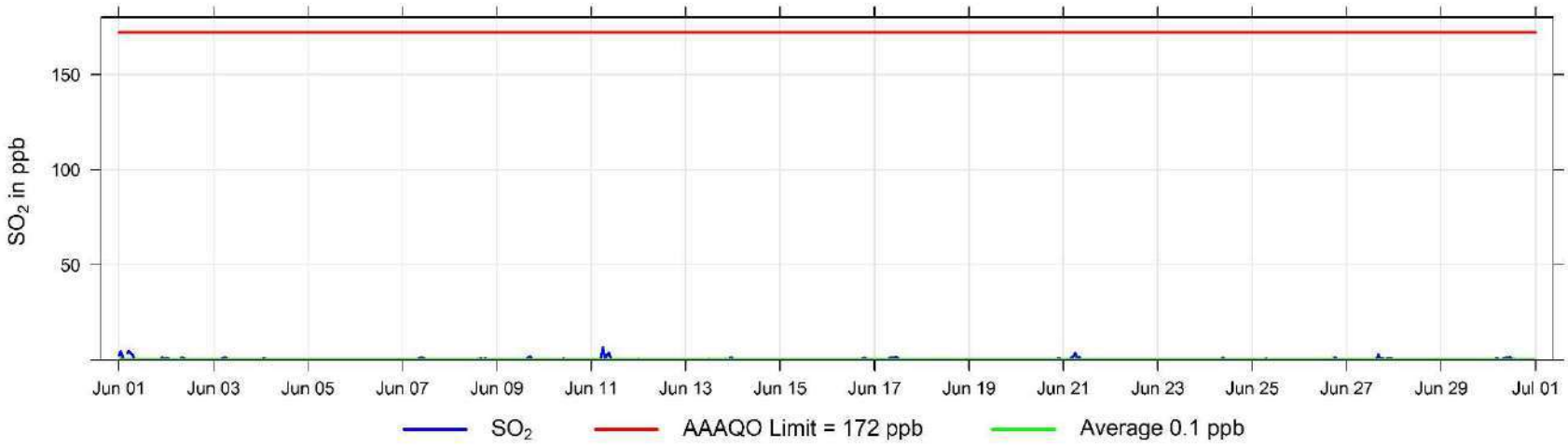

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Evergreen Park
WD in degrees
100
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

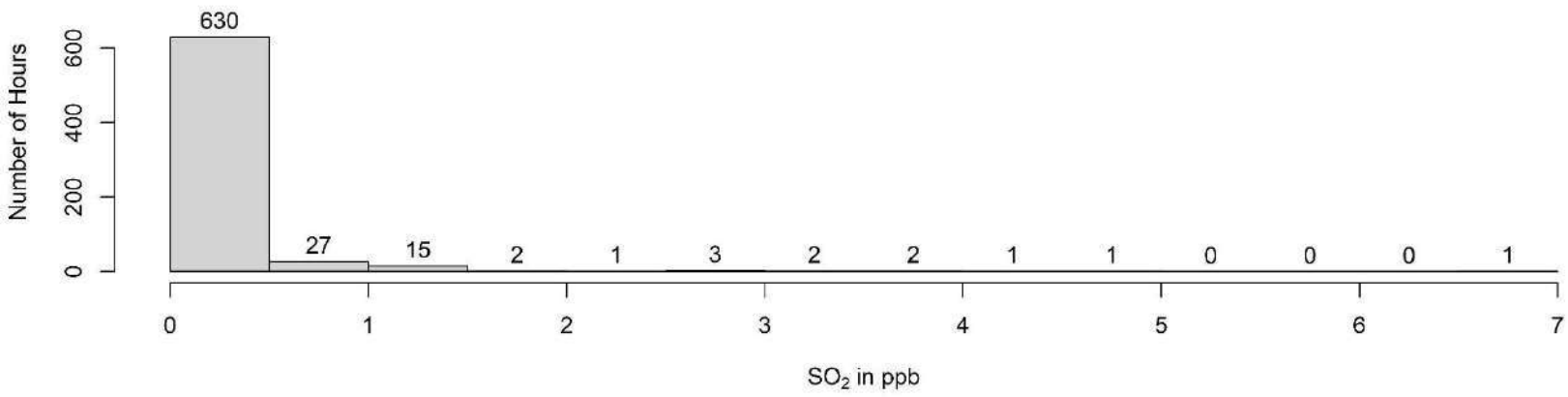

26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
N
W
E
S
0-1
1-5
5-10
10-20
20-30
>30
Evergreen Park June Wind Rose, wind speed in km/hr

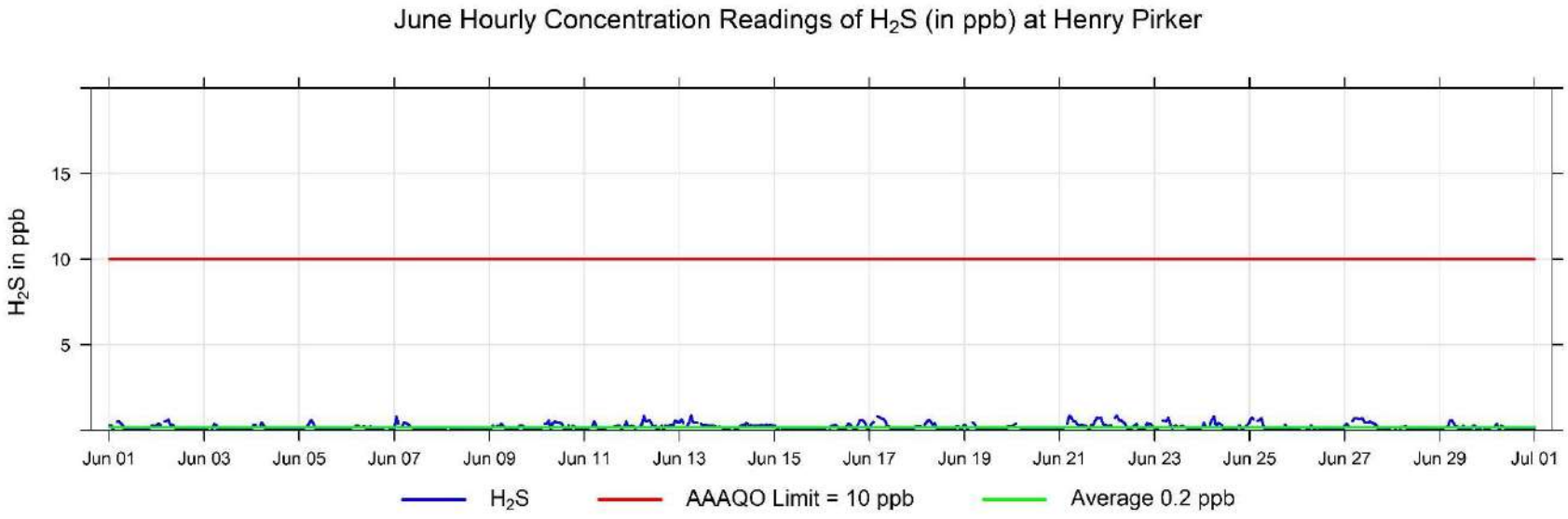
4 Grande Prairie - Henry Pirker Charts

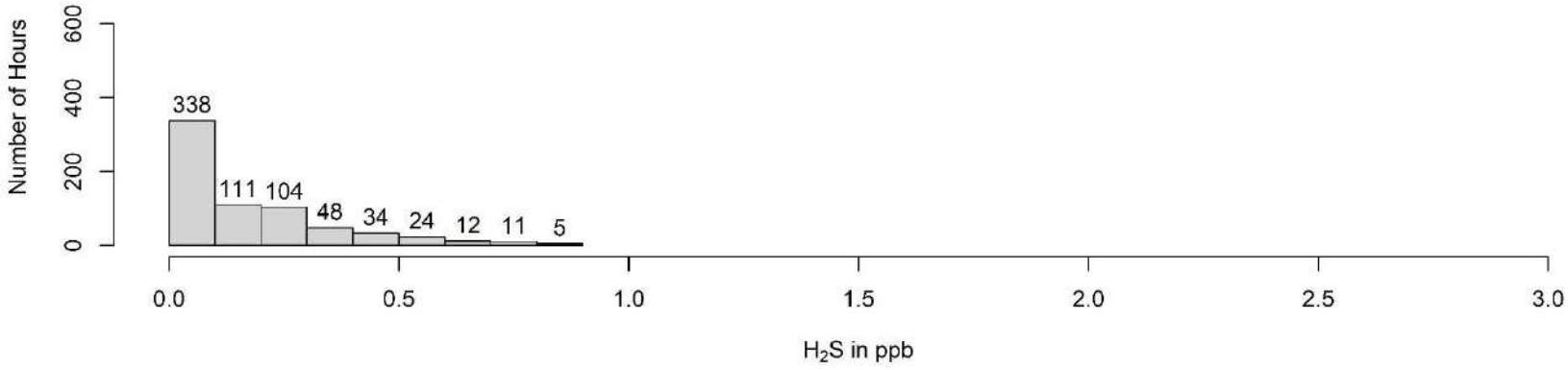
The following pages include the charts and histograms for Henry Pirker Station in Grande Prairie

June Hourly Concentration Readings of SO_2 (in ppb) at Henry Pirker

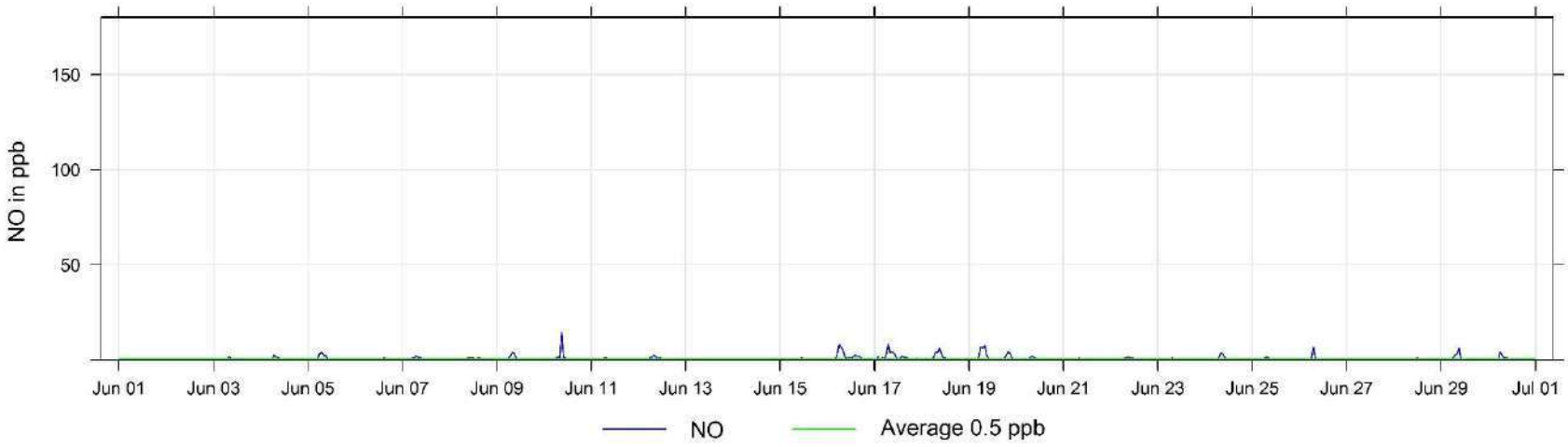




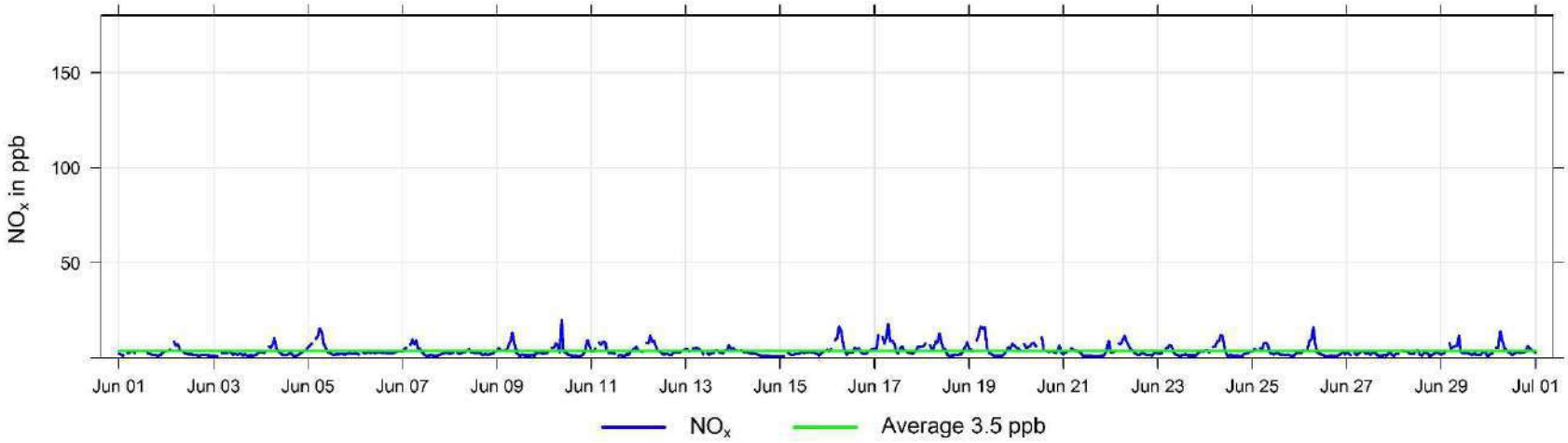

June Hourly Concentration Readings of H_2S (in ppb) at Henry Pirker
H_2S in ppb
15
10
5
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
H_2S
AAAQO Limit = 10 ppb
Average 0.2 ppb

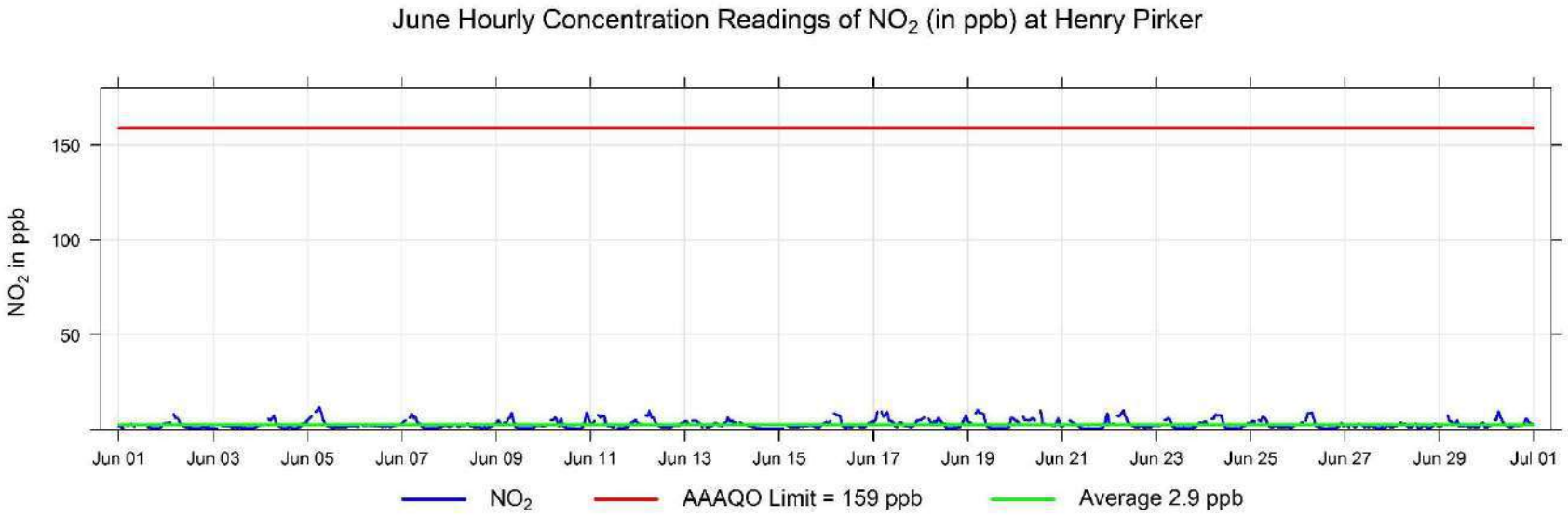

Number of Hours
0
200
400
600
338
111
104
48
34
24
12
11
5
0.0
0.5
1.0
1.5
2.0
2.5
3.0
H_2S in ppb

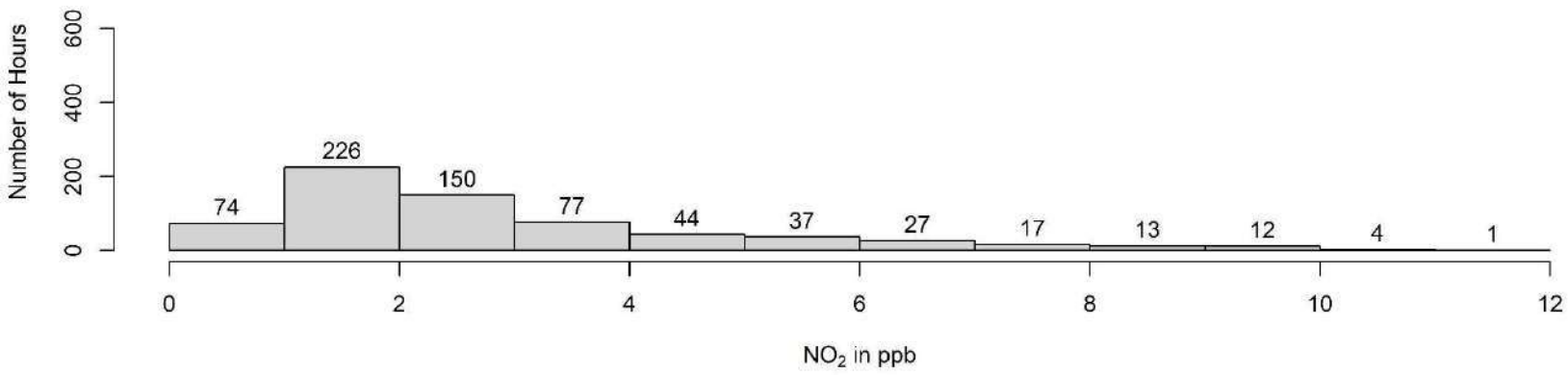
June Hourly Concentration Readings of NO (in ppb) at Henry Pirker

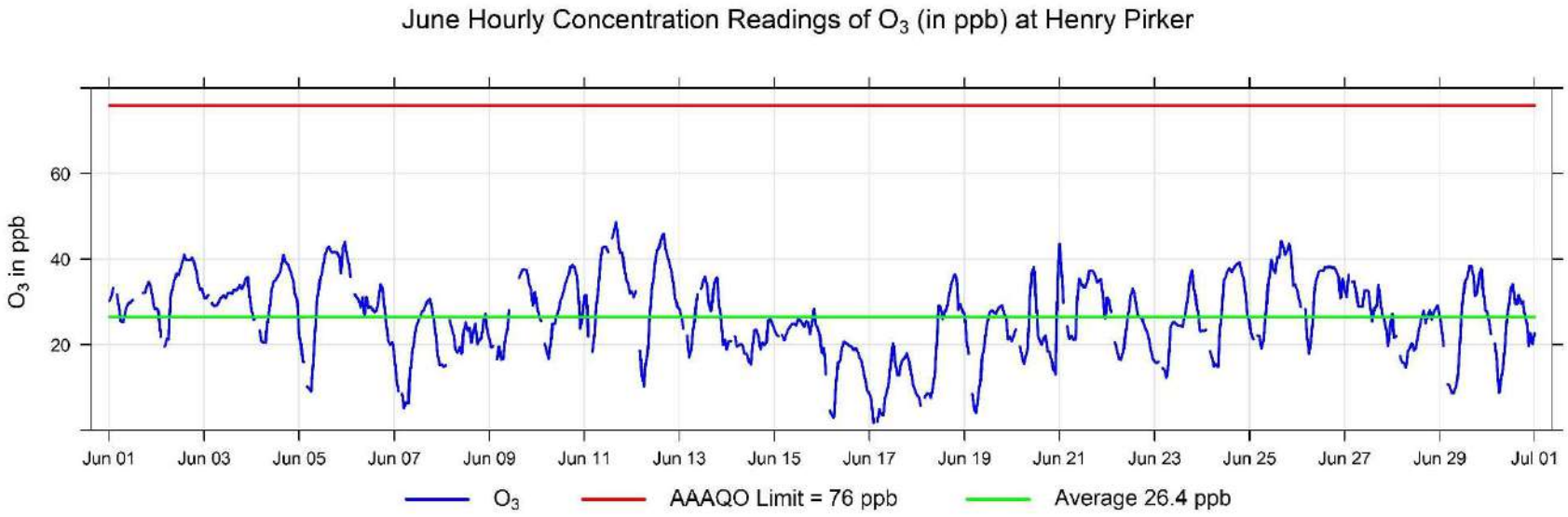


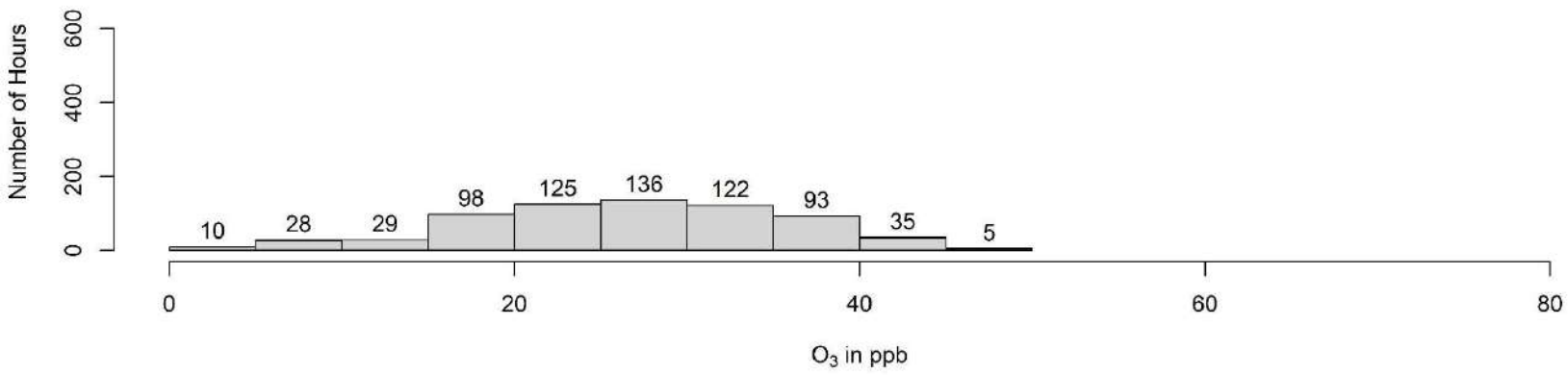
June Hourly Concentration Readings of NO_x (in ppb) at Henry Pirker



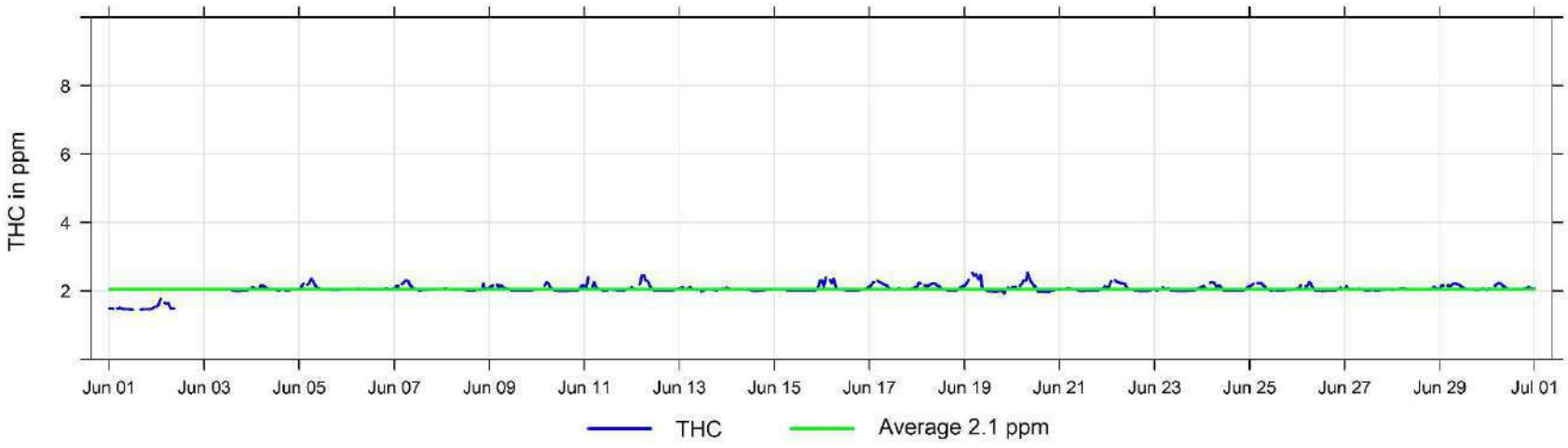

June Hourly Concentration Readings of NO_2 (in ppb) at Henry Pirker
NO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
NO_2
AAAQO Limit = 159 ppb
Average 2.9 ppb


Number of Hours
0
200
400
600
74
226
150
77
44
37
27
17
13
12
4
1
0
2
4
6
8
10
12
NO_2 in ppb

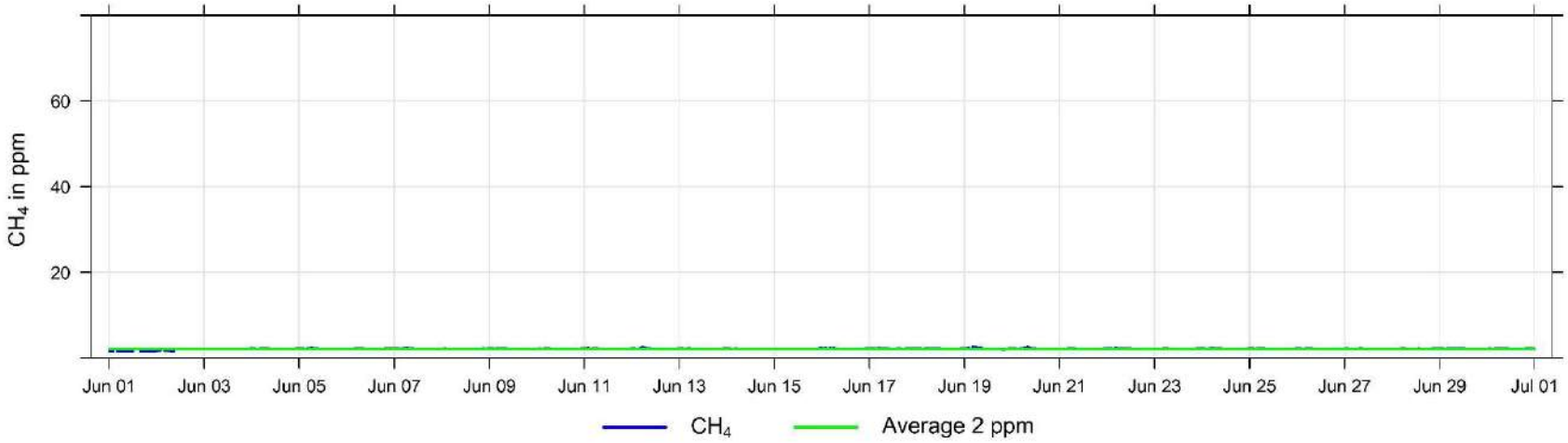

June Hourly Concentration Readings of O_3 (in ppb) at Henry Pirker
O_3 in ppb
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
O_3
AAAQO Limit = 76 ppb
Average 26.4 ppb

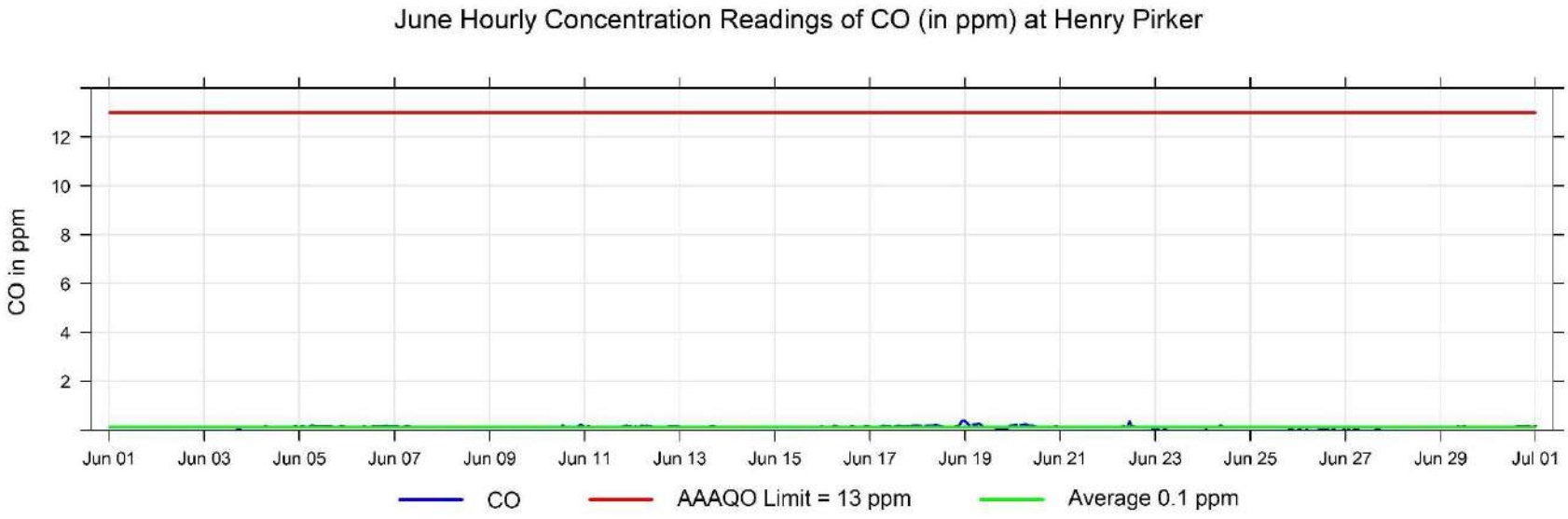

Number of Hours
0
200
400
600
10
28
29
98
125
136
122
93
35
5
0
20
40
60
80
O_3 in ppb

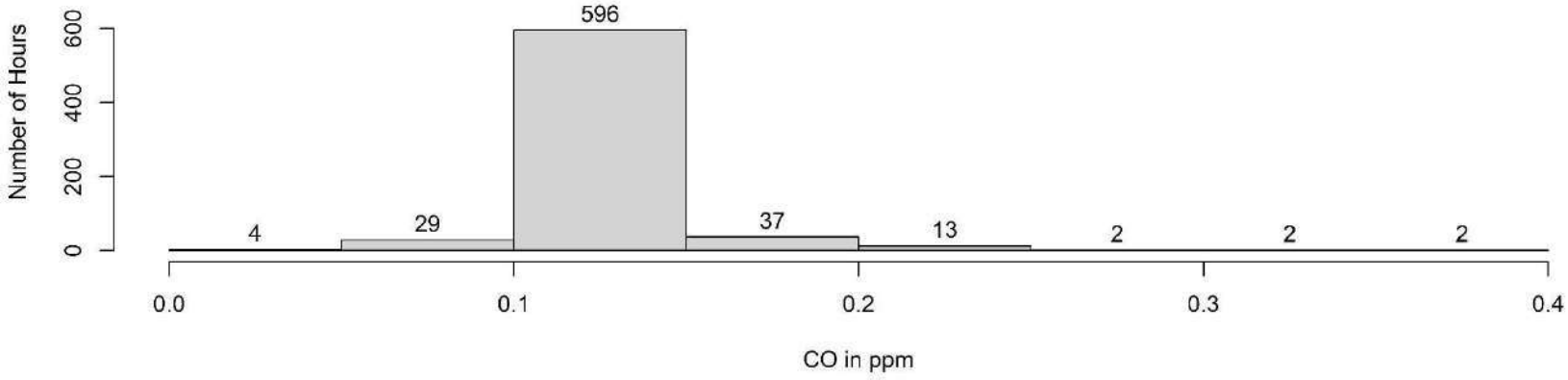
June Hourly Concentration Readings of THC (in ppm) at Henry Pirker



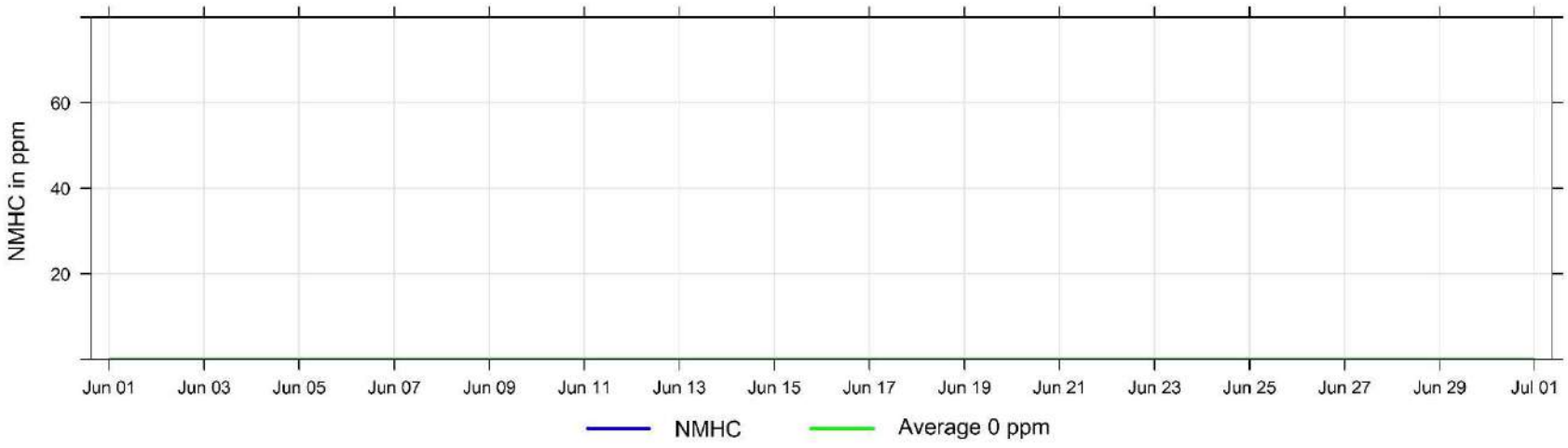
June Hourly Concentration Readings of CH_4 (in ppm) at Henry Pirker



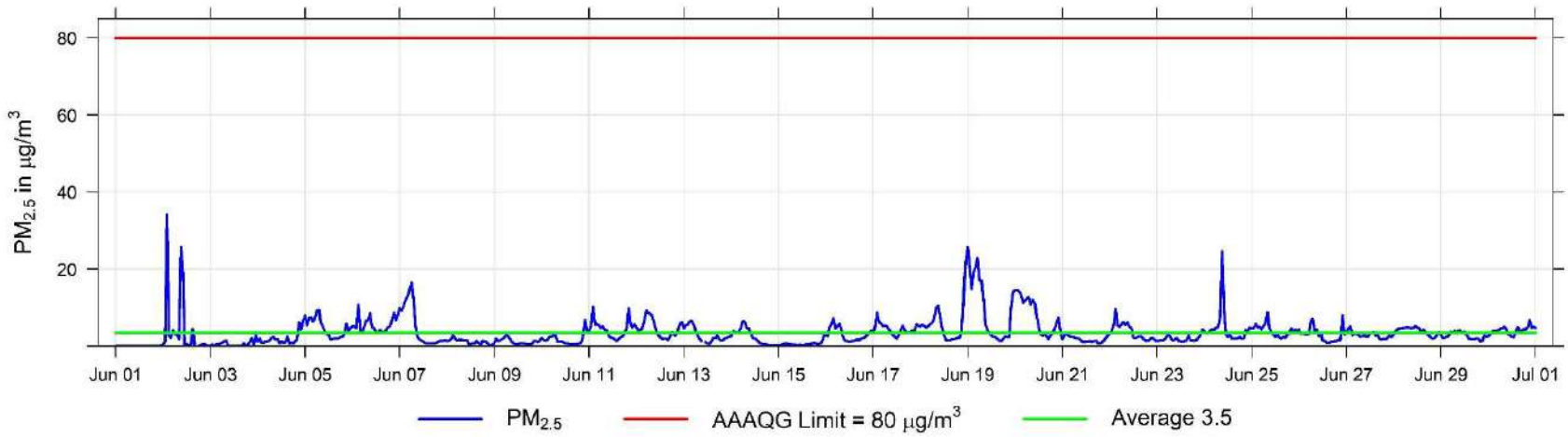

June Hourly Concentration Readings of CO (in ppm) at Henry Pirker
CO in ppm
12
10
8
6
4
2
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
CO
AAAQO Limit = 13 ppm
Average 0.1 ppm

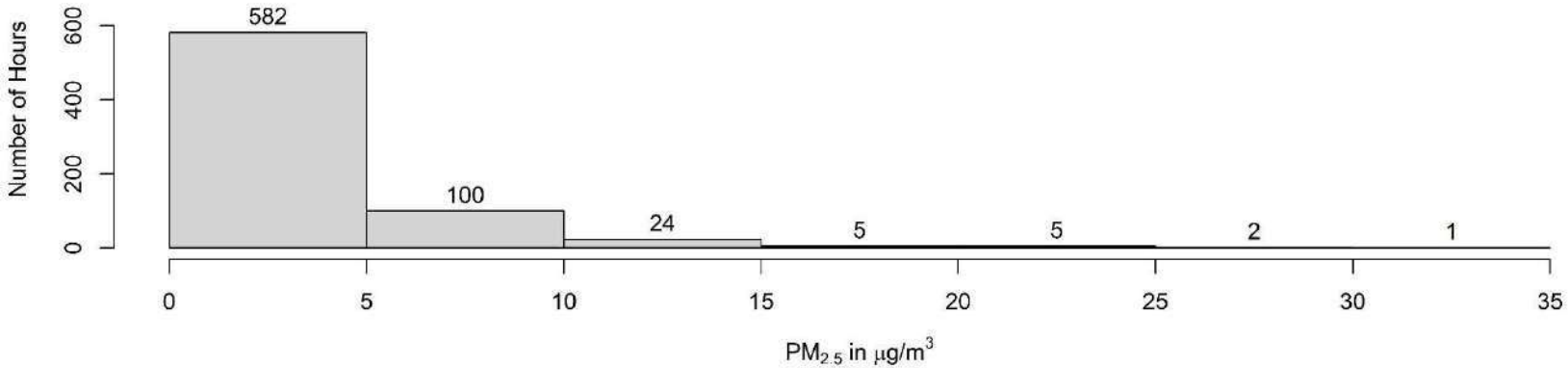

Number of Hours
0
200
400
600
4
29
596
37
13
2
2
2
0.0
0.1
0.2
0.3
0.4
CO in ppm

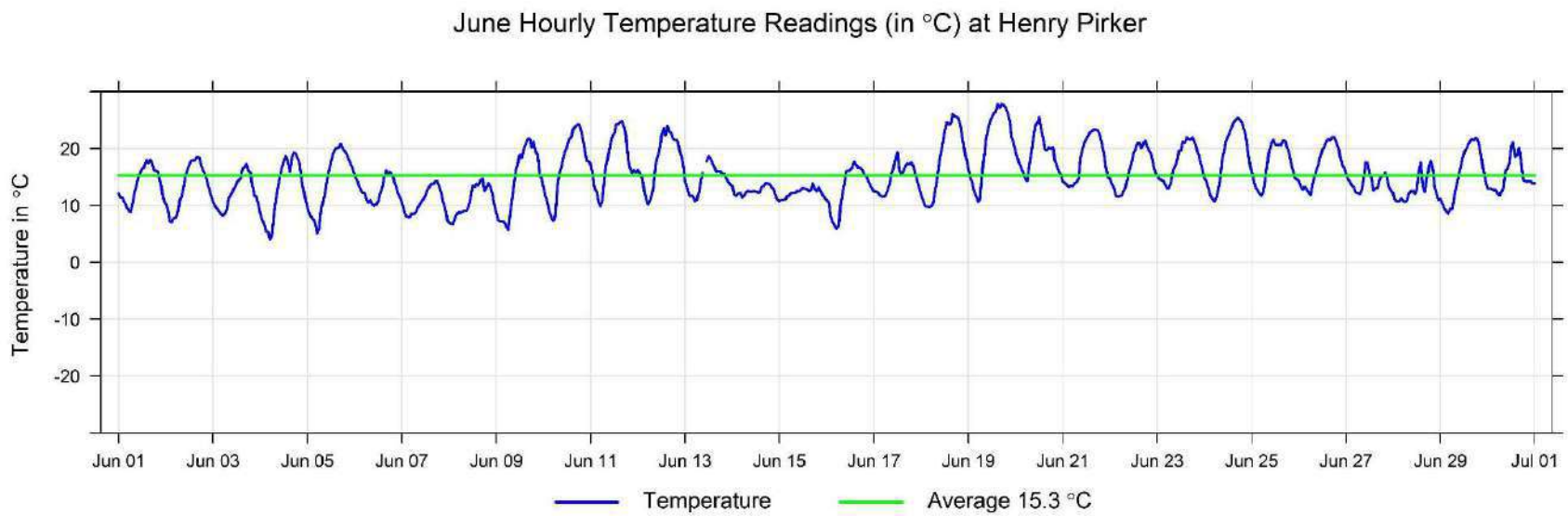
June Hourly Concentration Readings of NMHC (in ppm) at Henry Pirker



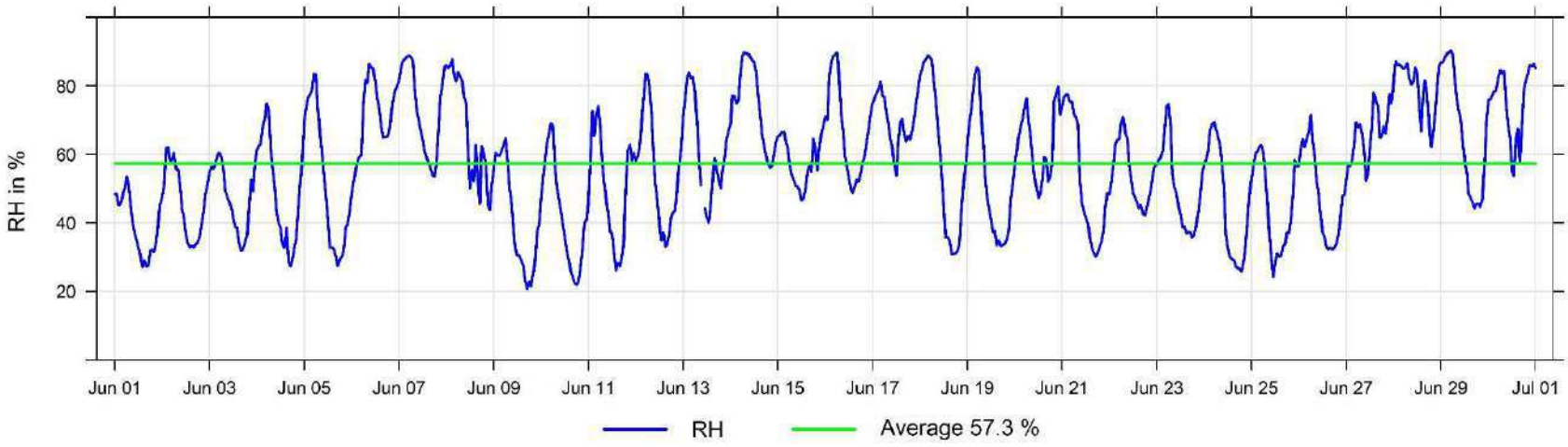
Hourly Concentration Readings of $PM_{2.5}$ in $\mu g/m^3$ at Henry Pirker



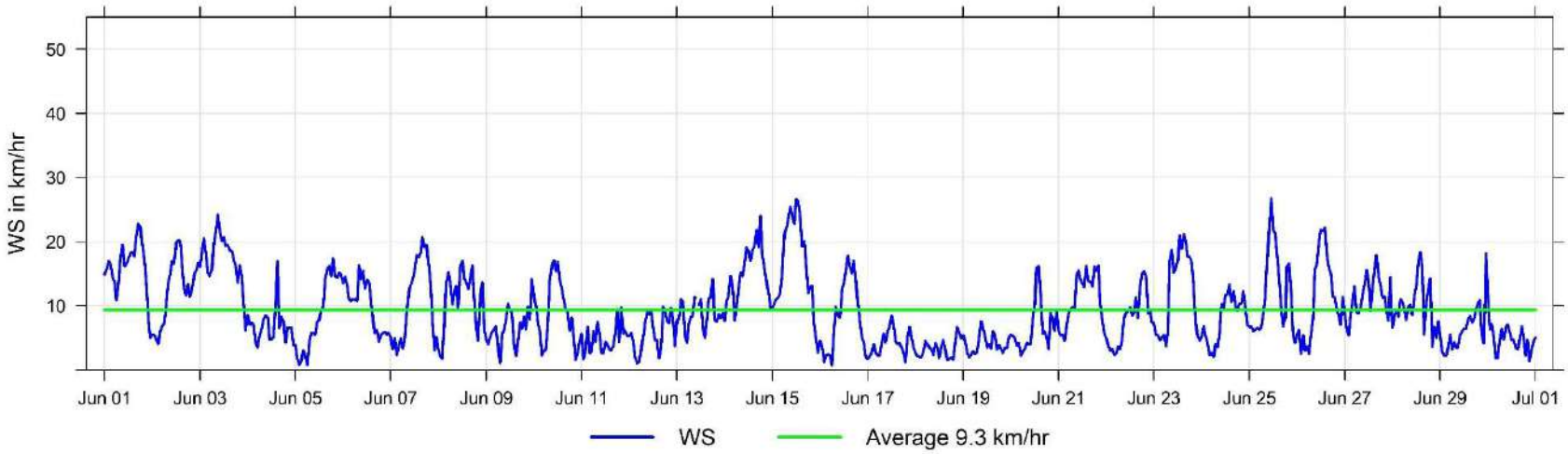

Number of Hours
0
200
400
600
582
100
24
5
5
2
1
0
5
10
15
20
25
30
35
PM2.5 in µg/m3

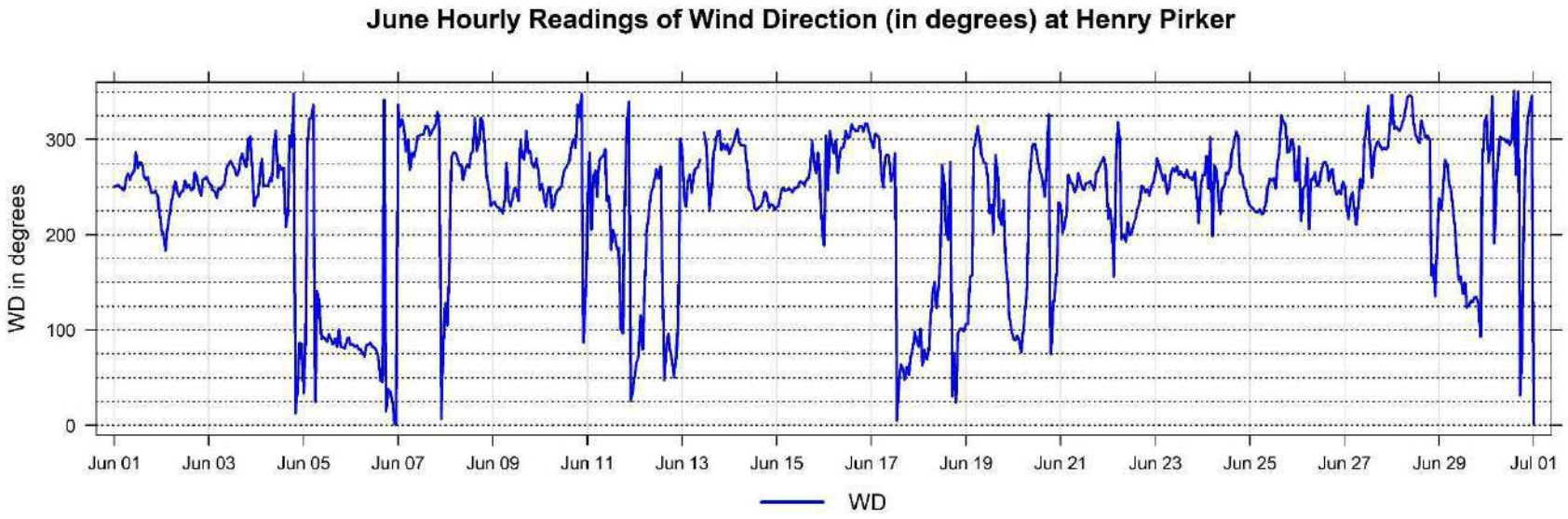

June Hourly Temperature Readings (in °C) at Henry Pirker
Temperature in °C
20
10
0
-10
-20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
Temperature
Average 15.3 °C

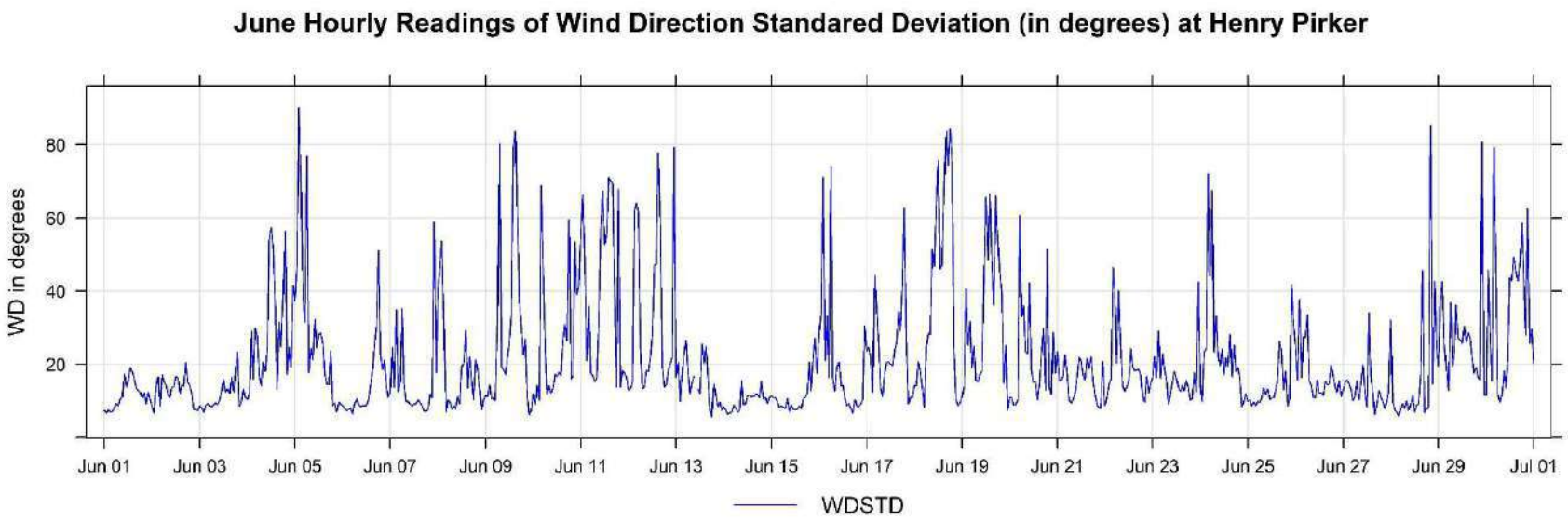
June Hourly Readings of Relative Humidity (in %) at Henry Pirker

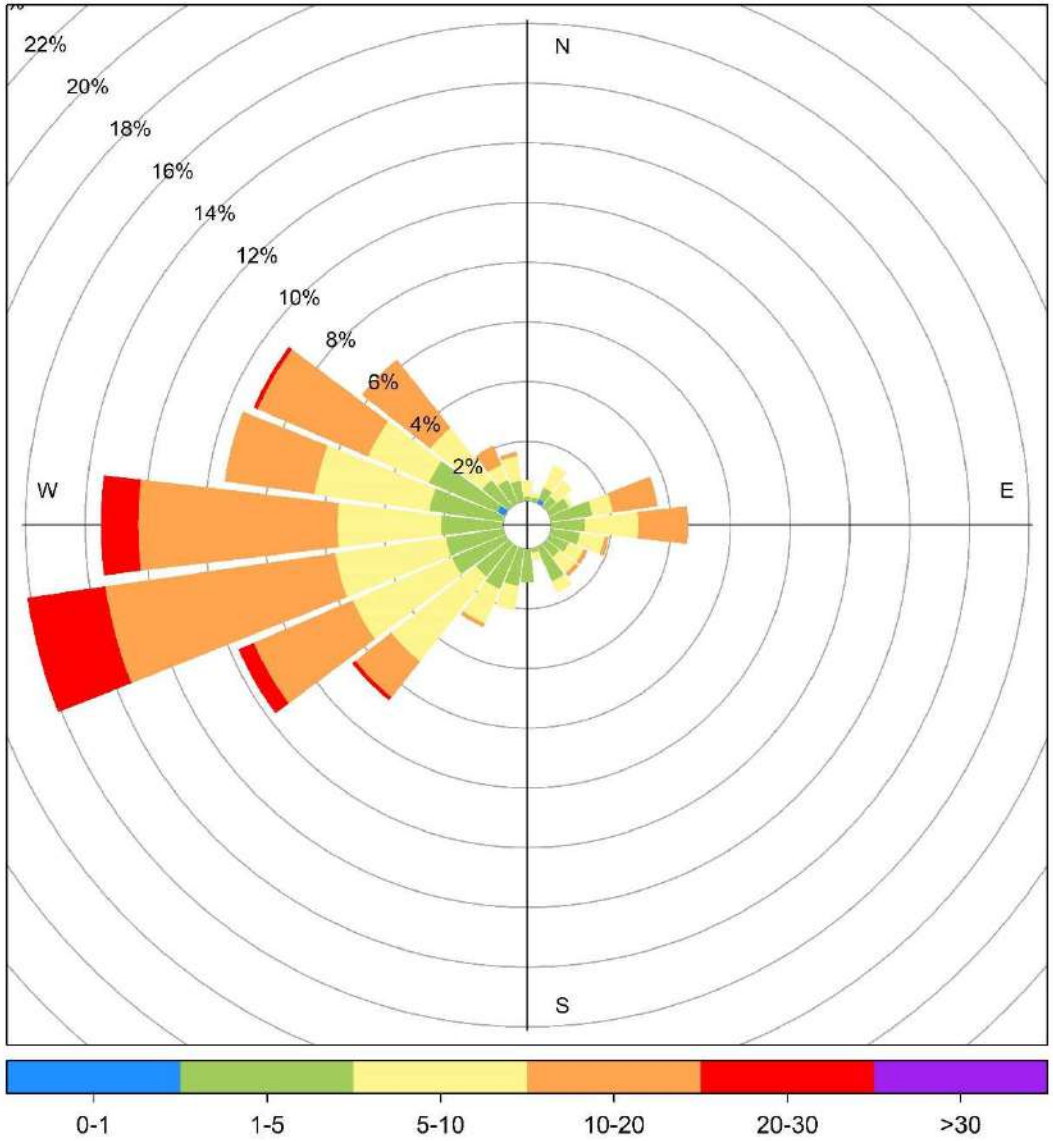


June Hourly Readings of Wind Speed (in km/hr) at Henry Pirker




June Hourly Readings of Wind Direction (in degrees) at Henry Pirker
WD in degrees
0
100
200
300
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

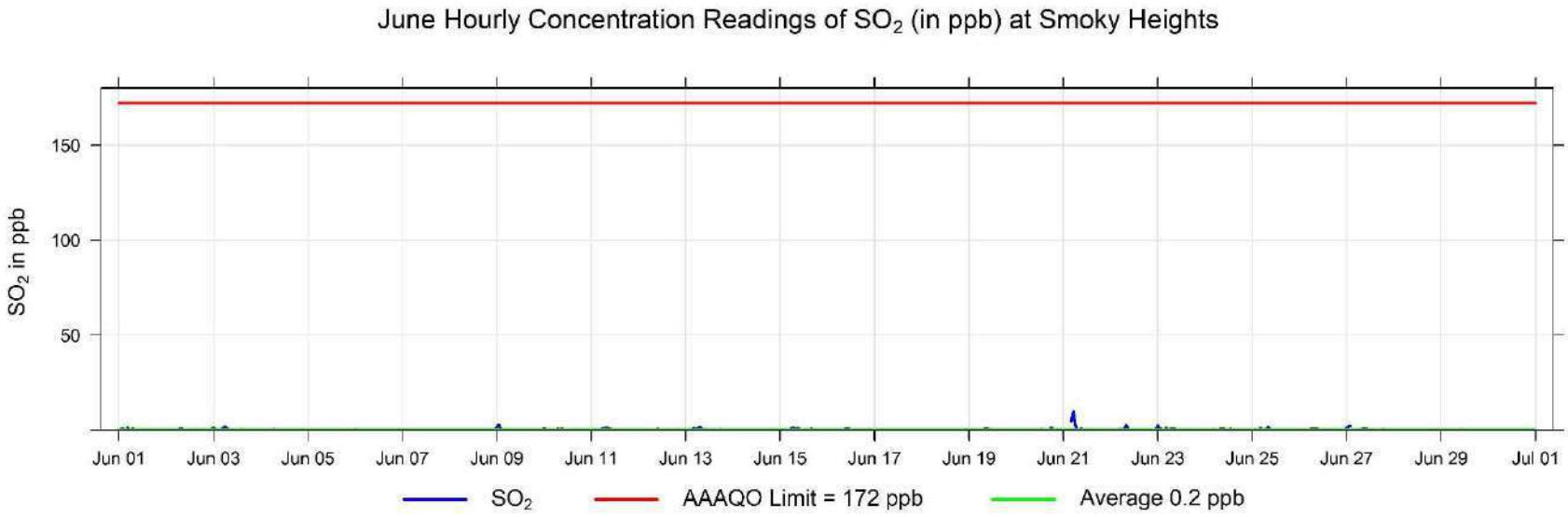

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Henry Pirker
WD in degrees
20
40
60
80
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

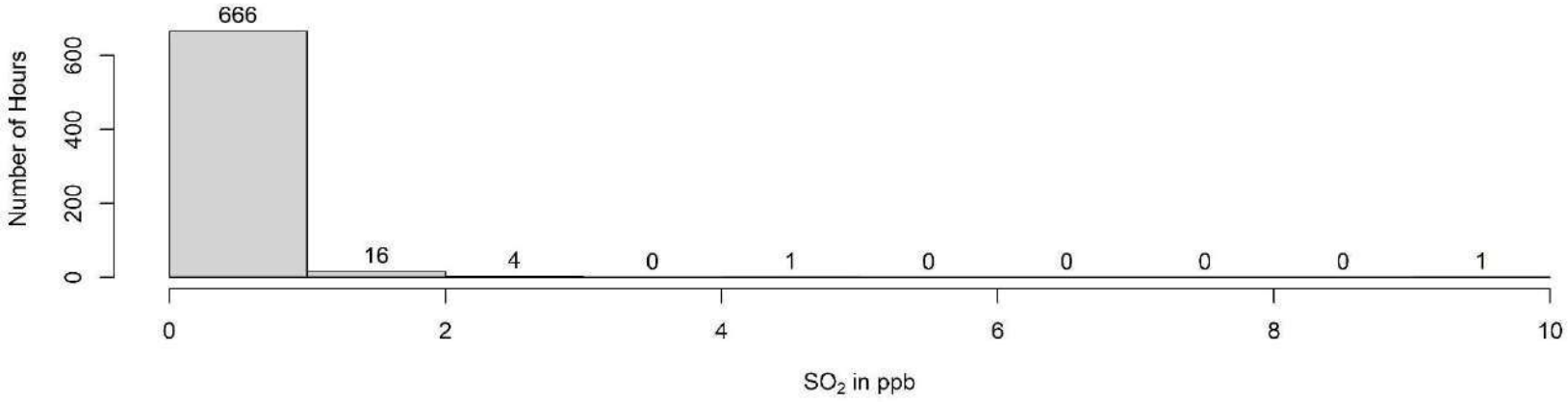


Henry Pirker June Wind Rose, wind speed in km/hr

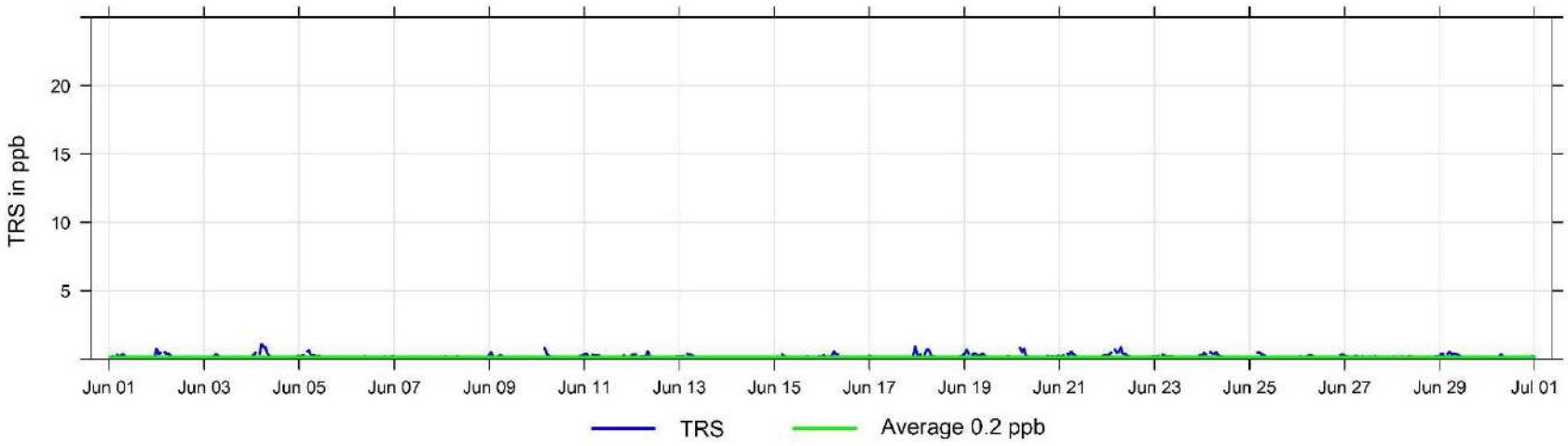
5 Smoky Heights Charts

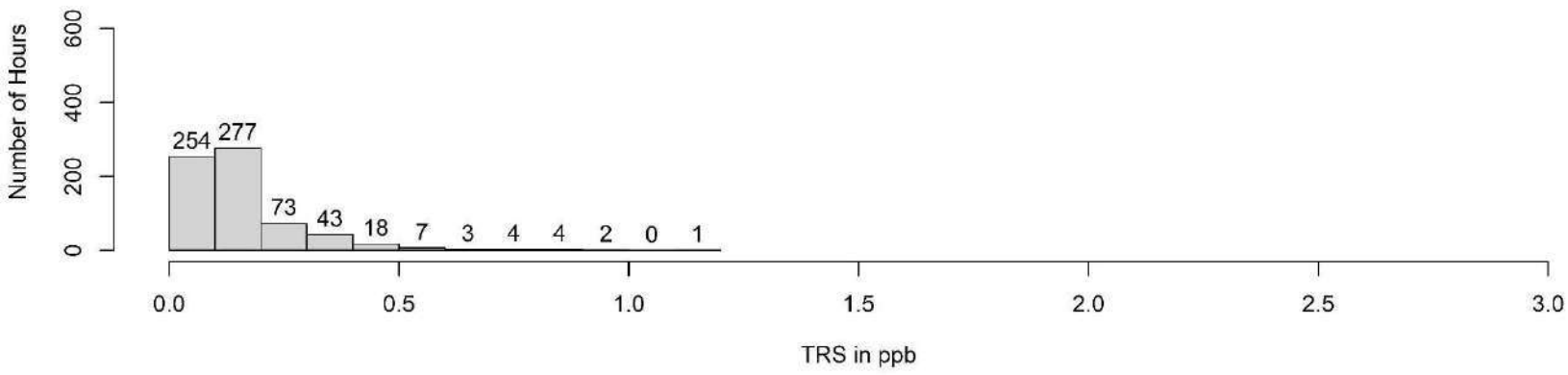
The following pages include the charts and histograms for Smoky Heights Station

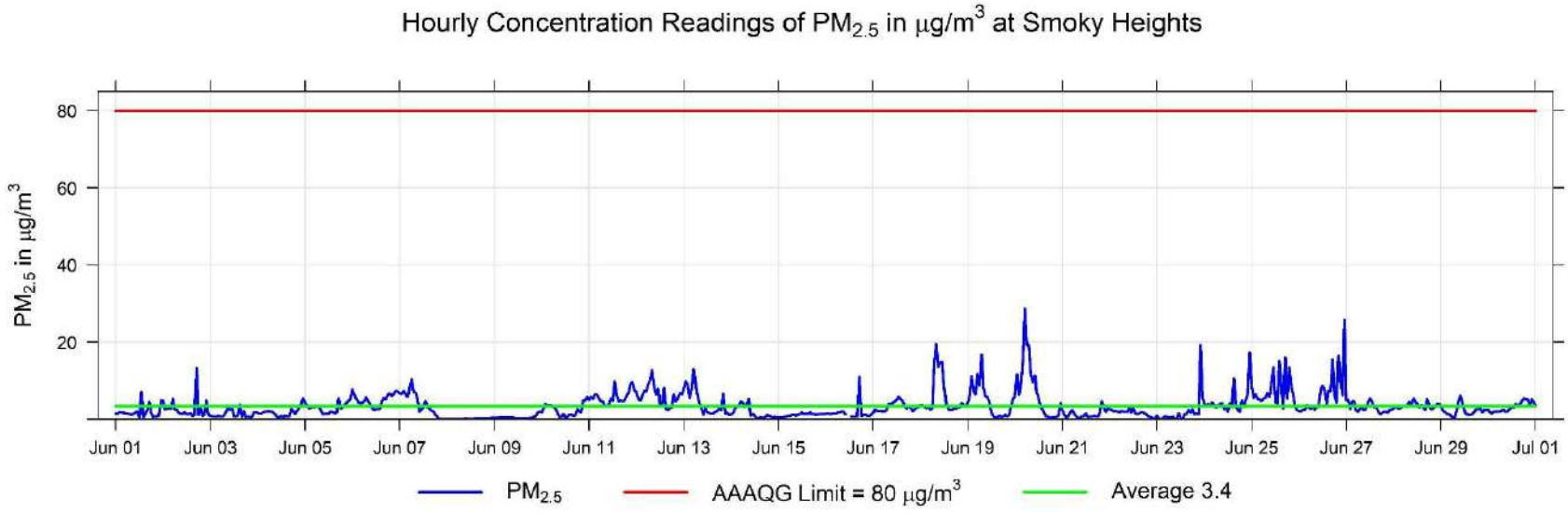

June Hourly Concentration Readings of SO_2 (in ppb) at Smoky Heights
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.2 ppb

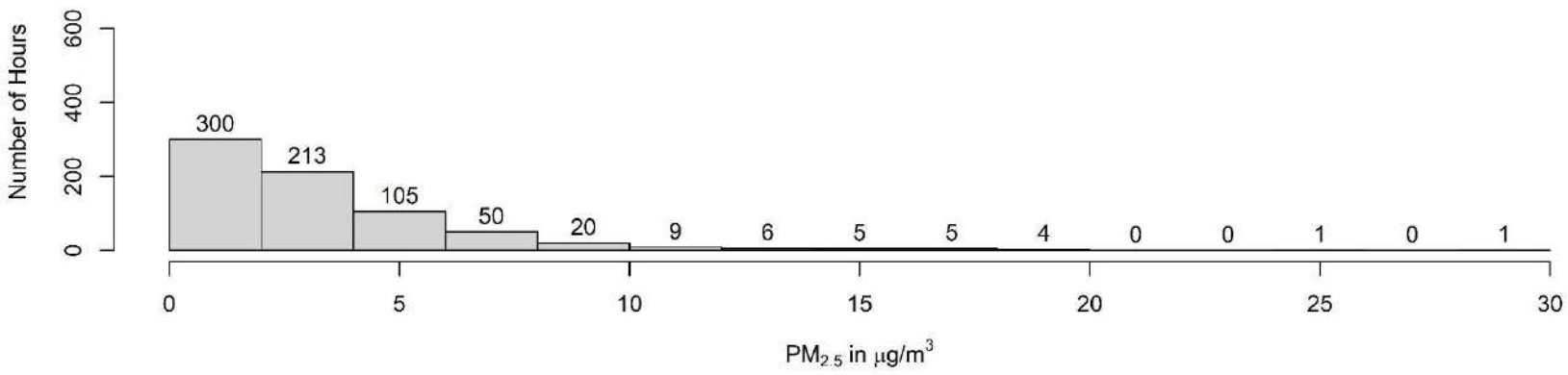

Number of Hours
0
200
400
600
666
16
4
0
1
0
0
0
0
1
0
2
4
6
8
10
SO_2 in ppb

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

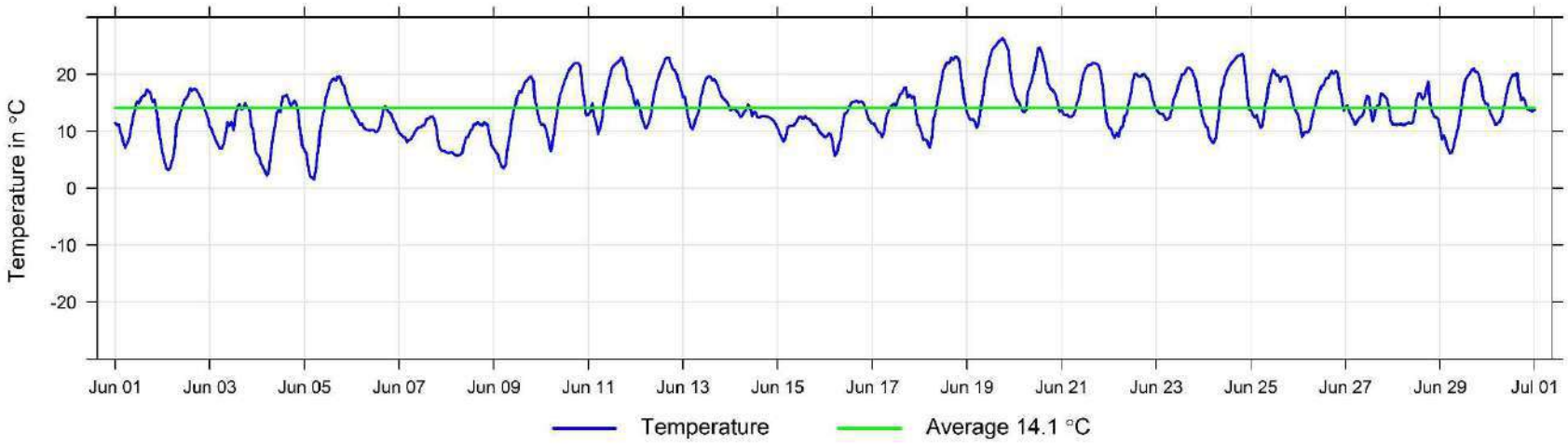




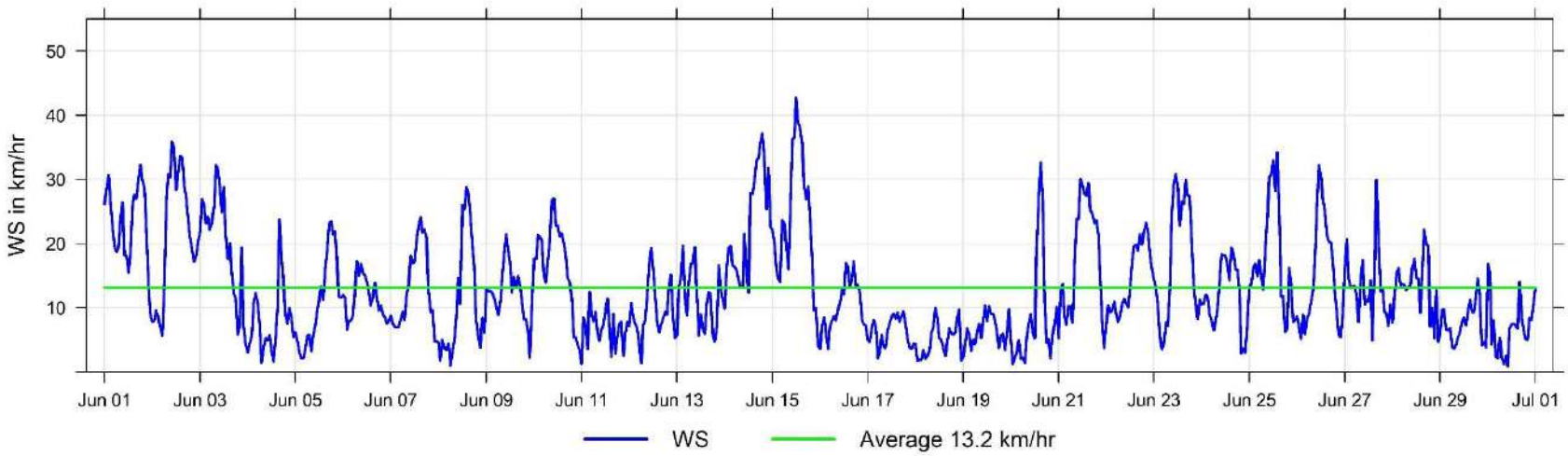

Hourly Concentration Readings of PM2.5 in μg/m3 at Smoky Heights
PM2.5 in μg/m3
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
PM2.5
AAAQG Limit = 80 μg/m3
Average 3.4

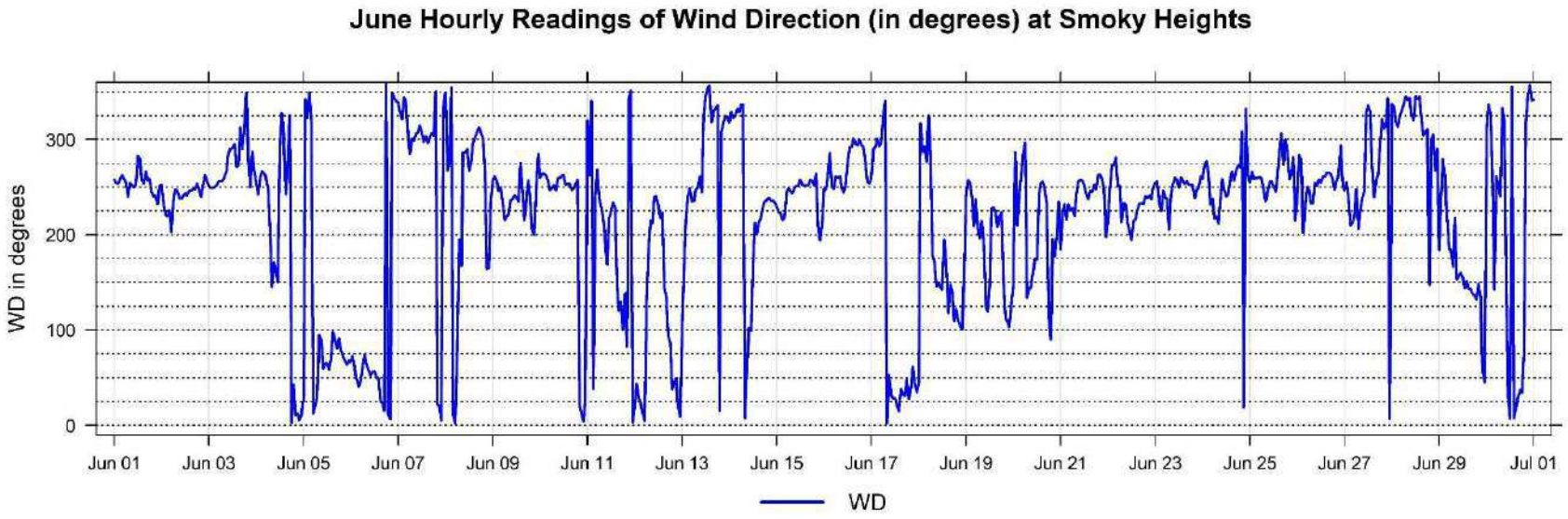

Number of Hours
0
200
400
600
300
213
105
50
20
9
6
5
5
4
0
0
1
0
1
0
5
10
15
20
25
30
PM2.5 in μg/m3

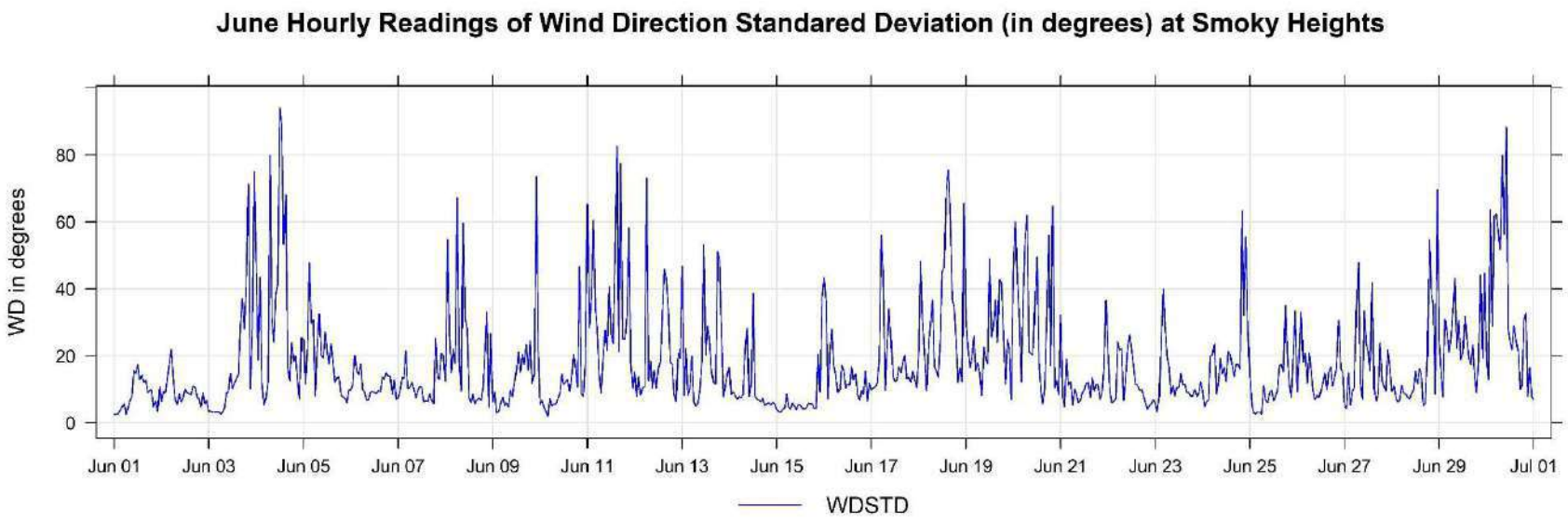
June Hourly Temperature Readings (in °C) at Smoky Heights

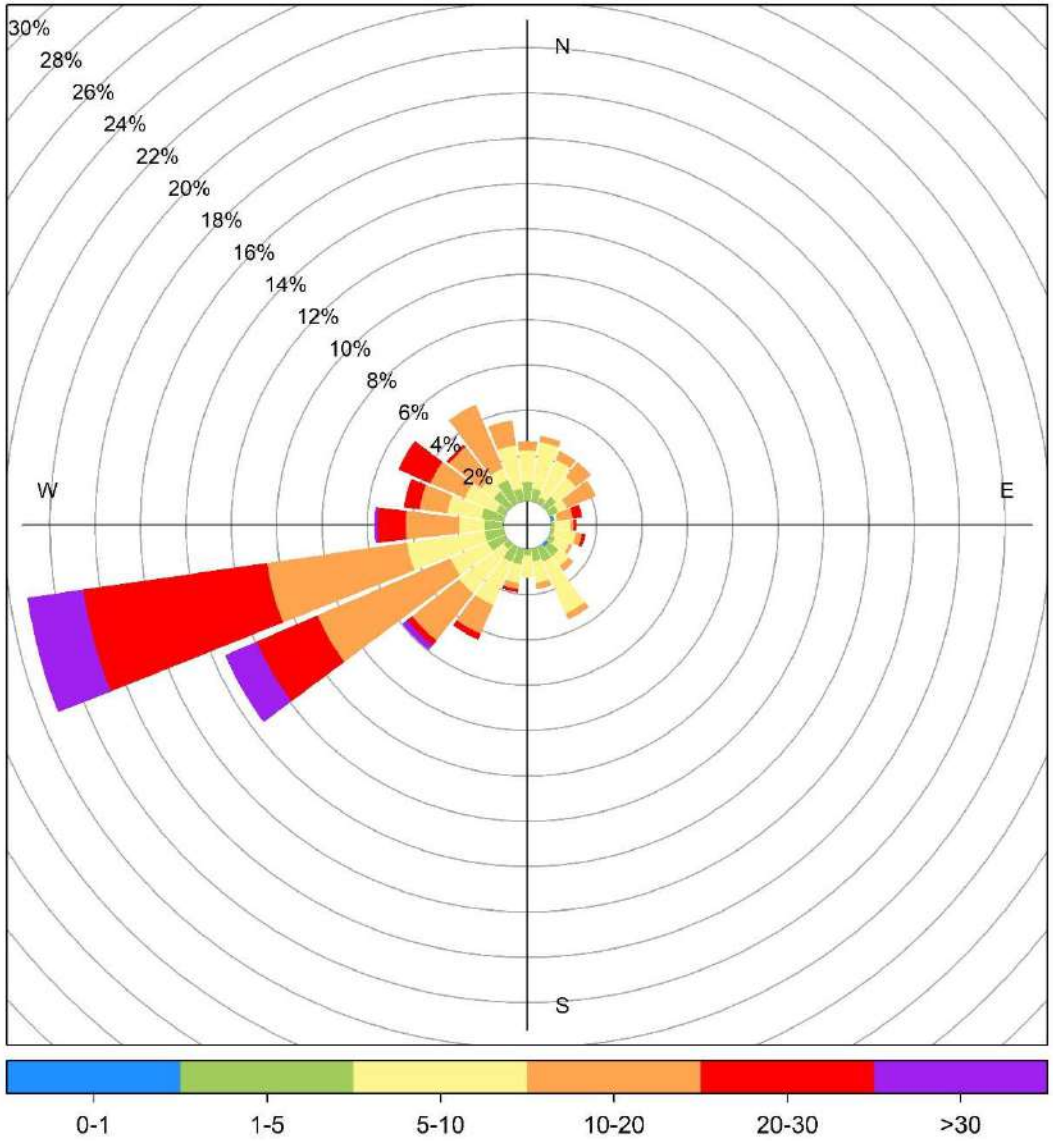


June Hourly Readings of Wind Speed (in km/hr) at Smoky Heights




June Hourly Readings of Wind Direction (in degrees) at Smoky Heights
WD in degrees
0
100
200
300
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

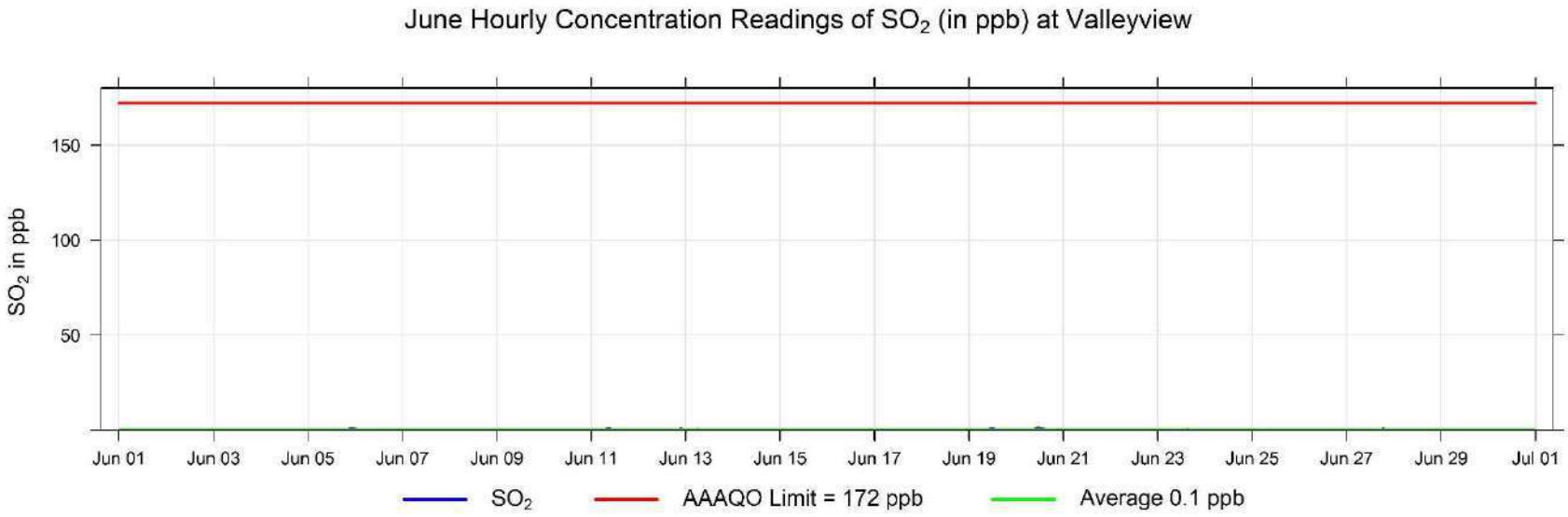

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Smoky Heights
WD in degrees
0
20
40
60
80
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

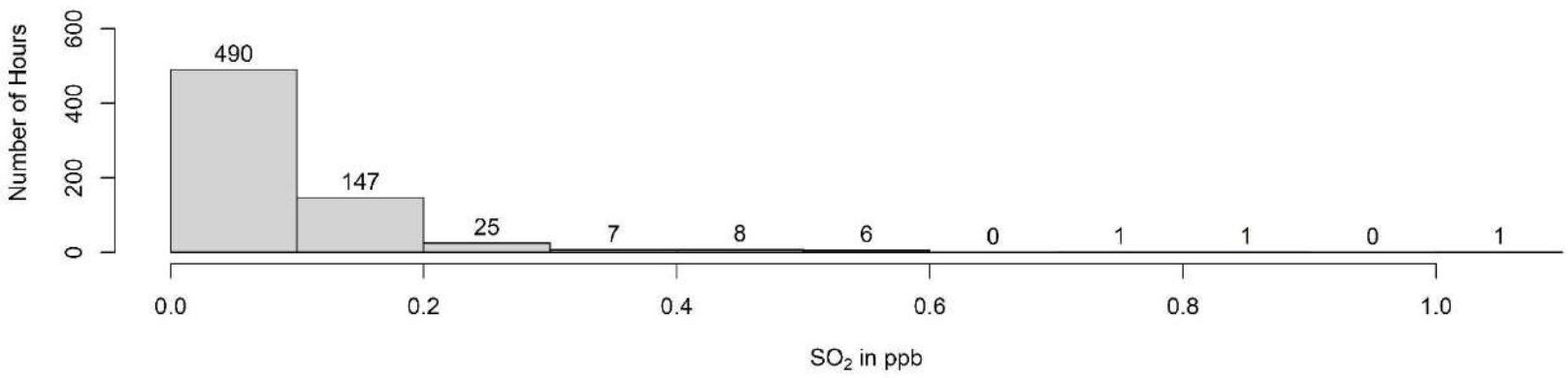


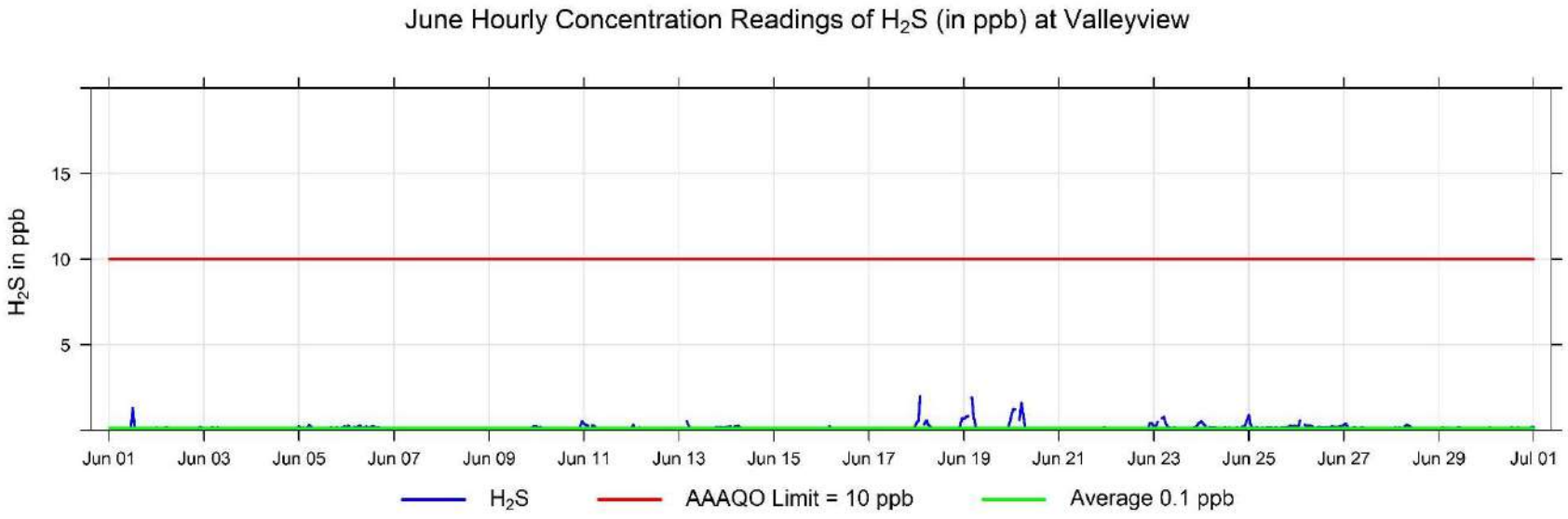
Smoky Heights June Wind Rose, wind speed in km/hr

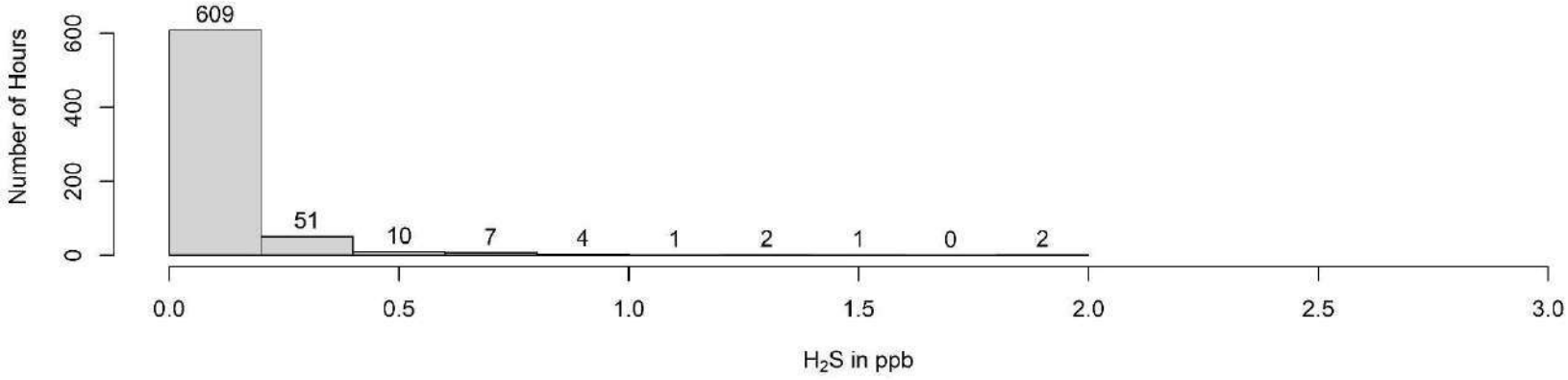
6 Valleyview Charts

The following pages include the charts and histograms for Valleyview Station

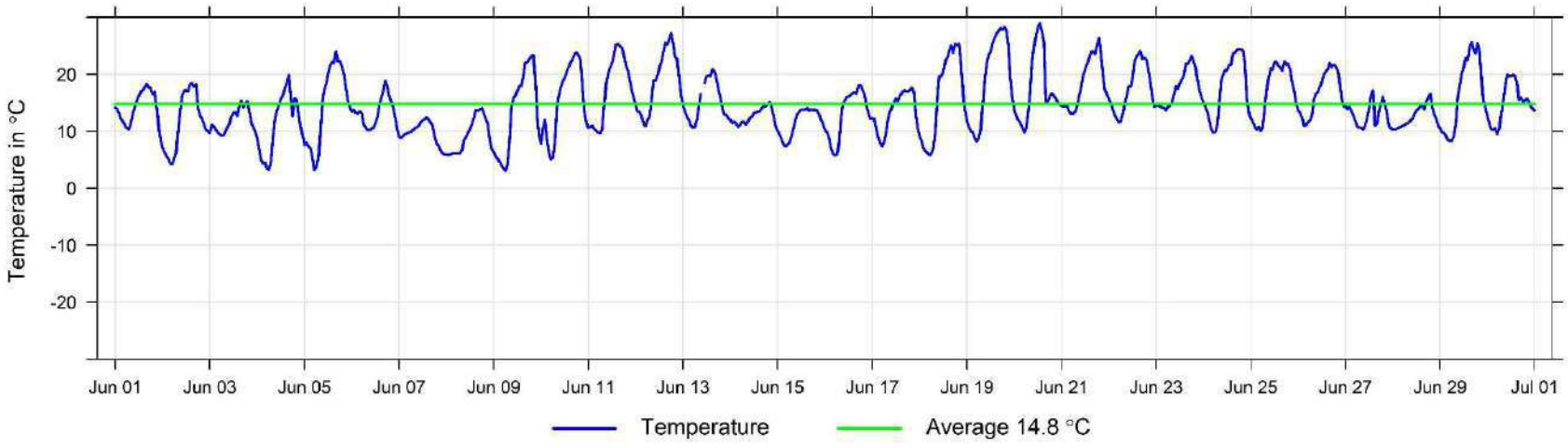

June Hourly Concentration Readings of SO_2 (in ppb) at Valleyview
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.1 ppb


Number of Hours
0
200
400
600
490
147
25
7
8
6
0
1
1
0
1
0.0
0.2
0.4
0.6
0.8
1.0
SO_2 in ppb

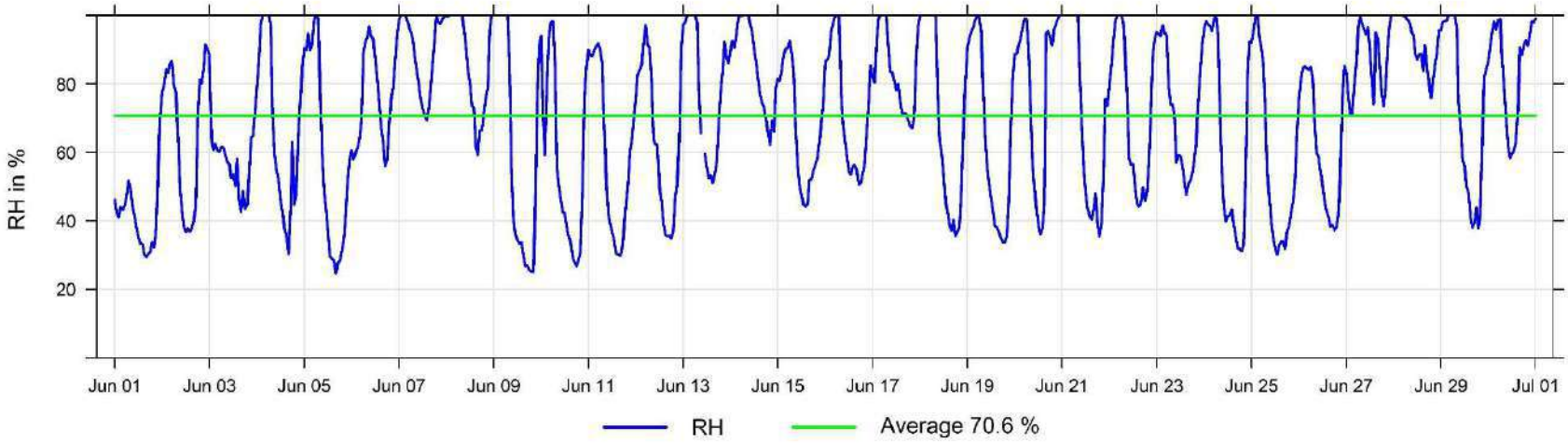

June Hourly Concentration Readings of H_2S (in ppb) at Valleyview
H_2S in ppb
15
10
5
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
H_2S
AAAQO Limit = 10 ppb
Average 0.1 ppb

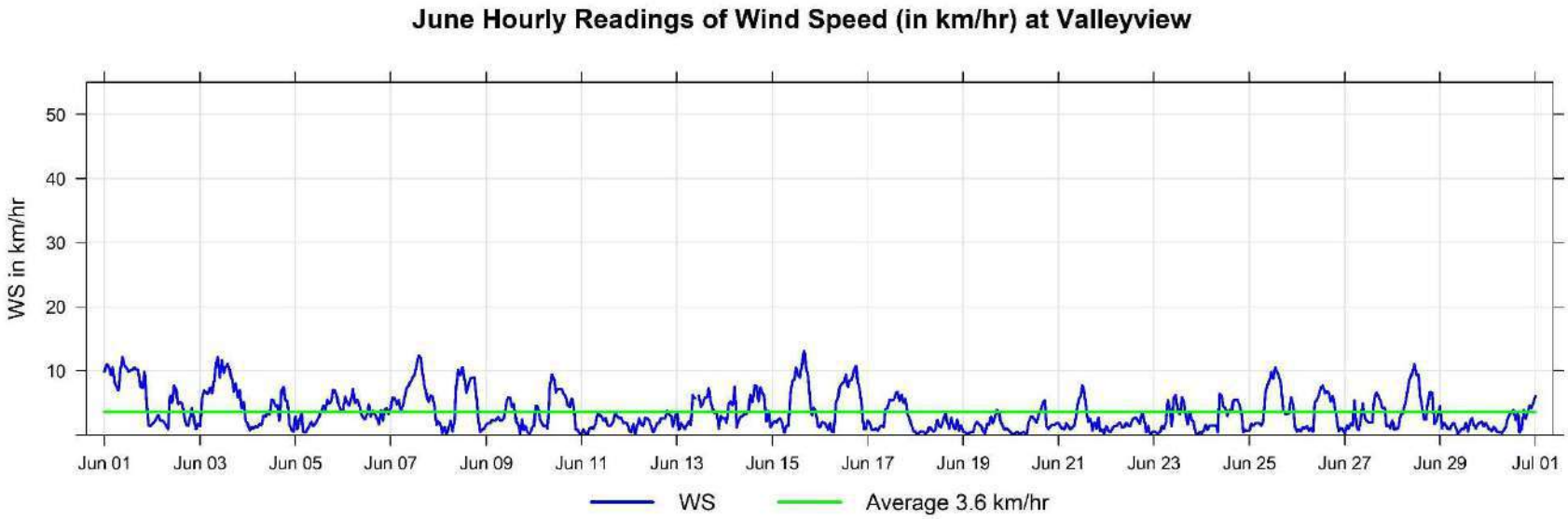

Number of Hours
0
200
400
600
609
51
10
7
4
1
2
1
0
2
0.0
0.5
1.0
1.5
2.0
2.5
3.0
H_2S in ppb

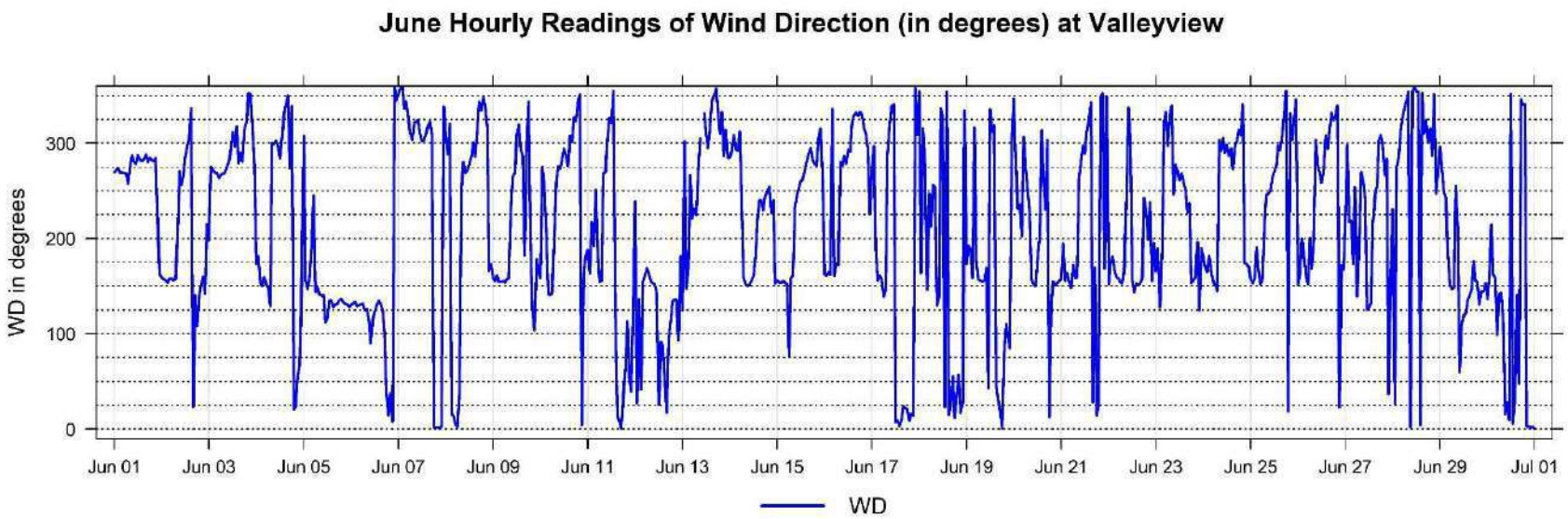
June Hourly Temperature Readings (in °C) at Valleyview

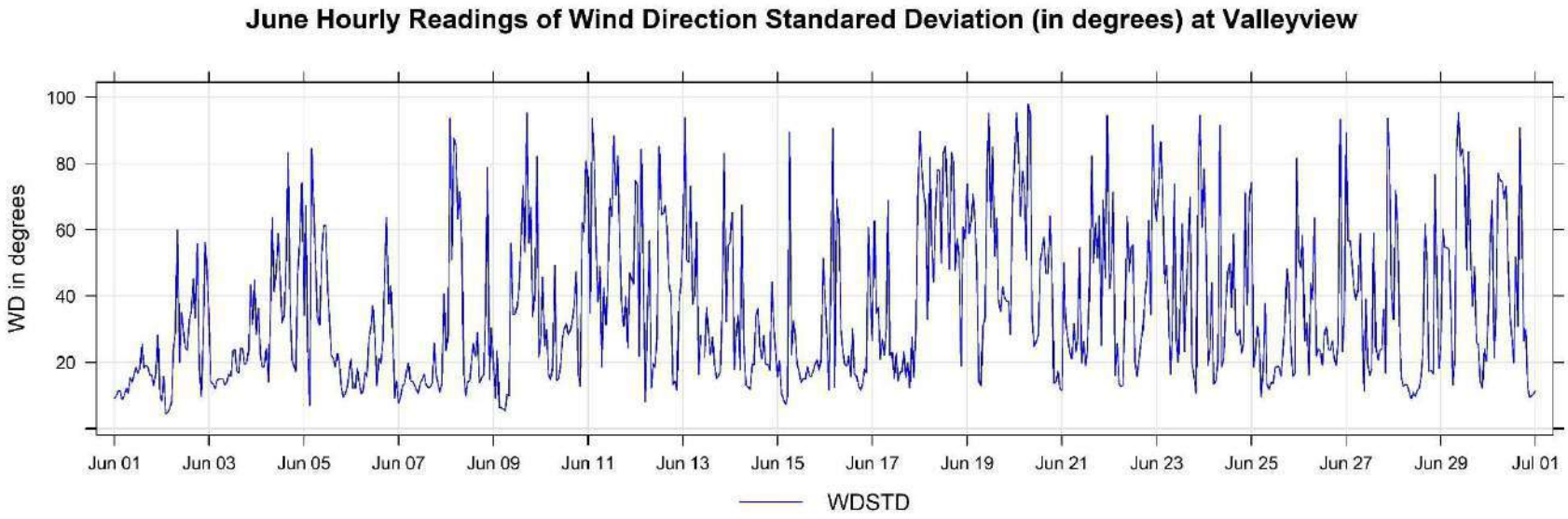


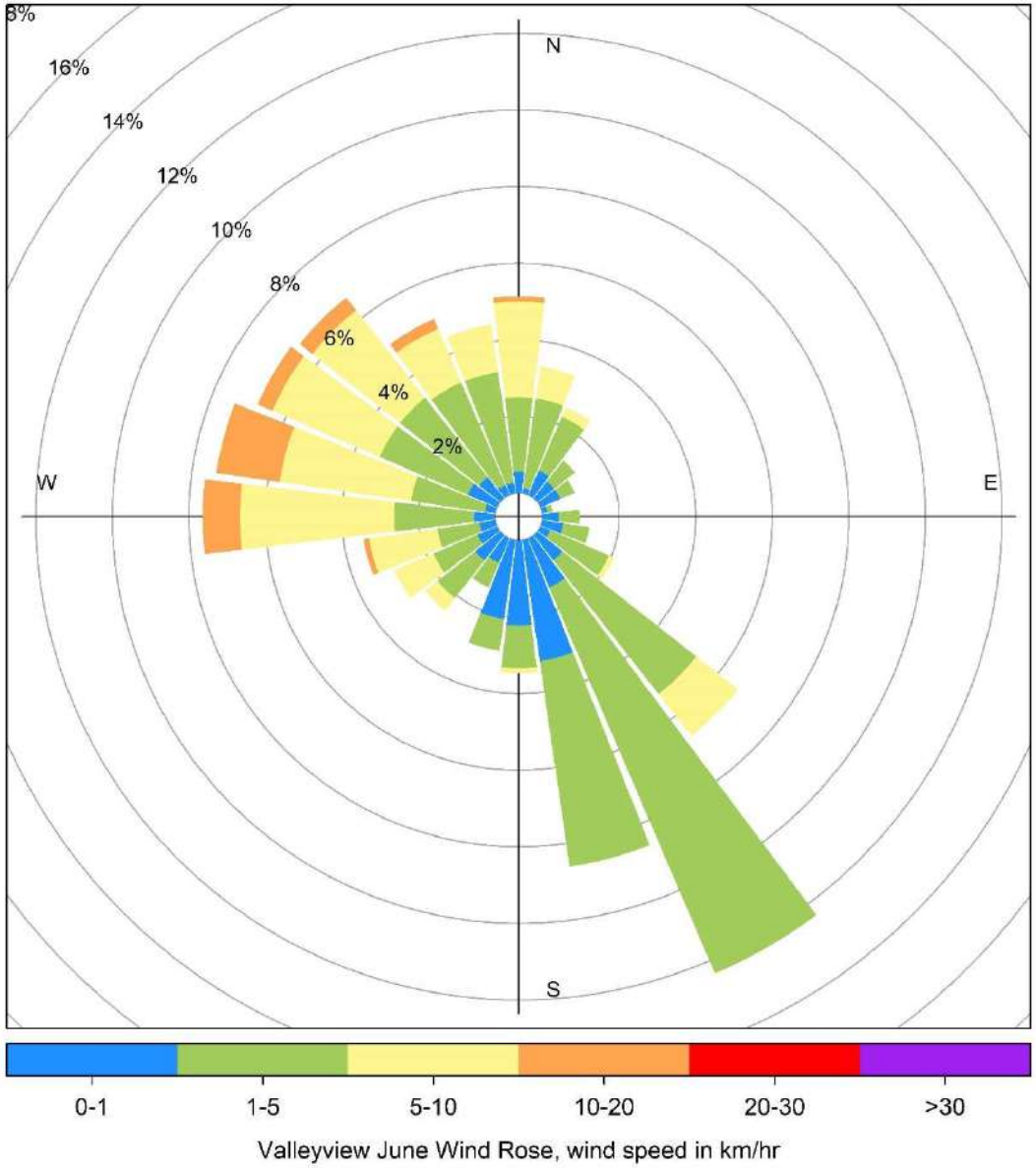
June Hourly Readings of Relative Humidity (in %) at Valleyview




June Hourly Readings of Wind Speed (in km/hr) at Valleyview
WS in km/hr
50
40
30
20
10
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WS
Average 3.6 km/hr

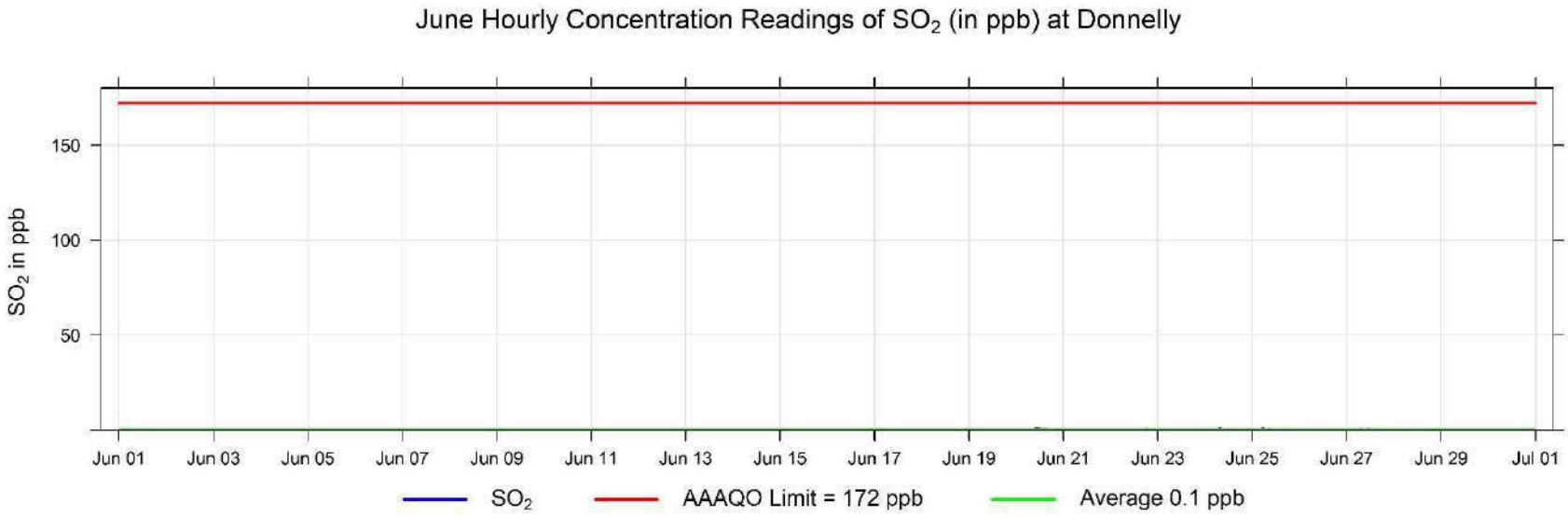

June Hourly Readings of Wind Direction (in degrees) at Valleyview
WD in degrees
300
200
100
0
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

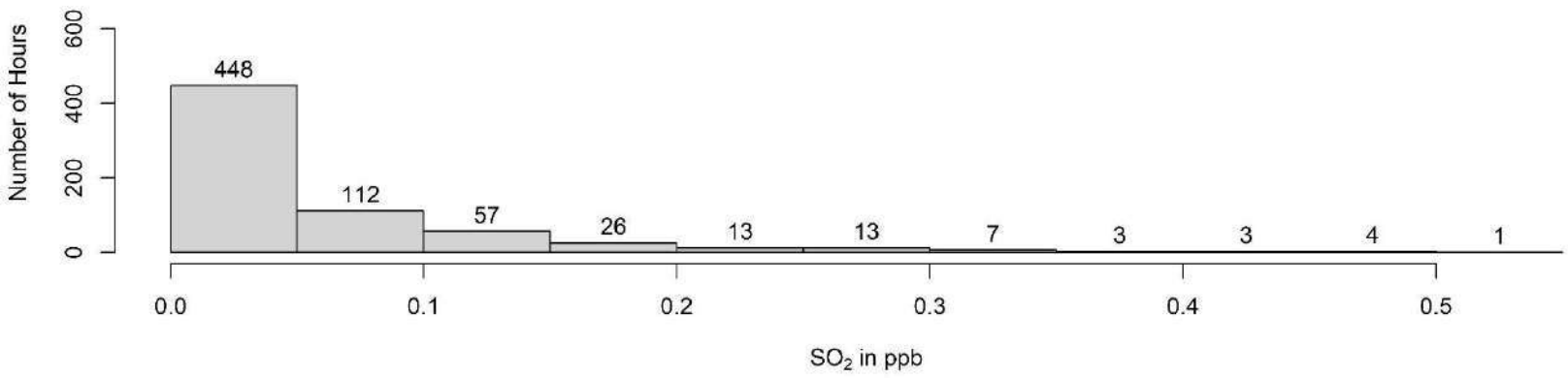

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Valleyview
WD in degrees
100
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

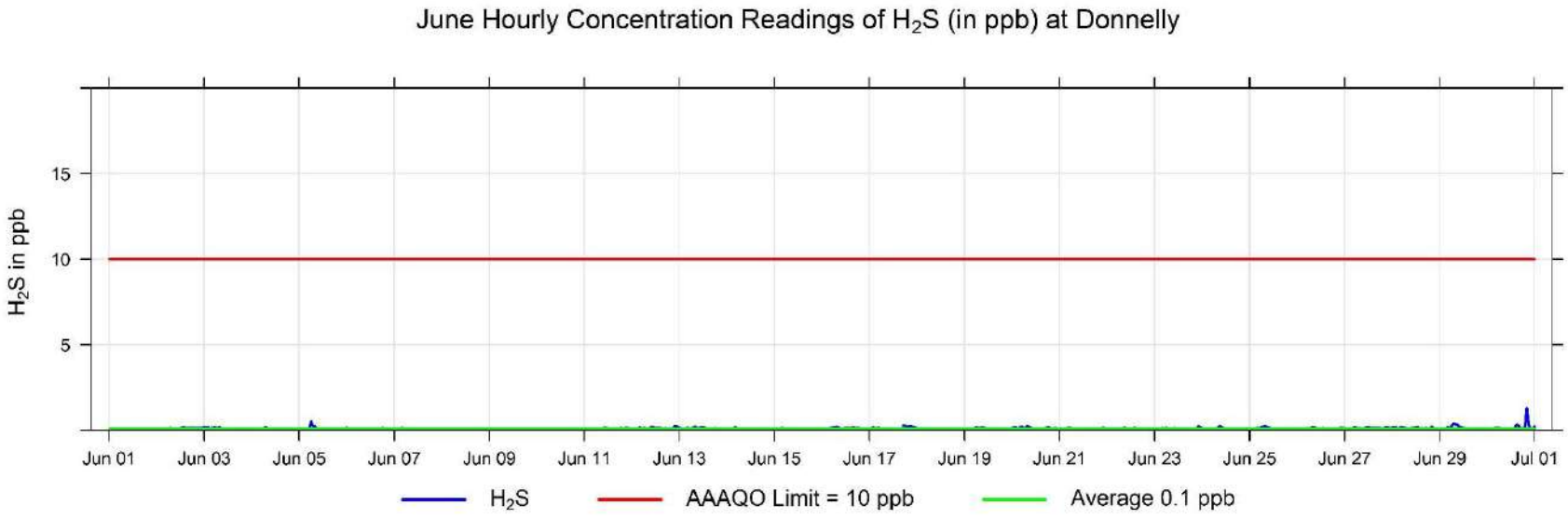

8%
16%
14%
12%
10%
8%
6%
4%
2%
N
W
E
S
0-1
1-5
5-10
10-20
20-30
>30
Valleyview June Wind Rose, wind speed in km/hr

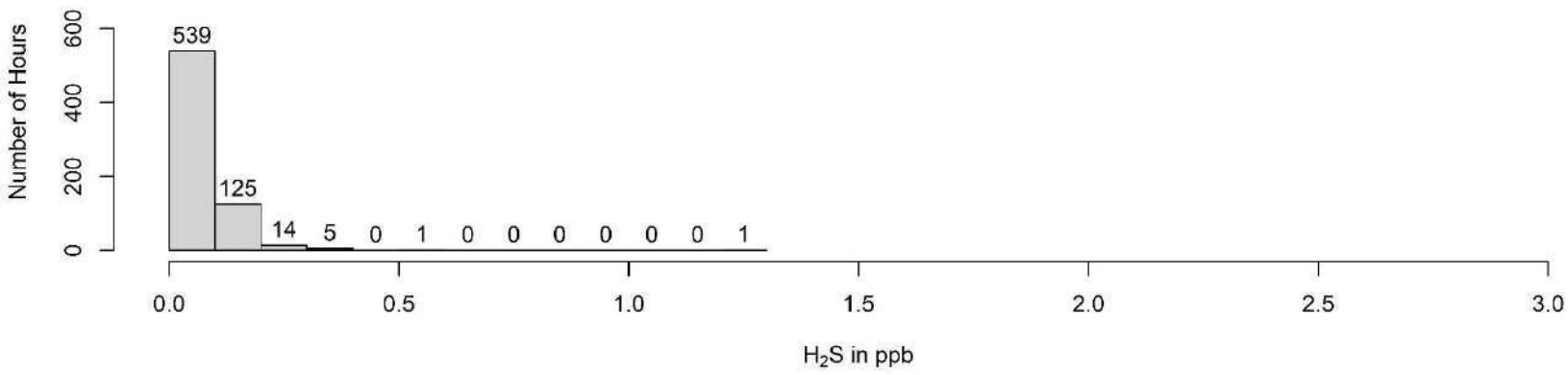
7 Donnelly Charts

The following pages include the charts and histograms for Donnelly Station

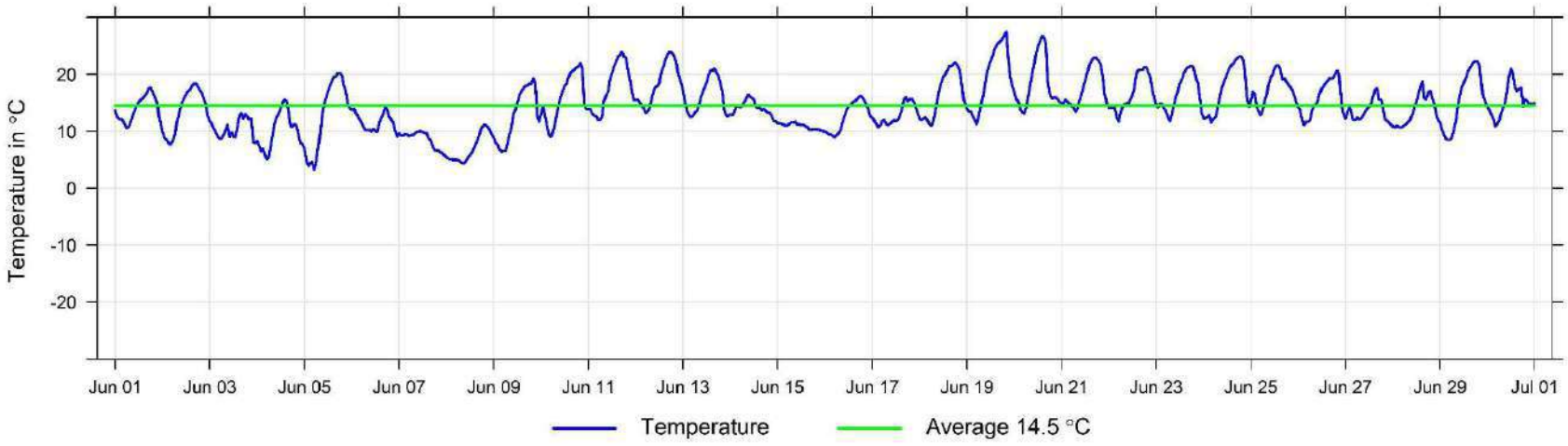

June Hourly Concentration Readings of SO_2 (in ppb) at Donnelly
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.1 ppb


Number of Hours
0
200
400
600
448
112
57
26
13
13
7
3
3
4
1
0.0
0.1
0.2
0.3
0.4
0.5
SO_2 in ppb

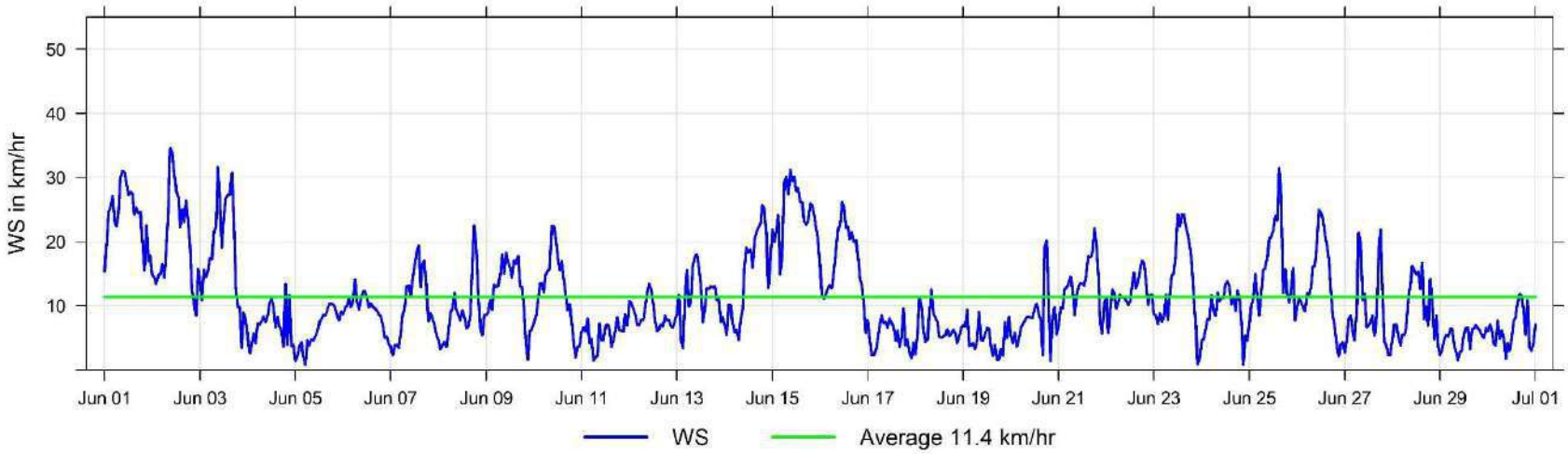

June Hourly Concentration Readings of H_2S (in ppb) at Donnelly
H_2S in ppb
15
10
5
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
H_2S
AAAQO Limit = 10 ppb
Average 0.1 ppb

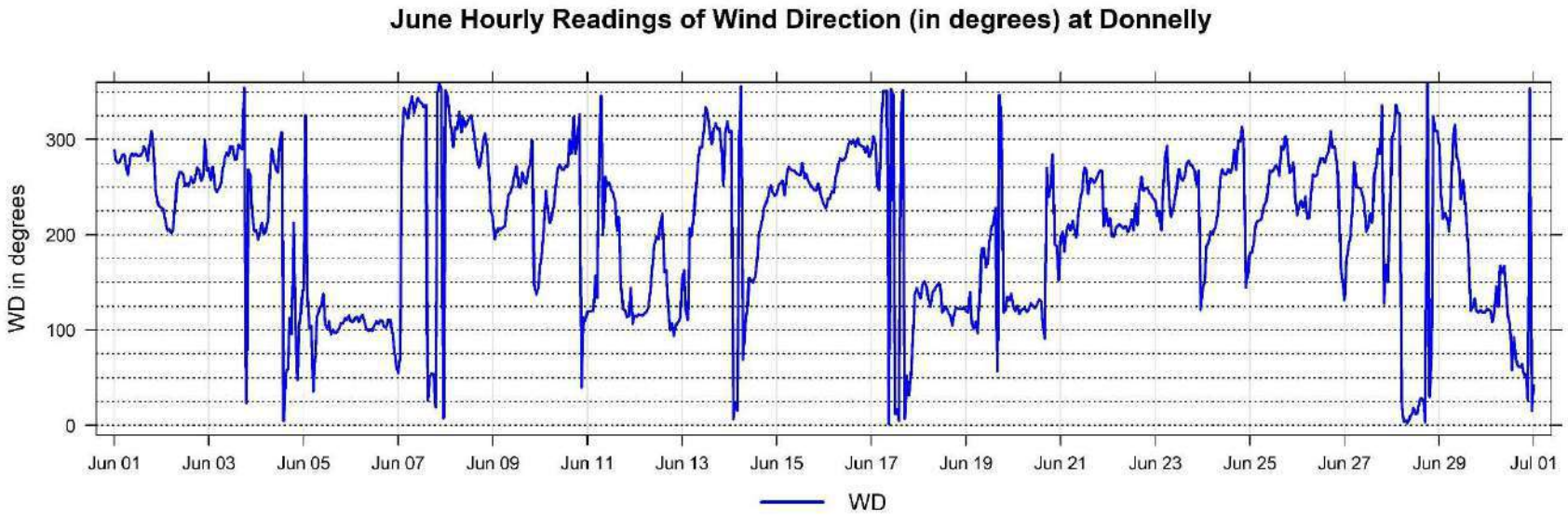

Number of Hours
0
200
400
600
539
125
14
5
0
1
0
0
0
0
0
0
1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
H_2S in ppb

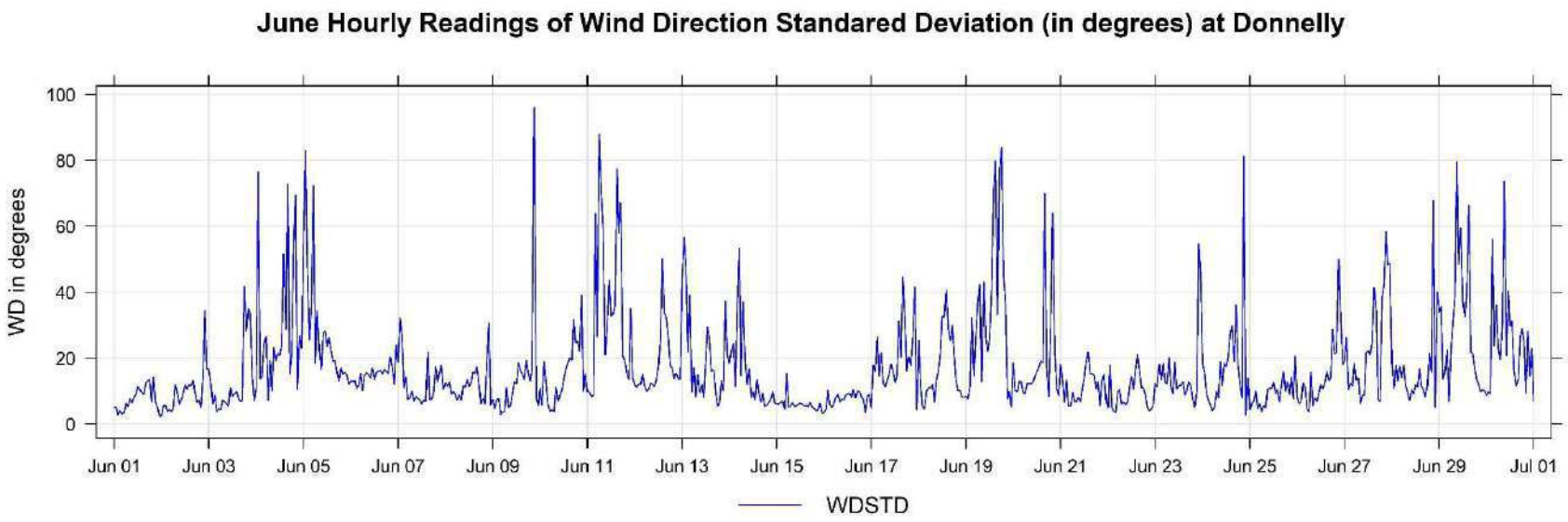
June Hourly Temperature Readings (in °C) at Donnelly

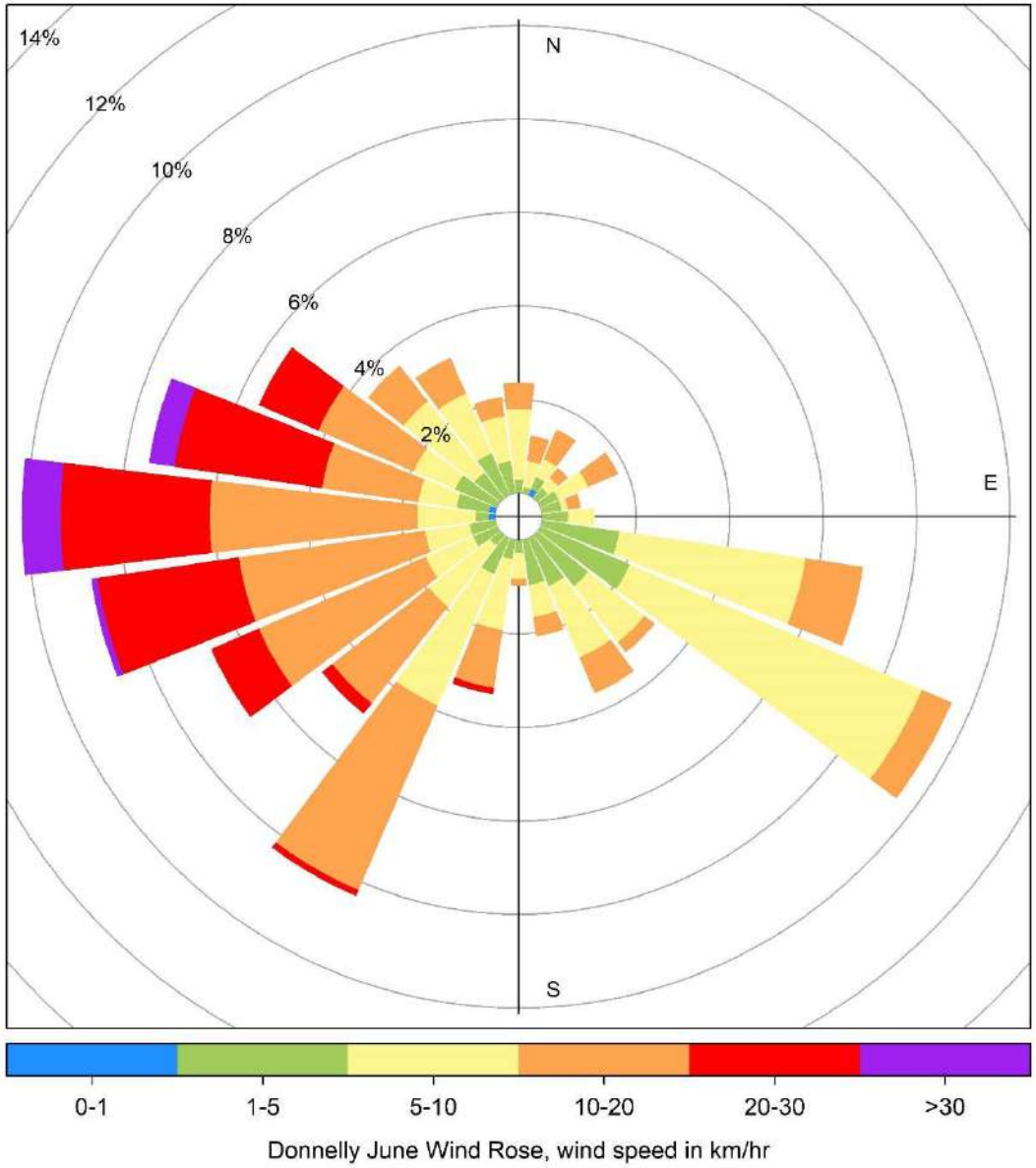


June Hourly Readings of Wind Speed (in km/hr) at Donnelly



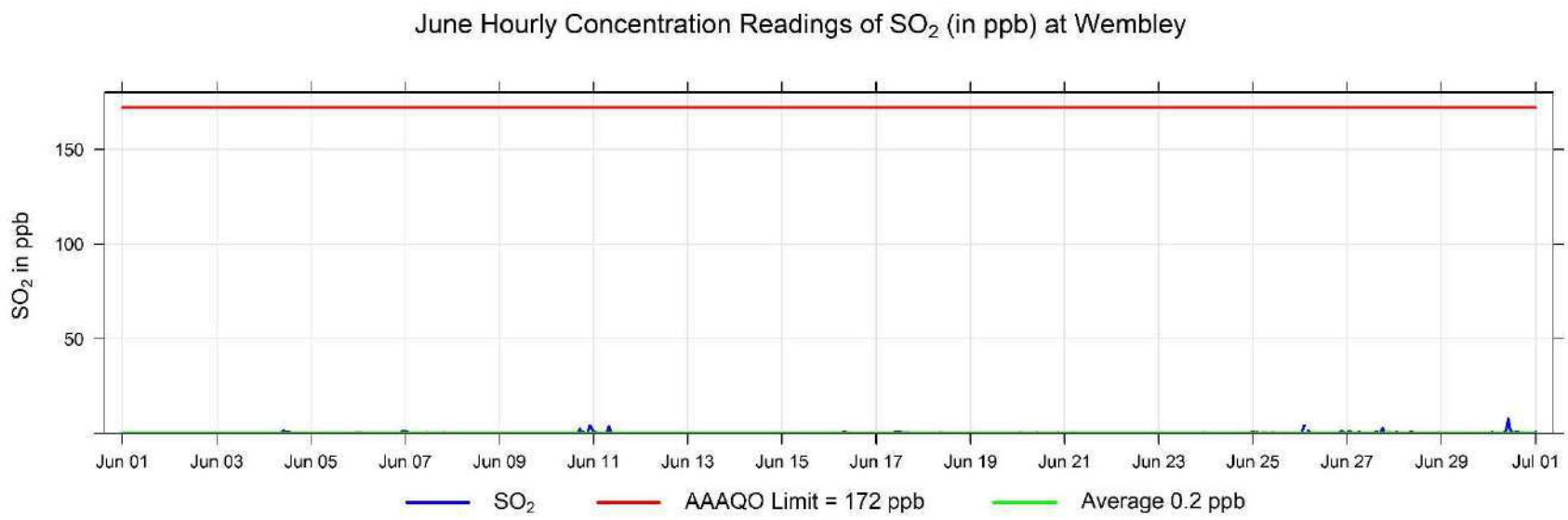

June Hourly Readings of Wind Direction (in degrees) at Donnelly
WD in degrees
0
100
200
300
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD

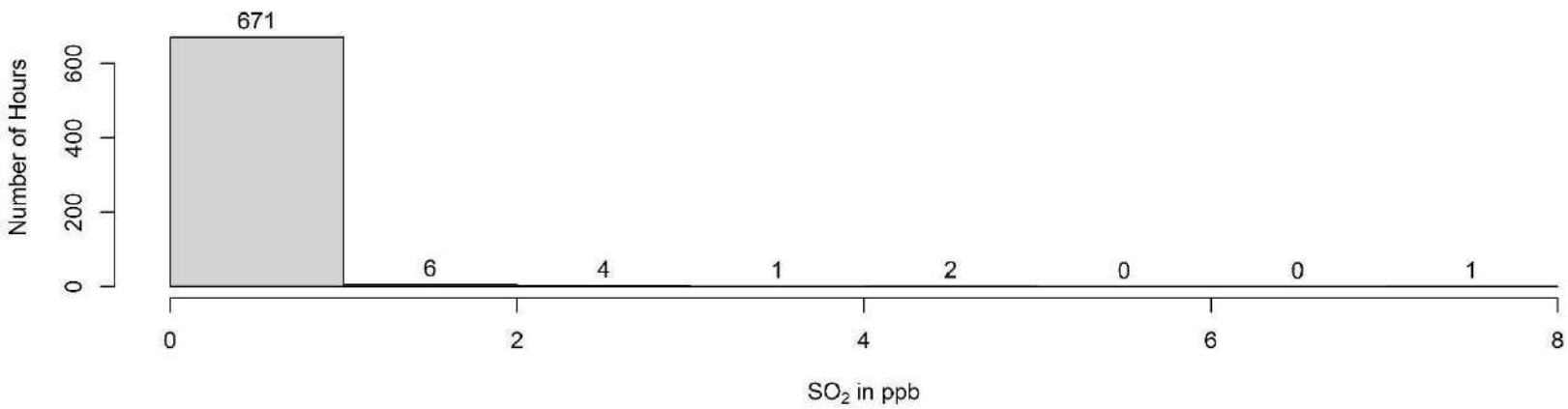

June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Donnelly
WD in degrees
0
20
40
60
80
100
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

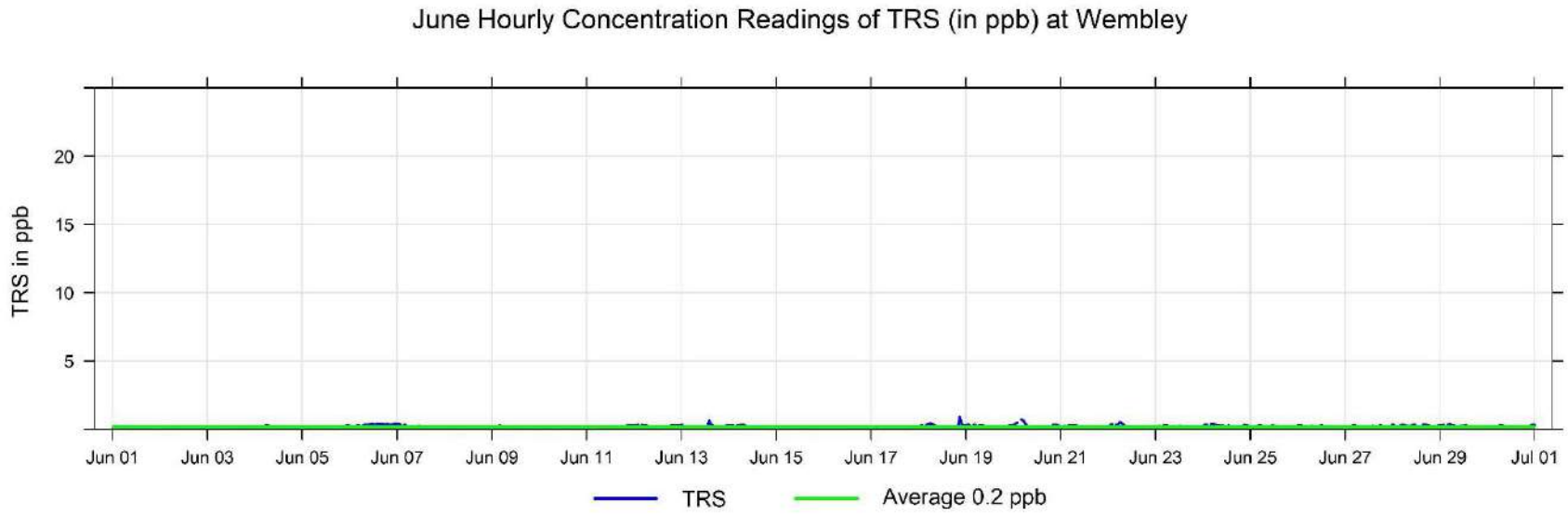

14%
12%
10%
8%
6%
4%
2%
N
E
S
0-1
1-5
5-10
10-20
20-30
>30
Donnelly June Wind Rose, wind speed in km/hr

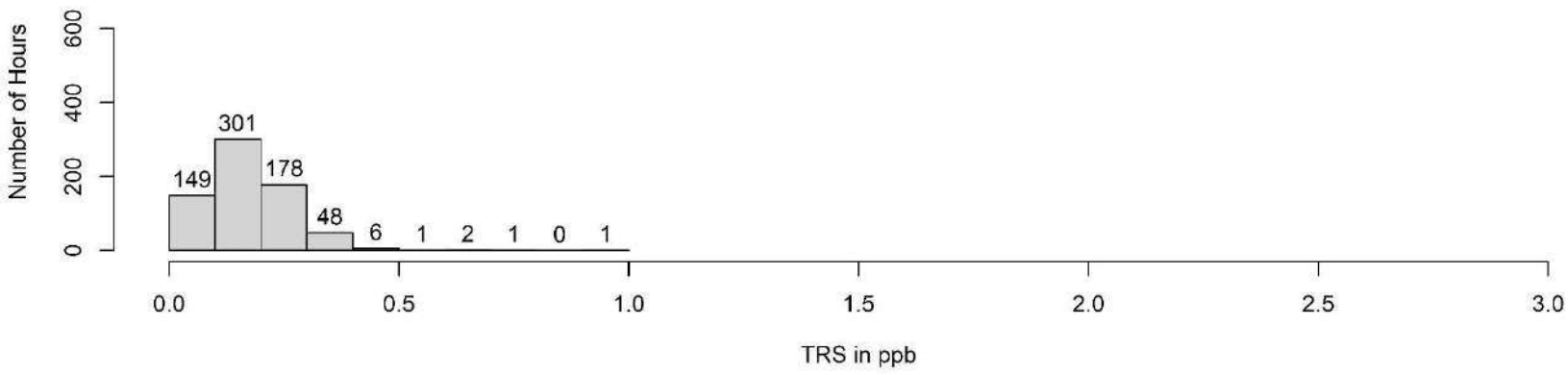
8 Wembley (Portable) Charts

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

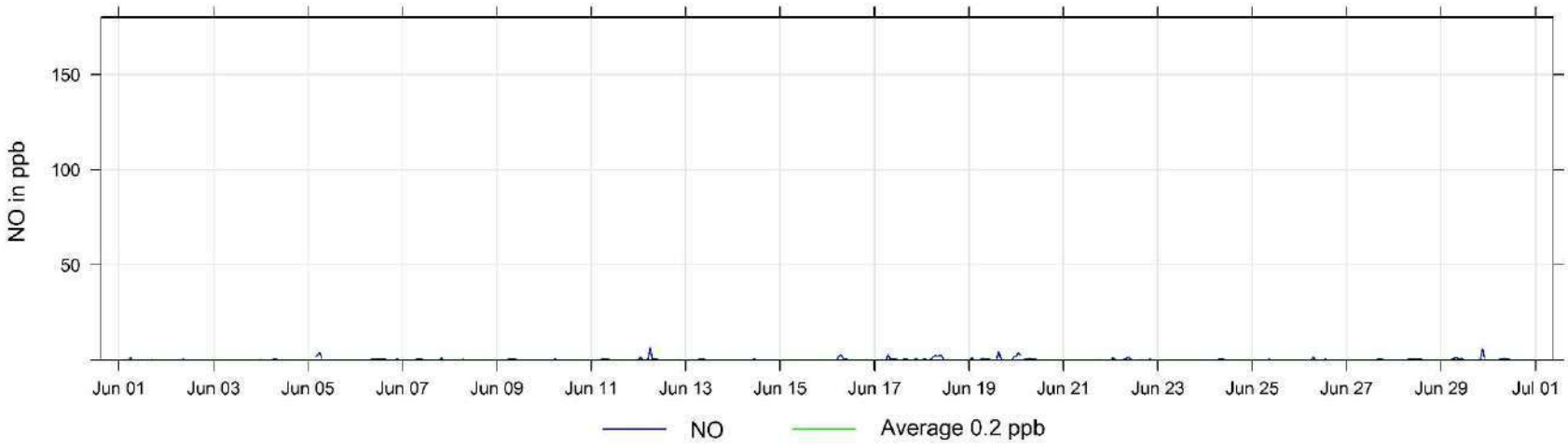

June Hourly Concentration Readings of SO_2 (in ppb) at Wembley
SO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
SO_2
AAAQO Limit = 172 ppb
Average 0.2 ppb


Number of Hours
0
200
400
600
671
6
4
1
2
0
0
1
0
2
4
6
8
SO_2 in ppb

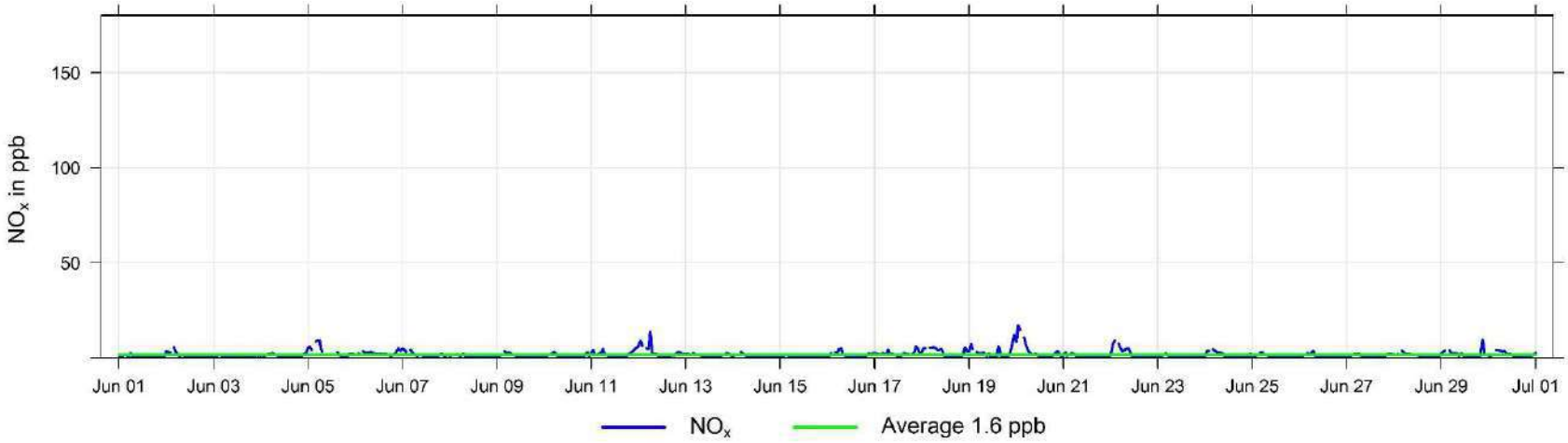

June Hourly Concentration Readings of TRS (in ppb) at Wembley
TRS in ppb
20
15
10
5
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
TRS
Average 0.2 ppb

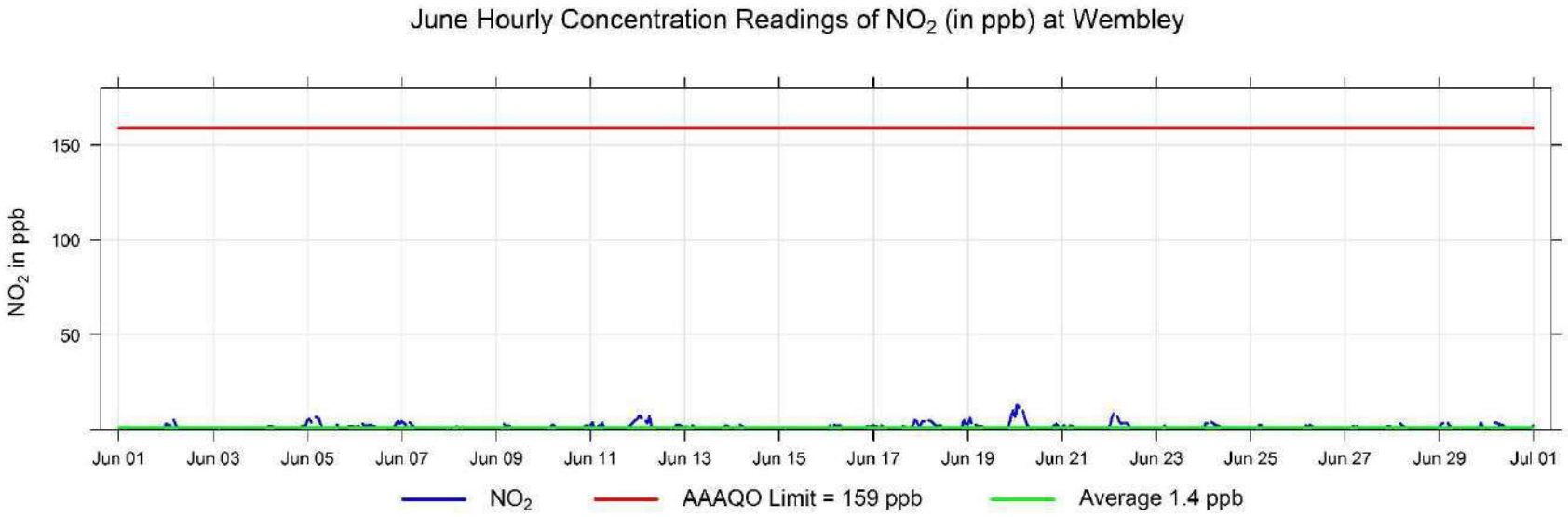

Number of Hours
0
200
400
600
149
301
178
48
6
1
2
1
0
1
0.0
0.5
1.0
1.5
2.0
2.5
3.0
TRS in ppb

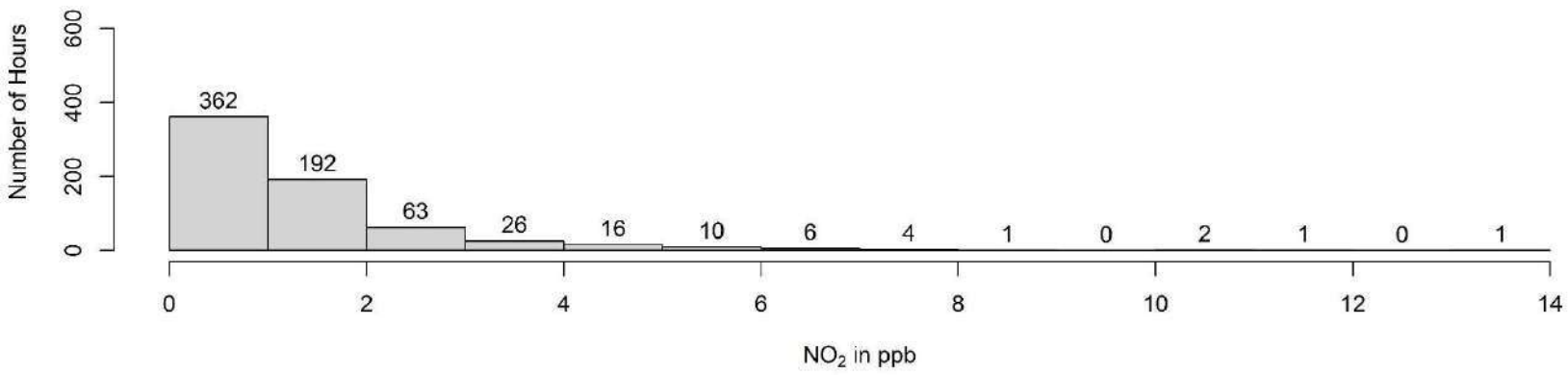
June Hourly Concentration Readings of NO (in ppb) at Wembley

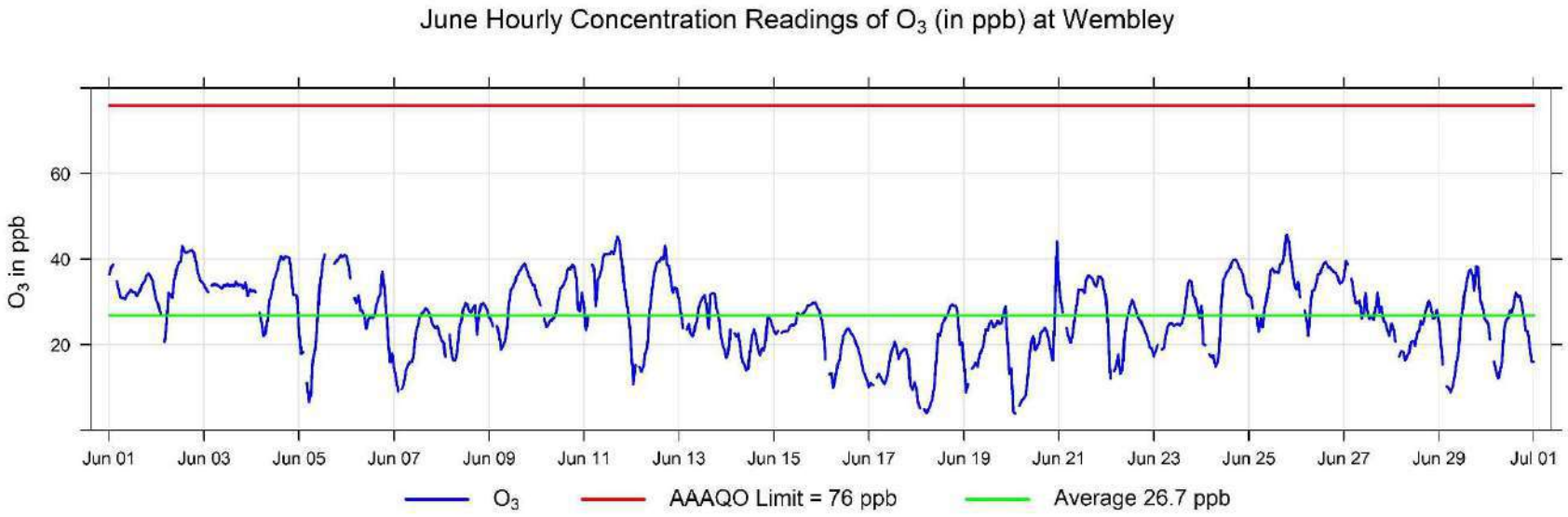


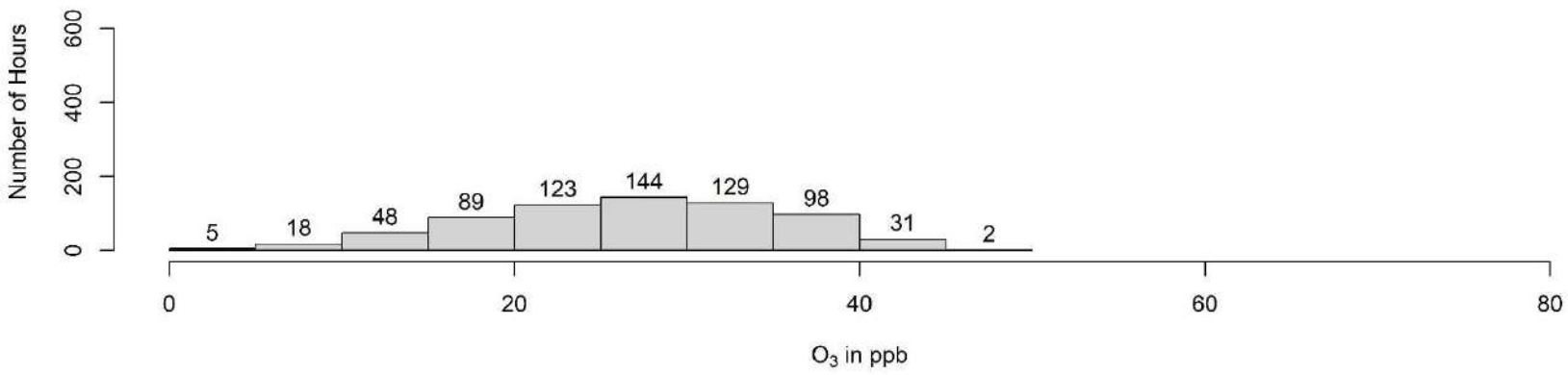
June Hourly Concentration Readings of NO_x (in ppb) at Wembley

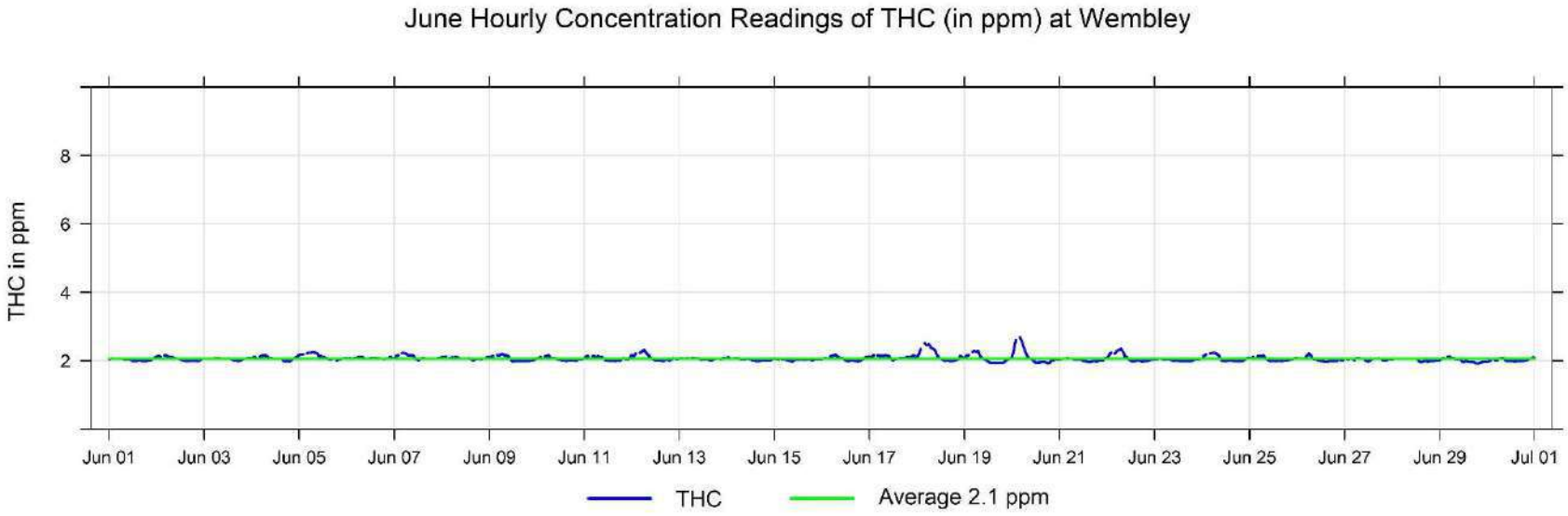



June Hourly Concentration Readings of NO_2 (in ppb) at Wembley
NO_2 in ppb
150
100
50
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
NO_2
AAAQO Limit = 159 ppb
Average 1.4 ppb

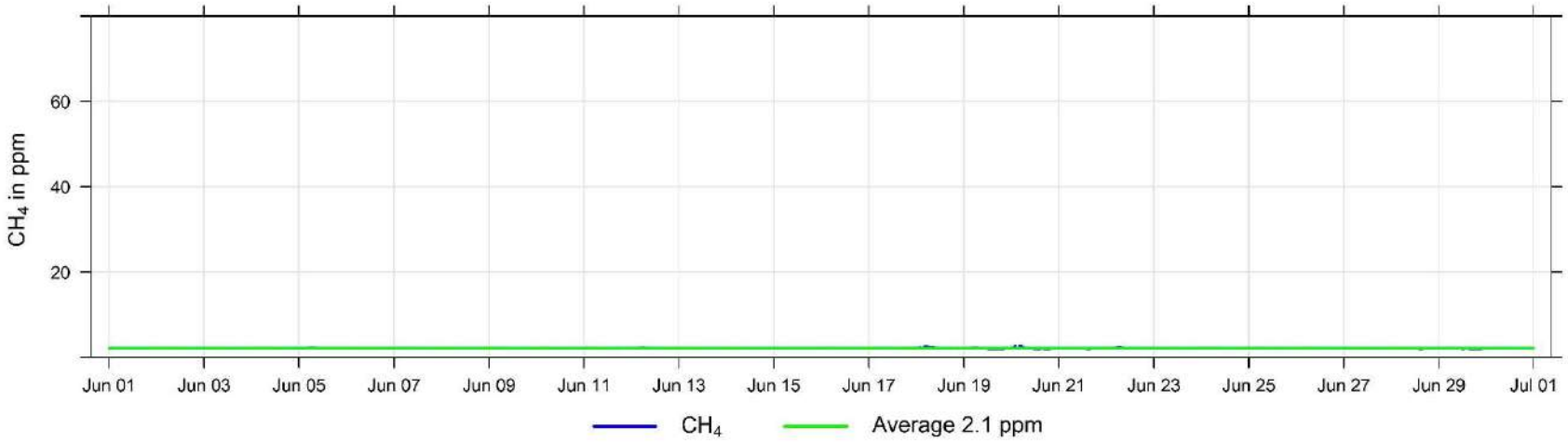

Number of Hours
0
200
400
600
362
192
63
26
16
10
6
4
1
0
2
1
0
1
0
2
4
6
8
10
12
14
NO_2 in ppb


June Hourly Concentration Readings of O_3 (in ppb) at Wembley
O_3 in ppb
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
O_3
AAAQO Limit = 76 ppb
Average 26.7 ppb

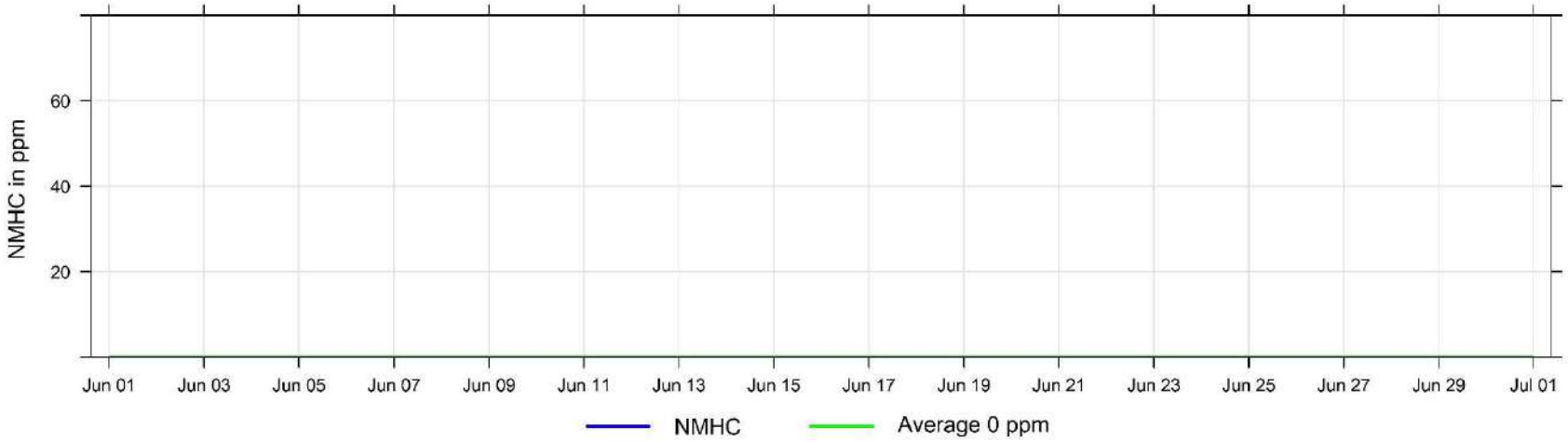

Number of Hours
0
200
400
600
5
18
48
89
123
144
129
98
31
2
0
20
40
60
80
O_3 in ppb

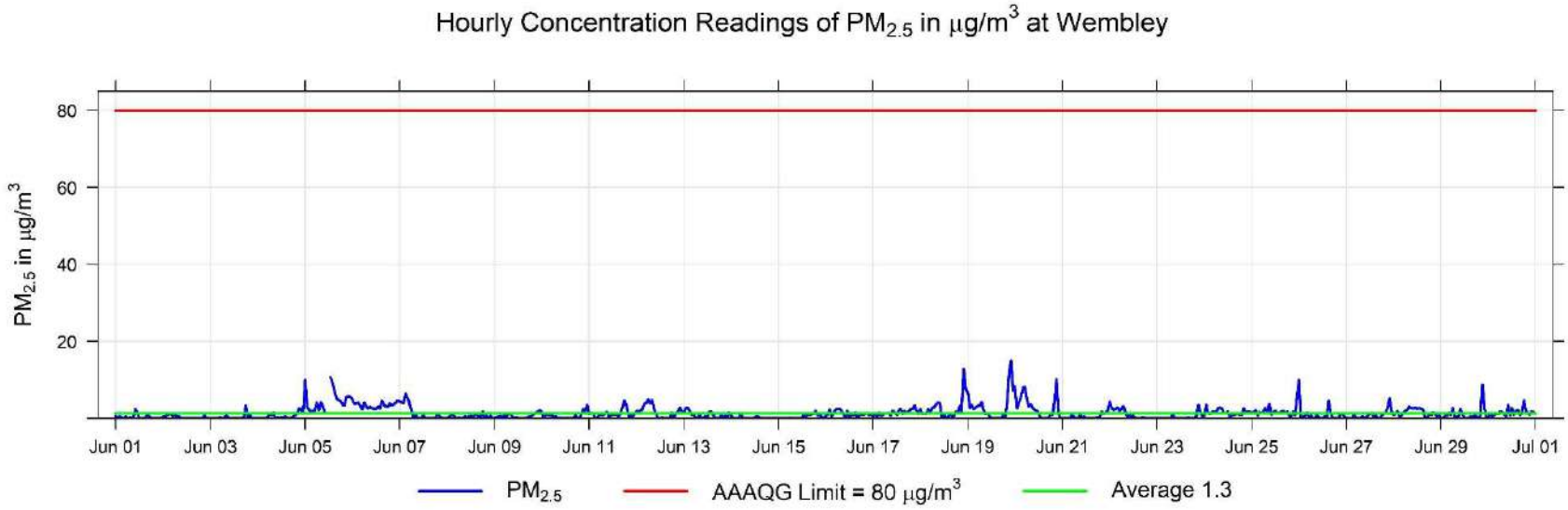

June Hourly Concentration Readings of THC (in ppm) at Wembley
THC in ppm
8
6
4
2
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
THC
Average 2.1 ppm

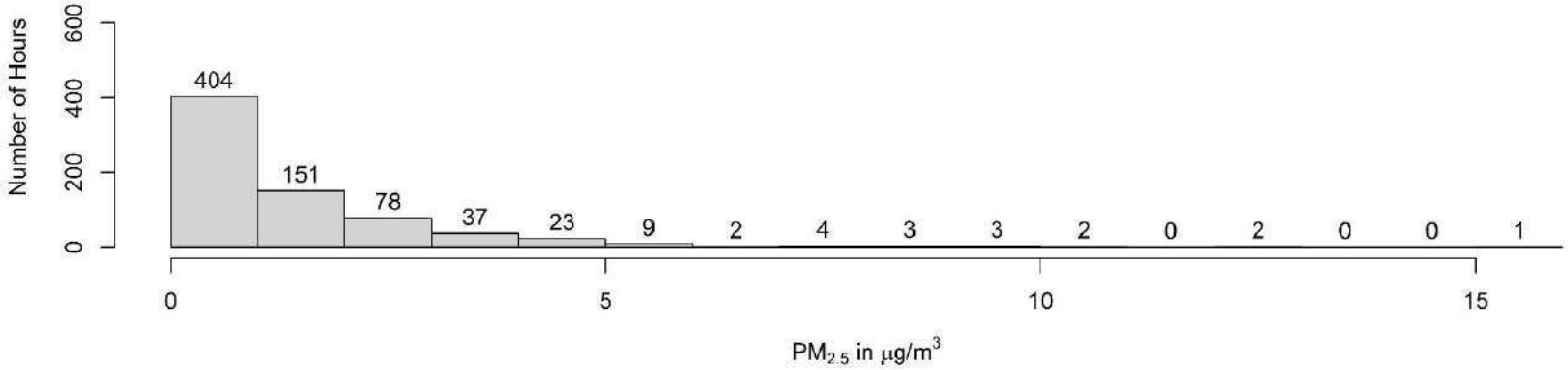
June Hourly Concentration Readings of CH_4 (in ppm) at Wembley



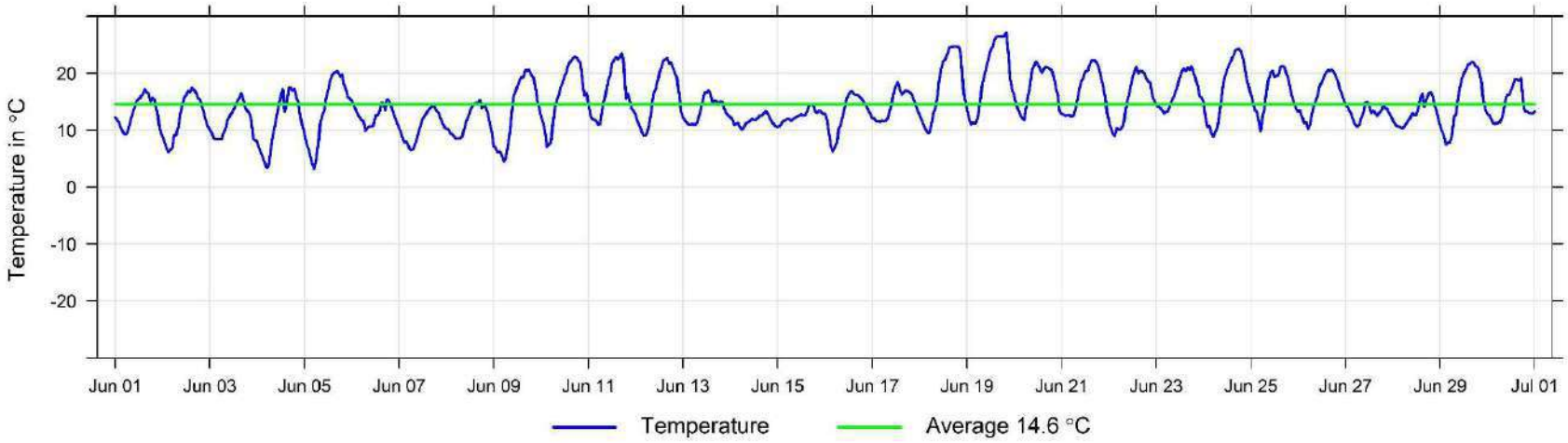
June Hourly Concentration Readings of NMHC (in ppm) at Wembley



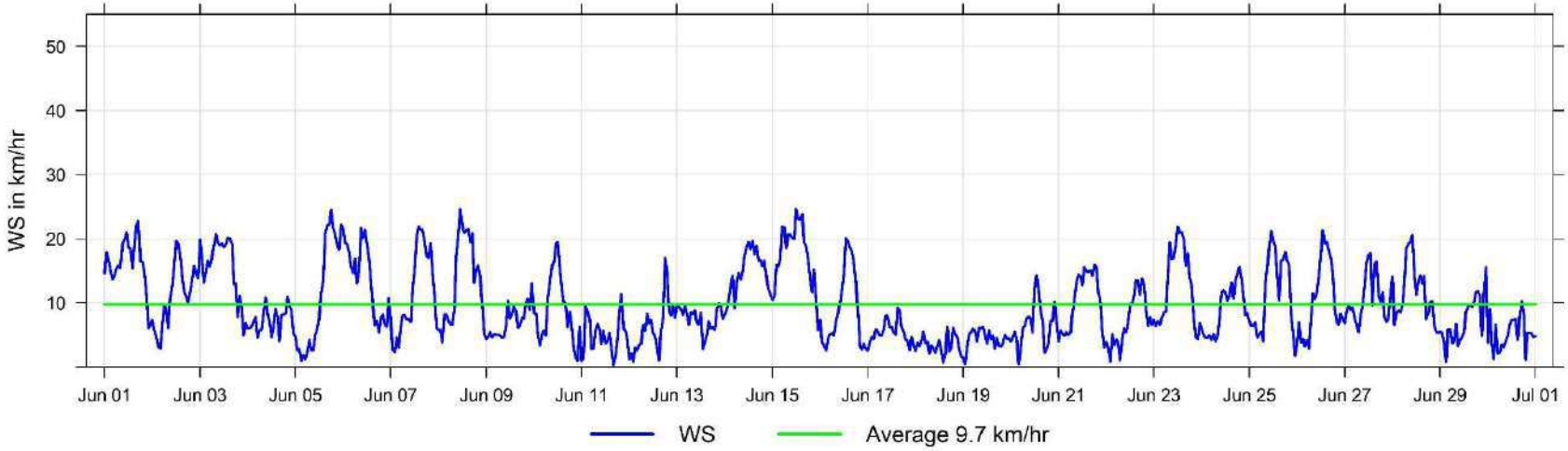

Hourly Concentration Readings of PM2.5 in μg/m3 at Wembley
PM2.5 in μg/m3
80
60
40
20
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
PM2.5
AAAQG Limit = 80 μg/m3
Average 1.3

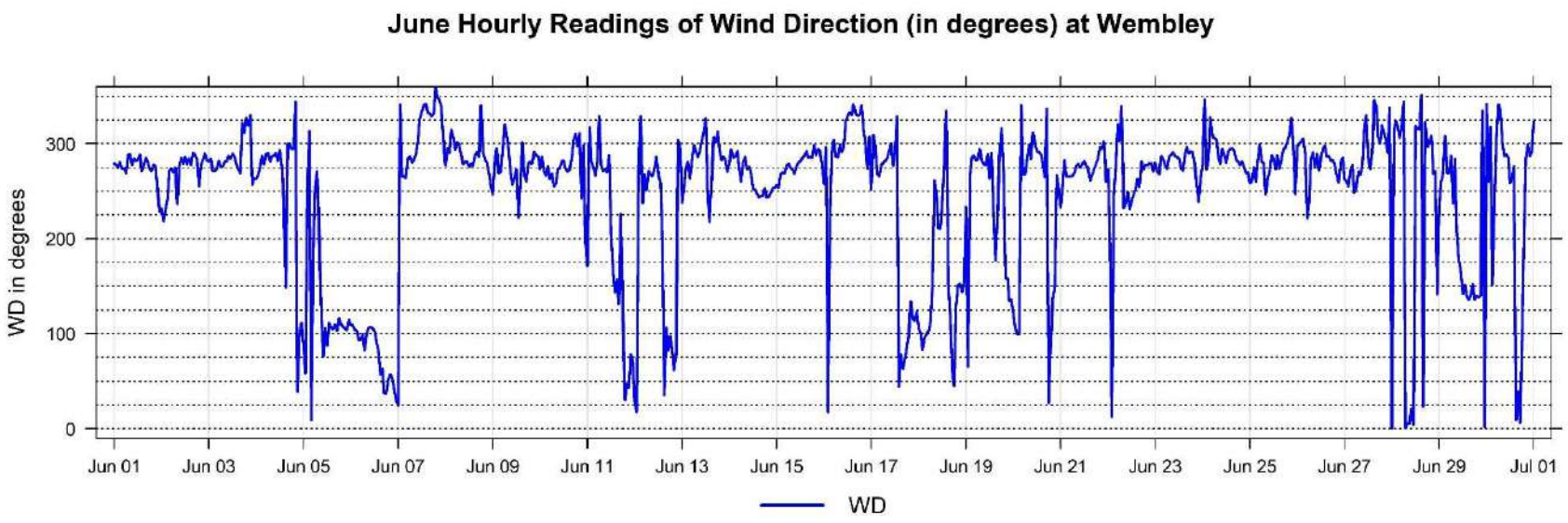

Number of Hours
0
200
400
600
404
151
78
37
23
9
2
4
3
3
2
0
2
0
0
1
0
5
10
15
PM2.5 in μg/m3

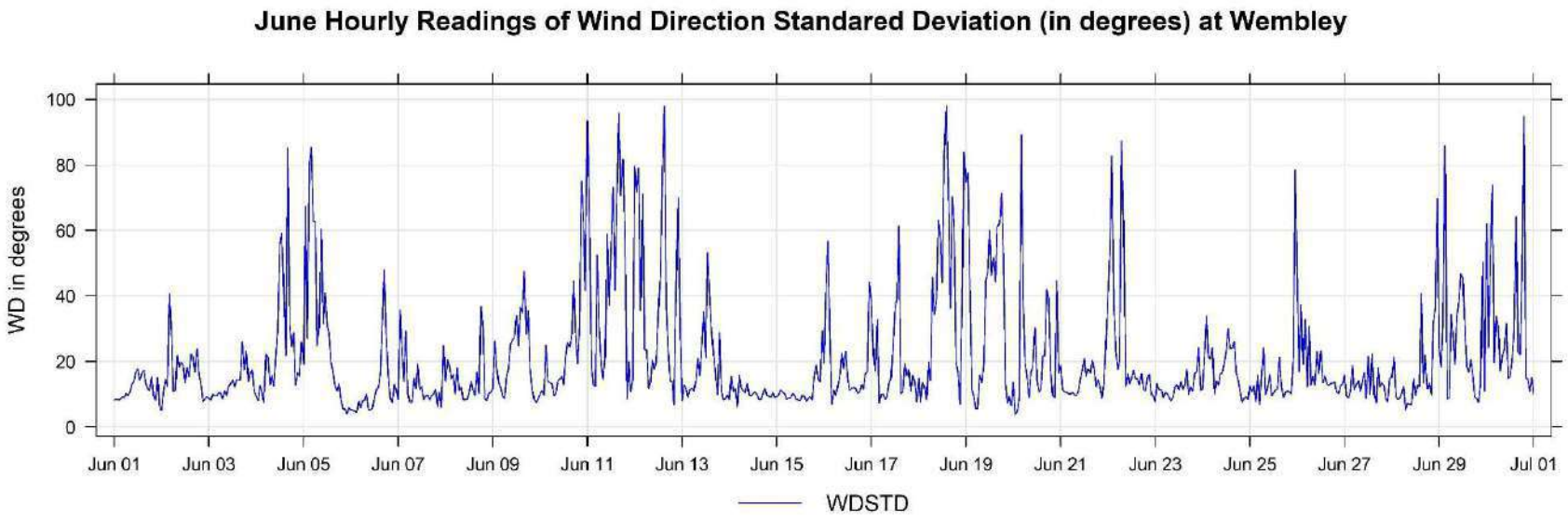
June Hourly Temperature Readings (in °C) at Wembley

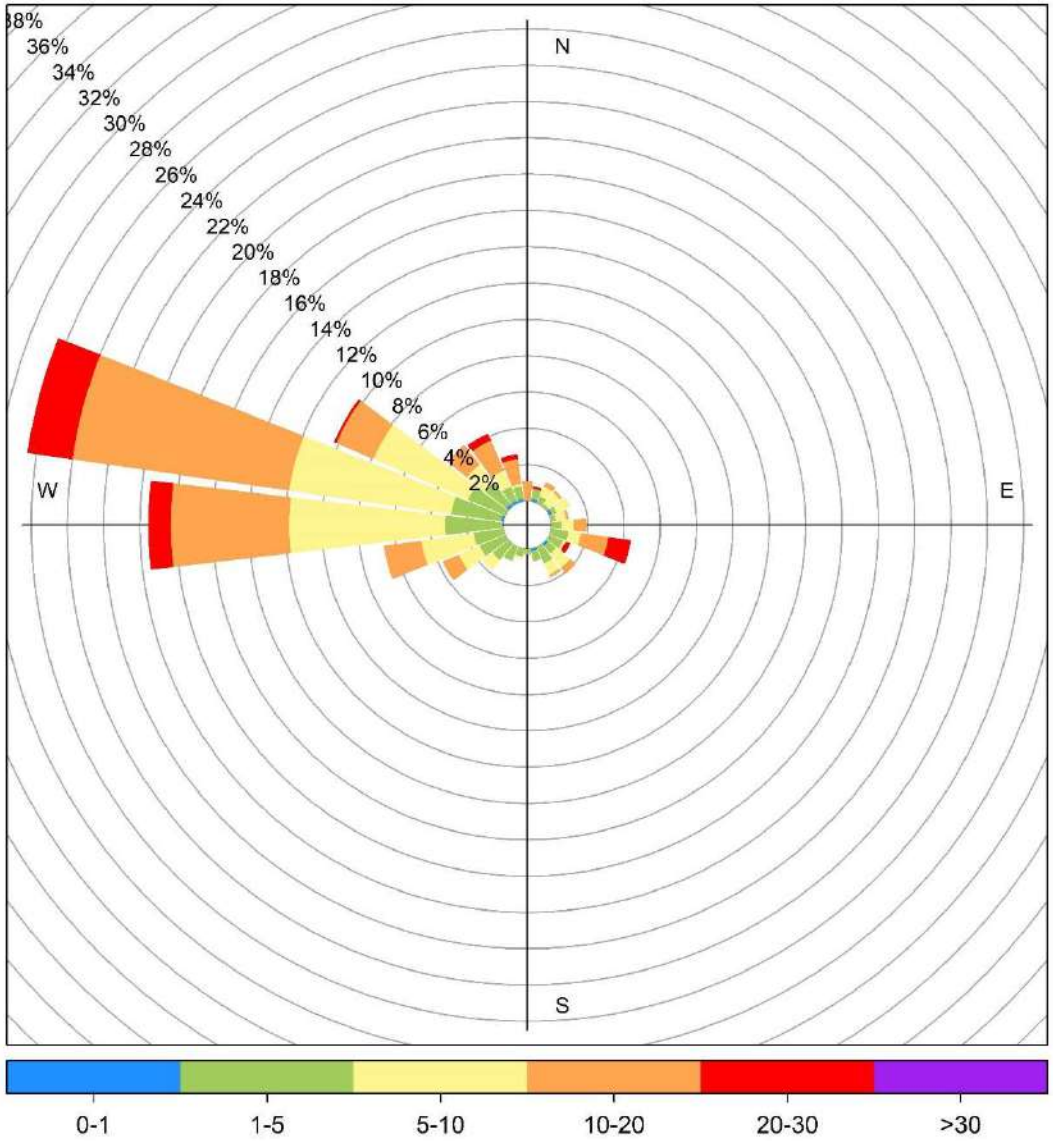


June Hourly Readings of Wind Speed (in km/hr) at Wembley



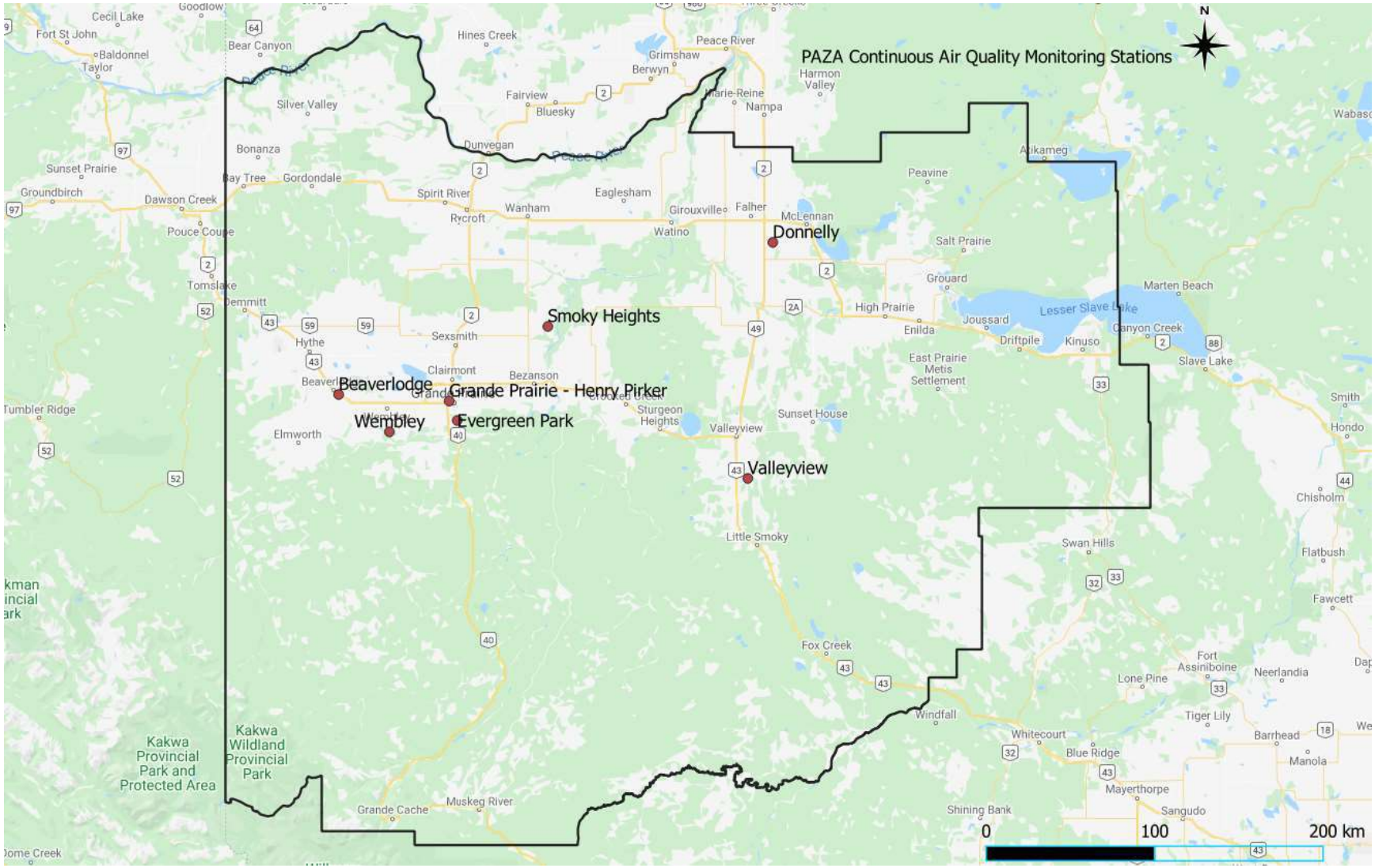

June Hourly Readings of Wind Direction (in degrees) at Wembley
WD in degrees
0
100
200
300
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WD


June Hourly Readings of Wind Direction Standared Deviation (in degrees) at Wembley
WD in degrees
0
20
40
60
80
100
Jun 01
Jun 03
Jun 05
Jun 07
Jun 09
Jun 11
Jun 13
Jun 15
Jun 17
Jun 19
Jun 21
Jun 23
Jun 25
Jun 27
Jun 29
Jul 01
WDSTD

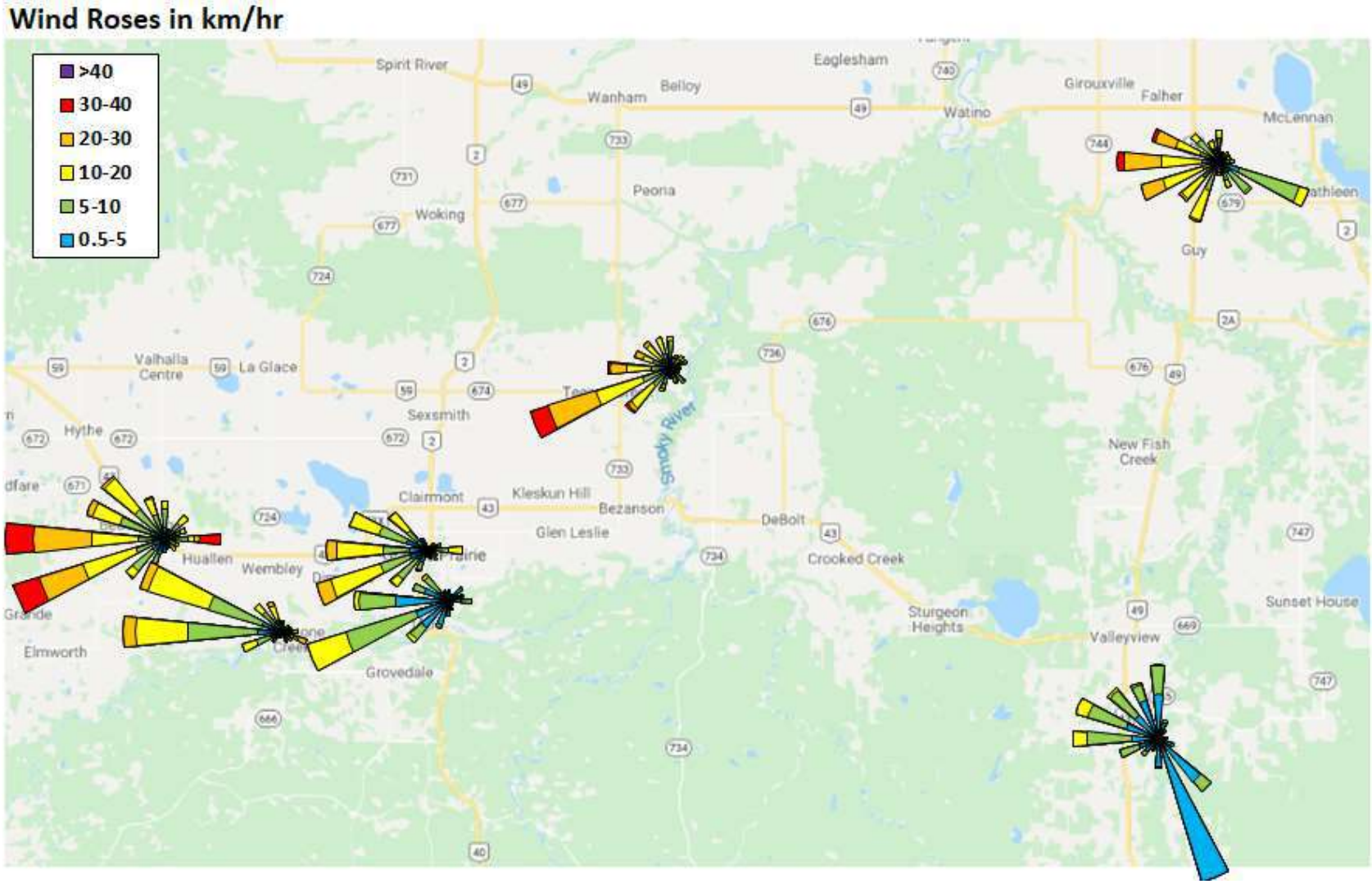


Wembley June Wind Rose, wind speed in km/hr

9 Concentration Roses for PAZA

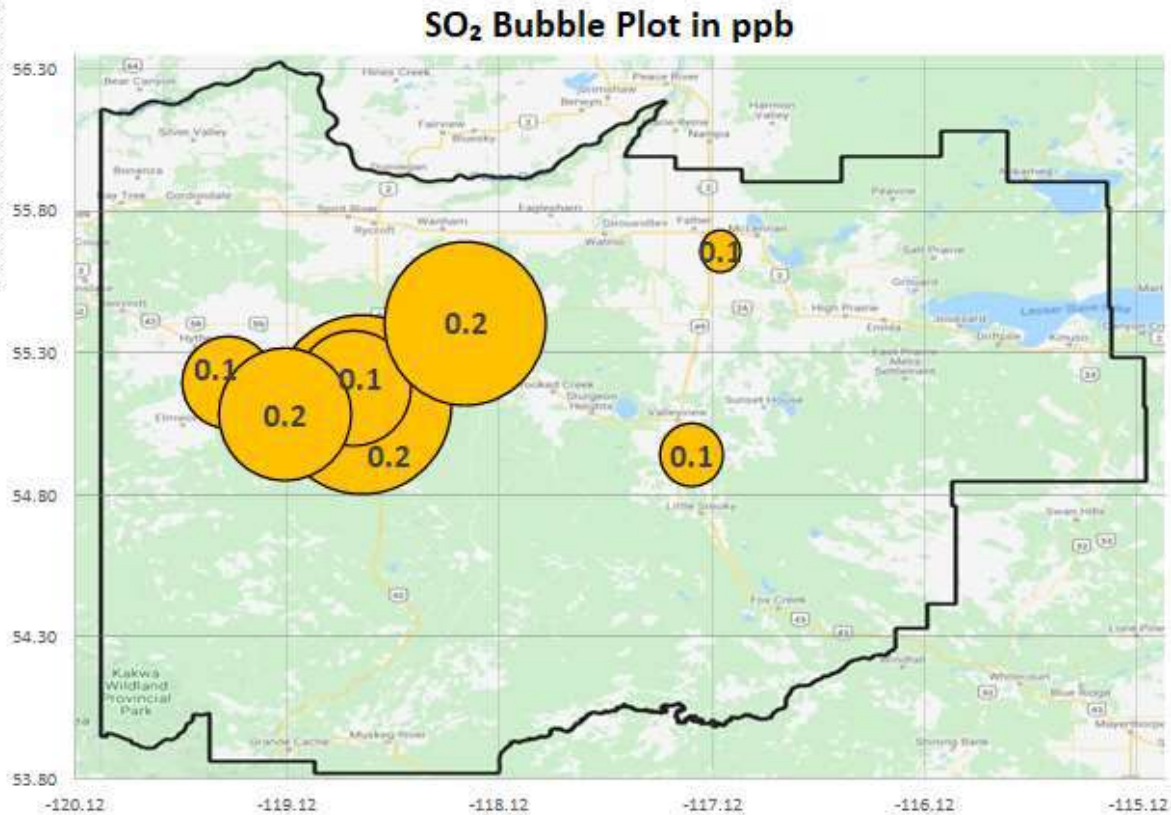


9.1 Wind Roses

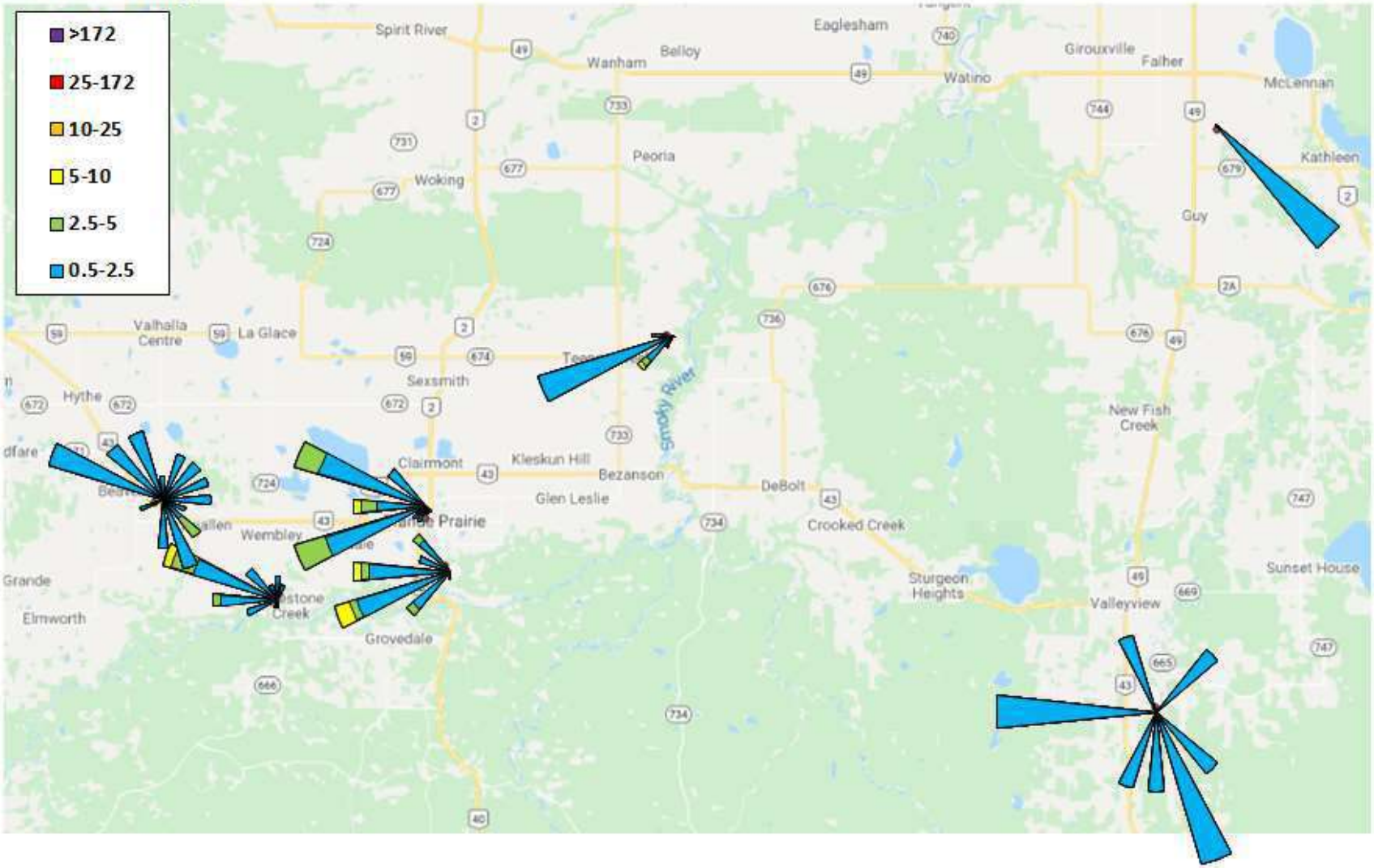


9.2 Sulphur Dioxide Plots

June 2020 SO_2 Summary	
Station	**Avg (ppb)**
Evergreen Park	0.2
Henry Pirker	0.1
Smoky Heights	0.2
Beaverlodge	0.1
Valleyview	0.1
Donnelly	0.1
Wembley	0.2

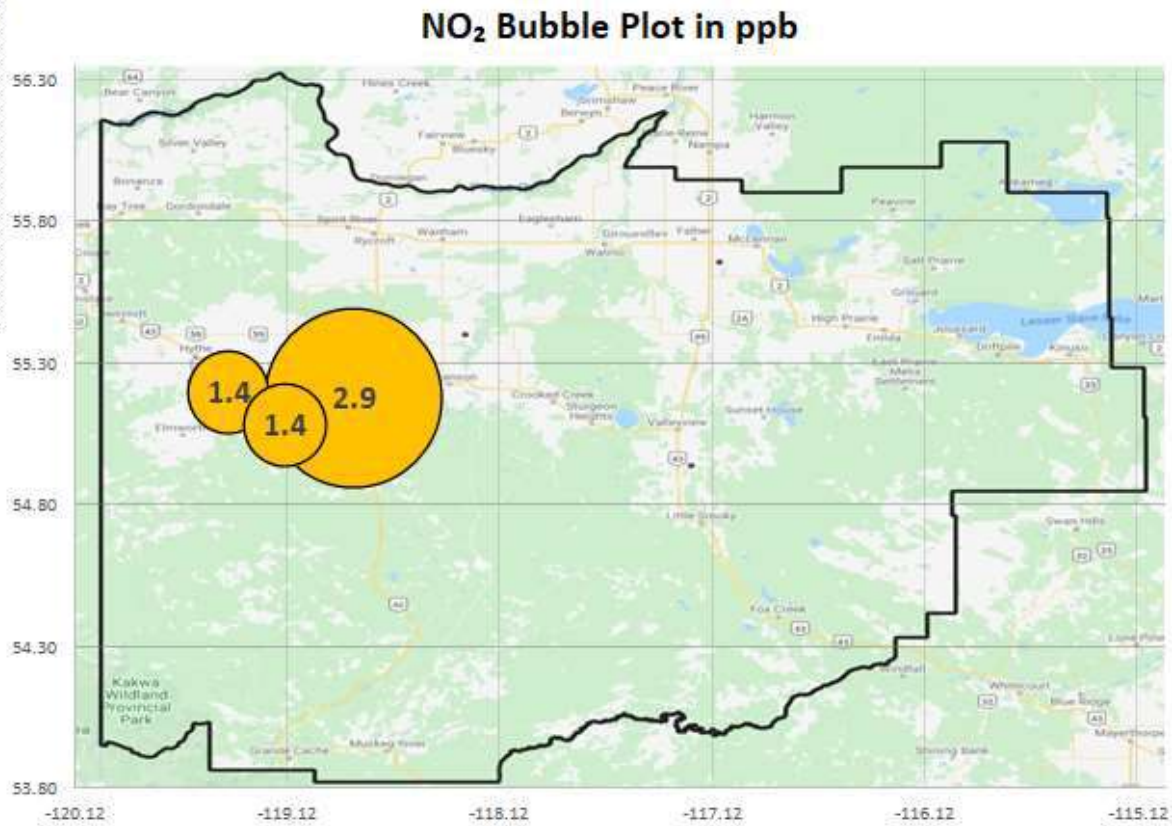


SO_2 Roses in ppb

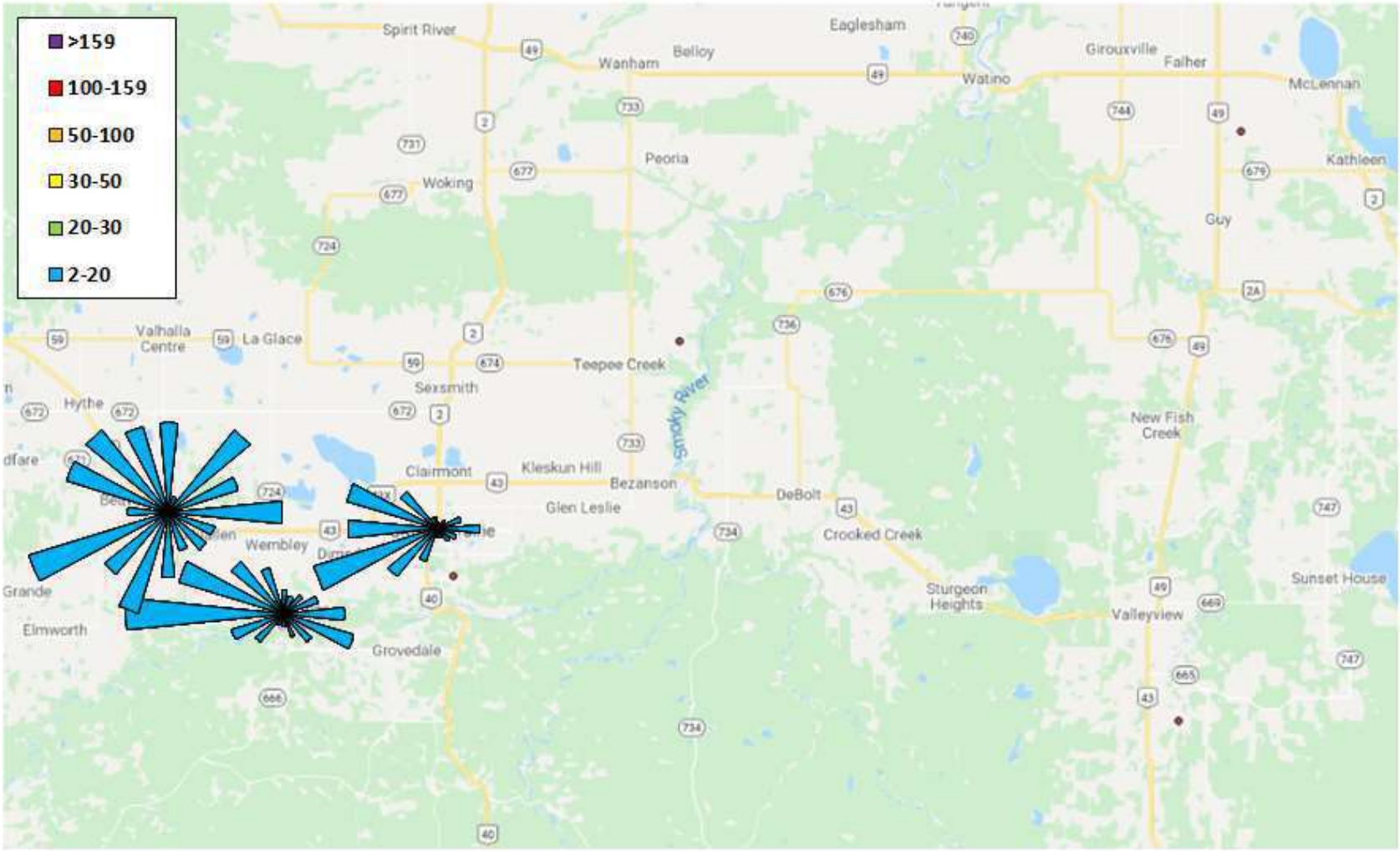


9.3 Nitrogen Dioxide Plots

June 2020 NO_2 Summary	
Station	**Avg (ppb)**
Evergreen Park	-
Henry Pirker	2.9
Smoky Heights	-
Beaverlodge	1.4
Valleyview	-
Donnelly	-
Wembley	1.4

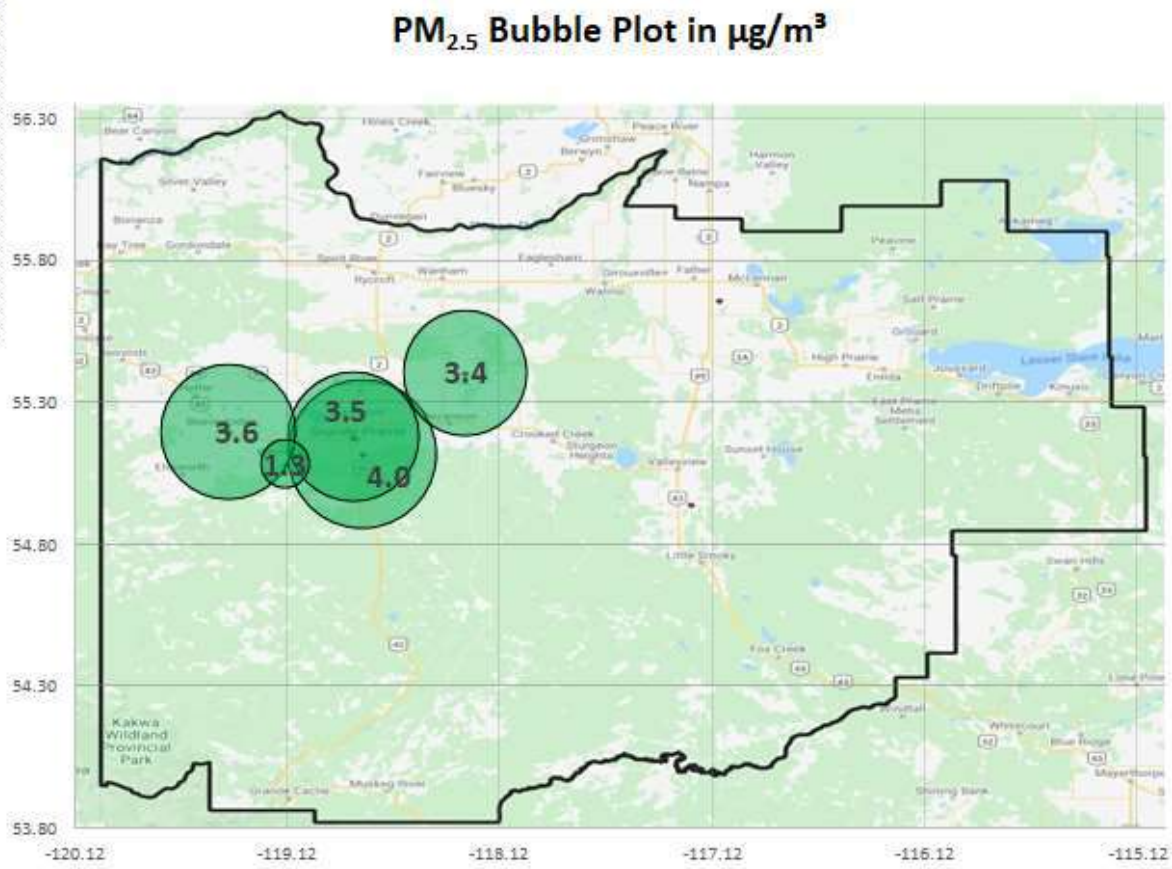


NO_2 Roses in ppb

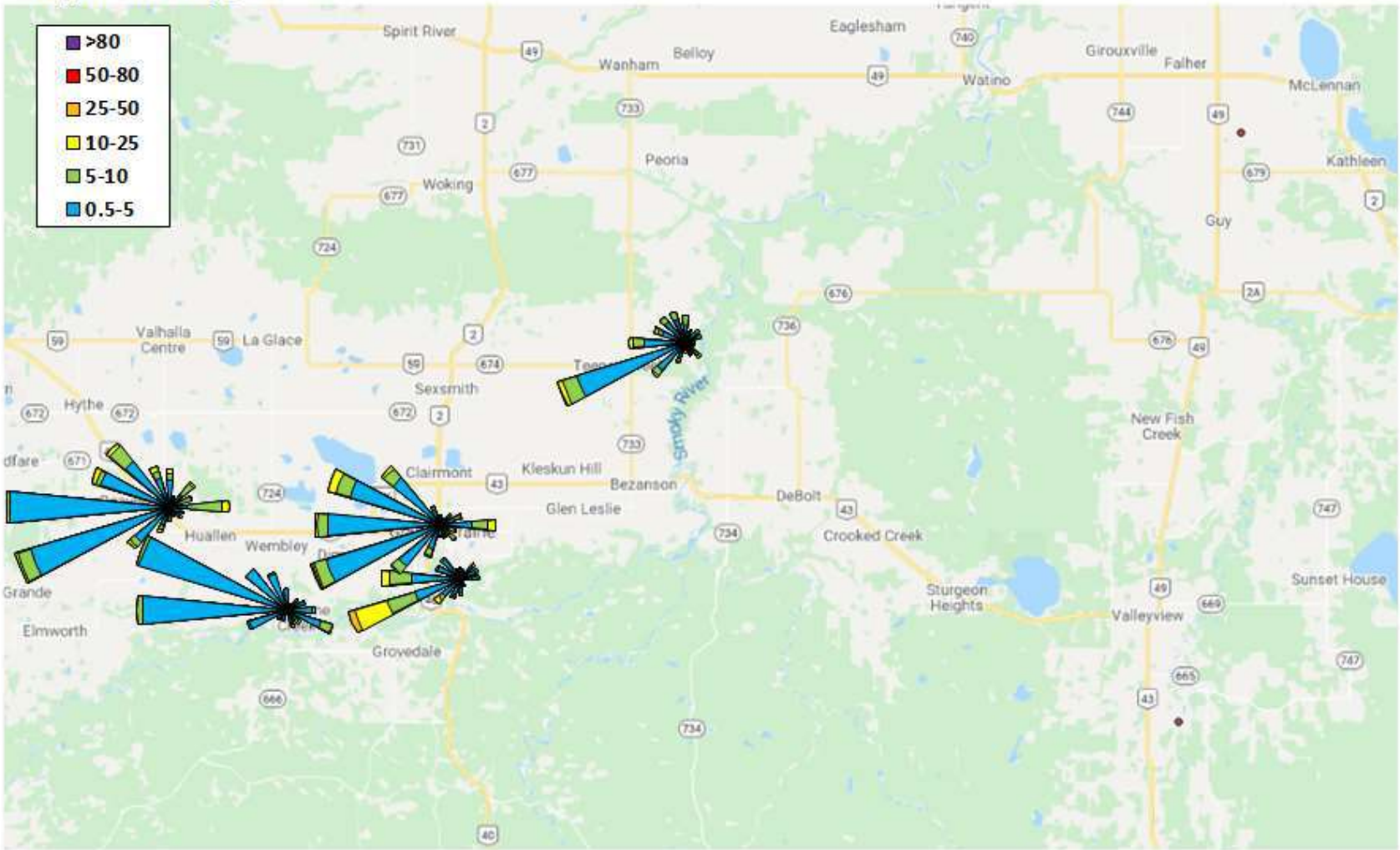


9.4 Fine Particulate Matter ($PM_{2.5}$) Plots

June 2020 PM2.5 Summary	
Station	Avg (µg/m³)
Evergreen Park	4.0
Henry Pirker	3.5
Smoky Heights	3.4
Beaverlodge	3.6
Valleyview	-
Donnelly	-
Wembley	1.3



$PM_{2.5}$ Roses in µg/m³



10 Passive Monitoring Data

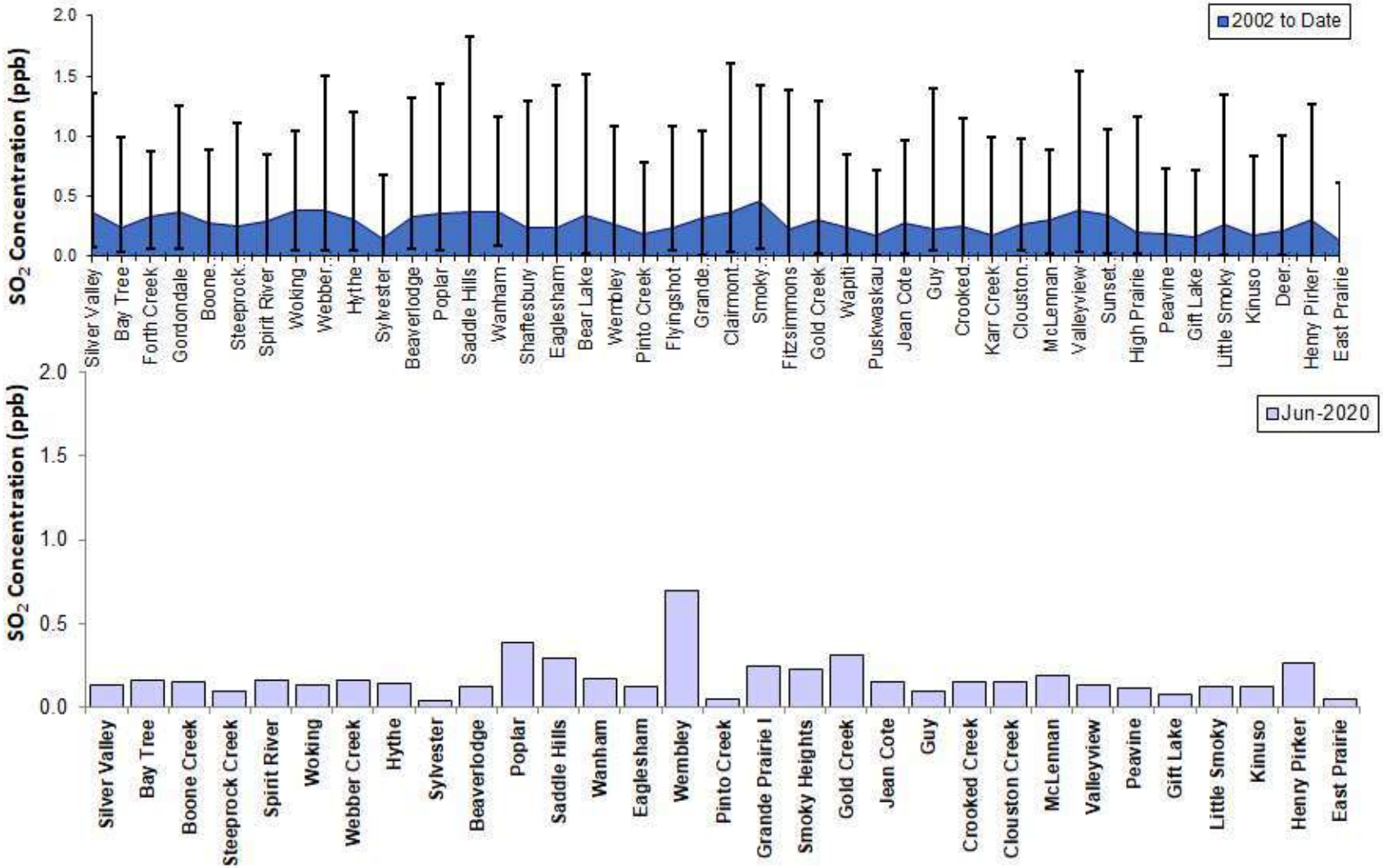
Peace Airshed Zone Association - PAZA Passive Stations for June 2020

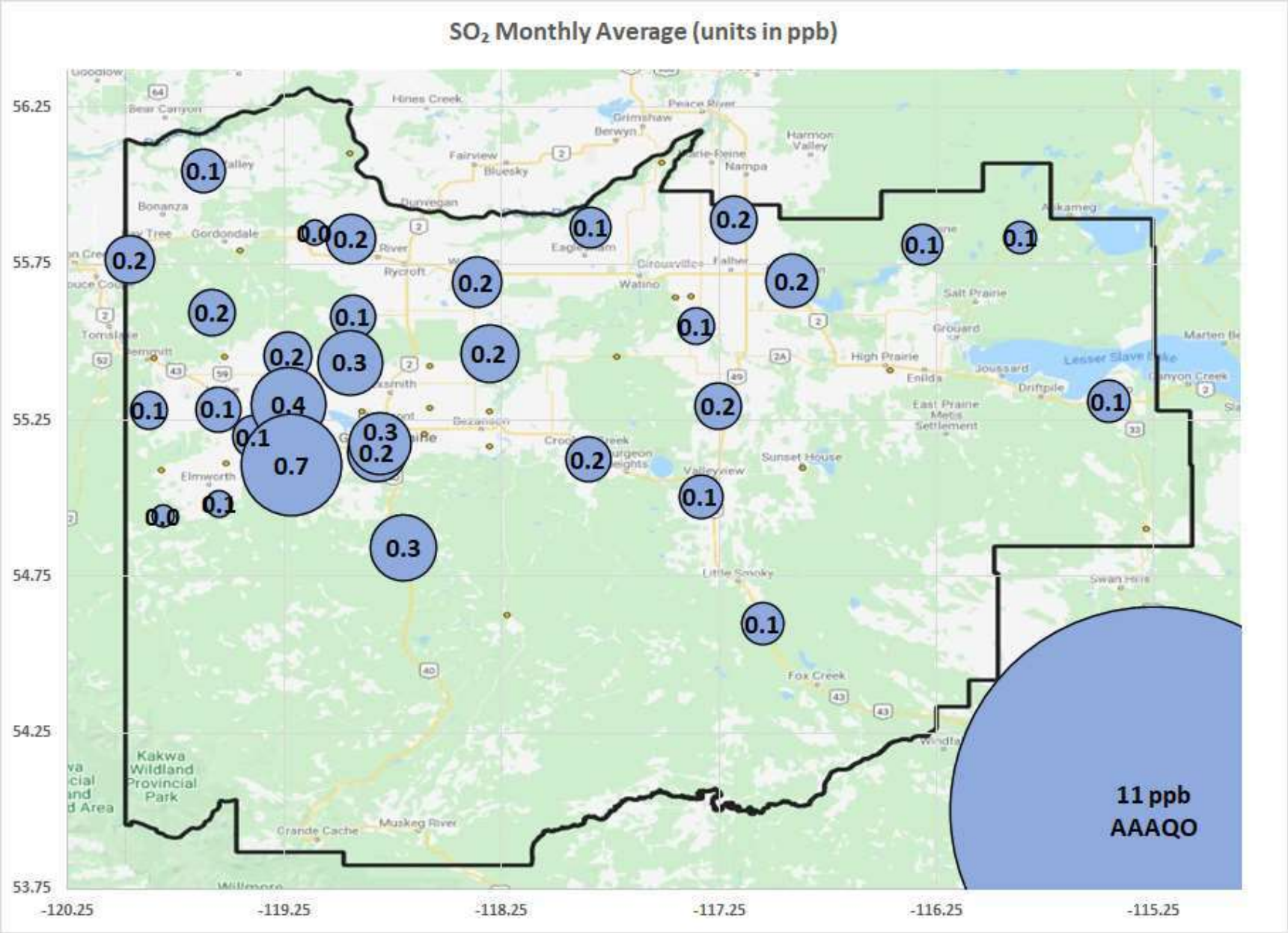
Station Number	Station Name	SO2 ppb	O3 ppb	NO2 ppb	H2S ppb	LSD
Duplicates						
19a	Wanham			0.3		
19b	Wanham			0.7		
24a	Wembley	0.7				
24b	Wembley	0.7				
25a	Pinto Creek			0.4		
25b	Pinto Creek			0.2		
29a	Smoky Heights	0.2				
29b	Smoky Heights	0.2				
44a	Peavine	0.1				
44b	Peavine	0.1				
45a	Gift Lake			0.2		
45b	Gift Lake			0.3		
47a	Kinuso		31.4			
47b	Kinuso		26.7			
63a					1.0	
63b					0.8	
1	Silver Valley	0.1	-	0.7	-	08-27-081-11 W6M
2	Bay Tree	0.2	23.9	0.1	-	13-16-078-13 W6M
5	Boone Creek	0.2	-	0.2	-	01-23-076-11 W6M
7	Steeprock Creek	0.1	-	0.0	-	09-35-072-13 W6M
9	Spirit River	0.2	-	1.8	-	08-12-079-07 W6M
10	Woking	0.1	-	0.5	-	01-13-076-07 W6M
11	Webber Creek	0.2	-	1.3	-	09-36-074-09 W6M
12	Hythe	0.1	-	0.8	-	14-36-072-11 W6M
14	Sylvester	0.0	-	0.3	-	08-06-069-12 W6M
16	Beaverlodge	0.1	-	0.7	-	15-36-071-10 W6M
17	Poplar	0.4	-	0.9	-	13-06-073-08 W6M
18	Saddle Hills	0.3	-	0.5	-	04-25-074-07 W6M
19	Wanham	0.2	-	0.5	-	16-22-077-03 W6M
21	Eaglesham	0.1	-	1.9	-	16-21-079-25 W5M
24	Wembley	0.7	-	1.9	-	12-31-070-08 W6M
25	Pinto Creek	0.1	-	0.3	-	04-24-069-11 W6M
27	Grande Prairie I	0.2	-	1.5	-	08-15-071-06 W6M
29	Smoky Heights	0.2	-	0.9	-	04-06-075-02 W6M
32	Gold Creek	0.3	-	0.9	-	06-33-067-05 W6M
35	Jean Cote	0.2	-	1.4	-	12-35-079-21 W5M
36	Guy	0.1	-	1.5	0.3	03-04-076-22 W5M
37	Crooked Creek	0.2	32.6	0.7	-	16-01-071-26 W5M
39	Clouston Creek	0.2	-	1.0	-	12-01-073-22 W5M
40	McLennan	0.2	-	1.3	-	03-29-077-19 W5M
41	Valleyview	0.1	-	0.5	-	09-30-069-22 W5M
44	Peavine	0.1	-	0.1	-	03-05-079-15 W5M
45	Gift Lake	0.1	-	0.2	-	10-07-079-12 W5M
46	Little Smoky	0.1	-	0.6	-	12-01-065-21 W5M
47	Kinuso	0.1	29.0	0.4	-	12-10-073-10 W5M
49	Henry Pirker	0.3	-	1.5	-	17-26-071-06 W6M
50	East Prairie	0.0	-	0.1	-	11-13-079-08 W6M
63	Girouxville 3	-	-	-	0.9	14-02-077-23 W5M
64	Girouxville 4	-	-	-	0.7	04-08-077-22 W5M

Passive Summary for June 2020

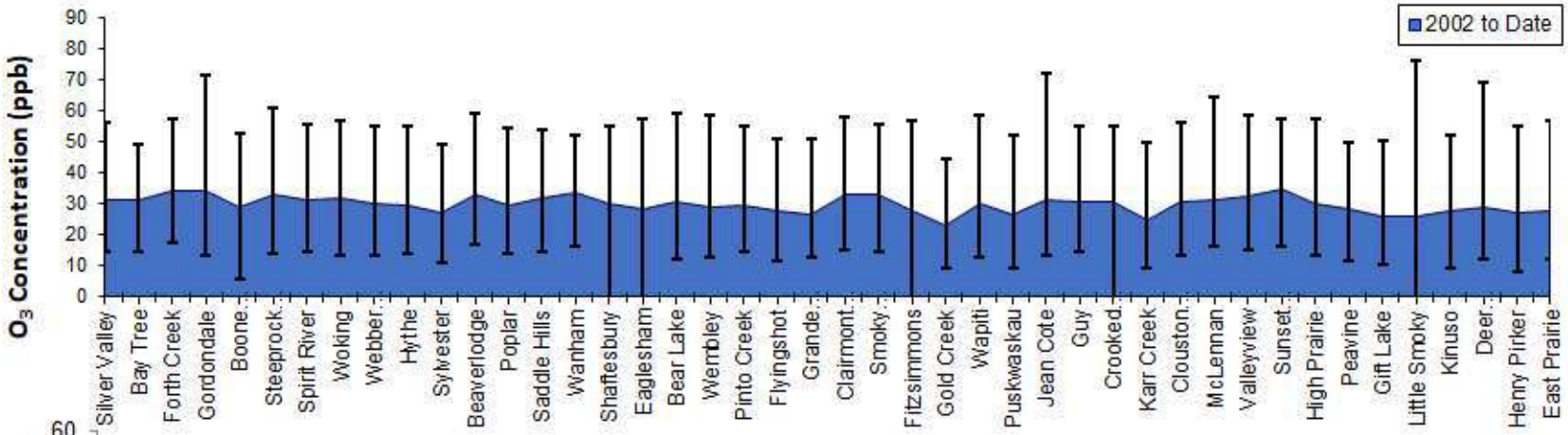
Stats	Sulphur Dioxide SO_2	Ozone O_3	Nitrogen Dioxide NO_2	Hydrogen Sulphide H_2S
	ppb	ppb	ppb	ppb
	Passive Summary for June 2020 (PAZA)			
Mean	0.2	28.5	0.8	0.6
Standard Deviation	0.1	4.4	0.6	0.3
Minimum	0.0 Sylvester (#14)	23.9 Bay Tree (#2)	0.0 Steeprock Creek (#7)	0.3 Guy (#36)
Maximum	0.7 Wembley (#24)	32.6 Crooked Creek (#37)	1.9 Wembley (#24)	0.9 Girouxville 3 (#63)
	Continuous and Passive Monitoring Comparision			
PAZA Beaverlodge Station	**0.1**	**26.6**	**1.4**	**-**
Beaverlodge Passive (#16)	**0.1**	-	**0.7**	-
PAZA Henry Pirker Station	**0.1**	**26.4**	**2.9**	**0.2**
Henry Pirker passive (#49)	**0.3**	-	**1.5**	-

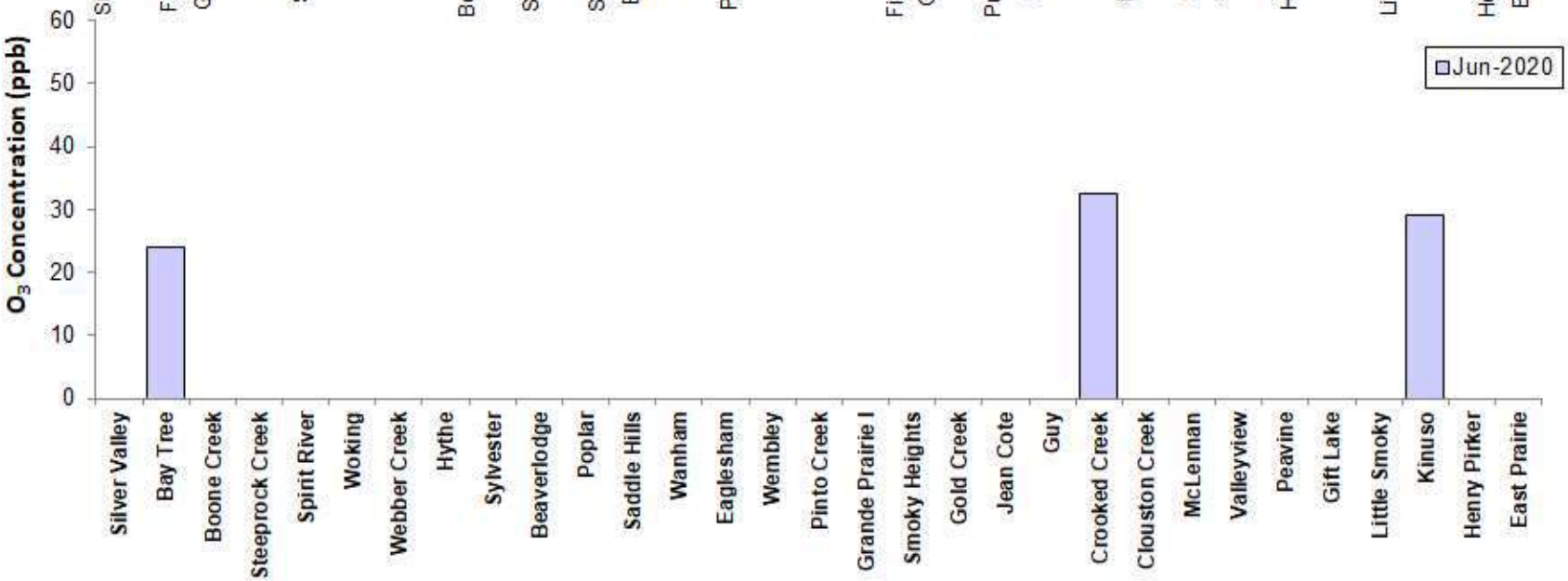
Alberta Ambient Air Quality Objective - 30-day SO_2 Objective is 11 ppb

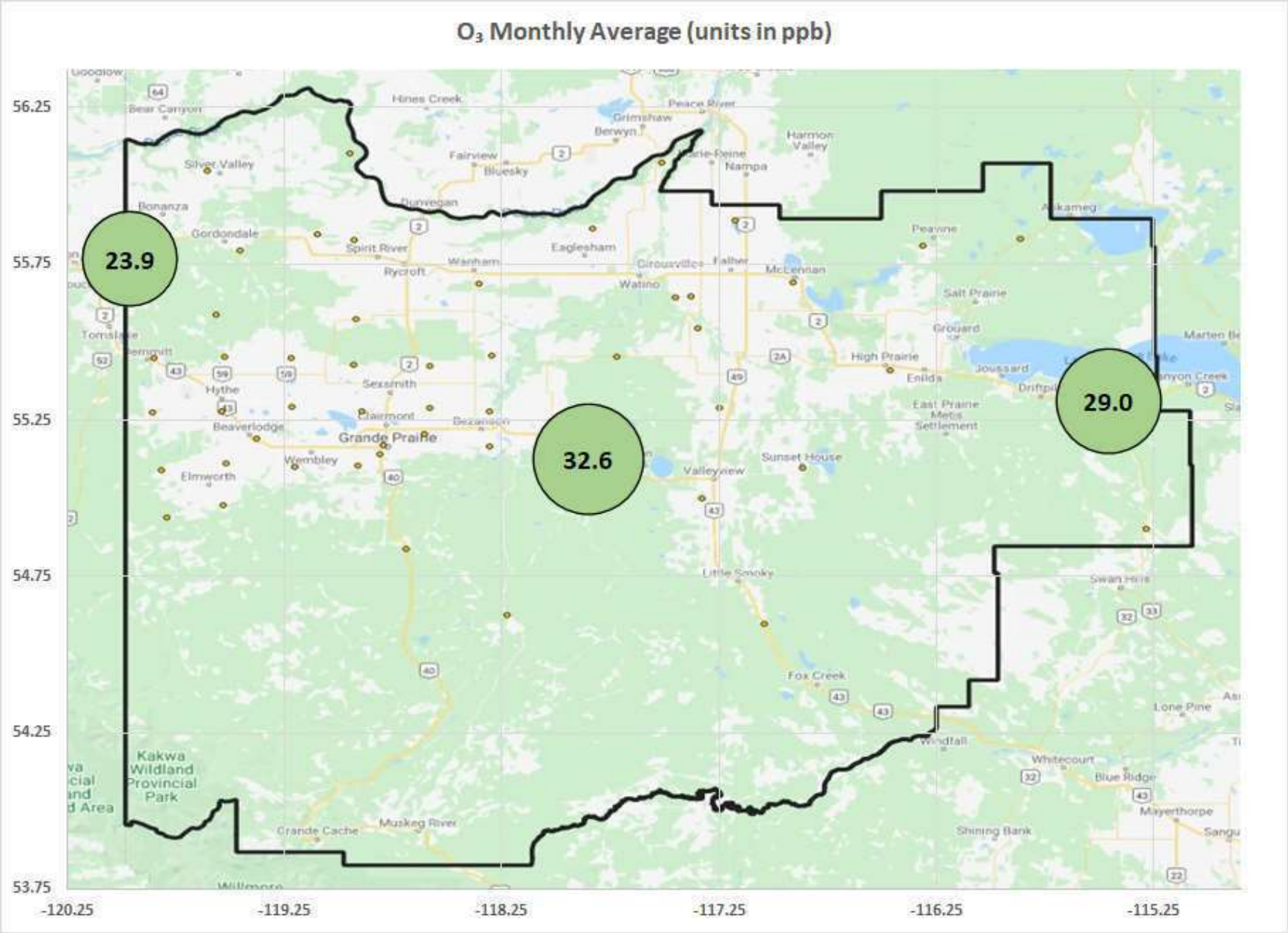


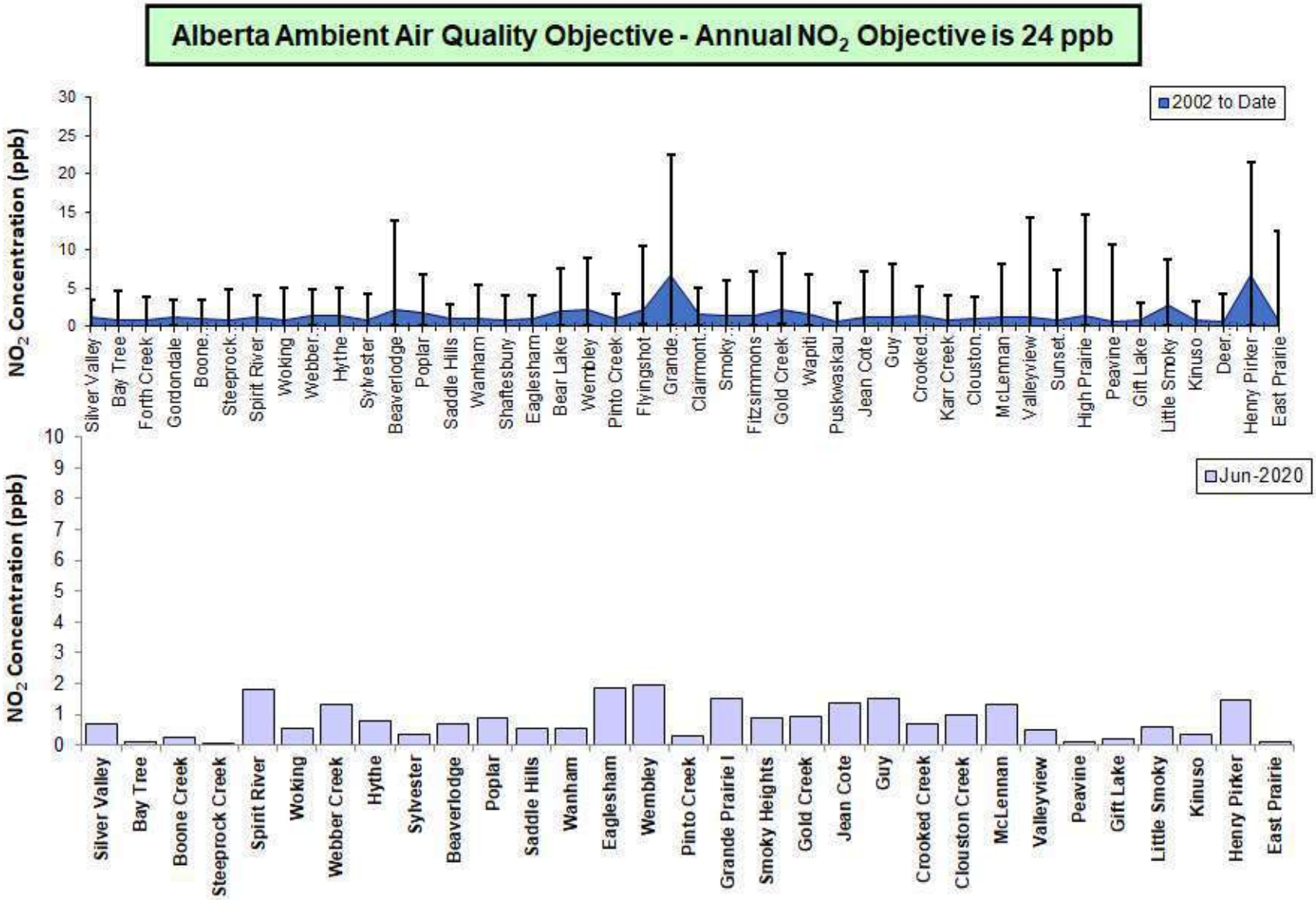

SO2 Monthly Average (units in ppb)
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
11 ppb
AAAQO

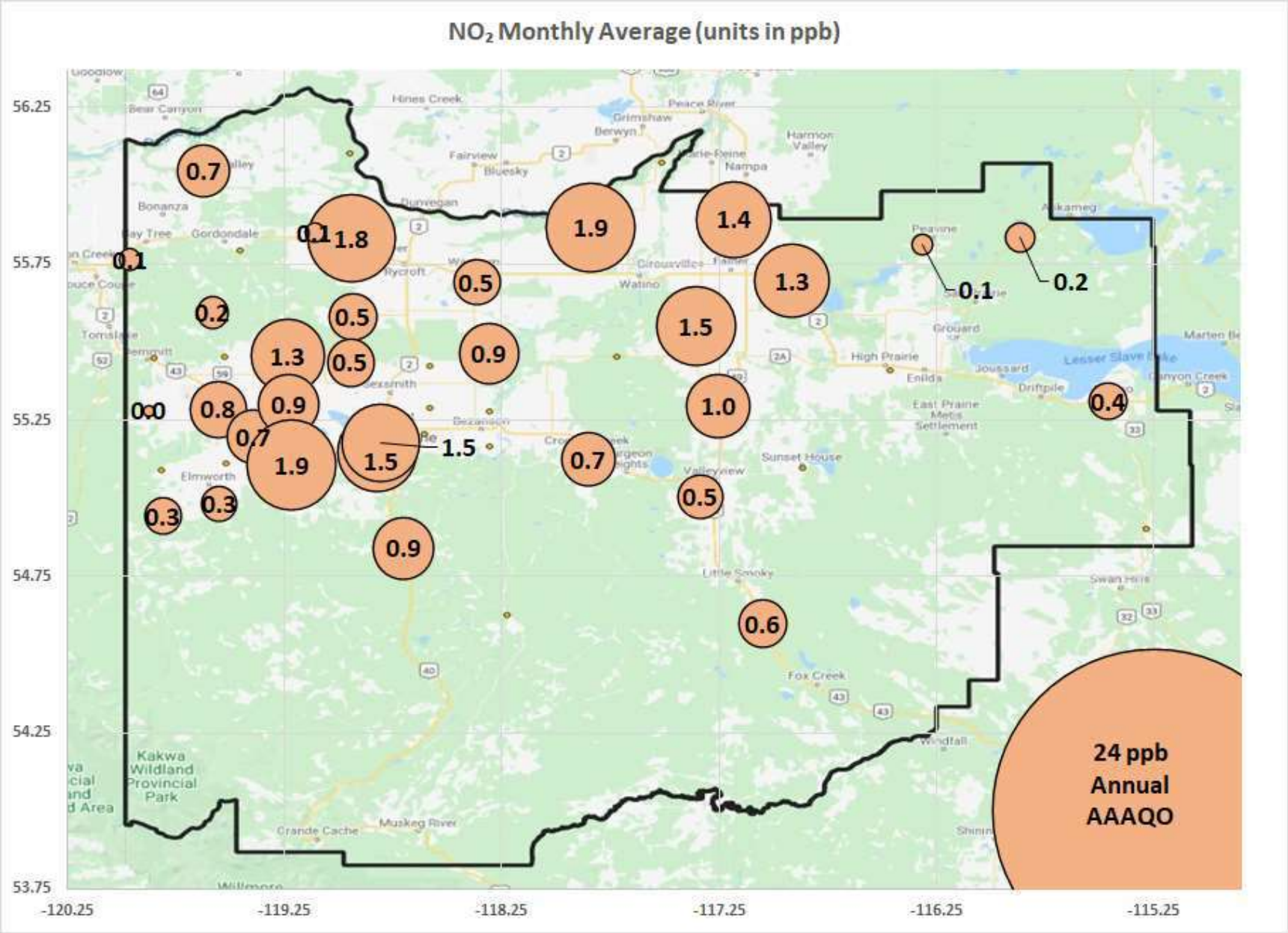
No Monthly or Annual Alberta Ambient Air Quality Objective for O_3



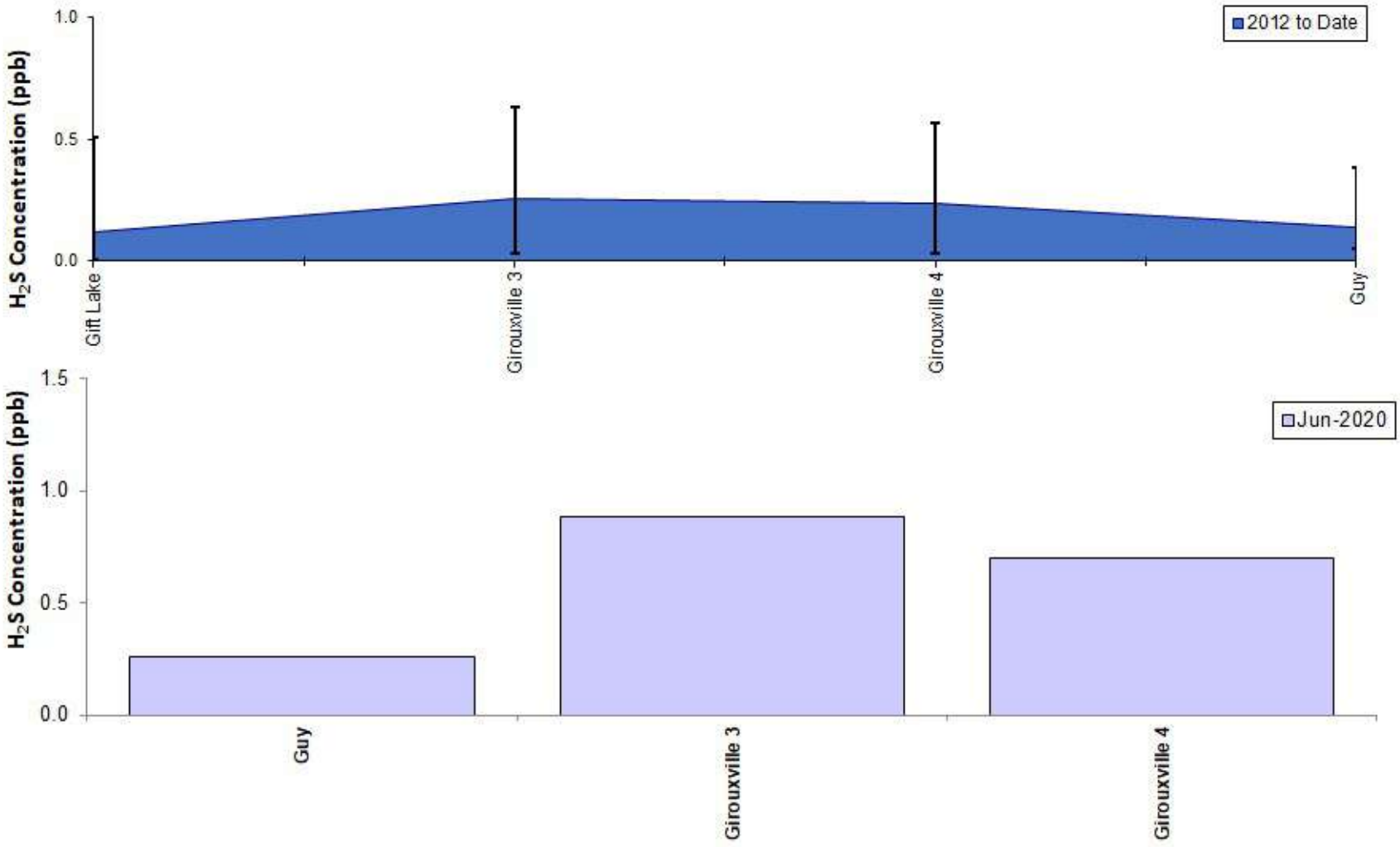


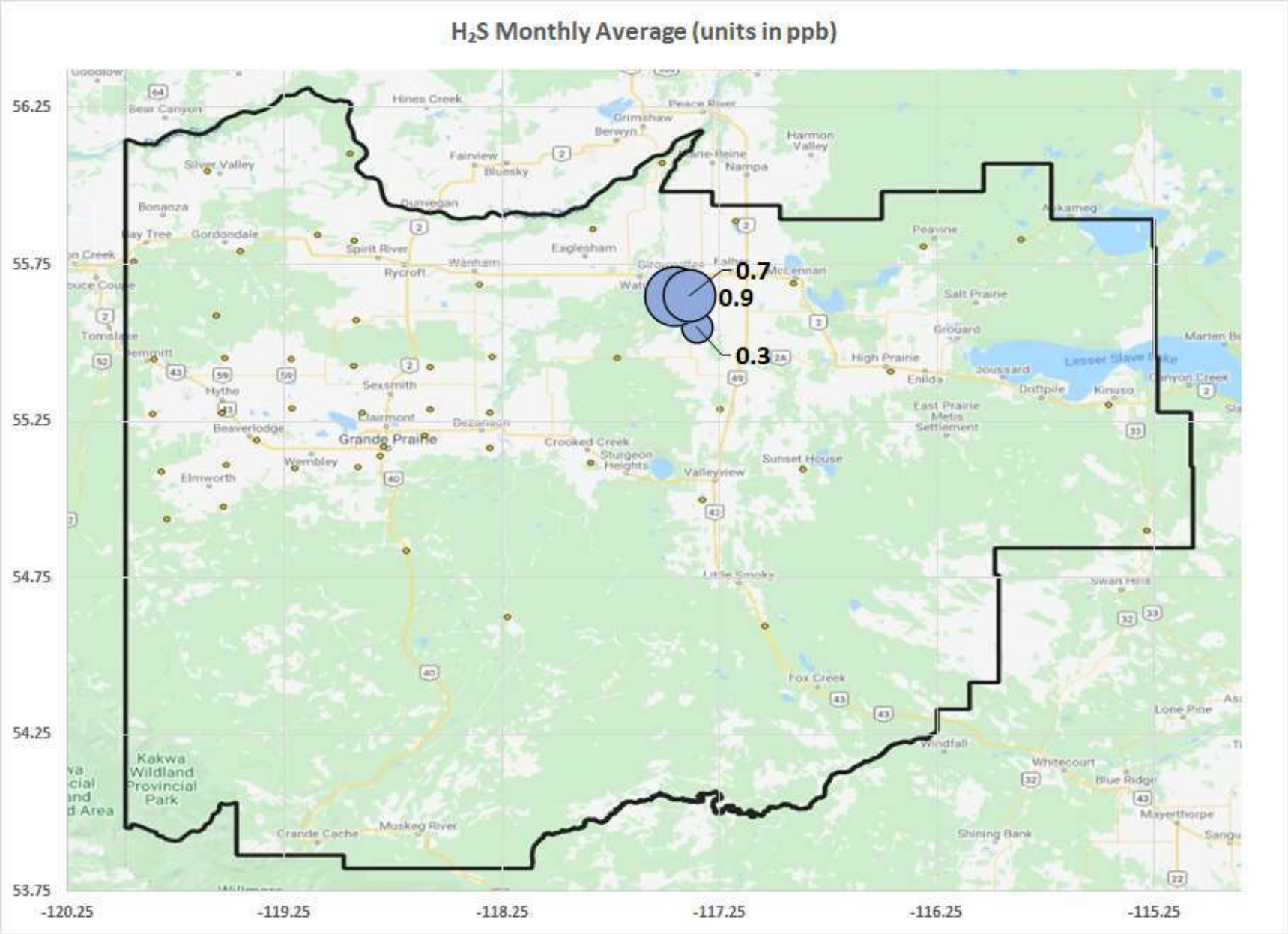

O₃ Monthly Average (units in ppb)
23.9
32.6
29.0
56.25
55.75
55.25
54.75
54.25
53.75
-120.25
-119.25
-118.25
-117.25
-116.25
-115.25
Hines Creek
Peace River
Grimshaw
Berwyn
Harmon Valley
Fairview
Bluesky
Nampa
Silver Valley
Bonanza
Gordondale
Spirit River
Rycroft
Wanham
Eaglesham
Girouxville
Falher
McLennan
Watino
Peerless Lake
Salt Prairie
Grouard
High Prairie
Enilda
Joussard
East Prairie Metis Settlement
Sexsmith
Hythe
Beaverlodge
Grande Prairie
Wembley
Elmworth
Valleyview
Sunset House
Little Smoky
Fox Creek
Lone Pine
Whitecourt
Blue Ridge
Mayerthorpe
Shining Bank
Kakwa Wildland Provincial Park
Grande Cache
Muskeg River


Alberta Ambient Air Quality Objective - Annual NO_2 Objective is 24 ppb
2002 to Date
NO_2 Concentration (ppb)
30
25
20
15
10
5
0
Silver Valley
Bay Tree
Forth Creek
Gordondale
Boone
Steeprock
Spirit River
Woking
Webber
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Shaftesbury
Eaglesham
Bear Lake
Wembley
Pinto Creek
Flyingshot
Grande
Clairmont
Smoky
Fitzsimmons
Gold Creek
Wapiti
Puskwaskau
Jean Cote
Guy
Crooked
Karr Creek
Clouston
McLennan
Valleyview
Sunset
High Prairie
Peavine
Gift Lake
Little Smoky
Kinuso
Deer
Henry Pirker
East Prairie
Jun-2020
NO_2 Concentration (ppb)
10
9
8
7
6
5
4
3
2
1
0
Silver Valley
Bay Tree
Boone Creek
Steeprock Creek
Spirit River
Woking
Webber Creek
Hythe
Sylvester
Beaverlodge
Poplar
Saddle Hills
Wanham
Eaglesham
Wembley
Pinto Creek
Grande Prairie I
Smoky Heights
Gold Creek
Jean Cote
Guy
Crooked Creek
Clouston Creek
McLennan
Valleyview
Peavine
Gift Lake
Little Smoky
Kinuso
Henry Pirker
East Prairie


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
0.7
0.1
1.8
1.9
1.4
0.1
0.2
0.5
1.3
0.2
0.5
1.5
1.3
0.5
0.9
0.0
0.8
0.9
1.0
0.4
0.7
1.9
1.5
1.5
0.7
0.5
0.3
0.3
0.9
0.6
24 ppb
Annual
AAAQO

No Monthly or Annual Alberta Ambient Air Quality Objective for H_2S




H2S Monthly Average (units in ppb)
0.7
0.9
0.3
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
Bonanza
Dunvegan
Gordondale
Spirit River
Eaglesham
Wanham
Rycroft
McLennan
Salt Prairie
Peerine
Grouard
High Prairie
Enilda
Joussard
Driftpile
Kinuso
East Prairie Metis Settlement
Lesser Slave Lake
Sexsmith
Hythe
Beaverlodge
Grande Prairie
Bezanson
Crooked Creek
Sturgeon Heights
Valleyview
Sunset House
Wembley
Elmworth
Little Smoky
Fox Creek
Lone Pine
Whitecourt
Blue Ridge
Mayerthorpe
Shining Bank
Kakwa Wildland Provincial Park
Grande Cache
Muskeg River

11 End of Report

End of Report

Peace Airshed Zone Association

Ambient Air Monitoring Report

June 2020