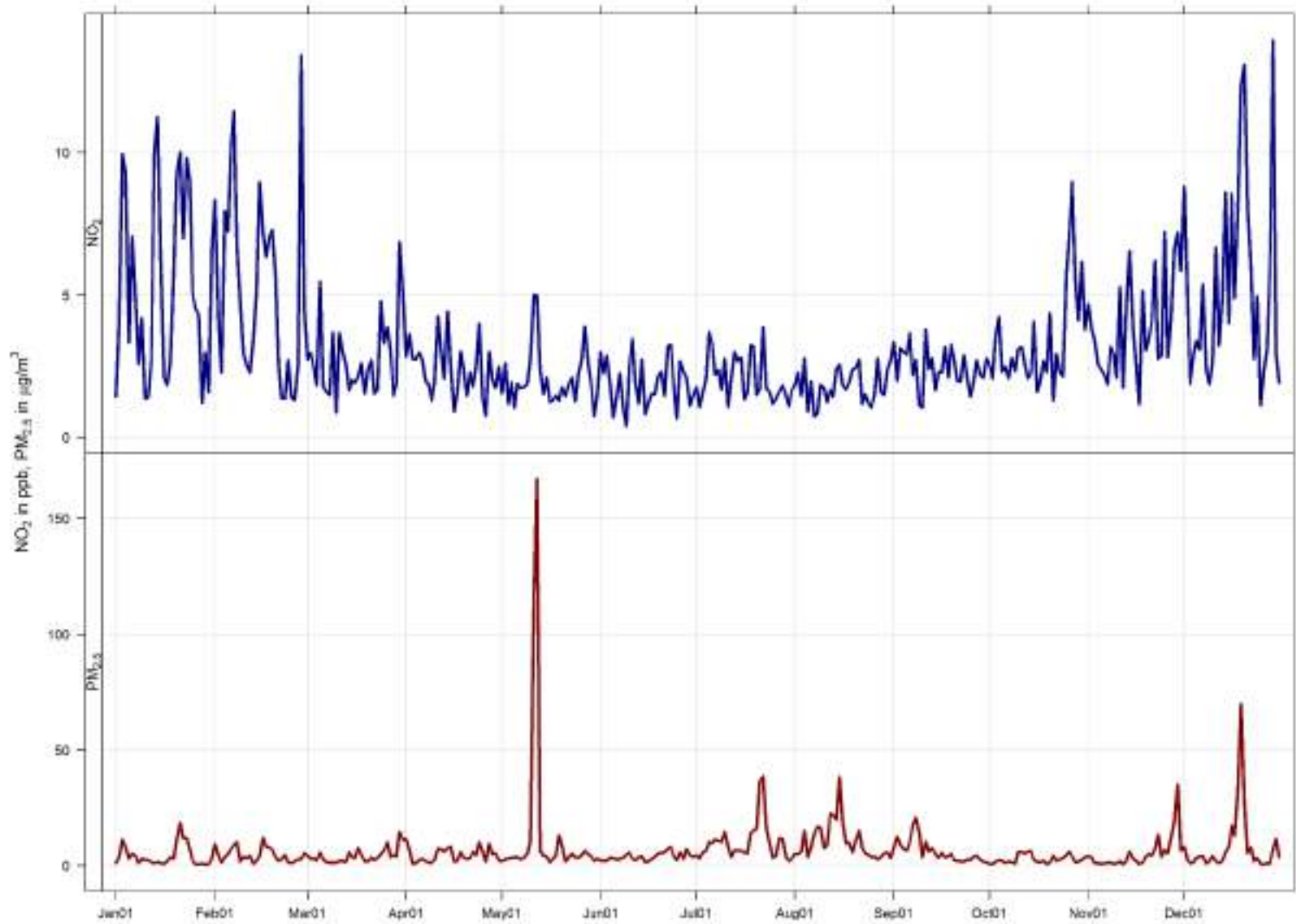


7 Milner Key Parameters - Continuous Monitoring Data - 2024 Summary

Milner Key Parameters - Continuous Monitoring Data - 2024 Summary

Milner Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr	Date			1-hr	8-hr	24-hr	30-d	Annual
	Nitrogen Dioxide NO ₂ measured in ppb	3.2	13.5	Dec 29	30.6	Jan 13 07:00	99.7%	94.8%	0	-	-	-	0
	Nitrogen Oxides NO _x measured in ppb	4.2	27.8	Dec 29	77.0	Dec 29 06:00	99.7%	94.8%	-	-	-	-	-
	Nitric Oxide NO measured in ppb	0.9	14.3	Dec 29	52.0	Dec 29 06:00	99.7%	94.8%	-	-	-	-	-
	Particulate Matter PM _{2.5} measured in µg/m ³	6.4	144.9	May 12	630.1	May 11 21:00	99.7%	99.3%	28	-	8	-	-

2024 Daily Concentration Readings at Milner



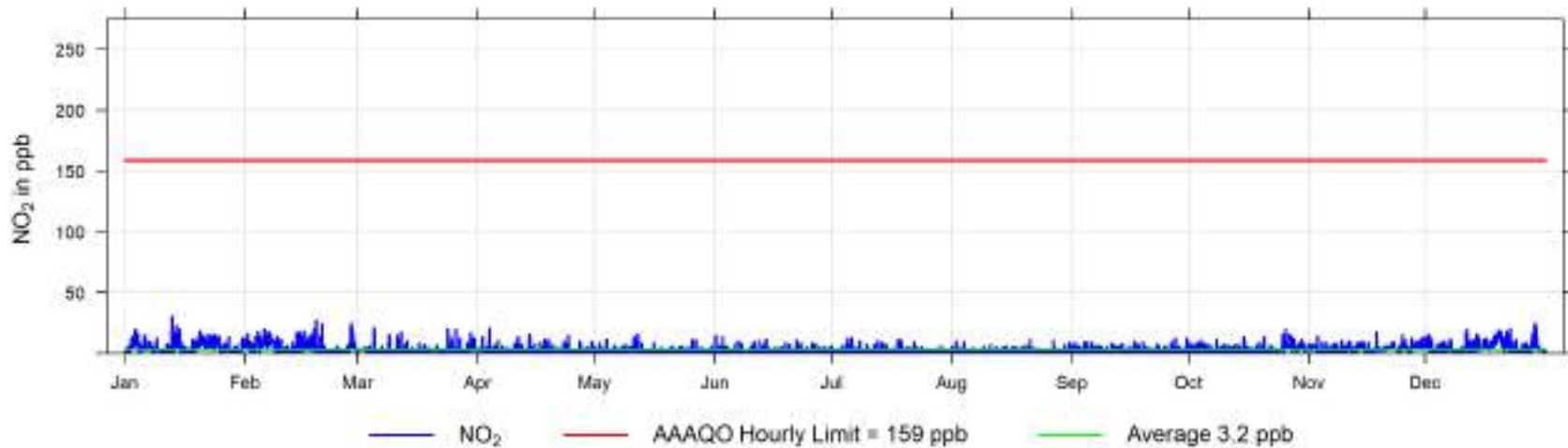
7.1 Nitrogen Dioxide (NO₂) - Milner 2024 Summary

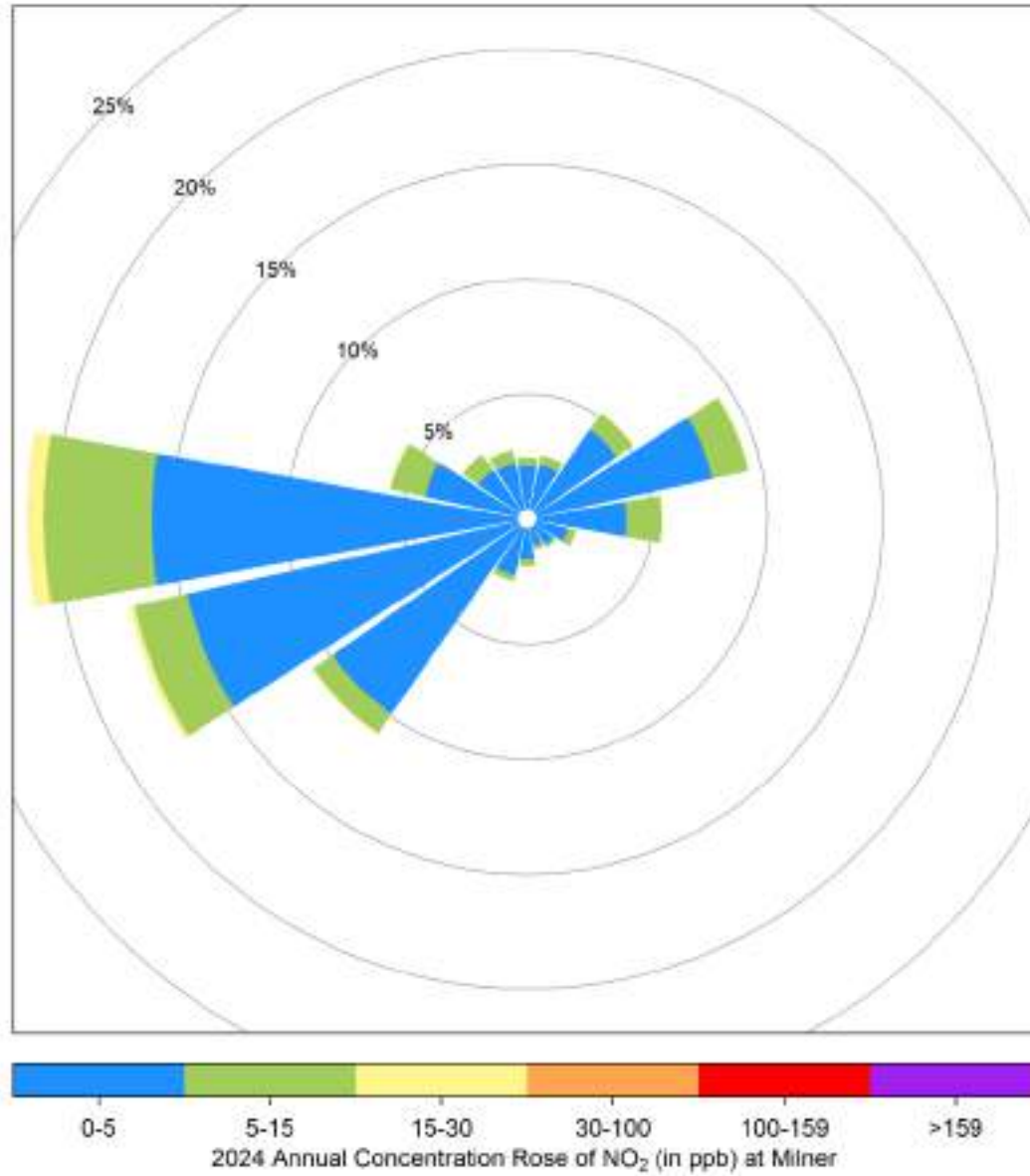
Nitrogen Dioxide (NO₂) Frequency Distribution at Milner

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr (ppb) Date				
January 2024	704	59.1%	37.1%	3.7%	0.1%	0.0%	0.0%	5.3	11.3	Jan 14	30.6	Jan 13 07:00	100.0%	94.6%	0
February 2024	660	61.1%	33.8%	5.2%	0.0%	0.0%	0.0%	5.3	13.3	Feb 28	27.0	Feb 19 08:00	99.9%	94.8%	0
March 2024	708	88.7%	9.7%	1.6%	0.0%	0.0%	0.0%	2.7	7.0	Mar 30	21.2	Mar 05 07:00	100.0%	95.2%	0
April 2024	679	89.4%	10.3%	0.3%	0.0%	0.0%	0.0%	2.4	4.4	Apr 14	20.8	Apr 04 02:00	99.2%	94.3%	0
May 2024	708	92.2%	7.6%	0.1%	0.0%	0.0%	0.0%	2.1	5.2	May 11	15.9	May 12 03:00	100.0%	95.2%	0
June 2024	683	90.8%	9.2%	0.0%	0.0%	0.0%	0.0%	1.9	3.5	Jun 11	14.7	Jun 01 06:00	99.7%	94.9%	0
July 2024	708	91.1%	8.9%	0.0%	0.0%	0.0%	0.0%	2.1	3.9	Jul 22	12.9	Jul 06 05:00	100.0%	95.2%	0
August 2024	708	94.4%	5.6%	0.0%	0.0%	0.0%	0.0%	1.8	2.9	Aug 31	11.3	Aug 21 07:00	100.0%	95.2%	0
September 2024	675	88.6%	11.4%	0.0%	0.0%	0.0%	0.0%	2.5	4.0	Sep 11	12.7	Sep 27 15:00	98.6%	93.8%	0
October 2024	708	79.7%	19.6%	0.7%	0.0%	0.0%	0.0%	3.4	8.8	Oct 27	19.7	Oct 26 02:00	100.0%	95.2%	0
November 2024	684	70.8%	28.8%	0.4%	0.0%	0.0%	0.0%	3.9	7.2	Nov 29	17.7	Nov 18 10:00	100.0%	95.0%	0
December 2024	701	60.9%	33.8%	5.3%	0.0%	0.0%	0.0%	5.3	13.5	Dec 29	25.1	Dec 29 06:00	99.1%	94.2%	0
Annual	8326	80.6%	18.0%	1.4%	0.0%	0.0%	0.0%	3.2	13.5	MAXIMUM VALUES		99.7%	94.8%	0	

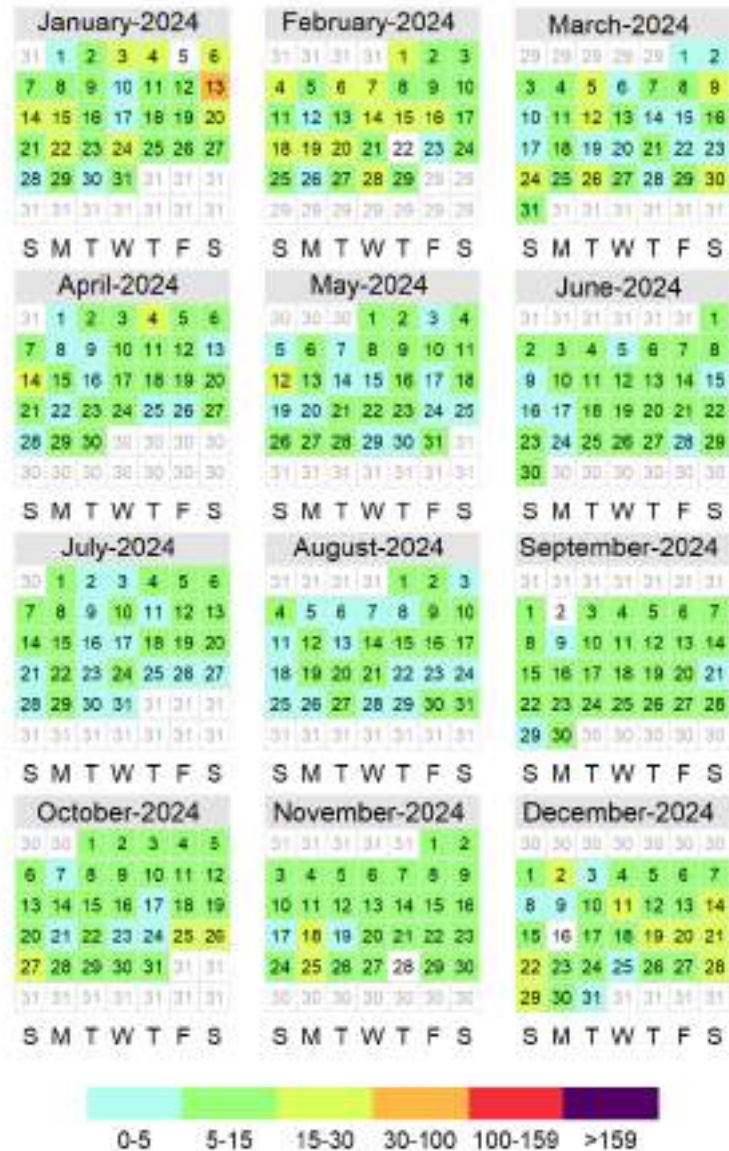
AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

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





Hourly Maximum NO₂ (in ppb) for 2024 at Milner



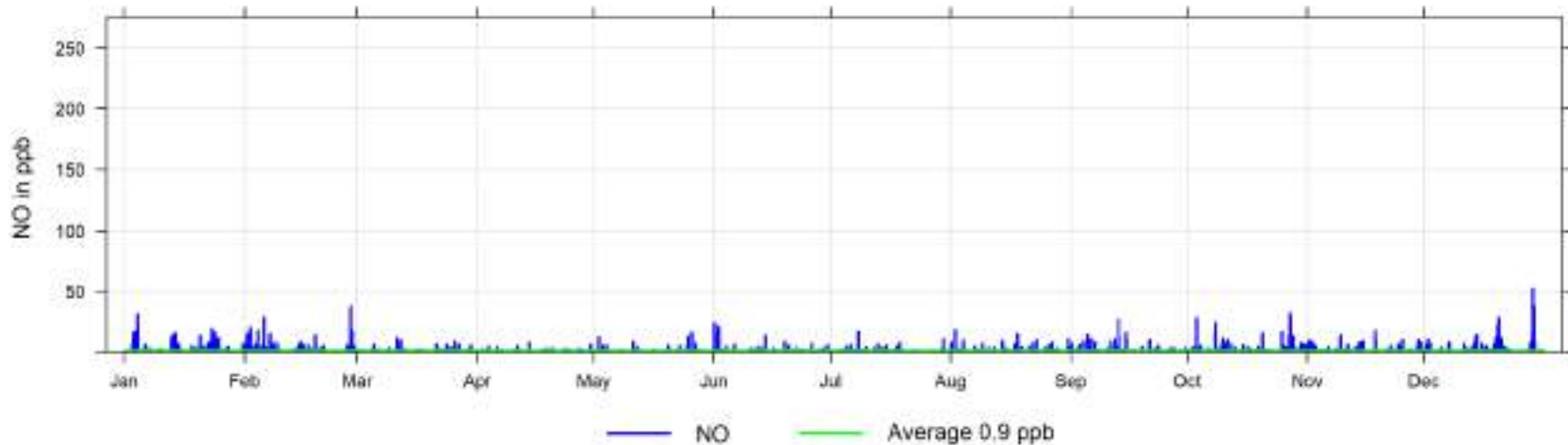
7.2 Nitric Oxide (NO) - Milner 2024 Summary

Nitric Oxide (NO) Frequency Distribution at Milner

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr Date			
January 2024	704	91.2%	7.2%	1.3%	0.3%	0.0%	0.0%	1.4	6.6	Jan 04	31.1	Jan 04 12:00	100.0%	94.6%
February 2024	660	93.3%	4.7%	1.7%	0.3%	0.0%	0.0%	1.4	9.0	Feb 28	37.6	Feb 28 13:00	99.9%	94.8%
March 2024	708	98.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.5	1.6	Mar 11	11.6	Mar 11 10:00	100.0%	95.2%
April 2024	679	99.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.4	1.0	Apr 30	8.1	Apr 14 09:00	99.2%	94.3%
May 2024	708	98.0%	1.8%	0.1%	0.0%	0.0%	0.0%	0.5	1.7	May 02	16.1	May 26 08:00	100.0%	95.2%
June 2024	683	98.0%	1.3%	0.7%	0.0%	0.0%	0.0%	0.6	3.4	Jun 02	24.1	Jun 01 06:00	99.7%	94.9%
July 2024	708	99.0%	0.8%	0.1%	0.0%	0.0%	0.0%	0.5	1.2	Jul 08	17.2	Jul 08 07:00	100.0%	95.2%
August 2024	708	96.9%	3.0%	0.1%	0.0%	0.0%	0.0%	0.7	2.2	Aug 18	18.5	Aug 02 07:00	100.0%	95.2%
September 2024	675	96.3%	3.4%	0.3%	0.0%	0.0%	0.0%	0.9	3.0	Sep 13	27.1	Sep 13 08:00	98.6%	93.8%
October 2024	708	94.4%	4.5%	1.0%	0.1%	0.0%	0.0%	1.2	7.4	Oct 27	31.8	Oct 27 11:00	100.0%	95.2%
November 2024	684	95.5%	4.2%	0.3%	0.0%	0.0%	0.0%	0.9	3.1	Nov 14	17.8	Nov 18 10:00	100.0%	95.0%
December 2024	701	91.9%	6.0%	1.3%	0.9%	0.0%	0.0%	1.6	14.3	Dec 29	52.0	Dec 29 06:00	99.1%	94.2%
Annual	8326	96.0%	3.3%	0.6%	0.1%	0.0%	0.0%	0.9	14.3	MAXIMUM VALUES		99.7%	94.8%	

AAAQO Objectives: none

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



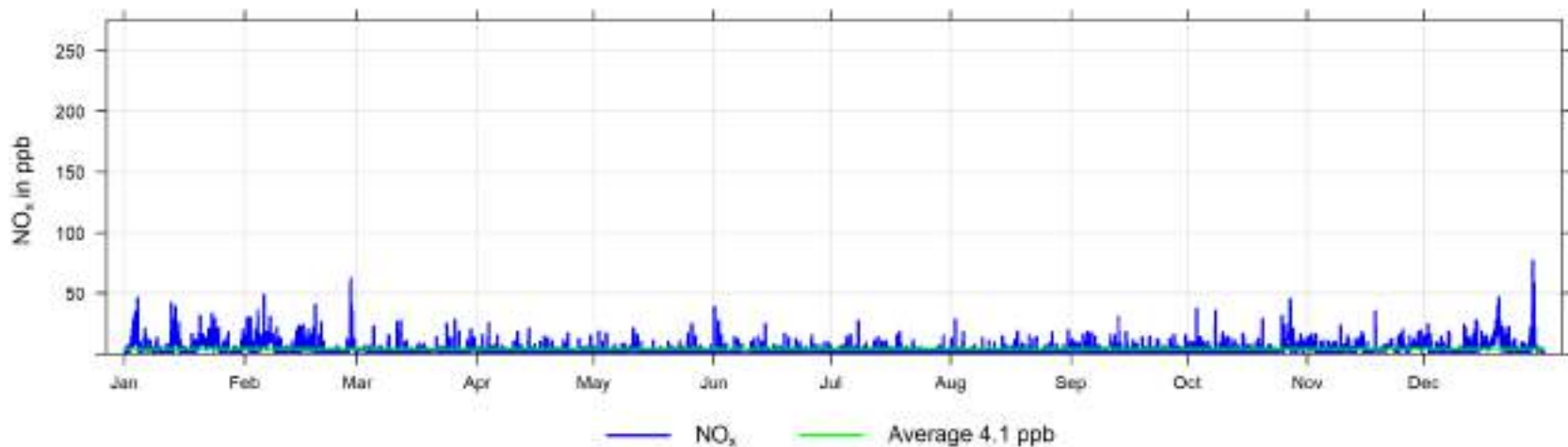
7.3 Oxides of Nitrogen (NO_x) - Milner 2024 Summary

Nitrogen Oxides (NO_x) Frequency Distribution at Milner

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr Date			
January 2024	704	55.5%	32.5%	10.2%	1.7%	0.0%	0.0%	6.9	16.7	Jan 04	46.5	Jan 04 12:00	100.0%	94.6%
February 2024	660	54.5%	35.0%	8.2%	2.3%	0.0%	0.0%	6.9	22.4	Feb 28	62.8	Feb 28 13:00	99.9%	94.8%
March 2024	708	85.7%	11.6%	2.7%	0.0%	0.0%	0.0%	3.3	8.3	Mar 30	28.6	Mar 26 08:00	100.0%	95.2%
April 2024	679	86.3%	12.7%	1.0%	0.0%	0.0%	0.0%	2.8	5.4	Apr 14	25.8	Apr 04 02:00	99.2%	94.3%
May 2024	708	89.1%	9.2%	1.7%	0.0%	0.0%	0.0%	2.6	6.1	May 11	25.1	May 26 08:00	100.0%	95.2%
June 2024	683	85.4%	12.9%	1.5%	0.3%	0.0%	0.0%	2.6	6.0	Jun 02	39.0	Jun 01 06:00	99.7%	94.9%
July 2024	708	87.4%	11.9%	0.7%	0.0%	0.0%	0.0%	2.6	4.8	Jul 05	27.8	Jul 08 07:00	100.0%	95.2%
August 2024	708	87.1%	12.0%	0.8%	0.0%	0.0%	0.0%	2.5	4.2	Aug 31	28.8	Aug 02 07:00	100.0%	95.2%
September 2024	675	79.6%	18.7%	1.6%	0.1%	0.0%	0.0%	3.4	5.7	Sep 13	31.1	Sep 13 08:00	98.6%	93.8%
October 2024	708	72.0%	23.7%	3.2%	1.0%	0.0%	0.0%	4.6	16.3	Oct 27	45.2	Oct 27 11:00	100.0%	95.2%
November 2024	684	62.6%	34.6%	2.5%	0.3%	0.0%	0.0%	4.8	9.9	Nov 14	35.7	Nov 18 10:00	100.0%	95.0%
December 2024	701	58.2%	29.8%	9.8%	2.1%	0.0%	0.0%	6.9	27.8	Dec 29	77.0	Dec 29 06:00	99.1%	94.2%
Annual	8326	75.3%	20.4%	3.7%	0.7%	0.0%	0.0%	4.1	27.8	MAXIMUM VALUES		99.7%	94.8%	

AAAQO Objectives: none

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



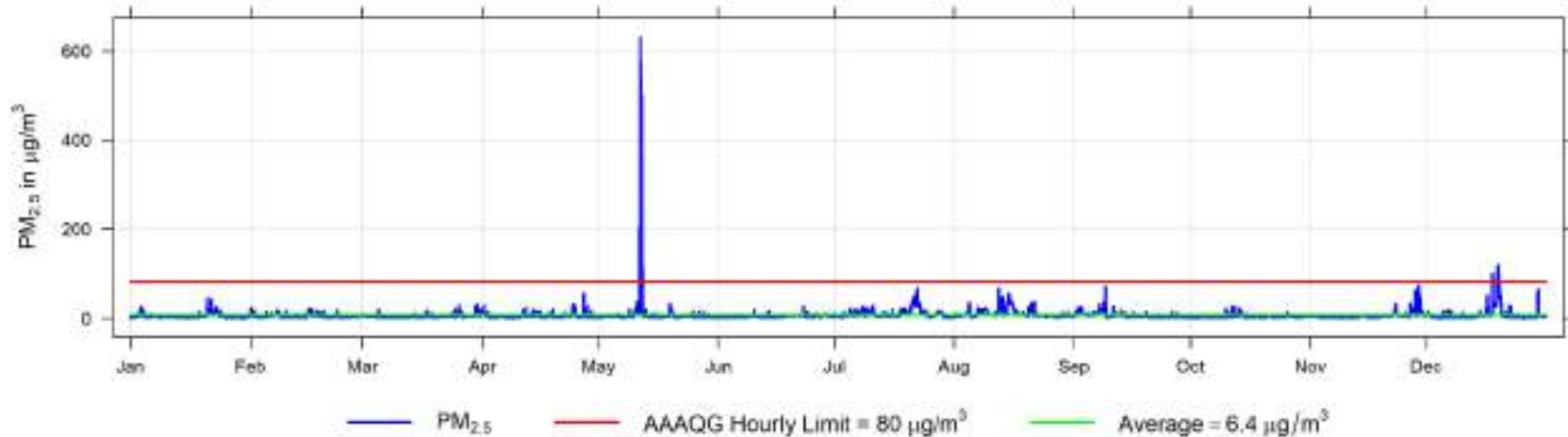
7.4 Particulate Matter (PM_{2.5}) - Milner 2024 Summary

Particulate Matter (PM_{2.5}) Frequency Distribution at Milner

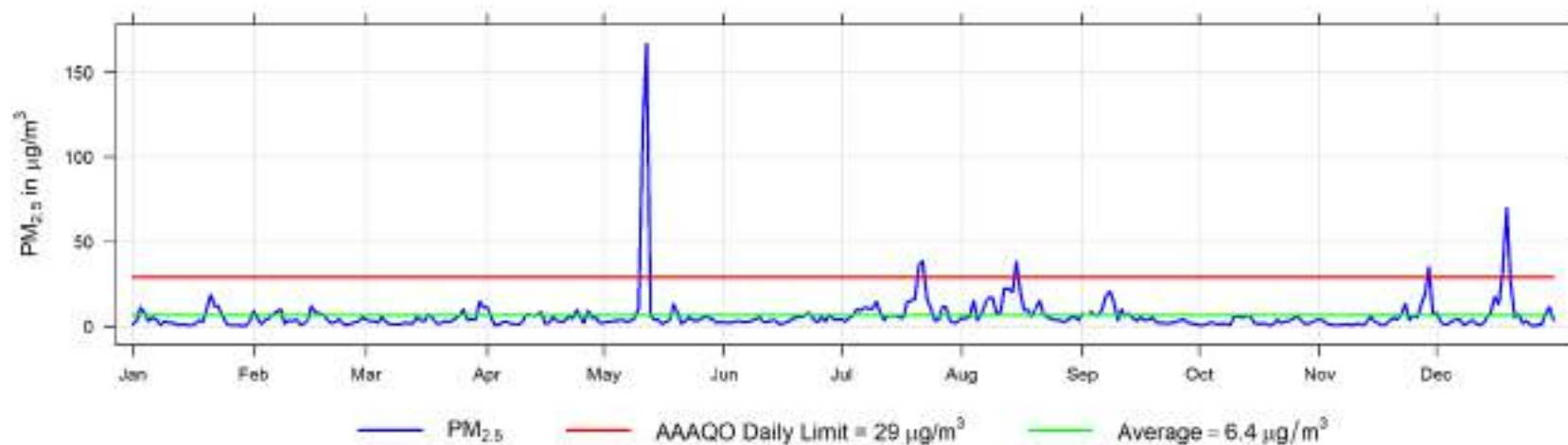
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m ³)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m ³)	5 to 15 (µg/m ³)	15 to 30 (µg/m ³)	30 to 50 (µg/m ³)	50 to 80 (µg/m ³)	> 80 (µg/m ³)		24-hr (µg/m ³)	Date	1-hr (µg/m ³)	Date			24-hr 29 µg/m ³	1-hr 80 µg/m ³
January 2024	742	78.0%	16.4%	4.7%	0.8%	0.0%	0.0%	4.0	17.6	Jan 21	43.9	Jan 20 21:00	100.0%	99.7%	0	0
February 2024	691	68.2%	29.1%	2.7%	0.0%	0.0%	0.0%	4.5	12.1	Feb 16	22.8	Feb 01 04:00	100.0%	99.3%	0	0
March 2024	742	78.3%	18.1%	3.5%	0.1%	0.0%	0.0%	4.1	14.9	Mar 30	31.5	Mar 30 13:00	100.0%	99.7%	0	0
April 2024	711	68.9%	27.4%	3.2%	0.3%	0.1%	0.0%	4.5	11.2	Apr 01	55.3	Apr 27 07:00	99.2%	98.8%	0	0
May 2024	741	74.4%	18.8%	4.5%	0.4%	0.0%	2.0%	13.1	144.9	May 12	630.1	May 11 21:00	100.0%	99.6%	2	15
June 2024	714	76.2%	23.0%	0.8%	0.0%	0.0%	0.0%	3.8	7.9	Jun 23	26.9	Jun 22 23:00	99.7%	99.2%	0	0
July 2024	743	33.4%	49.1%	12.9%	3.9%	0.7%	0.0%	10.0	38.3	Jul 22	65.5	Jul 22 11:00	100.0%	99.9%	2	0
August 2024	743	34.9%	45.8%	12.1%	6.5%	0.8%	0.0%	10.3	37.7	Aug 15	66.8	Aug 12 14:00	100.0%	99.9%	1	0
September 2024	707	59.4%	34.8%	4.0%	1.6%	0.3%	0.0%	6.0	21.0	Sep 08	69.8	Sep 09 02:00	98.6%	98.2%	0	0
October 2024	739	89.2%	10.0%	0.8%	0.0%	0.0%	0.0%	2.8	6.2	Oct 13	26.4	Oct 12 18:00	100.0%	99.3%	0	0
November 2024	718	74.7%	19.2%	3.2%	1.8%	1.1%	0.0%	5.1	32.8	Nov 29	71.7	Nov 29 01:00	100.0%	99.7%	1	0
December 2024	735	69.8%	18.6%	4.5%	3.5%	1.8%	1.8%	8.1	71.4	Dec 19	119.4	Dec 19 16:00	99.1%	98.8%	2	13
Annual	8726	67.1%	25.9%	4.7%	1.6%	0.4%	0.3%	6.4	MAXIMUM VALUES				99.7%	99.3%	8	28

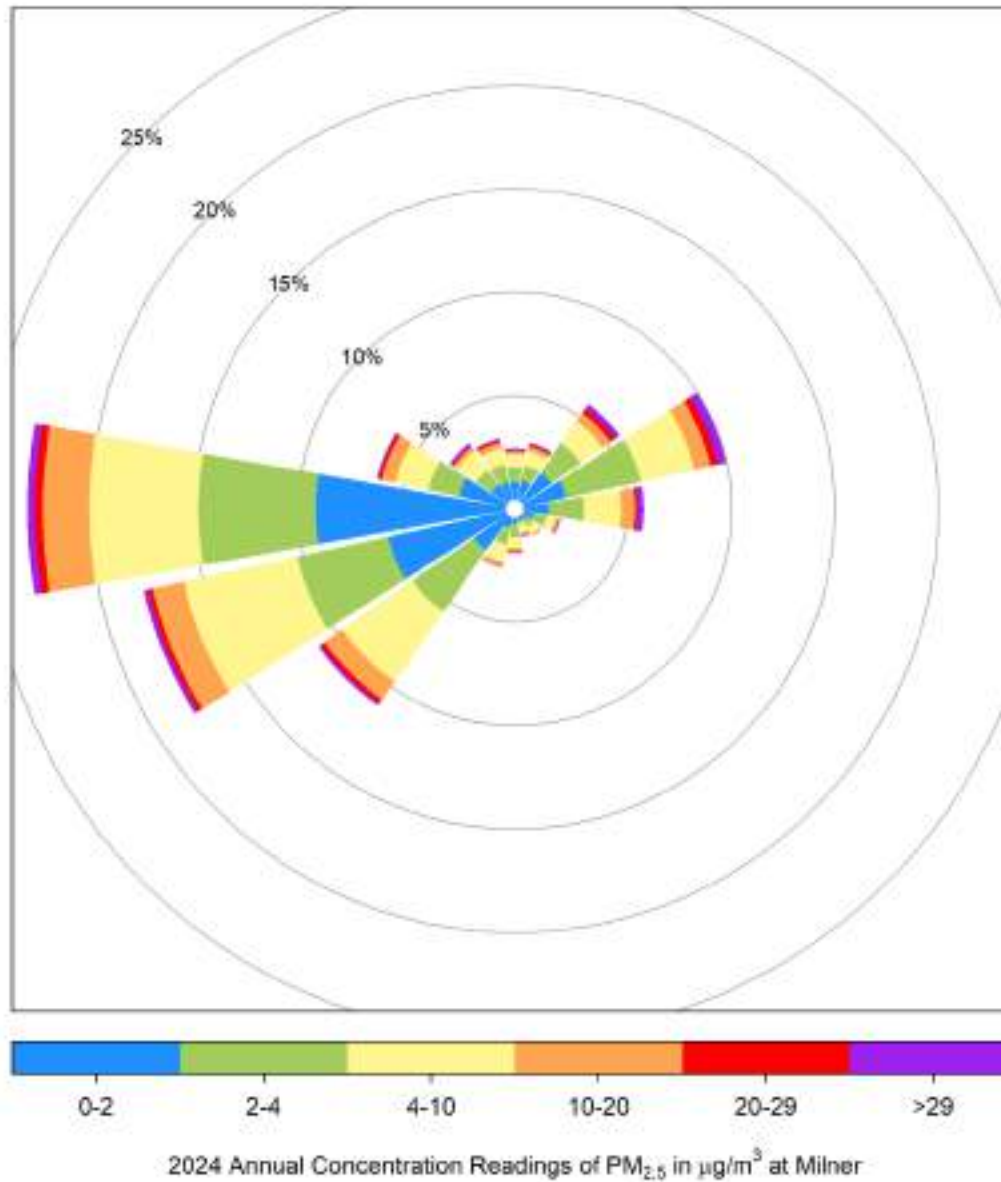
AAAQO Objectives: 24-Hr: 29 µg/m³, AAAQG Guideline: 1-Hr: 80 µg/m³

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

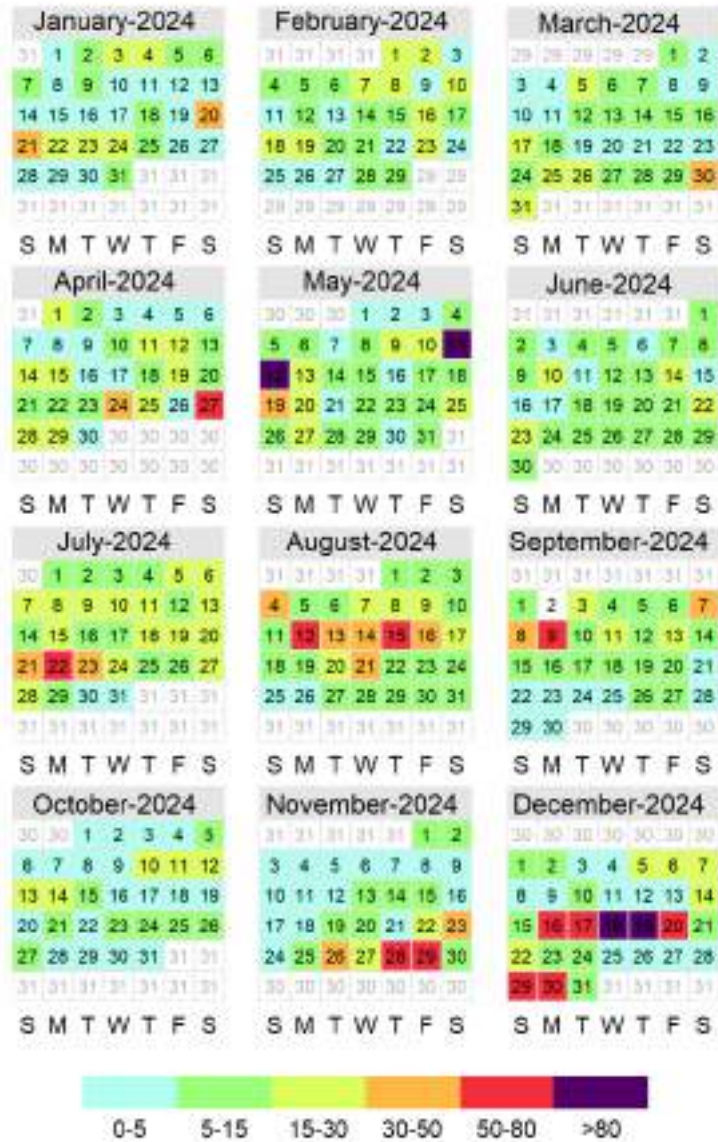


2024 Daily Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Milner





Hourly Maximum PM_{2.5} (in µg/m³) for 2024 at Milner

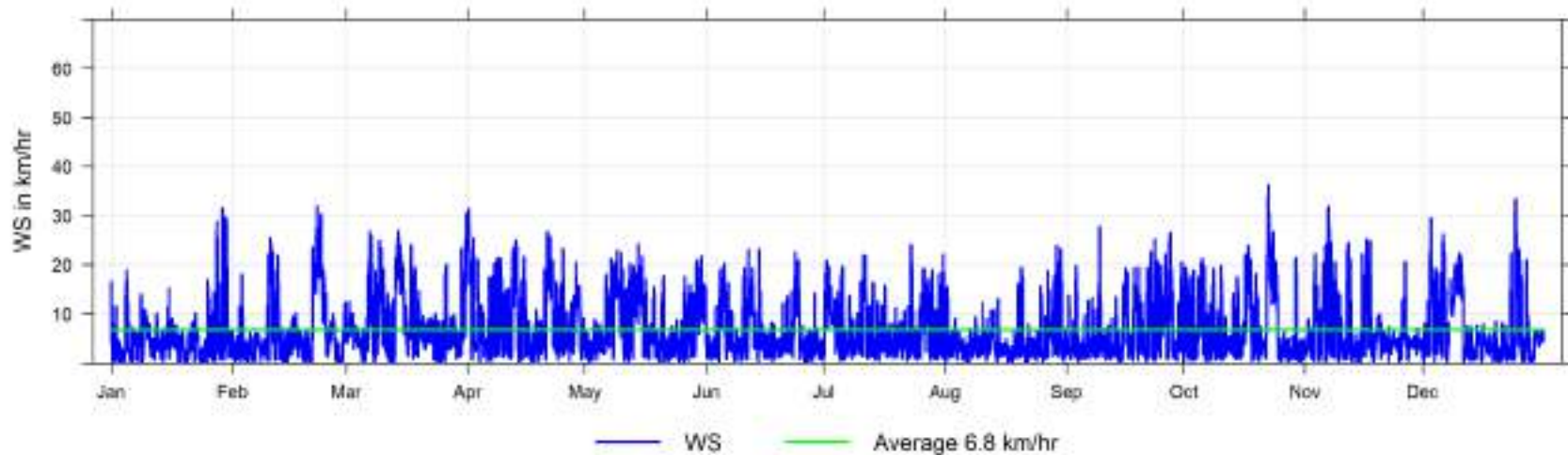


7.5 Wind Speed and Wind Direction (WS and WD) - Milner 2024 Summary

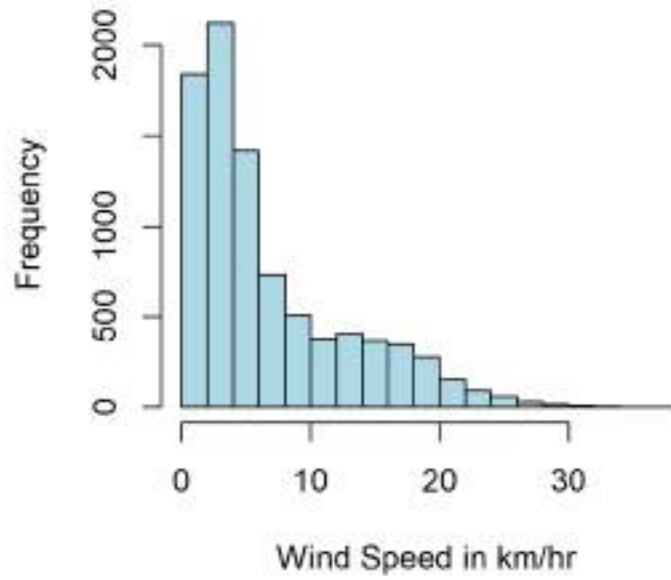
Wind Speed Frequency Distribution at Milner

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)		24-hr (km/hr)	Date	1-hr (km/hr)	Date		
January 2024	744	7.3%	56.7%	27.8%	5.5%	1.9%	0.8%	4.9	16.1	Jan 30	31.5	Jan 29 13:00	100.0%	100.0%
February 2024	696	6.5%	53.3%	22.1%	10.2%	7.2%	0.7%	6.5	22.7	Feb 23	32.0	Feb 22 16:00	100.0%	100.0%
March 2024	744	3.8%	32.9%	38.7%	15.6%	8.9%	0.1%	8.4	21.4	Mar 14	30.4	Mar 31 19:00	100.0%	100.0%
April 2024	711	2.3%	39.0%	24.3%	23.9%	10.4%	0.1%	8.9	21.0	Apr 01	31.4	Apr 01 08:00	98.8%	98.8%
May 2024	744	1.9%	41.9%	25.7%	26.7%	3.8%	0.0%	7.7	14.9	May 14	24.3	May 14 16:00	100.0%	100.0%
June 2024	717	1.4%	61.8%	19.2%	15.8%	1.8%	0.0%	5.6	14.6	Jun 05	23.2	Jun 14 15:00	99.7%	99.6%
July 2024	744	0.4%	48.1%	27.0%	22.0%	2.4%	0.0%	7.2	15.0	Jul 11	24.2	Jul 23 09:00	100.0%	100.0%
August 2024	744	3.1%	67.1%	19.0%	9.7%	1.2%	0.0%	4.6	12.5	Aug 30	24.0	Aug 29 11:00	100.0%	100.0%
September 2024	710	1.1%	54.5%	19.3%	20.3%	4.8%	0.0%	6.8	13.6	Sep 27	27.7	Sep 09 12:00	98.6%	98.6%
October 2024	744	1.7%	56.9%	15.1%	18.4%	7.0%	0.9%	7.1	21.1	Oct 22	36.3	Oct 22 17:00	100.0%	100.0%
November 2024	720	3.1%	57.6%	18.9%	14.0%	5.8%	0.6%	6.7	17.6	Nov 06	31.8	Nov 06 22:00	100.0%	100.0%
December 2024	738	4.6%	50.5%	21.4%	16.0%	6.5%	0.9%	6.9	19.3	Dec 10	33.5	Dec 24 19:00	99.2%	99.2%
Annual	8756	3.1%	51.7%	23.2%	16.5%	5.1%	0.4%	6.8	22.7	Feb 23	36.3	Oct 22 17:00	99.7%	99.7%

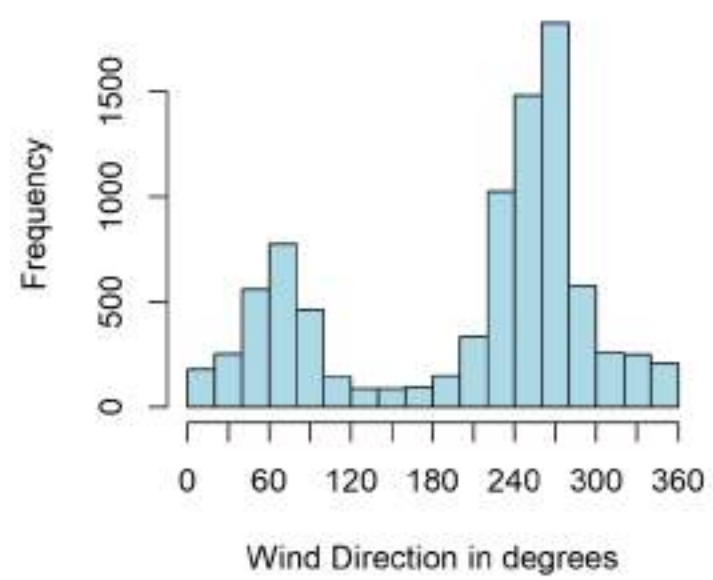
2024 Hourly Readings of Wind Speed (in km/hr) at Milner



2024 Wind Speed Histogram

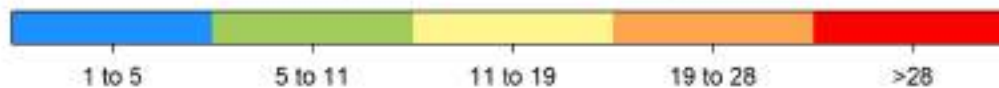
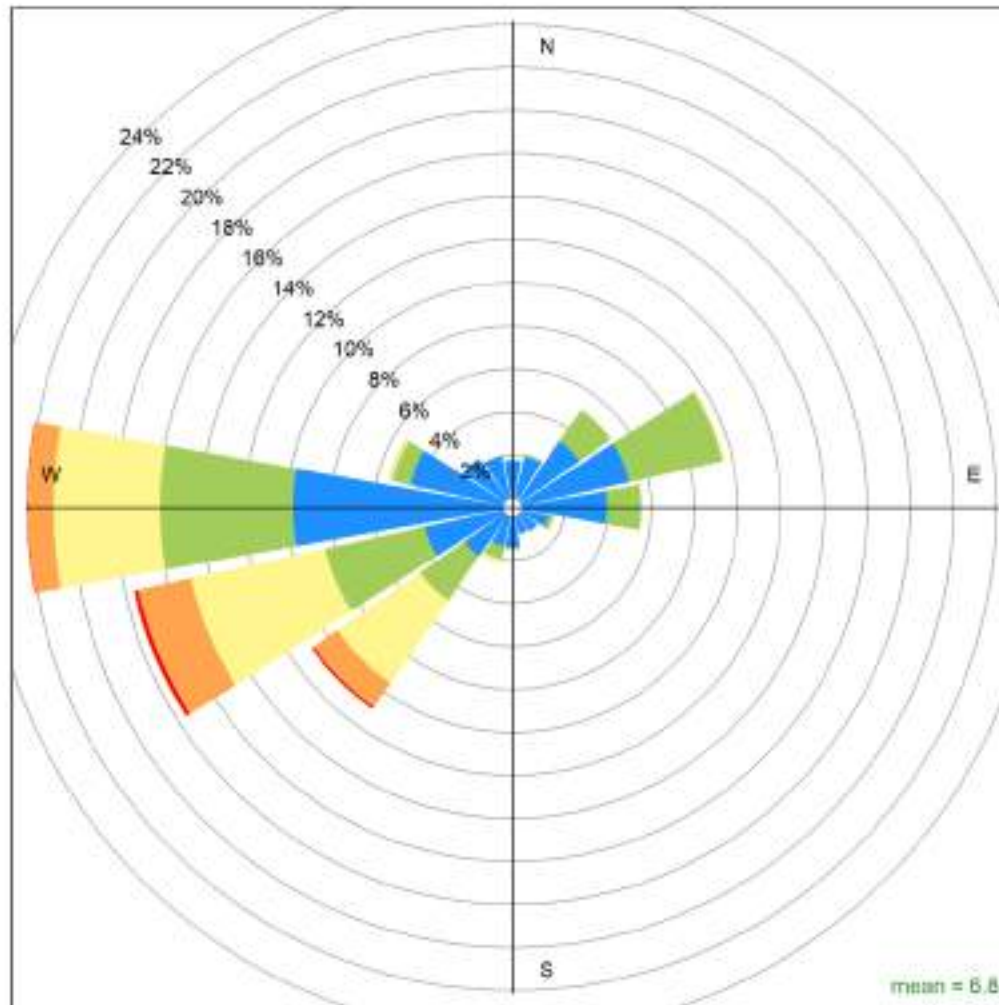


2024 Wind Direction Histogram



Wind Speed and Wind Direction Frequency Distribution at Milner

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	216	0.2%	2.2%	0.0%	0.0%	0.0%	0.0%	2.5%
NNE	245	0.3%	2.4%	0.1%	0.0%	0.0%	0.0%	2.8%
NE	503	0.2%	3.7%	1.8%	0.0%	0.0%	0.0%	5.7%
ENE	877	0.2%	5.2%	4.5%	0.1%	0.0%	0.0%	10.0%
E	508	0.1%	4.1%	1.6%	0.0%	0.0%	0.0%	5.8%
ESE	159	0.2%	1.4%	0.3%	0.0%	0.0%	0.0%	1.8%
SE	100	0.1%	1.0%	0.1%	0.0%	0.0%	0.0%	1.1%
SSE	85	0.1%	0.9%	0.0%	0.0%	0.0%	0.0%	1.0%
S	148	0.1%	1.5%	0.1%	0.0%	0.0%	0.0%	1.7%
SSW	218	0.1%	1.5%	0.6%	0.2%	0.0%	0.0%	2.5%
SW	984	0.2%	2.4%	2.5%	4.7%	1.3%	0.1%	11.2%
WSW	1578	0.2%	4.0%	4.7%	6.4%	2.5%	0.2%	18.0%
W	2021	0.3%	10.5%	6.2%	4.9%	1.2%	0.0%	23.1%
WNW	555	0.2%	5.1%	0.9%	0.1%	0.0%	0.0%	6.3%
NW	296	0.3%	3.0%	0.0%	0.0%	0.0%	0.0%	3.4%
NNW	263	0.3%	2.7%	0.0%	0.0%	0.0%	0.0%	3.0%
Total	8756	3.1%	51.7%	23.3%	16.5%	5.1%	0.4%	100.0%



Milner 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 8.3 %

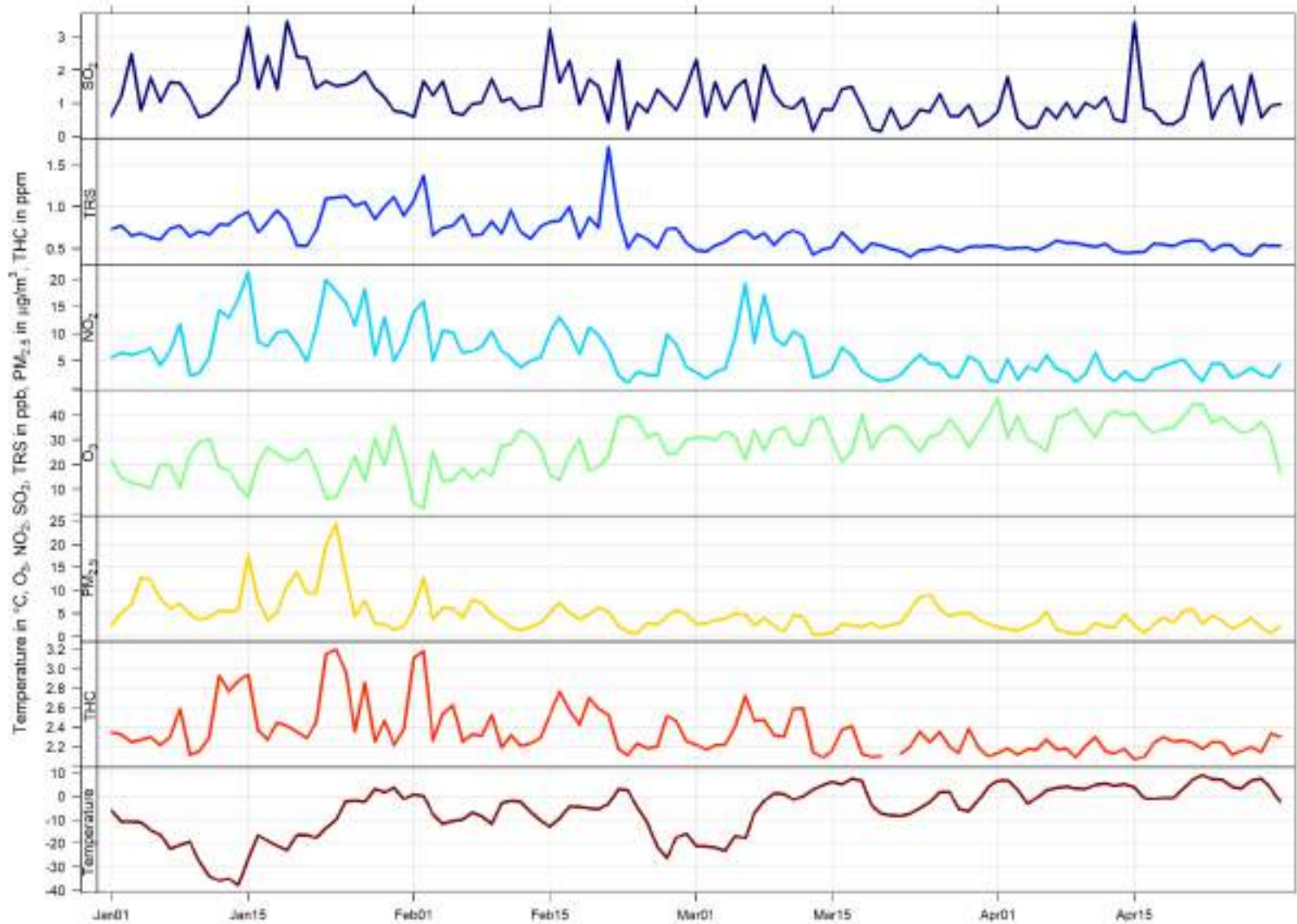
8 Poplar Key Parameters - Continuous Monitoring Data - January to April 2024 Summary

Poplar Key Parameters - Continuous Monitoring Data - 2024 Jan to Apr Summary

Poplar Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG					
			24-hr	Date	1-hr	Date			30-min	1-hr	8-hr	24-hr	30-d	Annual
			Sulphur Dioxide SO ₂ measured in ppb	3.6	Jan 19	42.4			Apr 15 09:00	33.1%	31.3%	-	0	-
Total Reduced Sulphur TRS measured in ppb	1.7	Feb 21	17.2	Feb 21 11:00	32.9%	31.2%	6	0	-	0	-	-		
Nitrogen Dioxide NO ₂ measured in ppb	21.2	Jan 15	36.8	Mar 06 20:00	32.7%	31.0%	-	0	-	-	-	0		
Nitrogen Oxides NO _x measured in ppb	30.2	Jan 25	68.6	Jan 25 11:00	32.7%	31.0%	-	-	-	-	-	-		
Nitric Oxide NO measured in ppb	15.1	Jan 25	43.0	Jan 25 11:00	32.7%	31.0%	-	-	-	-	-	-		
Ozone O ₃ measured in ppb	46.6	Apr 01	62.2	Apr 20 18:00	33.0%	31.3%	-	0	-	-	-	-		
Total Hydrocarbons THC measured in ppm	3.2	Jan 24	4.8	Jan 25 06:00	32.7%	31.1%	-	-	-	-	-	-		
Particulate Matter PM _{2.5} measured in µg/m ³	23.7	Jan 24	65.0	Jan 15 23:00	33.0%	32.8%	-	0	-	0	-	-		

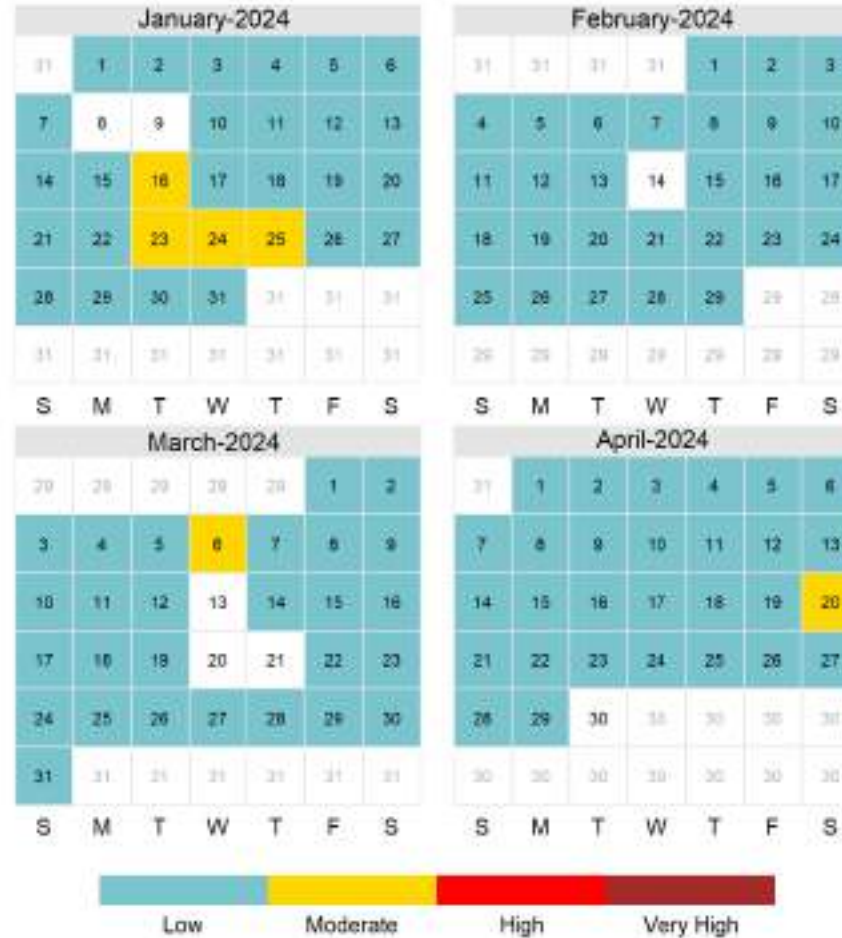
Note: Operational Jan to April 2024, annual average not valid

2024 Daily Concentration Readings at Poplar



8.1 Poplar AQHI Calendar Plot for January to April 2024

Hourly Maximum AQHI for 2024 at Poplar



8.2 Sulphur Dioxide (SO₂) - Poplar January to April 2024 Summary

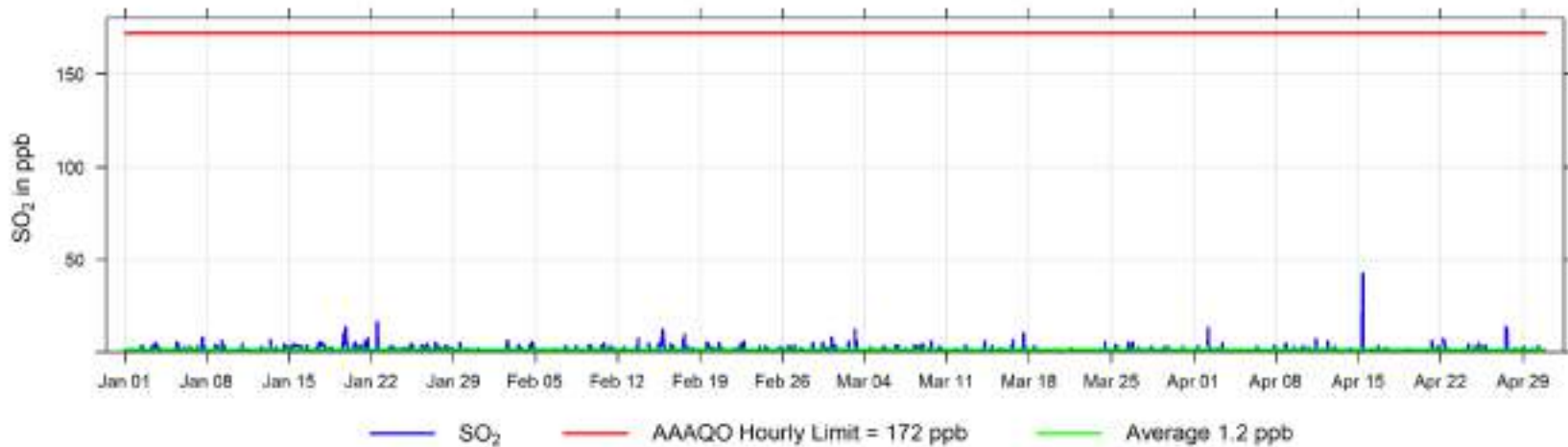
Sulphur Dioxide (SO₂) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	709	48.7%	47.7%	3.2%	0.4%	0.0%	0.0%	1.6	3.6	Jan 19	16.2	Jan 22 13:00	100.0%	95.3%	0	0	0
February 2024	663	60.2%	37.0%	2.6%	0.3%	0.0%	0.0%	1.2	3.3	Feb 15	12.3	Feb 15 19:00	99.7%	95.3%	0	0	0
March 2024	678	71.4%	26.8%	1.5%	0.3%	0.0%	0.0%	0.9	2.2	Mar 01	12.3	Mar 03 04:00	97.7%	91.1%	0	0	0
April 2024	674	77.4%	20.0%	1.8%	0.7%	0.0%	0.0%	1.0	3.5	Apr 15	42.4	Apr 15 09:00	99.6%	93.6%	0	0	0
May 2024																	
June 2024																	
July 2024																	
August 2024																	
September 2024																	
October 2024																	
November 2024																	
December 2024																	
Annual	2724	64.4%	32.9%	2.3%	0.4%	0.0%	0.0%		3.6	Jan 19	42.4	Apr 15 09:00	33.1%	31.3%	0	0	0

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

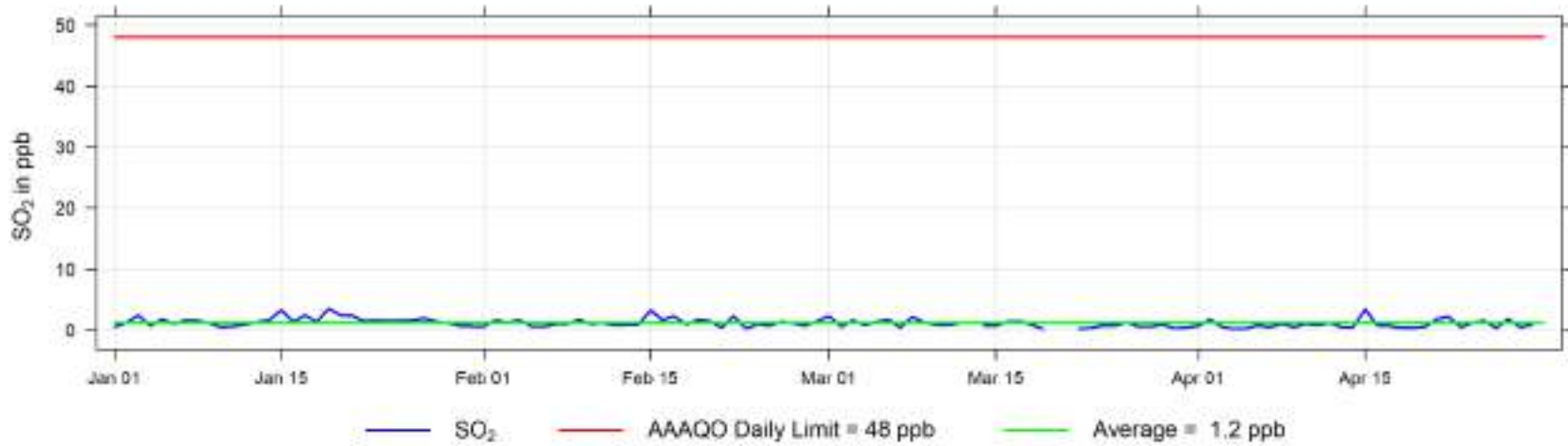
Note: Operational Jan to April 2024, annual average not valid

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



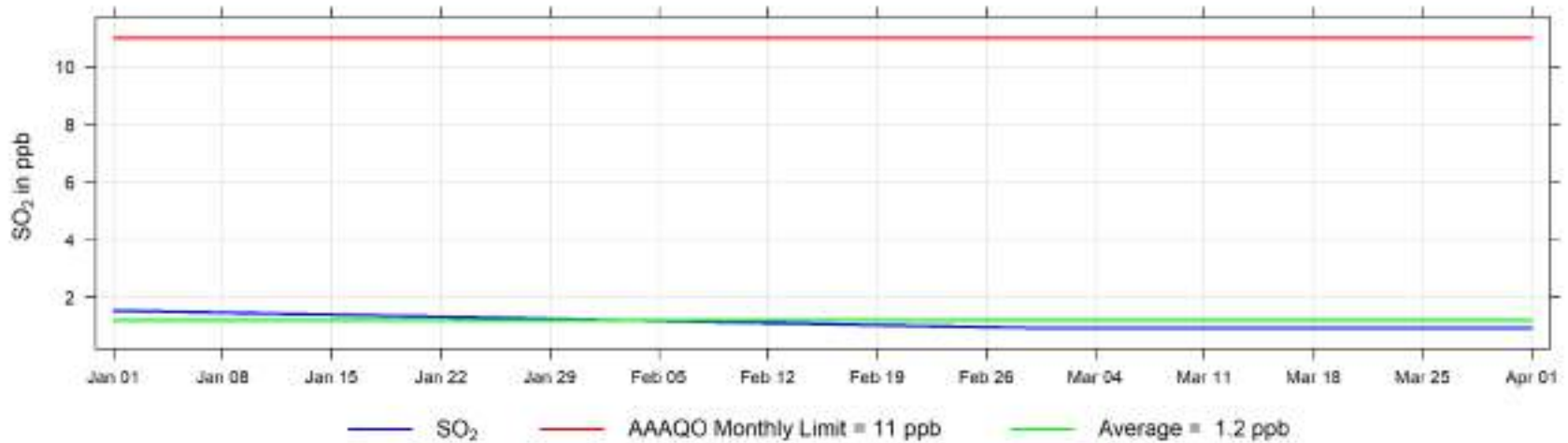
Note: average shown just for January to April 2024

2024 Daily Concentration Readings of SO₂ (in ppb) at Poplar

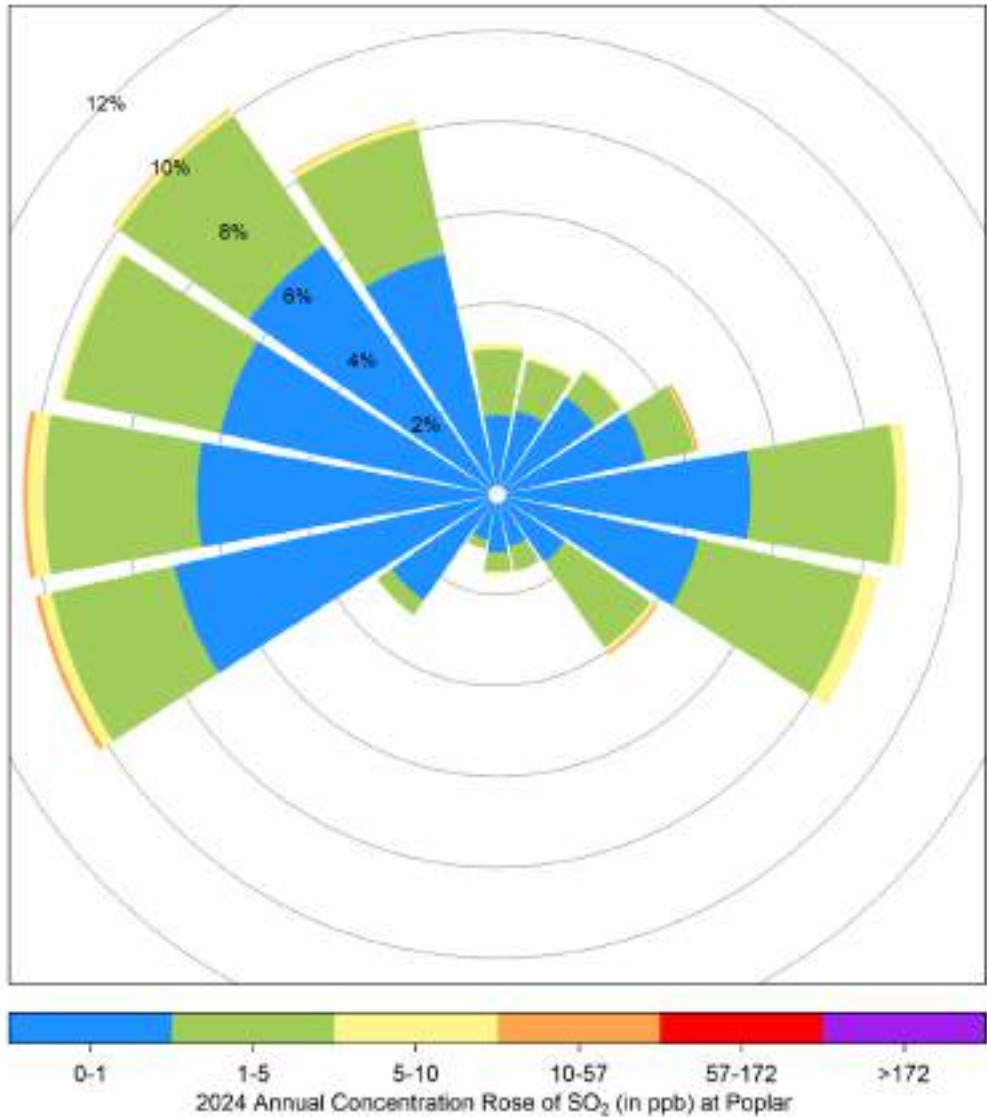


Note: average shown just for January to April 2024

2024 Monthly Concentration Readings of SO₂ (in ppb) at Poplar



Note: average shown just for January to April 2024



Note: rose shown just for January to April 2024

Hourly Maximum SO₂ (in ppb) for 2024 at Poplar



8.3 Total Reduced Sulphur (TRS) - Poplar January to April 2024 Summary

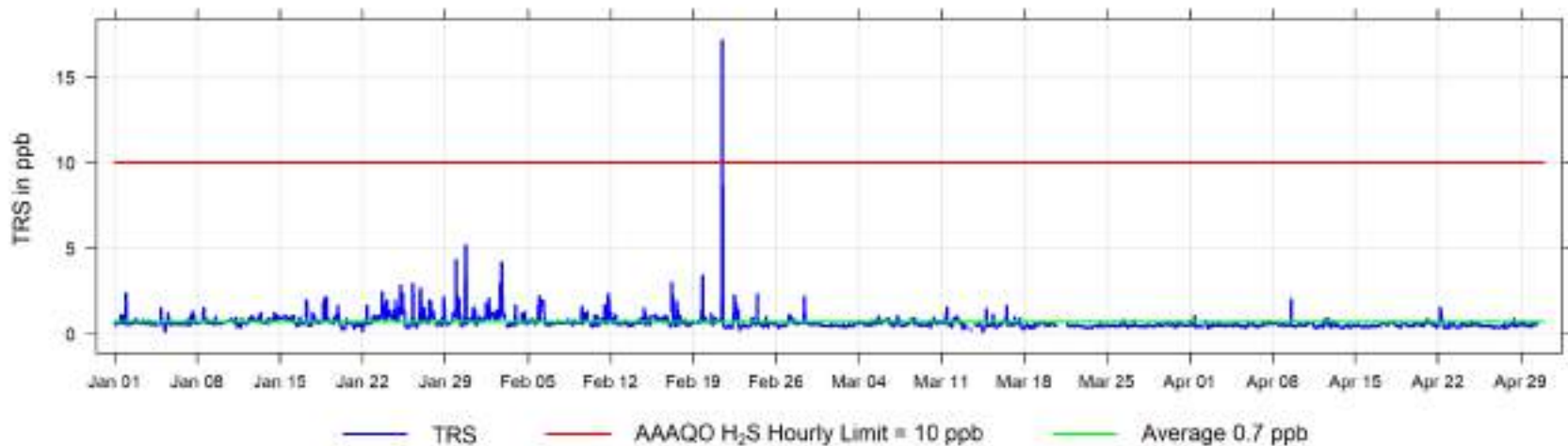
Total Reduced Sulphur (TRS) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb	30-min 5 ppb
January 2024	708	82.8%	16.8%	0.3%	0.1%	0.0%	0.0%	0.8	1.1	Jan 25	5.2	Jan 30 17:00	100.0%	95.2%	0	0	2
February 2024	663	85.2%	14.2%	0.3%	0.0%	0.2%	0.2%	0.8	1.7	Feb 21	17.2	Feb 21 11:00	100.0%	95.3%	0	0	4
March 2024	675	98.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.5	0.7	Mar 11	1.6	Mar 16 12:00	95.4%	90.7%	0	0	0
April 2024	675	99.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.5	0.6	Apr 07	2.0	Apr 09 14:00	99.9%	93.8%	0	0	0
May 2024																	
June 2024																	
July 2024																	
August 2024																	
September 2024																	
October 2024																	
November 2024																	
December 2024																	
Annual	2721	91.4%	8.3%	0.1%	0.0%	0.0%	0.0%		1.7	MAXIMUM VALUES		32.9%	31.2%	0	0	6	

AAAQO H₂S Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

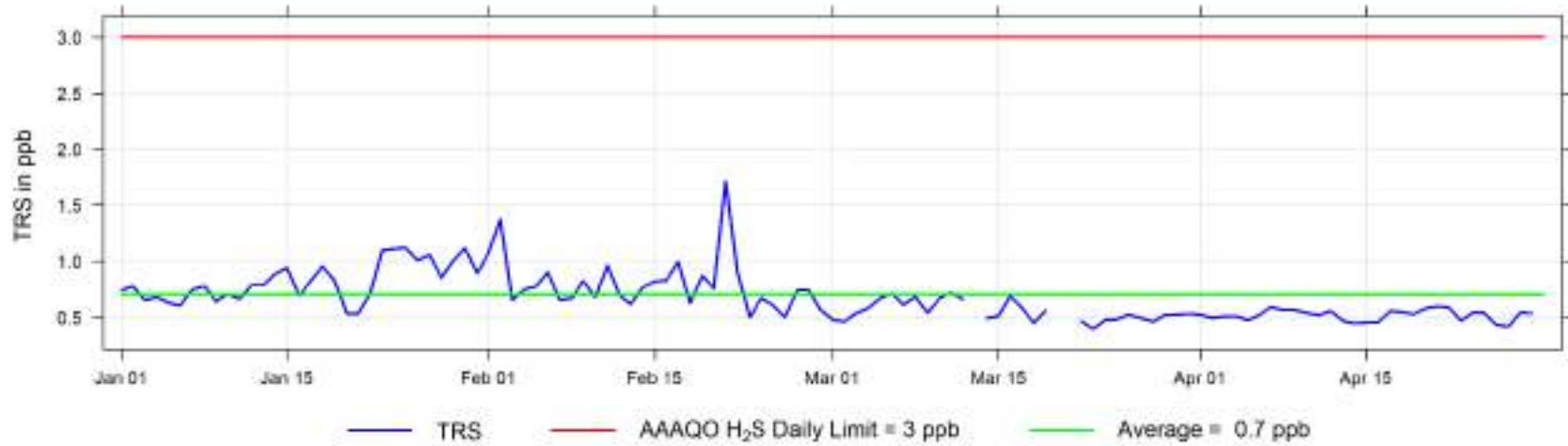
Note: Operational Jan to April 2024, annual average not valid

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

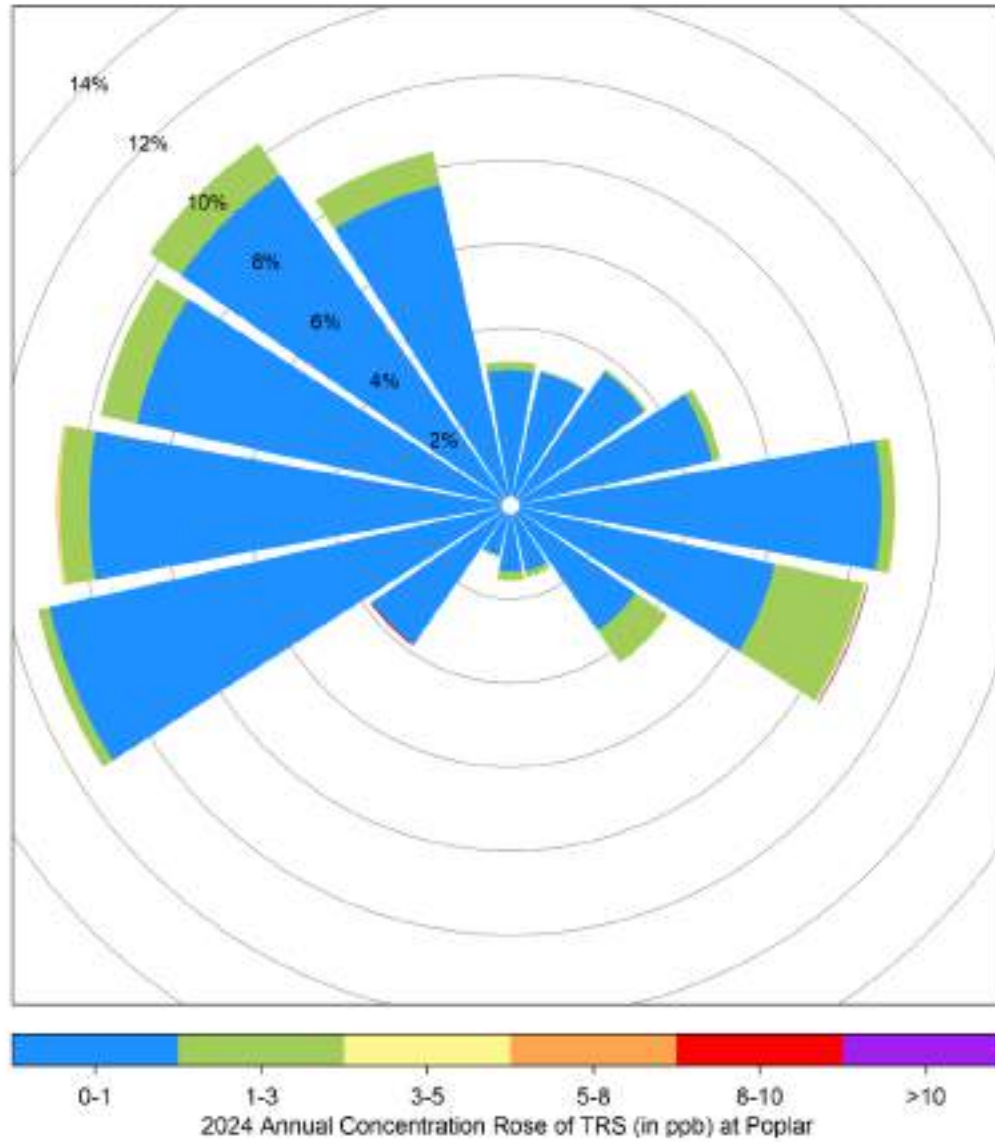


Note: average shown just for January to April 2024

2024 Daily Concentration Readings of TRS (in ppb) at Poplar

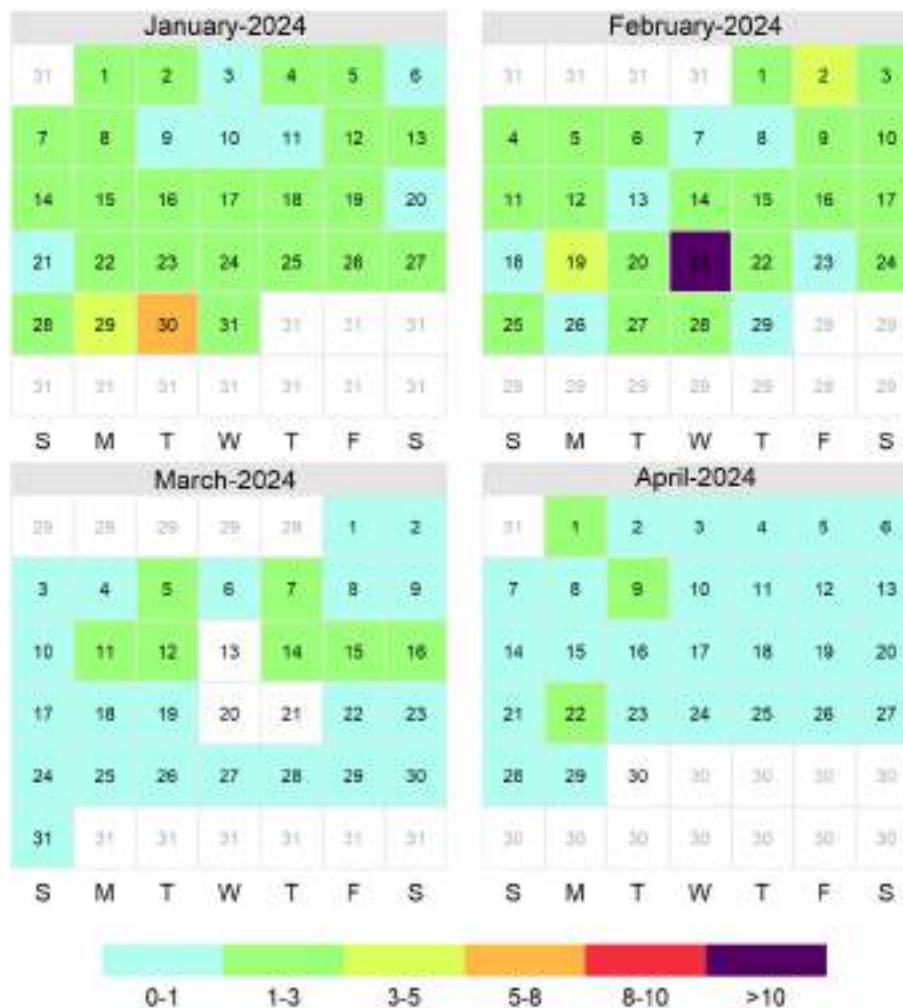


Note: average shown just for January to April 2024



Note: rose shown just for January to April 2024

Hourly Maximum TRS (in ppb) for 2024 at Poplar



8.4 Nitrogen Dioxide (NO₂) - Poplar January to April 2024 Summary

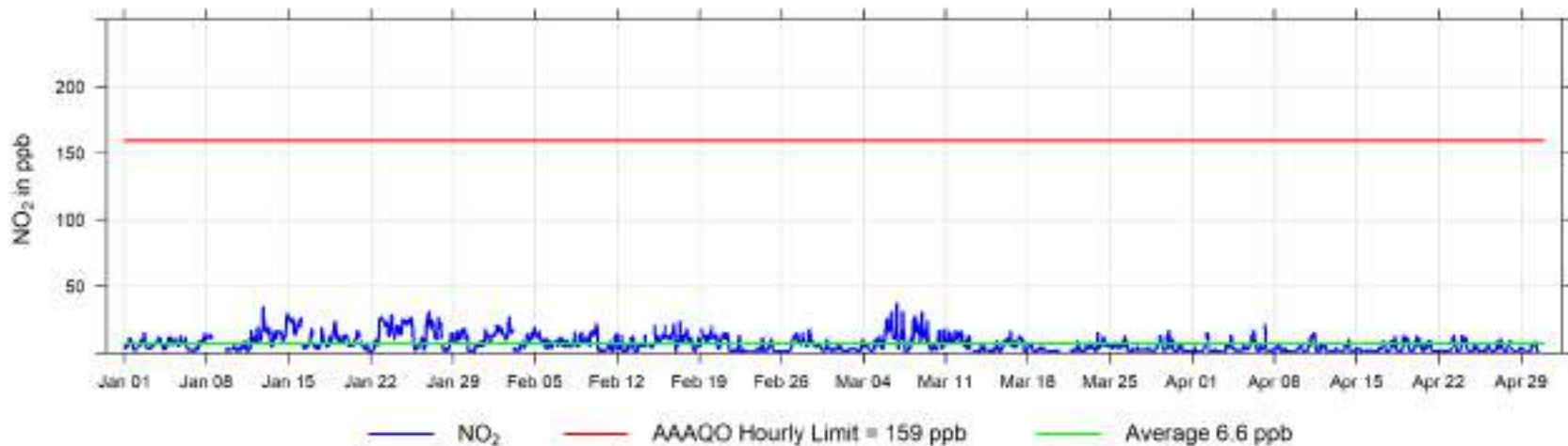
Nitrogen Dioxide (NO₂) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	Date				
January 2024	686	29.4%	48.4%	21.9%	0.3%	0.0%	0.0%	10.0	21.2	Jan 15	34.1	Jan 12 21:00	97.0%	92.2%	0
February 2024	661	38.4%	54.0%	7.6%	0.0%	0.0%	0.0%	7.4	15.8	Feb 02	27.0	Feb 02 19:00	100.0%	95.0%	0
March 2024	677	61.2%	31.2%	6.8%	0.9%	0.0%	0.0%	5.7	18.4	Mar 06	36.8	Mar 06 20:00	95.6%	91.0%	0
April 2024	673	79.0%	20.4%	0.6%	0.0%	0.0%	0.0%	3.2	6.3	Apr 11	21.2	Apr 07 04:00	99.9%	93.5%	0
May 2024															
June 2024															
July 2024															
August 2024															
September 2024															
October 2024															
November 2024															
December 2024															
Annual	2697	52.0%	38.5%	9.2%	0.3%	0.0%	0.0%			MAXIMUM VALUES					0

AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

Note: Operational Jan to April 2024, annual average not valid

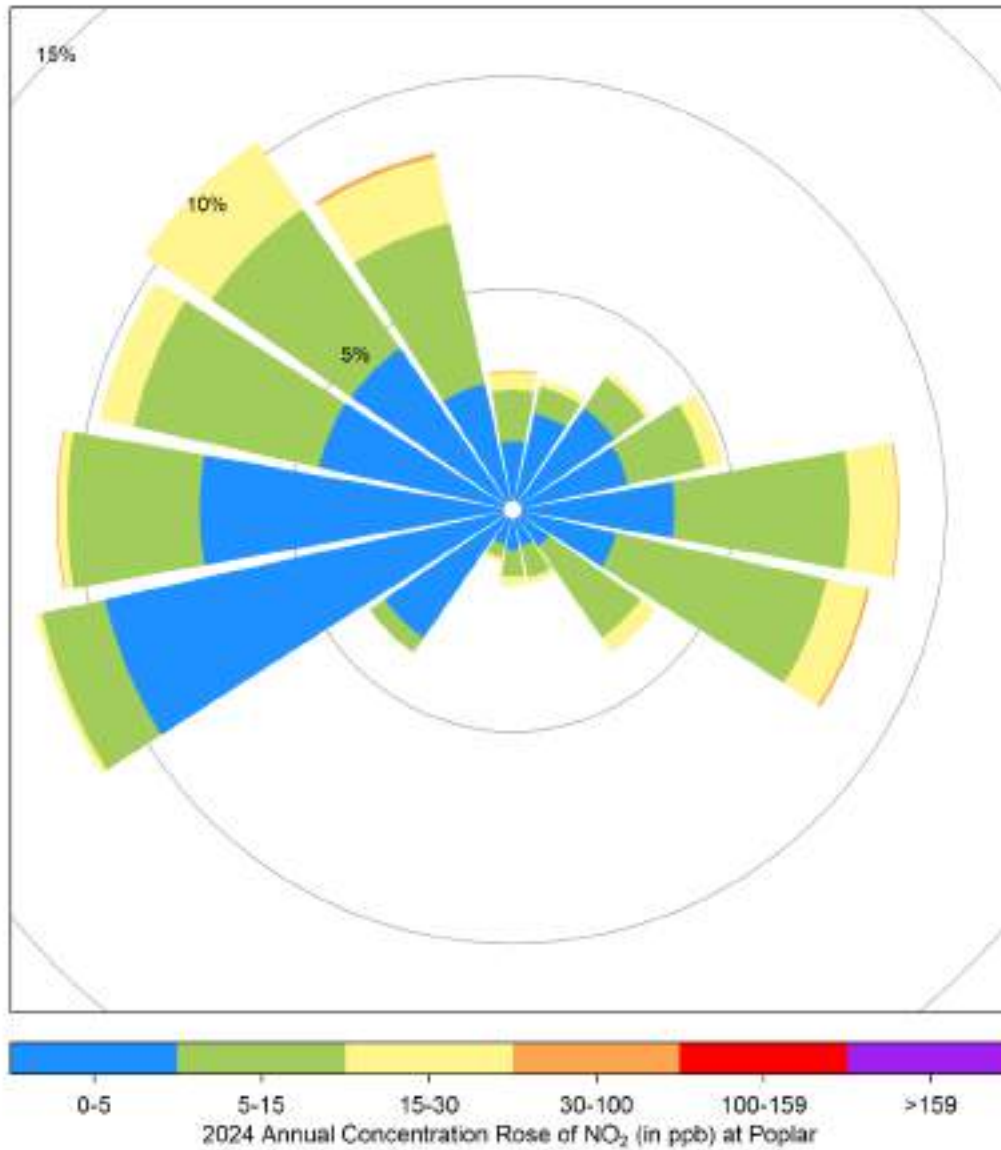
2024 Hourly Concentration Readings of NO₂ (in ppb) at Poplar



Note: average shown just for January to April 2024

Hourly Maximum NO₂ (in ppb) for 2024 at Poplar





Note: rose shown just for January to April 2024

8.5 Nitric Oxide (NO) - Poplar January to April 2024 Summary

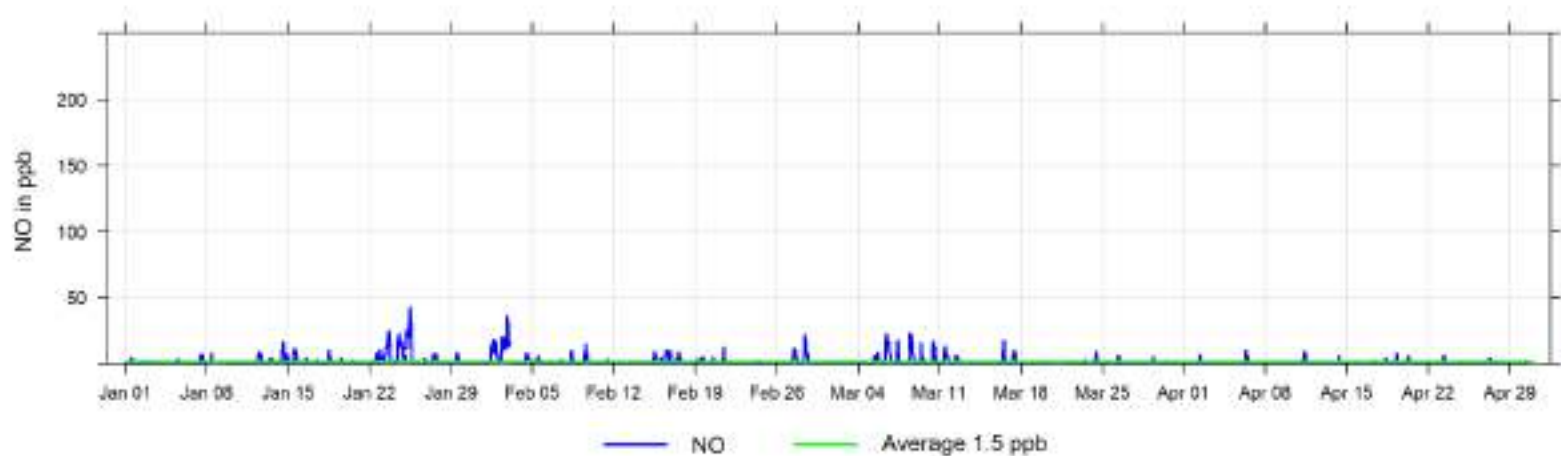
Nitric Oxide (NO) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr (ppb)			Date
January 2024	686	88.3%	8.0%	2.8%	0.9%	0.0%	0.0%	2.3	15.1	Jan 25	43.0	Jan 25 11:00	97.0%	92.2%
February 2024	661	88.0%	9.8%	1.7%	0.5%	0.0%	0.0%	2.0	14.0	Feb 02	35.8	Feb 02 19:00	100.0%	95.0%
March 2024	677	90.5%	7.4%	2.1%	0.0%	0.0%	0.0%	1.4	6.9	Mar 06	22.8	Mar 08 10:00	95.6%	91.0%
April 2024	673	98.2%	1.8%	0.0%	0.0%	0.0%	0.0%	0.5	1.8	Apr 06	10.3	Apr 06 08:00	99.9%	93.5%
May 2024														
June 2024														
July 2024														
August 2024														
September 2024														
October 2024														
November 2024														
December 2024														
Annual	2697	91.3%	6.8%	1.6%	0.3%	0.0%	0.0%			MAXIMUM VALUES				
									15.1	Jan 25	43.0	Jan 25 11:00	32.7%	31.0%

AAAQO Objectives: none

Note: Operational Jan to April 2024, annual average not valid

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



Note: average shown just for January to April 2024

8.6 Oxides of Nitrogen (NO_x) - Poplar January to April 2024 Summary

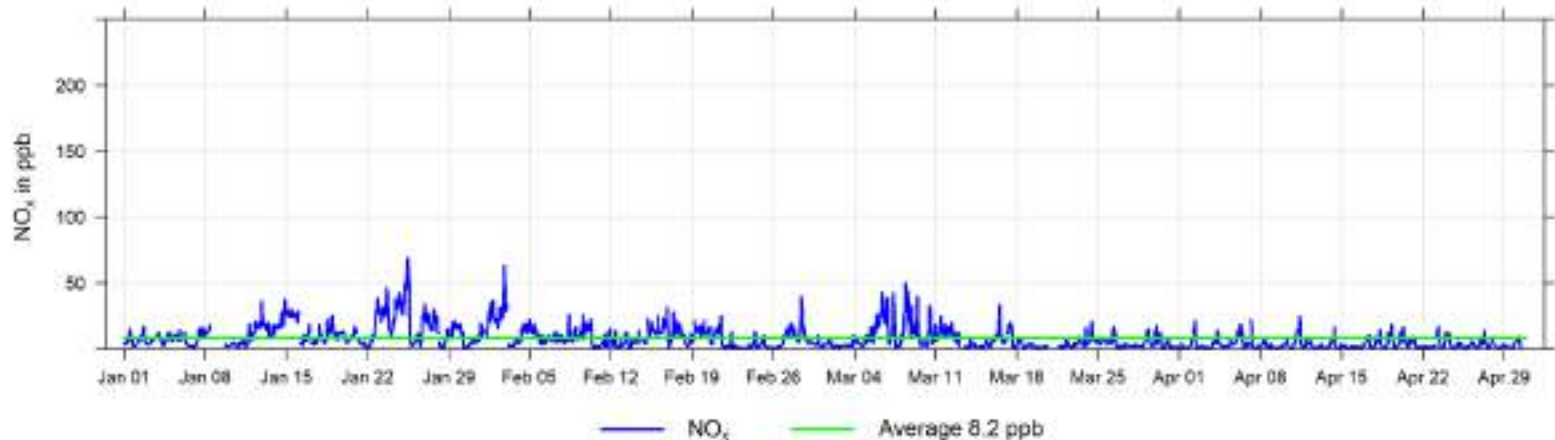
Nitrogen Oxides (NO_x) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr (ppb) Date			
January 2024	686	25.9%	43.3%	24.2%	6.6%	0.0%	0.0%	12.4	30.2	Jan 25	68.6	Jan 25 11:00	97.0%	92.2%
February 2024	661	37.1%	42.4%	17.9%	2.7%	0.0%	0.0%	9.5	30.1	Feb 02	63.1	Feb 02 19:00	100.0%	95.0%
March 2024	677	57.8%	28.7%	10.5%	3.1%	0.0%	0.0%	7.2	25.6	Mar 06	49.9	Mar 08 10:00	95.6%	91.0%
April 2024	673	76.5%	20.8%	2.7%	0.0%	0.0%	0.0%	3.7	8.1	Apr 11	24.6	Apr 11 09:00	99.9%	93.5%
May 2024														
June 2024														
July 2024														
August 2024														
September 2024														
October 2024														
November 2024														
December 2024														
Annual	2697	49.3%	33.8%	13.8%	3.1%	0.0%	0.0%			MAXIMUM VALUES				
									30.2	Jan 25	68.6	Jan 25 11:00	32.7%	31.0%

AAAQO Objectives: none

Note: Operational Jan to April 2024, annual average not valid

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



Note: average shown just for January to April 2024

8.7 Ozone (O₃) - Poplar January to April 2024 Summary

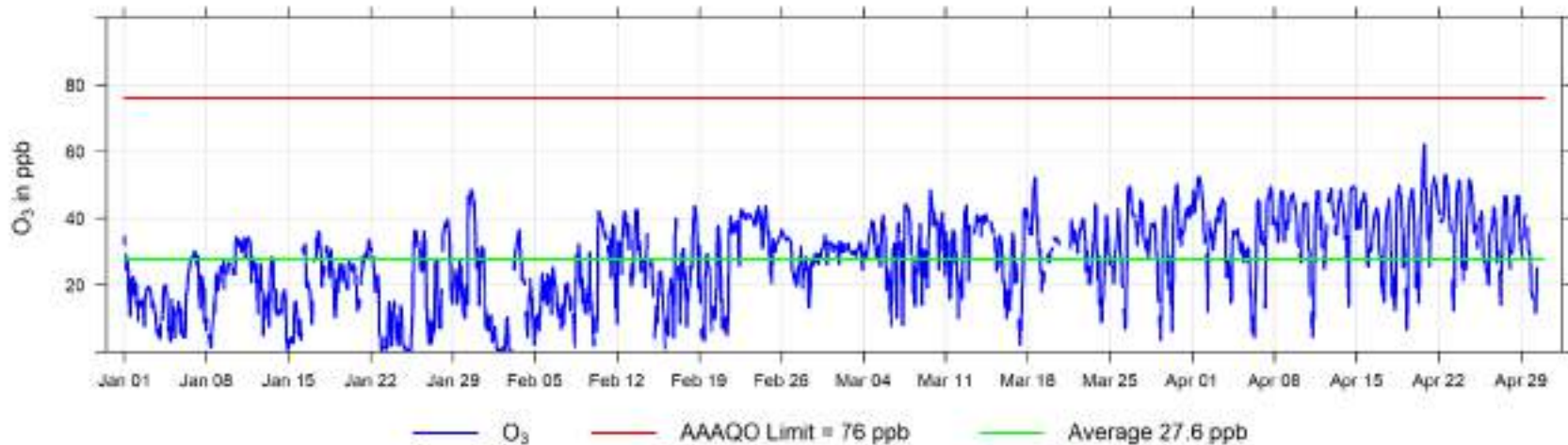
Ozone (O₃) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 76 ppb	
		0 to 10 (ppb)	10 to 20 (ppb)	20 to 40 (ppb)	40 to 60 (ppb)	60 to 76 (ppb)	> 76 (ppb)			Date	1-hr (ppb) Date				
January 2024	710	20.8%	32.4%	44.8%	2.0%	0.0%	0.0%	19.2	37.1	Jan 30	48.5	Jan 30 13:00	100.0%	95.4%	0
February 2024	663	16.7%	21.4%	54.1%	7.7%	0.0%	0.0%	23.4	39.9	Feb 23	43.6	Feb 24 16:00	100.0%	95.3%	0
March 2024	678	2.7%	8.4%	71.5%	17.4%	0.0%	0.0%	31.5	40.0	Mar 18	52.2	Mar 18 15:00	95.6%	91.1%	0
April 2024	673	1.5%	7.9%	47.3%	43.1%	0.3%	0.0%	36.5	46.6	Apr 01	62.2	Apr 20 18:00	99.9%	93.5%	0
May 2024															
June 2024															
July 2024															
August 2024															
September 2024															
October 2024															
November 2024															
December 2024															
Annual	2724	10.4%	17.5%	54.4%	17.5%	0.1%	0.0%			MAXIMUM VALUES					
									46.6	Apr 01	62.2	Apr 20 18:00	33.0%	31.3%	0

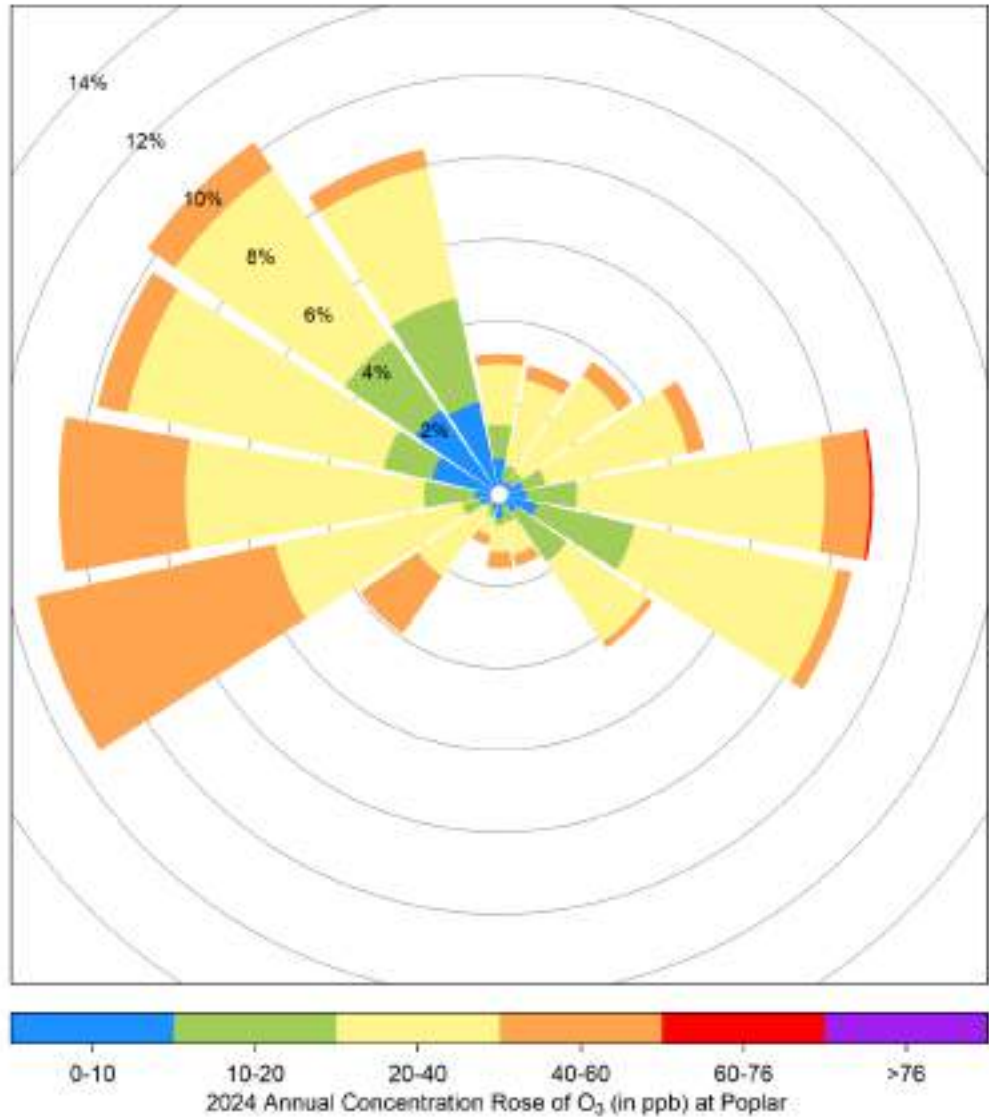
AAAQO Objectives: 1-Hr: 76ppb

Note: Operational Jan to April 2024, annual average not valid

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

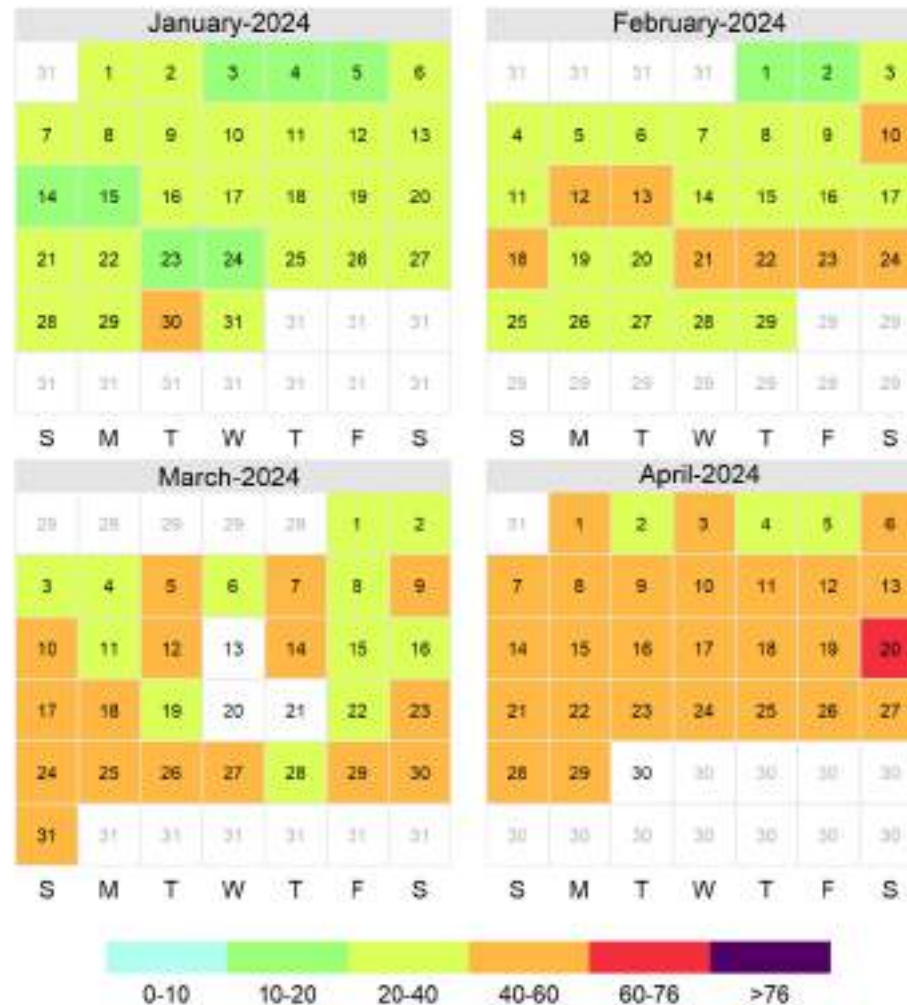


Note: average shown just for January to April 2024



Note: rose shown just for January to April 2024

Hourly Maximum O₃ (in ppb) for 2024 at Poplar



8.8 Total Hydrocarbons (THC) - Poplar January to April 2024 Summary

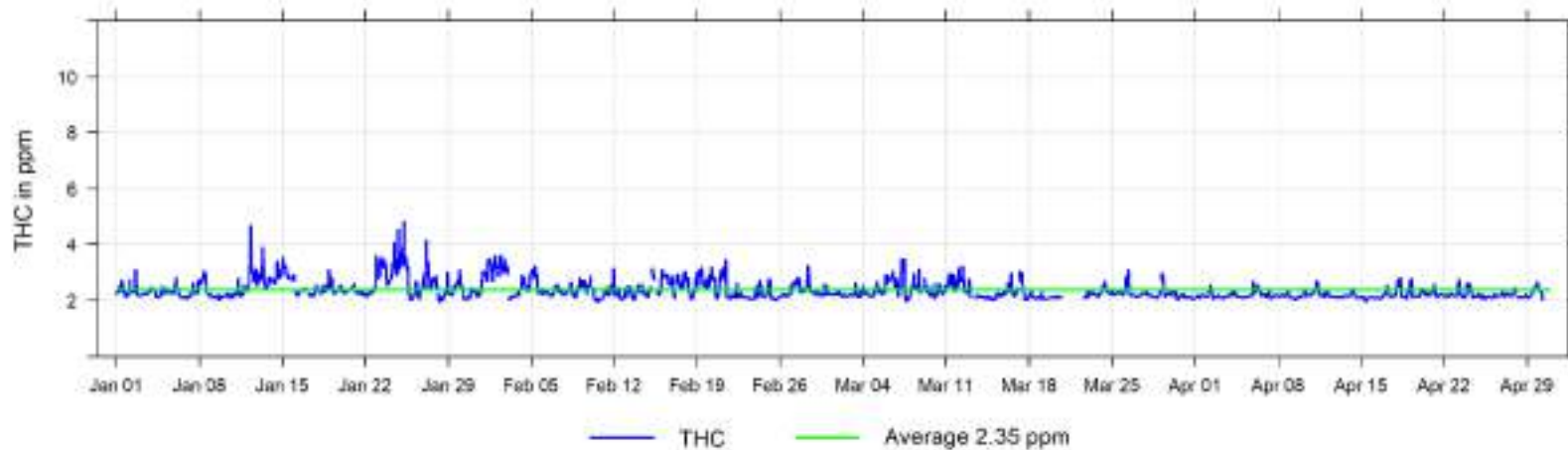
Total Hydrocarbons (THC) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	24-hr (ppm)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 1.5 (ppm)	1.5 to 2 (ppm)	2 to 2.5 (ppm)	2.5 to 5 (ppm)	5 to 10 (ppm)	> 10 (ppm)			Date	1-hr (ppm) Date			
January 2024	710	0.0%	0.4%	66.2%	33.4%	0.0%	0.0%	2.49	3.2	Jan 24	4.8	Jan 25 06:00	100.0%	95.4%
February 2024	663	0.0%	1.1%	64.9%	34.1%	0.0%	0.0%	2.43	3.2	Feb 02	3.6	Feb 02 10:00	100.0%	95.3%
March 2024	659	0.0%	0.5%	84.8%	14.7%	0.0%	0.0%	2.29	2.7	Mar 06	3.5	Mar 07 12:00	92.7%	88.6%
April 2024	673	0.0%	0.6%	95.2%	4.2%	0.0%	0.0%	2.19	2.3	Apr 29	2.8	Apr 18 07:00	99.9%	93.5%
May 2024														
June 2024														
July 2024														
August 2024														
September 2024														
October 2024														
November 2024														
December 2024														
Annual	2705	0.0%	0.6%	77.8%	21.6%	0.0%	0.0%			MAXIMUM VALUES				
									3.2	Jan 24	4.8	Jan 25 06:00	32.7%	31.1%

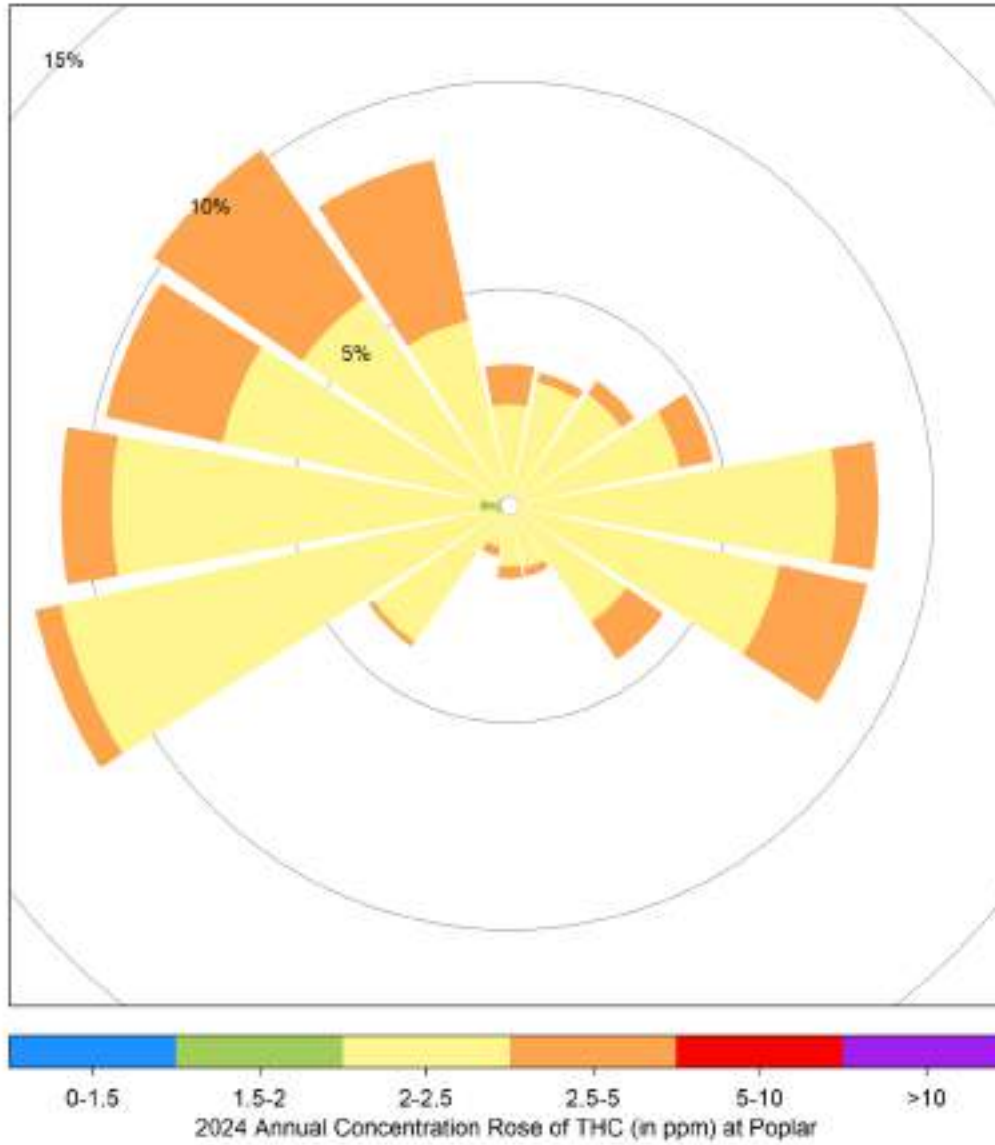
AAAQO Objectives: none

Note: Operational Jan to April 2024, annual average not valid

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



Note: average shown just for January to April 2024



Note: rose shown just for January to April 2024

Hourly Maximum THC (in ppm) for 2024 at Poplar



8.9 Particulate Matter (PM_{2.5}) - Poplar January to April 2024 Summary

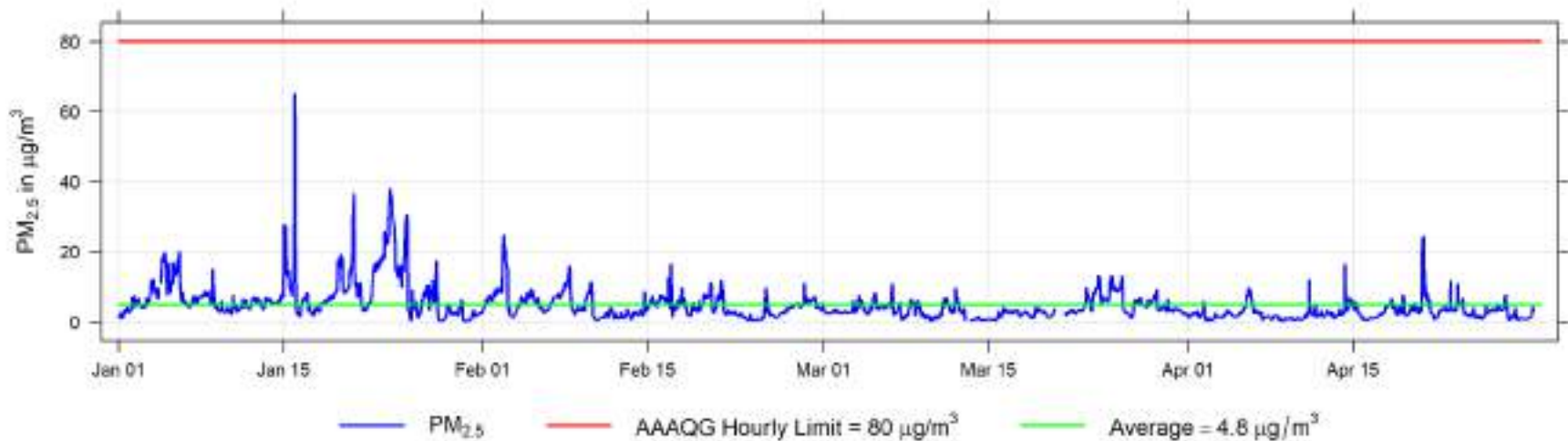
Particulate Matter (PM_{2.5}) Frequency Distribution at Poplar

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m ³)	24-hr (µg/m ³)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 5 (µg/m ³)	5 to 15 (µg/m ³)	15 to 30 (µg/m ³)	30 to 50 (µg/m ³)	50 to 80 (µg/m ³)	> 80 (µg/m ³)			Date	1-hr Date			24-hr 29 µg/m ³	1-hr 80 µg/m ³	
January 2024	742	39.6%	46.2%	12.1%	1.8%	0.3%	0.0%	8.0	23.7	Jan 24	65.0	Jan 15 23:00	100.0%	99.7%	0	0
February 2024	695	62.2%	36.1%	1.7%	0.0%	0.0%	0.0%	4.6	13.1	Feb 02	24.5	Feb 02 18:00	100.0%	99.9%	0	0
March 2024	712	77.9%	22.1%	0.0%	0.0%	0.0%	0.0%	3.7	9.3	Mar 25	13.1	Mar 24 07:00	95.8%	95.7%	0	0
April 2024	704	90.3%	9.1%	0.6%	0.0%	0.0%	0.0%	2.7	6.3	Apr 20	24.2	Apr 21 00:00	99.9%	97.8%	0	0
May 2024																
June 2024																
July 2024																
August 2024																
September 2024																
October 2024																
November 2024																
December 2024																
Annual	2853	67.5%	28.4%	3.6%	0.4%	0.1%	0.0%			MAXIMUM VALUES				0	0	

AAAQO Objectives: 24-Hr: 29 µg/m³, AAAQO Guideline: 1-Hr: 80 µg/m³

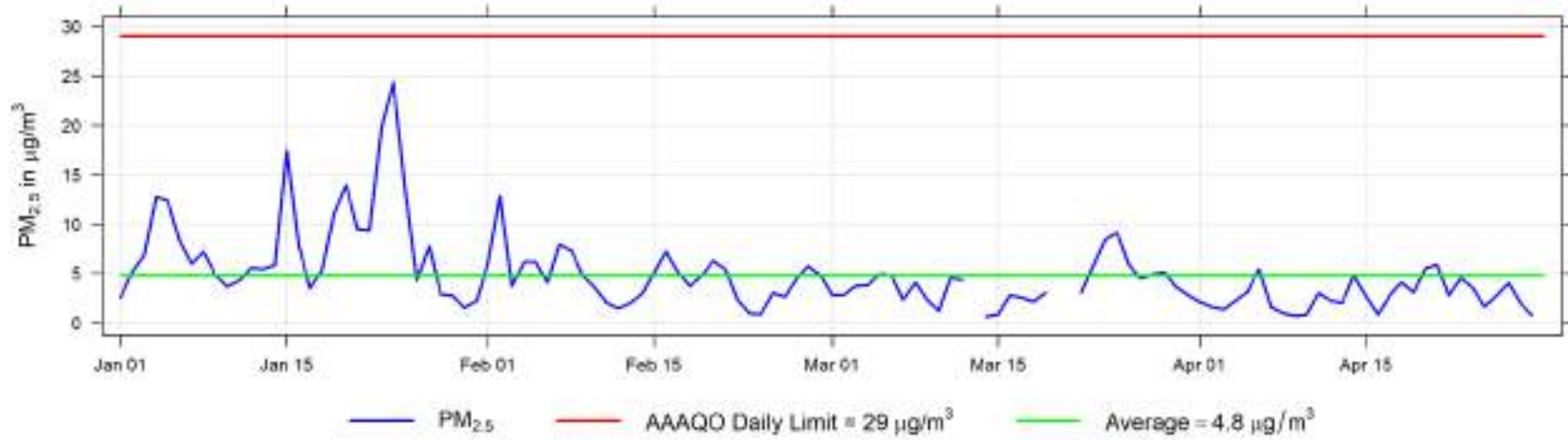
Note: Operational Jan to April 2024, annual average not valid

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

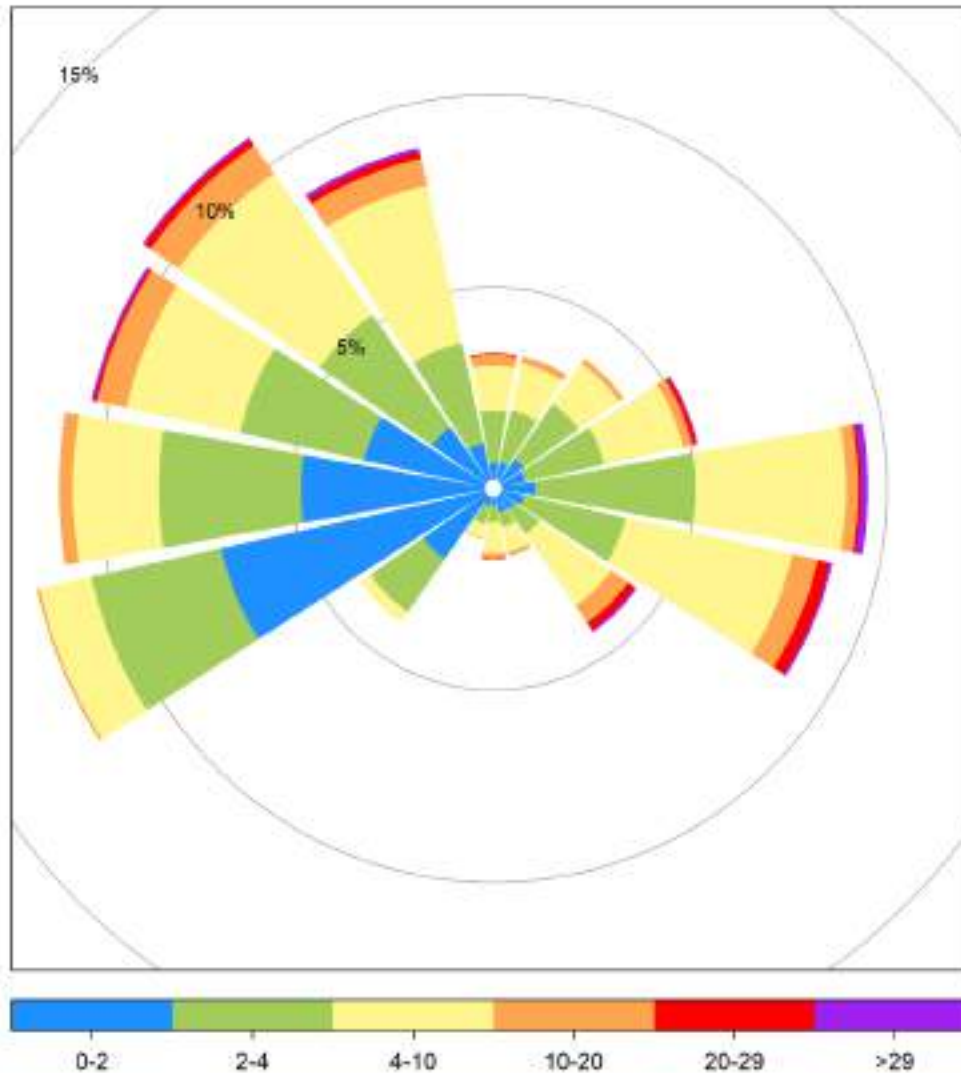


Note: average shown just for January to April 2024

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



Note: average shown just for January to April 2024



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

Note: rose shown just for January to April 2024

Hourly Maximum PM_{2.5} (in µg/m³) for 2024 at Poplar



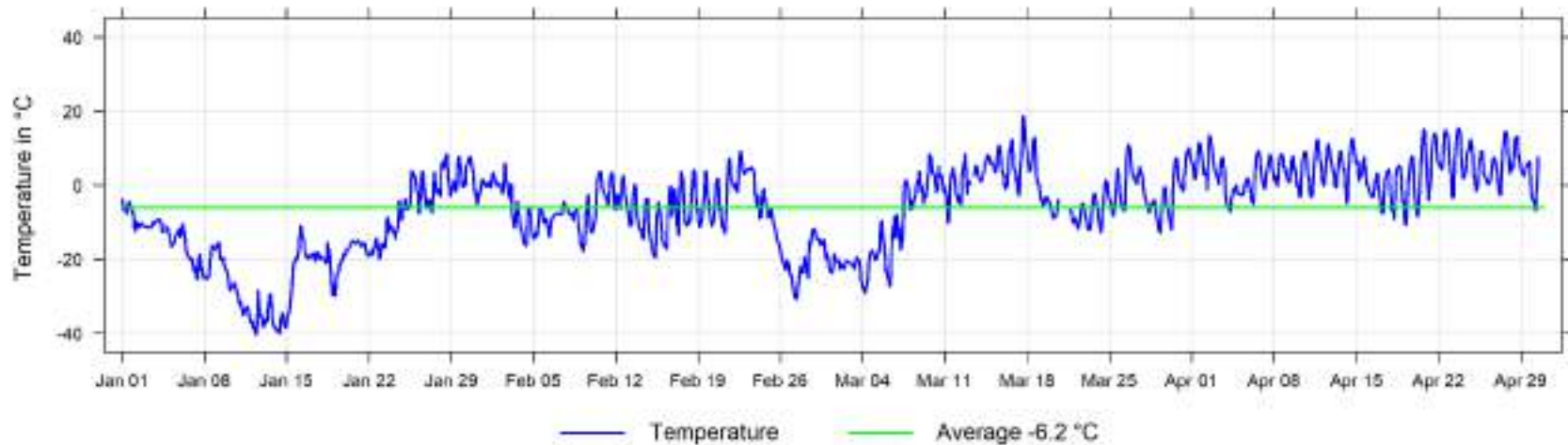
8.10 Temperature (ET) - Poplar January to April 2024 Summary

Temperature (ET) Frequency Distribution at Poplar

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)		
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date
January 2024	742	-15.6	3.7	Jan 30	8.3	Jan 28 15:00	-37.8	Jan 14	-40.6	Jan 12 09:00	99.7%	99.7%
February 2024	696	-7.8	3.3	Feb 22	9.2	Feb 22 15:00	-26.2	Feb 27	-30.8	Feb 27 08:00	100.0%	100.0%
March 2024	715	-4.6	7.7	Mar 17	18.7	Mar 17 15:00	-22.9	Mar 04	-29.2	Mar 04 05:00	96.1%	96.1%
April 2024	708	3.7	9.0	Apr 22	15.4	Apr 23 17:00	-3.2	Apr 04	-10.7	Apr 19 05:00	100.0%	98.3%
May 2024												
June 2024												
July 2024												
August 2024												
September 2024												
October 2024												
November 2024												
December 2024												
		AVERAGE	MAXIMUM VALUES			MINIMUM VALUES						
		2861	9.0	Apr 22	18.7	Mar 17 15:00	-37.8	Jan 14	-40.6	Jan 12 09:00	33.0%	32.8%

Note: Operational Jan to April 2024, annual average not valid

2024 Hourly Temperature Readings (in °C) at Poplar



Note: average shown just for January to April 2024

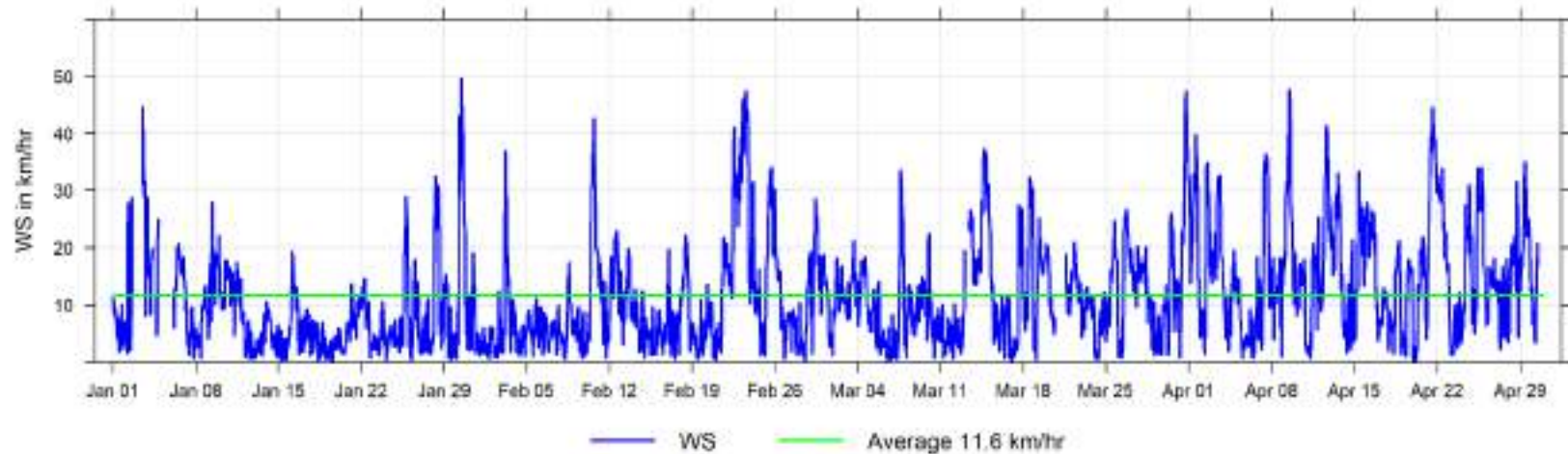
8.11 Wind Speed and Wind Direction (WS and WD) - Poplar January to April 2024 Summary

Wind Speed Frequency Distribution at Poplar

Month	Valid Hours	Calm	% of Readings in Concentration Range					Monthly Average (km/hr)	24-hr (km/hr)	MAXIMUM VALUES			Operational time (%)	Valid time (%)
			0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)			Date	1-hr (km/hr)	Date		
January 2024	689	1.3%	42.1%	30.0%	17.7%	4.5%	4.4%	8.6	22.1	Jan 30	49.6	Jan 30 12:00	92.6%	92.6%
February 2024	696	0.4%	33.9%	32.5%	18.5%	7.0%	7.6%	10.3	33.4	Feb 23	47.5	Feb 23 13:00	100.0%	100.0%
March 2024	716	0.7%	21.8%	31.1%	30.9%	11.5%	4.1%	11.7	26.0	Mar 31	47.4	Mar 31 18:00	96.2%	96.2%
April 2024	708	0.4%	14.8%	20.8%	33.6%	16.7%	13.7%	15.6	28.9	Apr 21	47.7	Apr 09 12:00	100.0%	98.3%
May 2024														
June 2024														
July 2024														
August 2024														
September 2024														
October 2024														
November 2024														
December 2024														
Annual	2809	0.7%	28.2%	28.6%	25.2%	9.9%	7.4%			MAXIMUM VALUES			32.4%	32.3%
									33.4	Feb 23	49.6	Jan 30 12:00		

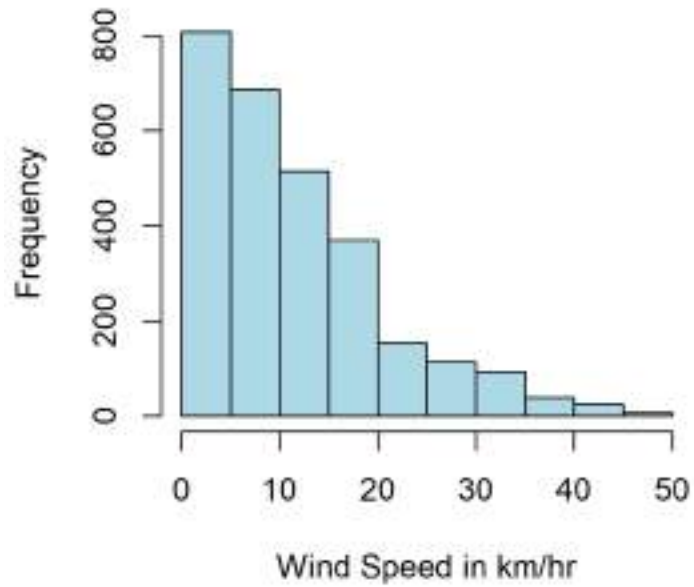
Note: Operational Jan to April 2024, annual average not valid

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

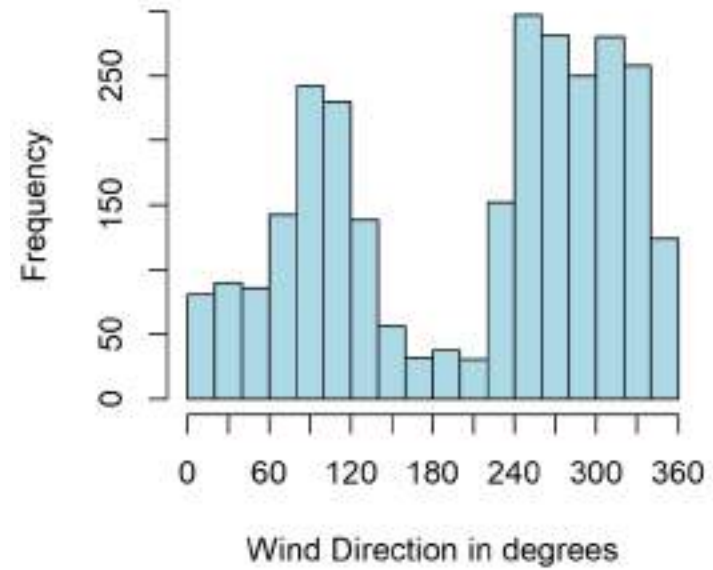


Note: average shown just for January to April 2024

2024 Wind Speed Histogram



2024 Wind Direction Histogram

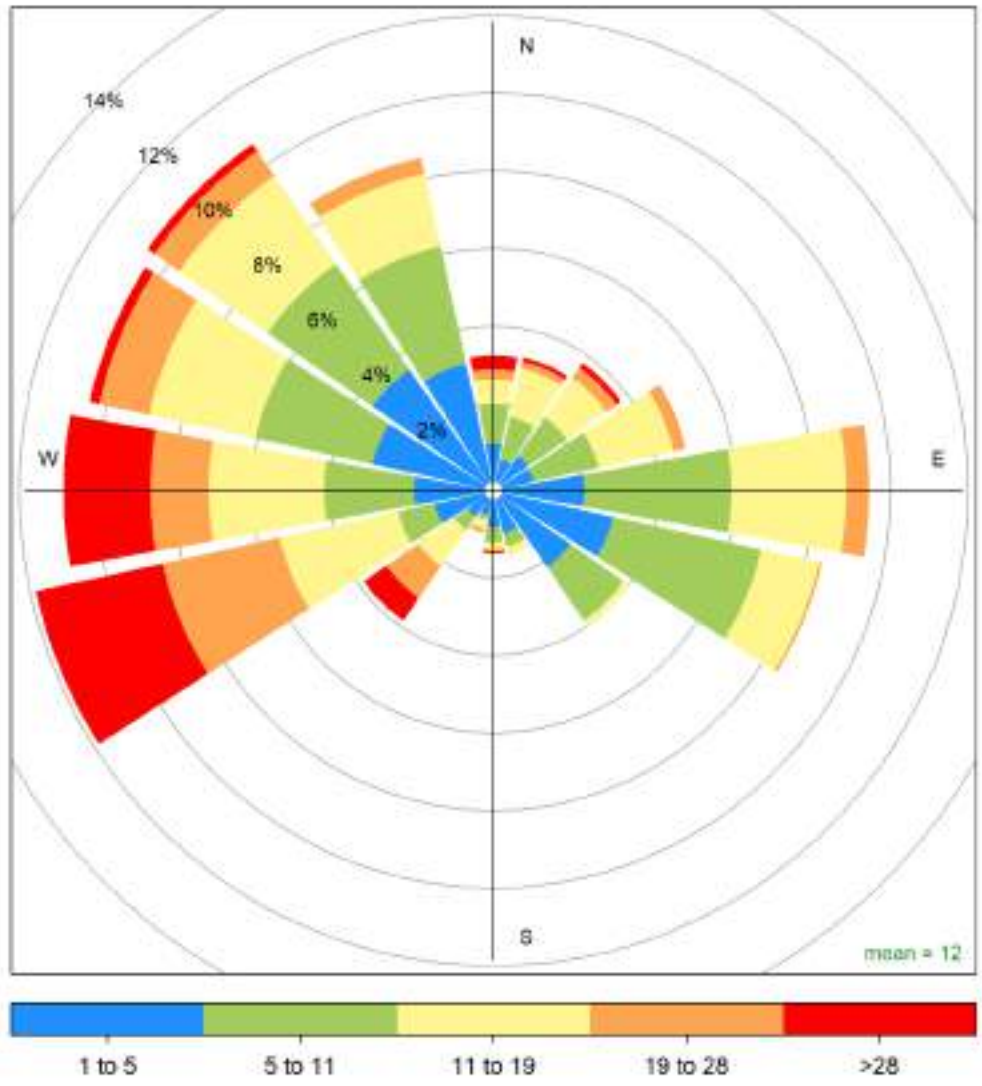


Note: histograms shown just for January to April 2024

Wind Speed and Wind Direction Frequency Distribution at Poplar

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	92	0.0%	1.0%	1.0%	0.6%	0.2%	0.4%	3.3%
NNE	92	0.0%	0.6%	1.1%	1.3%	0.2%	0.1%	3.3%
NE	109	0.0%	0.9%	1.2%	1.2%	0.3%	0.1%	3.9%
ENE	146	0.0%	1.1%	1.7%	2.0%	0.3%	0.0%	5.2%
E	269	0.0%	2.2%	3.8%	3.0%	0.6%	0.0%	9.6%
ESE	247	0.1%	3.2%	3.9%	1.5%	0.1%	0.0%	8.8%
SE	122	0.0%	2.5%	1.7%	0.2%	0.0%	0.0%	4.3%
SSE	45	0.0%	1.0%	0.4%	0.2%	0.0%	0.0%	1.6%
S	45	0.1%	0.9%	0.4%	0.2%	0.0%	0.1%	1.6%
SSW	31	0.1%	0.5%	0.1%	0.2%	0.1%	0.0%	1.1%
SW	113	0.0%	0.7%	0.4%	1.1%	1.0%	0.7%	4.0%
WSW	337	0.1%	1.4%	1.0%	3.1%	3.1%	3.3%	12.0%
W	311	0.0%	2.0%	2.3%	3.0%	1.5%	2.2%	11.1%
WNW	295	0.0%	3.0%	3.1%	2.8%	1.3%	0.2%	10.5%
NW	307	0.1%	3.8%	3.3%	2.7%	0.8%	0.2%	10.9%
NNW	248	0.1%	3.3%	3.1%	1.9%	0.4%	0.0%	8.8%
Total	2809	0.7%	28.0%	28.6%	25.3%	10.0%	7.4%	100.0%

Note: shown just for January to April 2024



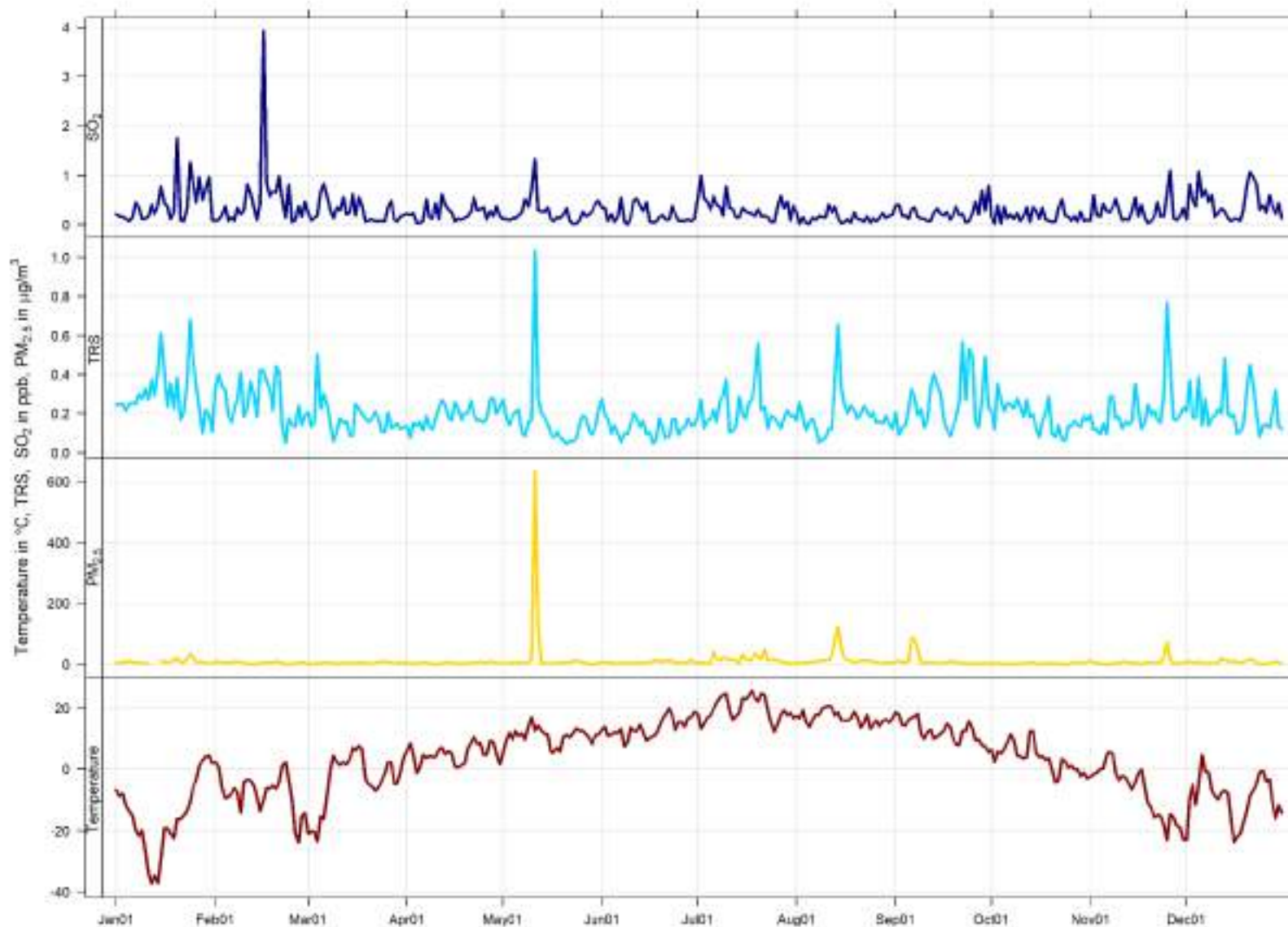
Poplar 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 3 %

Note: rose shown just for January to April 2024

9 Smoky Heights Key Parameters - Continuous Monitoring Data - 2024 Summary

Smoky Heights Station	Parameter	Average	Maximum Values			Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG						
			24-hr	Date	1-hr			Date	30-min	1-hr	8-hr	24-hr	30-d	Annual
	Sulphur Dioxide SO ₂ measured in ppb	0.3	3.9	Feb 16	13.7	Feb 16 15:00	99.7%	95.0%	-	0	-	0	0	0
	Total Reduced Sulphur TRS measured in ppb	0.2	1.1	May 11	4.0	Sep 24 01:00	99.8%	95.0%	1	0	-	0	-	-
	Particulate Matter PM _{2.5} measured in µg/m ³	8.8	116.8	Aug 14	990.0	May 11 03:00	98.6%	98.3%	-	103	-	13	-	-

2024 Daily Concentration Readings at Smoky Heights



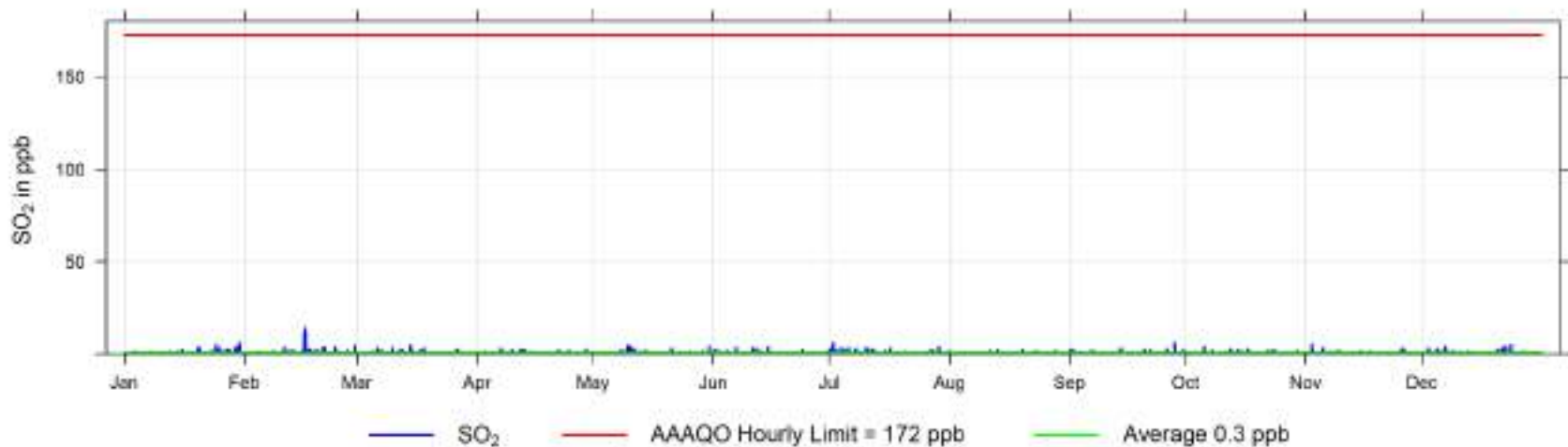
9.1 Sulphur Dioxide (SO₂) - Smoky Heights 2024 Summary

Sulphur Dioxide (SO₂) Frequency Distribution at Smoky Heights

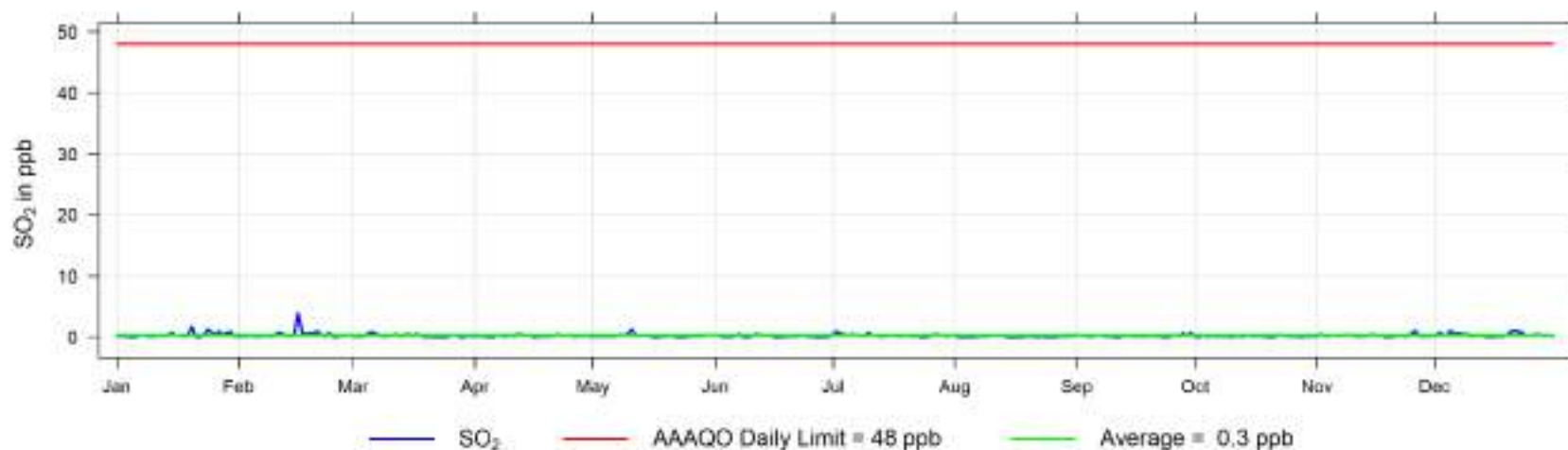
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	709	88.0%	11.8%	0.1%	0.0%	0.0%	0.0%	0.4	1.7	Jan 20	5.7	Jan 30 19:00	100.0%	95.3%	0	0	0
February 2024	663	89.7%	9.4%	0.2%	0.8%	0.0%	0.0%	0.5	3.9	Feb 16	13.7	Feb 16 15:00	100.0%	95.3%	0	0	0
March 2024	706	93.9%	6.1%	0.0%	0.0%	0.0%	0.0%	0.3	0.8	Mar 06	4.6	Mar 15 02:00	99.7%	94.9%	0	0	0
April 2024	686	95.8%	4.2%	0.0%	0.0%	0.0%	0.0%	0.2	0.6	Apr 12	2.8	Apr 07 06:00	100.0%	95.3%	0	0	0
May 2024	709	94.9%	5.1%	0.0%	0.0%	0.0%	0.0%	0.3	1.3	May 11	4.4	May 10 00:00	100.0%	95.3%	0	0	0
June 2024	686	96.9%	3.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Jun 12	3.5	Jun 15 04:00	100.0%	95.3%	0	0	0
July 2024	697	92.5%	7.3%	0.1%	0.0%	0.0%	0.0%	0.3	1.0	Jul 02	5.8	Jul 02 01:00	98.4%	93.7%	0	0	0
August 2024	707	98.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	Aug 11	2.5	Aug 19 22:00	99.7%	95.0%	0	0	0
September 2024	684	95.6%	4.2%	0.1%	0.0%	0.0%	0.0%	0.2	0.8	Sep 30	5.7	Sep 28 04:00	99.7%	95.0%	0	0	0
October 2024	704	96.9%	3.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Oct 23	3.5	Oct 05 22:00	99.2%	94.6%	0	0	0
November 2024	686	95.3%	4.5%	0.1%	0.0%	0.0%	0.0%	0.3	1.0	Nov 26	5.4	Nov 02 14:00	100.0%	95.3%	0	0	0
December 2024	710	89.3%	10.7%	0.0%	0.0%	0.0%	0.0%	0.4	1.1	Dec 21	4.9	Dec 23 23:00	100.0%	95.4%	0	0	0
Annual	8347	94.0%	5.9%	0.1%	0.1%	0.0%	0.0%	0.3	3.9	MAXIMUM VALUES		99.7%	95.0%	0	0	0	

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

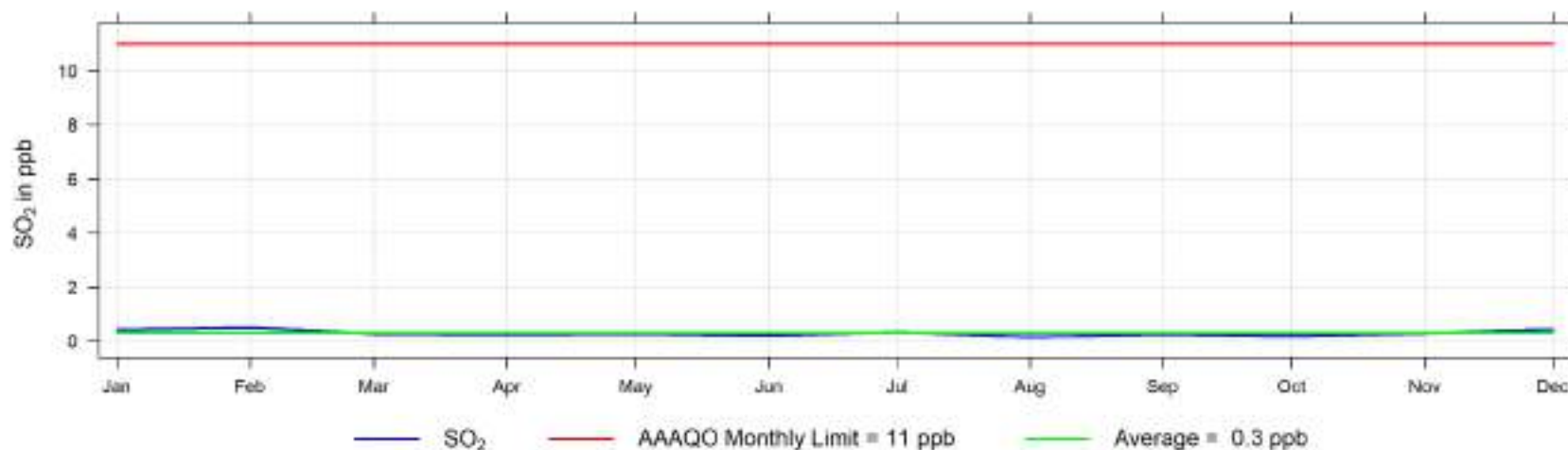
2024 Hourly Concentration Readings of SO₂ (in ppb) at Smoky Heights

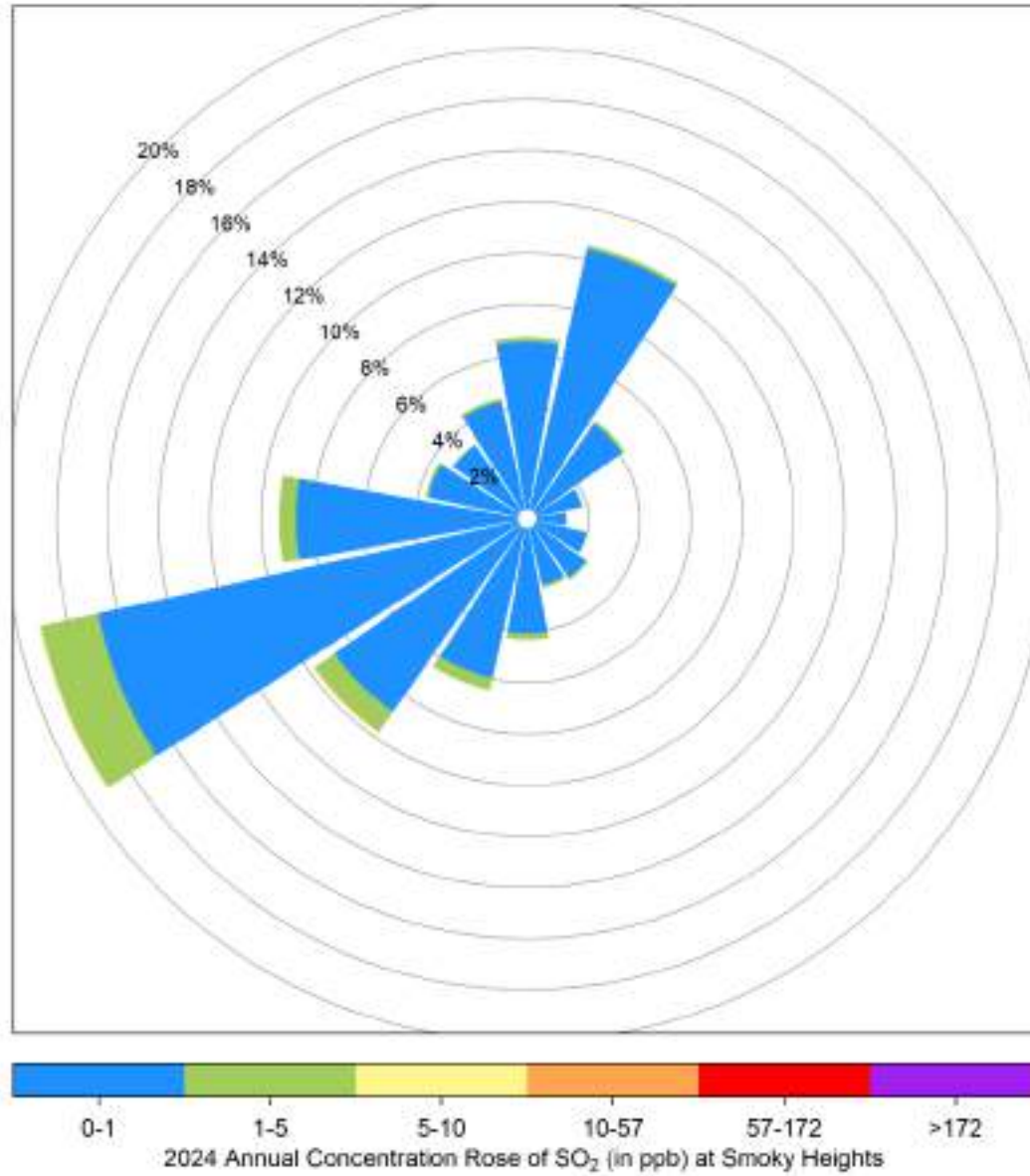


2024 Daily Concentration Readings of SO₂ (in ppb) at Smoky Heights

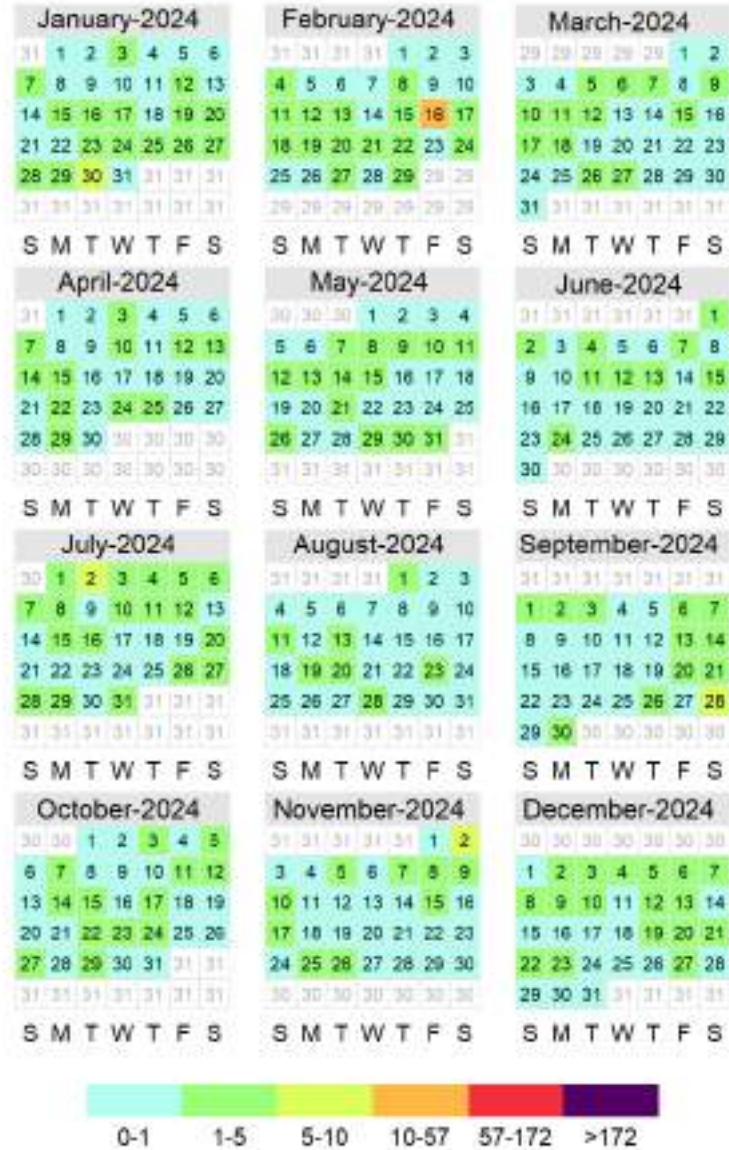


2024 Monthly Concentration Readings of SO₂ (in ppb) at Smoky Heights





Hourly Maximum SO₂ (in ppb) for 2024 at Smoky Heights



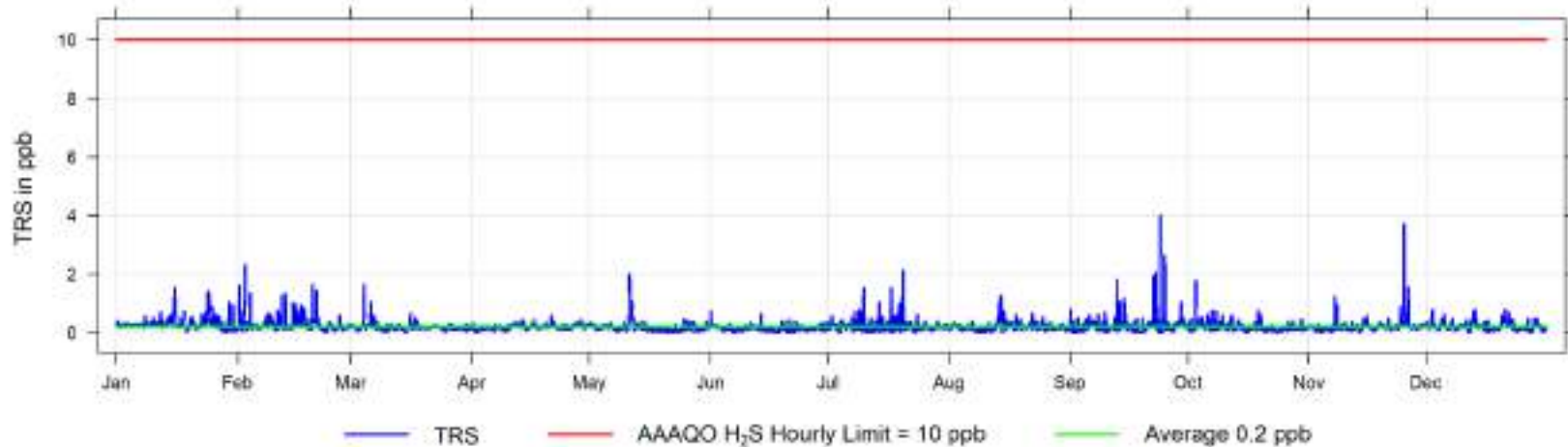
9.2 Total Reduced Sulphur (TRS) - Smoky Heights 2024 Summary

Total Reduced Sulphur (TRS) Frequency Distribution at Smoky Heights

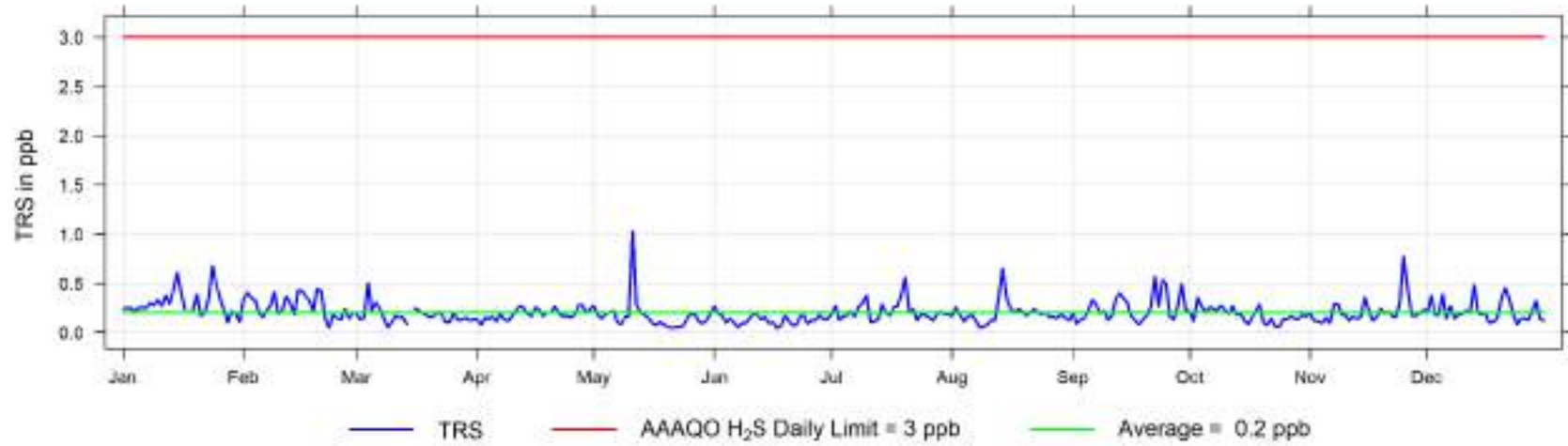
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb	30-min 5 ppb
January 2024	706	98.3%	1.7%	0.0%	0.0%	0.0%	0.0%	0.3	0.7	Jan 24	1.5	Jan 16 02:00	100.0%	94.9%	0	0	0
February 2024	663	97.6%	2.4%	0.0%	0.0%	0.0%	0.0%	0.3	0.5	Feb 20	2.3	Feb 03 02:00	100.0%	95.3%	0	0	0
March 2024	697	99.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Mar 04	1.6	Mar 04 09:00	98.5%	93.7%	0	0	0
April 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Apr 28	0.6	Apr 21 08:00	100.0%	95.3%	0	0	0
May 2024	708	98.4%	1.6%	0.0%	0.0%	0.0%	0.0%	0.2	1.1	May 11	2.0	May 11 09:00	100.0%	95.2%	0	0	0
June 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Jun 01	0.8	Jun 01 05:00	100.0%	95.3%	0	0	0
July 2024	709	98.3%	1.7%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Jul 20	2.1	Jul 20 06:00	100.0%	95.3%	0	0	0
August 2024	709	98.6%	1.4%	0.0%	0.0%	0.0%	0.0%	0.2	0.6	Aug 14	1.3	Aug 14 10:00	100.0%	95.3%	0	0	0
September 2024	684	97.8%	1.9%	0.3%	0.0%	0.0%	0.0%	0.3	0.6	Sep 22	4.0	Sep 24 01:00	99.7%	95.0%	0	0	0
October 2024	703	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2	0.3	Oct 03	1.8	Oct 03 01:00	99.2%	94.5%	0	0	0
November 2024	686	98.8%	1.0%	0.1%	0.0%	0.0%	0.0%	0.2	0.8	Nov 25	3.7	Nov 25 07:00	100.0%	95.3%	0	0	1
December 2024	709	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Dec 13	0.8	Dec 02 18:00	100.0%	95.3%	0	0	0
Annual	8346	98.9%	1.0%	0.0%	0.0%	0.0%	0.0%	0.2	1.1	MAXIMUM VALUES		99.8%	95.0%	0	0	1	

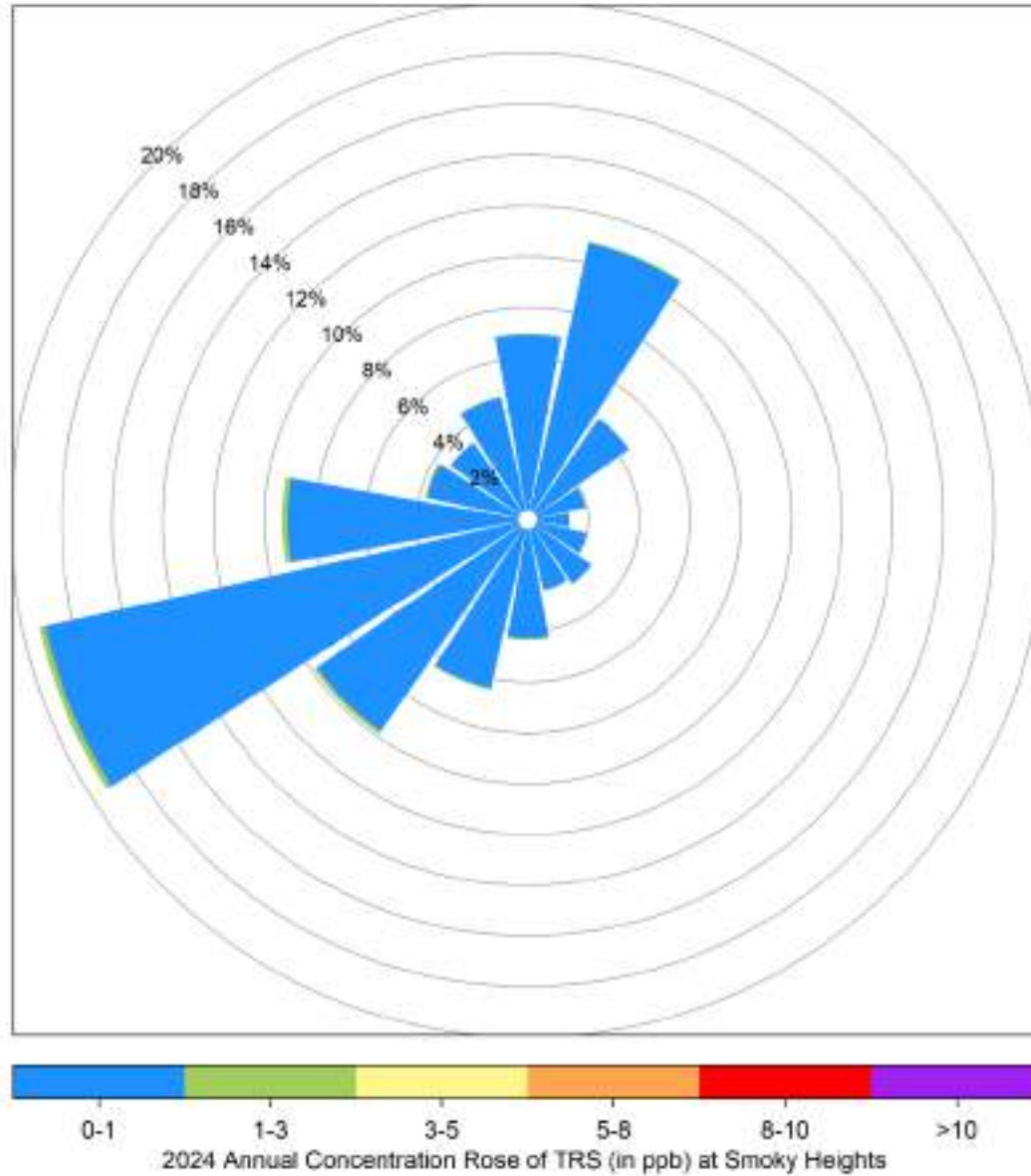
AAAQO H₂S Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

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

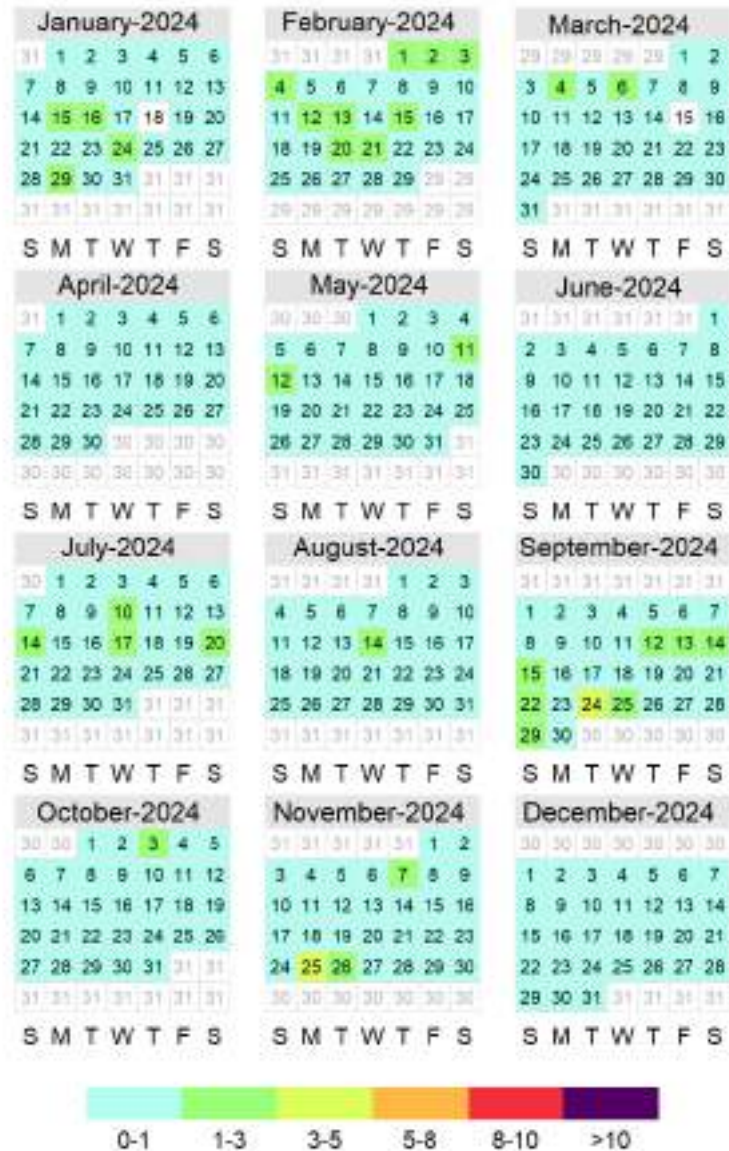


2024 Daily Concentration Readings of TRS (in ppb) at Smoky Heights





Hourly Maximum TRS (in ppb) for 2024 at Smoky Heights



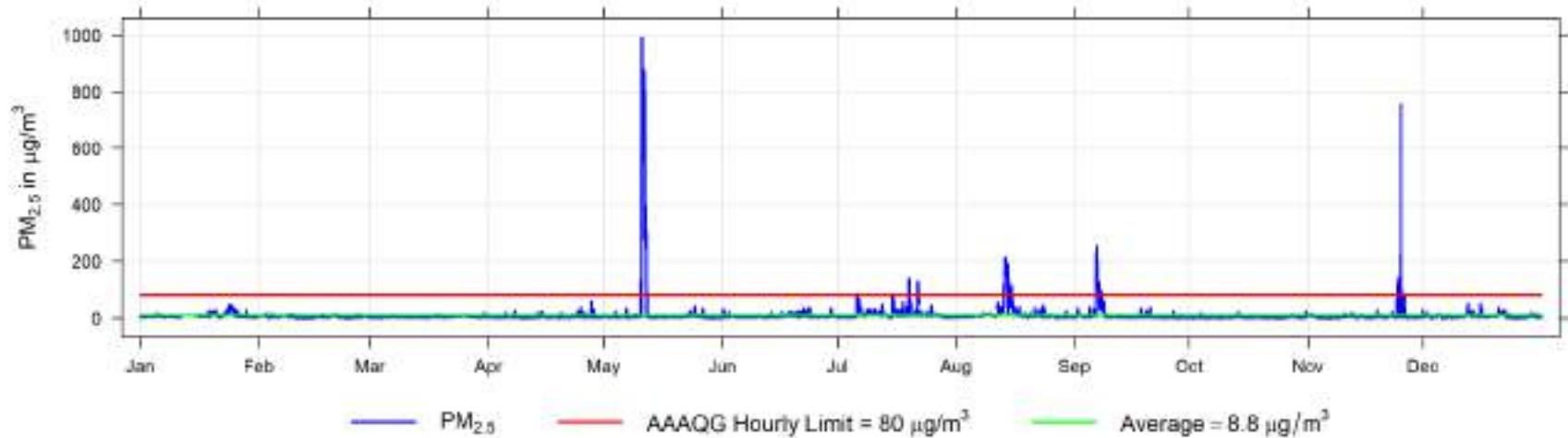
9.3 Particulate Matter (PM_{2.5}) - Smoky Heights 2024 Summary

Particulate Matter (PM_{2.5}) Frequency Distribution at Smoky Heights

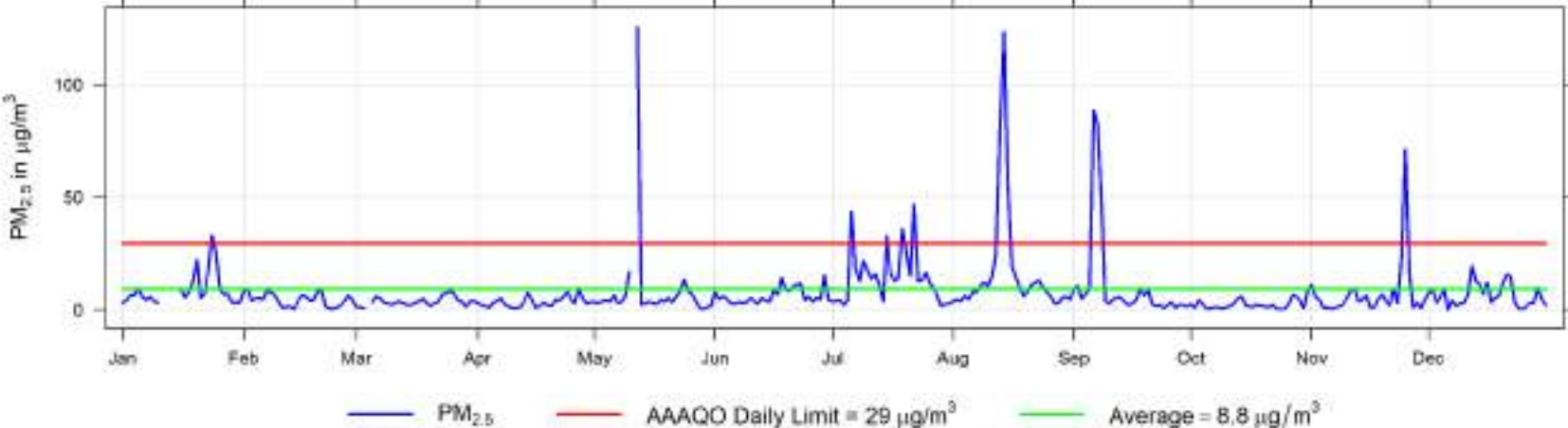
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m ³)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m ³)	5 to 15 (µg/m ³)	15 to 30 (µg/m ³)	30 to 50 (µg/m ³)	50 to 80 (µg/m ³)	> 80 (µg/m ³)		24-hr (µg/m ³)	Date	1-hr (µg/m ³)	Date			24-hr 29 µg/m ³	1-hr 80 µg/m ³
January 2024	649	46.4%	37.6%	12.3%	3.7%	0.0%	0.0%	8.5	33.5	Jan 24	46.1	Jan 24 05:00	87.5%	87.2%	1	0
February 2024	694	62.8%	36.5%	0.7%	0.0%	0.0%	0.0%	4.2	8.9	Feb 02	17.6	Feb 04 10:00	100.0%	99.7%	0	0
March 2024	732	79.6%	20.1%	0.3%	0.0%	0.0%	0.0%	3.4	8.1	Mar 25	18.8	Mar 30 21:00	99.5%	98.4%	0	0
April 2024	718	83.8%	13.8%	1.8%	0.4%	0.1%	0.0%	3.3	9.7	Apr 27	59.2	Apr 27 23:00	100.0%	99.7%	0	0
May 2024	736	69.6%	24.5%	1.4%	0.7%	0.4%	3.5%	22.9	109.1	May 12	990.0	May 11 03:00	99.2%	98.9%	1	26
June 2024	717	57.2%	34.7%	7.1%	1.0%	0.0%	0.0%	6.0	14.9	Jun 29	35.8	Jun 23 18:00	99.9%	99.6%	0	0
July 2024	741	29.3%	41.8%	19.4%	3.9%	3.9%	1.6%	14.4	45.1	Jul 22	140.6	Jul 19 20:00	99.9%	99.6%	4	12
August 2024	736	32.3%	48.8%	9.4%	4.1%	1.8%	3.7%	15.4	116.8	Aug 14	213.7	Aug 13 20:00	99.1%	98.9%	3	27
September 2024	713	64.9%	23.6%	3.8%	2.0%	1.5%	4.2%	11.1	92.9	Sep 06	251.8	Sep 06 18:00	99.7%	99.0%	3	30
October 2024	737	85.8%	13.2%	1.1%	0.0%	0.0%	0.0%	2.2	8.4	Oct 31	22.1	Oct 31 10:00	99.2%	99.1%	0	0
November 2024	719	68.7%	27.1%	1.8%	0.7%	0.6%	1.1%	7.1	71.1	Nov 25	753.9	Nov 25 07:00	100.0%	99.9%	1	8
December 2024	741	54.8%	36.3%	8.1%	0.7%	0.1%	0.0%	6.2	19.8	Dec 12	50.8	Dec 15 22:00	100.0%	99.6%	0	0
Annual	8633	61.3%	29.8%	5.6%	1.4%	0.7%	1.2%	8.8	MAXIMUM VALUES				98.6%	98.3%	13	103

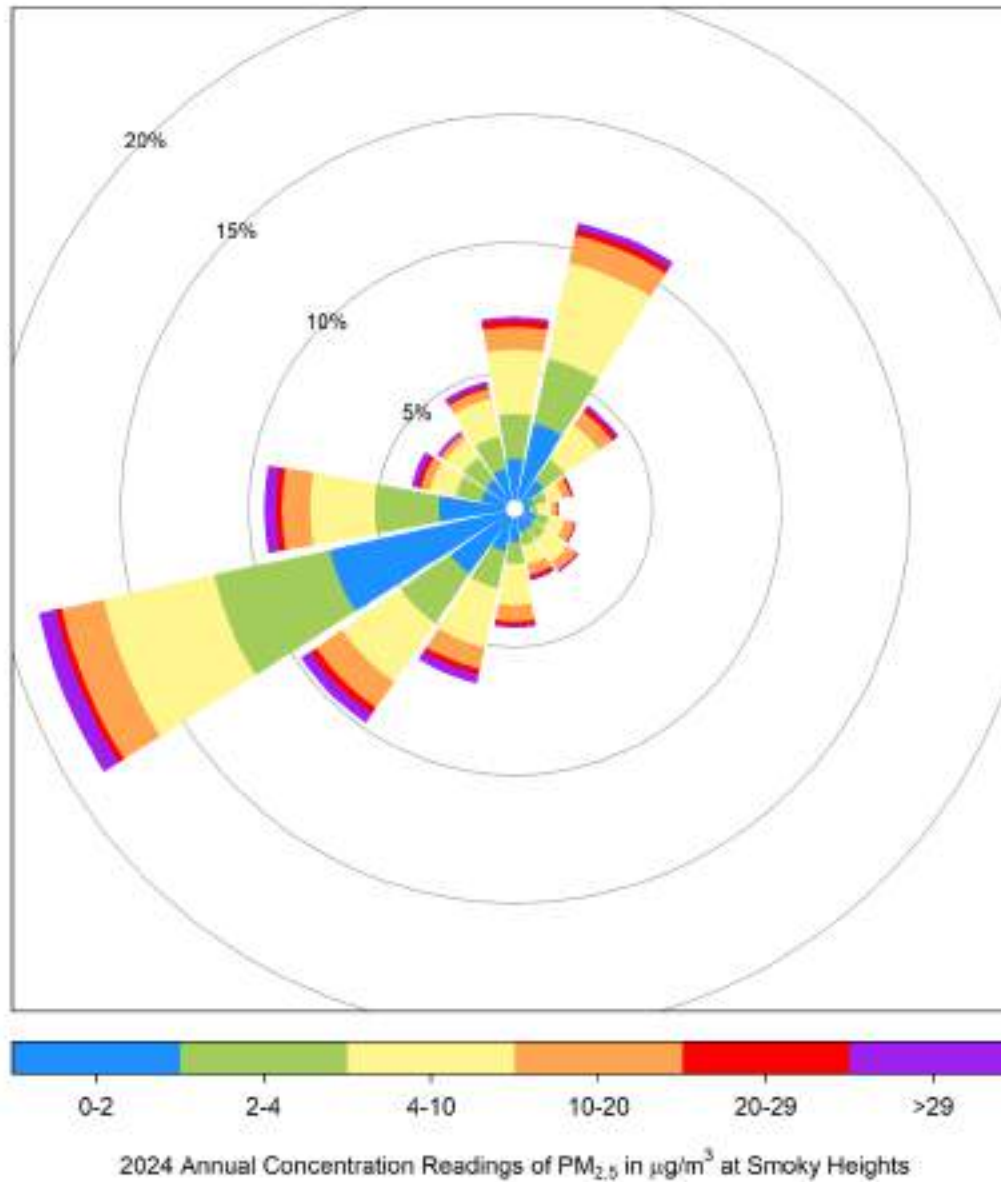
AAAQO Objectives: 24-Hr: 29 µg/m³, AAAQG Guideline: 1-Hr: 80 µg/m³

2024 Hourly Concentration Readings of PM_{2.5} in µg/m³ at Smoky Heights

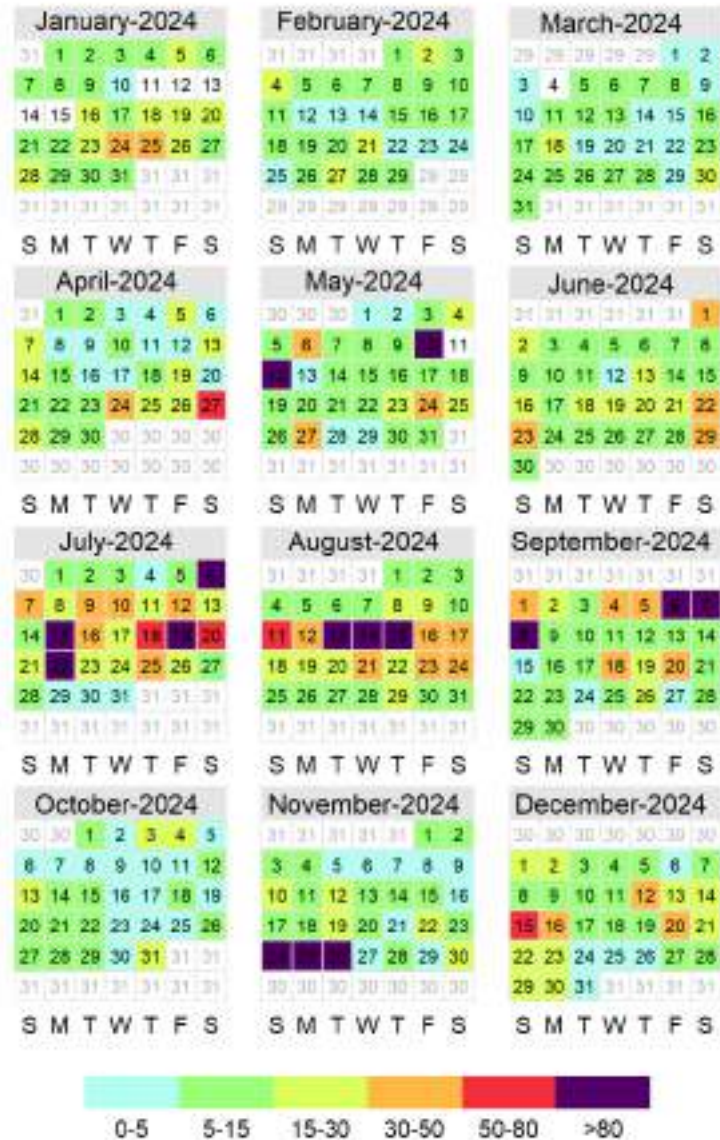


2024 Daily Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights





Hourly Maximum PM_{2.5} (in µg/m³) for 2024 at Smoky Heights

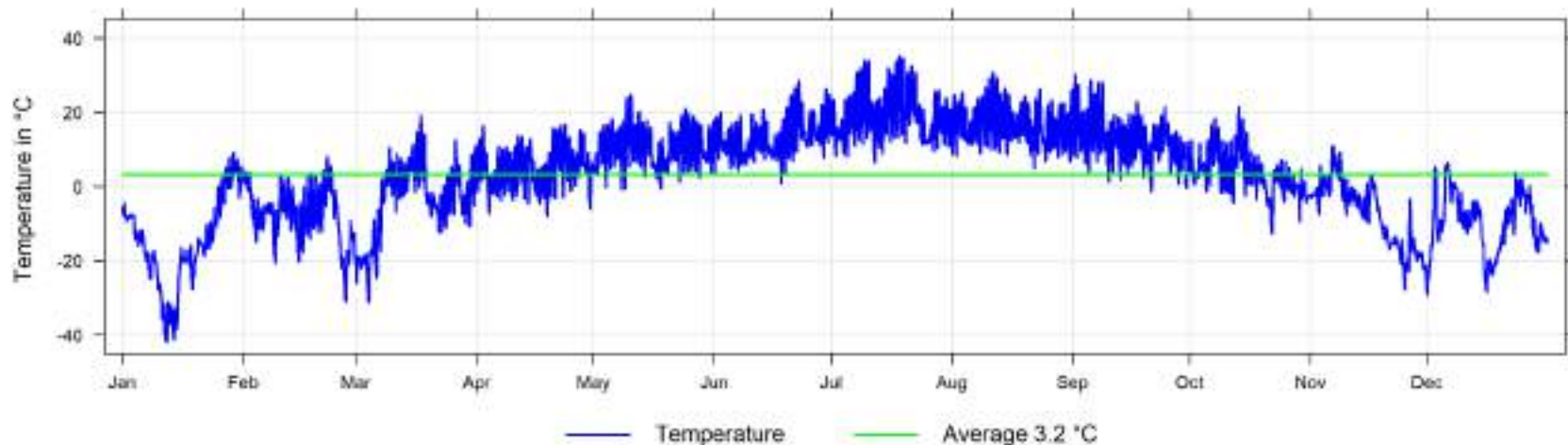


9.4 Temperature (ET) - Smoky Heights 2024 Summary

Temperature (ET) Frequency Distribution at Smoky Heights

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)		
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date
January 2024	744	-15.3	4.4	Jan 29	9.3	Jan 29 14:00	-37.3	Jan 12	-42.0	Jan 12 09:00	100.0%	100.0%
February 2024	696	-7.6	2.4	Feb 01	8.0	Feb 22 15:00	-23.8	Feb 27	-30.9	Feb 27 08:00	100.0%	100.0%
March 2024	744	-3.7	7.8	Mar 17	19.1	Mar 17 17:00	-23.3	Mar 04	-31.2	Mar 04 07:00	100.0%	100.0%
April 2024	720	5.0	10.5	Apr 22	16.7	Apr 23 18:00	-1.3	Apr 04	-8.0	Apr 19 05:00	100.0%	100.0%
May 2024	744	10.7	17.2	May 10	24.8	May 10 16:00	5.3	May 01	-0.8	May 08 05:00	100.0%	100.0%
June 2024	720	13.5	20.0	Jun 22	28.4	Jun 22 15:00	7.3	Jun 08	1.0	Jun 18 05:00	100.0%	100.0%
July 2024	744	19.5	25.6	Jul 18	35.3	Jul 18 17:00	12.1	Jul 25	6.5	Jul 12 05:00	100.0%	100.0%
August 2024	744	16.7	20.6	Aug 11	30.8	Aug 11 16:00	12.9	Aug 24	4.8	Aug 22 07:00	100.0%	100.0%
September 2024	718	12.4	18.7	Sep 01	30.2	Sep 01 17:00	5.8	Sep 30	-1.3	Sep 21 05:00	99.7%	99.7%
October 2024	738	3.6	12.4	Oct 13	21.5	Oct 13 16:00	-4.5	Oct 21	-12.6	Oct 22 07:00	99.2%	99.2%
November 2024	720	-7.5	5.5	Nov 07	11.0	Nov 06 16:00	-23.1	Nov 30	-29.3	Dec 01 00:00	100.0%	100.0%
December 2024	744	-9.5	4.6	Dec 06	6.4	Dec 06 08:00	-23.8	Dec 16	-28.6	Dec 16 10:00	100.0%	100.0%
8776		AVERAGE 3.2	MAXIMUM VALUES 25.6 Jul 18 35.3 Jul 18 17:00			MINIMUM VALUES -37.3 Jan 12 -42.0 Jan 12 09:00			99.9%	99.9%		

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

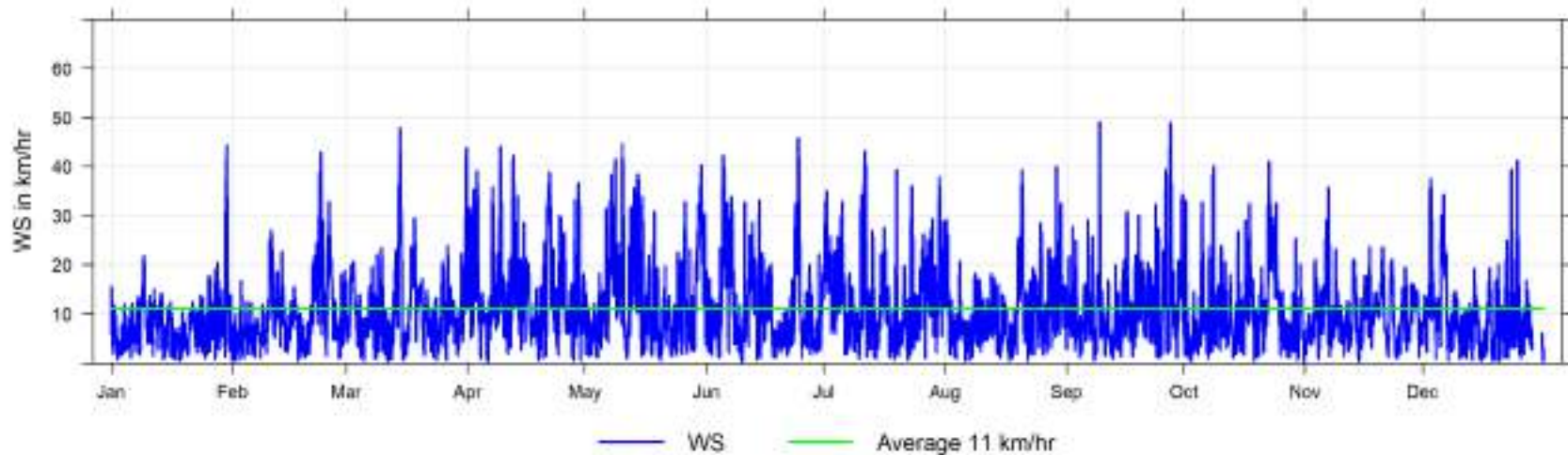


9.5 Wind Speed and Wind Direction (WS and WD) - Smoky Heights 2024 Summary

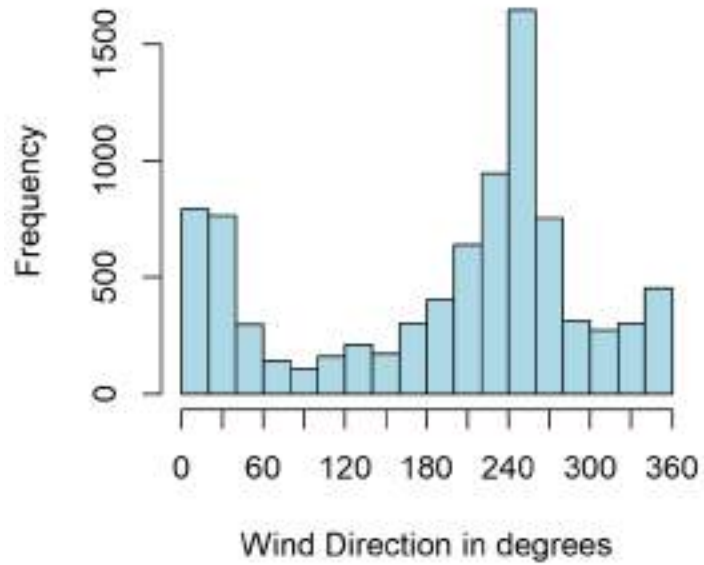
Wind Speed Frequency Distribution at Smoky Heights

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (km/hr)	MAXIMUM VALUES				Operational time (%)	Valid time (%)
		Calm	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)		24-hr (km/hr)	Date	1-hr (km/hr)	Date		
January 2024	741	0.3%	29.6%	52.9%	14.7%	1.3%	1.2%	7.8	21.1	Jan 30	44.4	Jan 30 14:00	99.6%	99.6%
February 2024	696	0.1%	23.3%	45.0%	21.6%	7.6%	2.4%	9.8	26.8	Feb 23	43.0	Feb 23 15:00	100.0%	100.0%
March 2024	744	0.1%	20.6%	39.0%	29.3%	7.8%	3.2%	10.8	24.6	Mar 14	47.8	Mar 14 21:00	100.0%	100.0%
April 2024	720	0.3%	7.9%	35.6%	33.1%	12.1%	11.1%	14.4	25.0	Apr 09	44.2	Apr 09 12:00	100.0%	100.0%
May 2024	744	0.1%	15.9%	37.2%	22.0%	12.5%	12.2%	13.5	31.4	May 30	44.7	May 10 16:00	100.0%	100.0%
June 2024	720	0.3%	23.8%	37.9%	21.7%	10.6%	5.8%	11.1	29.9	Jun 05	45.8	Jun 24 11:00	100.0%	100.0%
July 2024	744	0.0%	16.1%	32.3%	28.6%	16.3%	6.7%	13.1	27.1	Jul 11	43.3	Jul 11 15:00	100.0%	100.0%
August 2024	744	0.4%	21.0%	43.5%	25.9%	6.3%	2.8%	10.2	24.0	Aug 20	39.9	Aug 29 10:00	100.0%	100.0%
September 2024	718	0.0%	15.5%	42.5%	28.4%	8.9%	4.7%	11.5	21.2	Sep 27	49.0	Sep 09 12:00	99.7%	99.7%
October 2024	736	0.5%	25.0%	39.1%	22.7%	8.4%	4.2%	10.3	24.9	Oct 23	41.0	Oct 22 21:00	99.2%	98.9%
November 2024	717	0.1%	20.6%	42.5%	30.7%	5.3%	0.7%	9.8	20.8	Nov 06	35.8	Nov 06 23:00	99.6%	99.6%
December 2024	688	0.7%	27.5%	39.5%	22.1%	6.5%	3.6%	9.7	23.7	Dec 06	41.2	Dec 25 05:00	92.5%	92.5%
Annual	8712	0.3%	20.5%	40.6%	25.1%	8.6%	4.9%	11.0	31.4	May 30	49.0	Sep 09 12:00	99.2%	99.2%

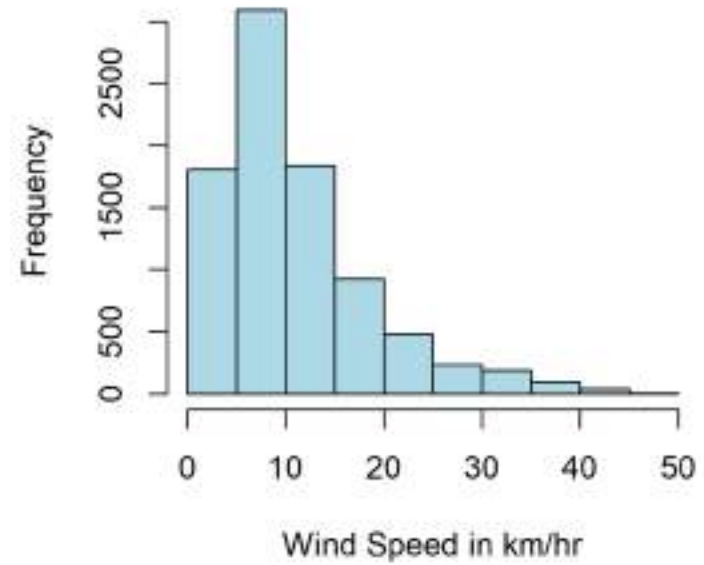
2024 Hourly Readings of Wind Speed (in km/hr) at Smoky Heights



2024 Wind Direction Histogram

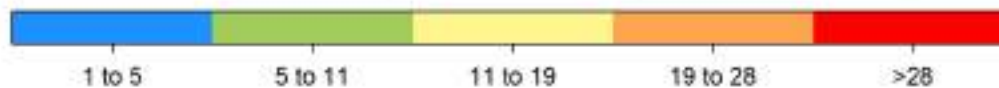
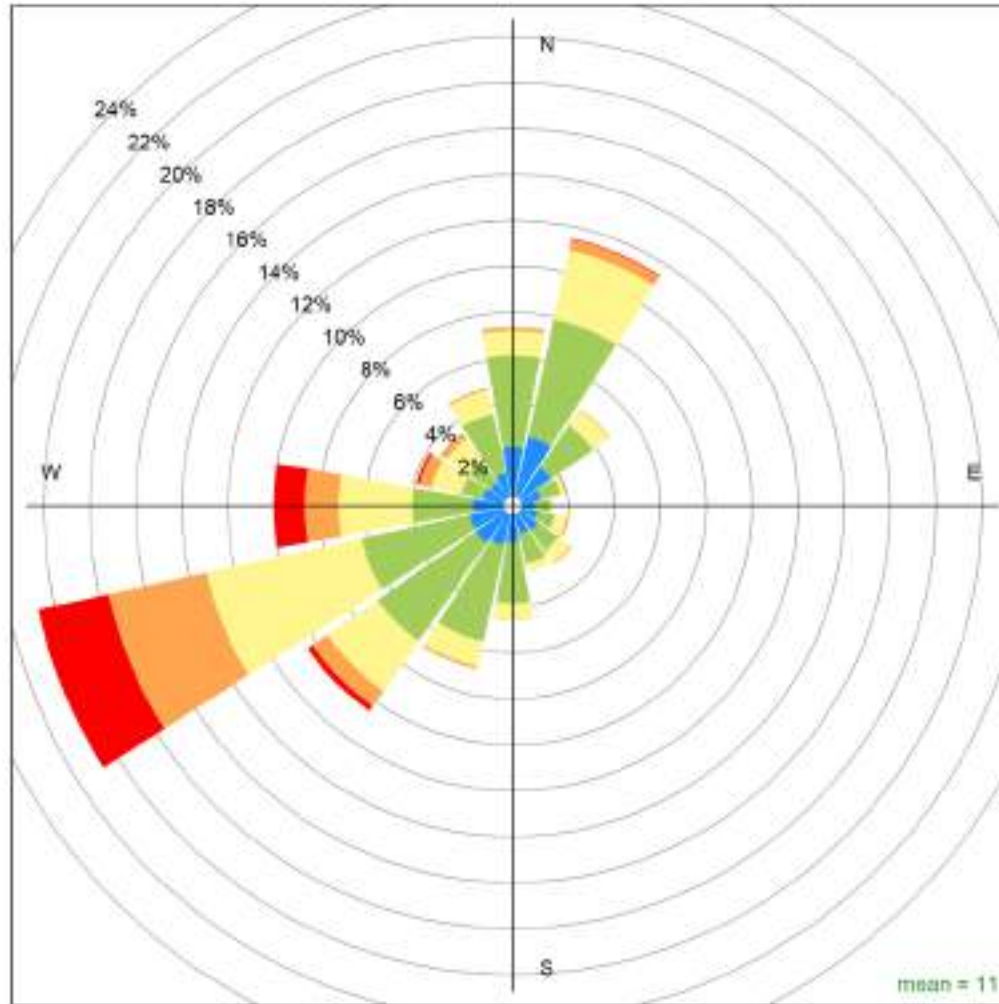


2024 Wind Speed Histogram



Wind Speed and Wind Direction Frequency Distribution at Smoky Heights

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	645	0.0%	2.2%	4.0%	1.1%	0.2%	0.0%	7.4%
NNE	1004	0.0%	2.7%	5.3%	3.1%	0.5%	0.0%	11.5%
NE	418	0.0%	1.7%	2.2%	0.8%	0.1%	0.0%	4.8%
ENE	175	0.0%	0.8%	0.9%	0.2%	0.0%	0.0%	2.0%
E	121	0.0%	0.6%	0.7%	0.1%	0.0%	0.0%	1.4%
ESE	191	0.0%	0.7%	0.8%	0.5%	0.1%	0.0%	2.2%
SE	243	0.0%	1.0%	1.1%	0.7%	0.1%	0.0%	2.8%
SSE	224	0.0%	0.9%	1.3%	0.3%	0.0%	0.0%	2.6%
S	400	0.0%	1.2%	2.7%	0.7%	0.0%	0.0%	4.6%
SSW	603	0.0%	1.4%	4.3%	1.1%	0.1%	0.0%	6.9%
SW	921	0.0%	1.6%	5.2%	2.7%	0.8%	0.3%	10.6%
WSW	1809	0.0%	1.5%	4.8%	6.9%	4.4%	3.1%	20.8%
W	882	0.0%	1.4%	2.7%	3.2%	1.5%	1.3%	10.1%
WNW	342	0.0%	1.0%	1.0%	1.3%	0.6%	0.1%	3.9%
NW	306	0.1%	0.8%	1.1%	1.2%	0.3%	0.0%	3.5%
NNW	428	0.0%	1.1%	2.6%	1.1%	0.1%	0.0%	4.9%
Total	8712	0.3%	20.5%	40.6%	25.1%	8.7%	4.9%	100.0%

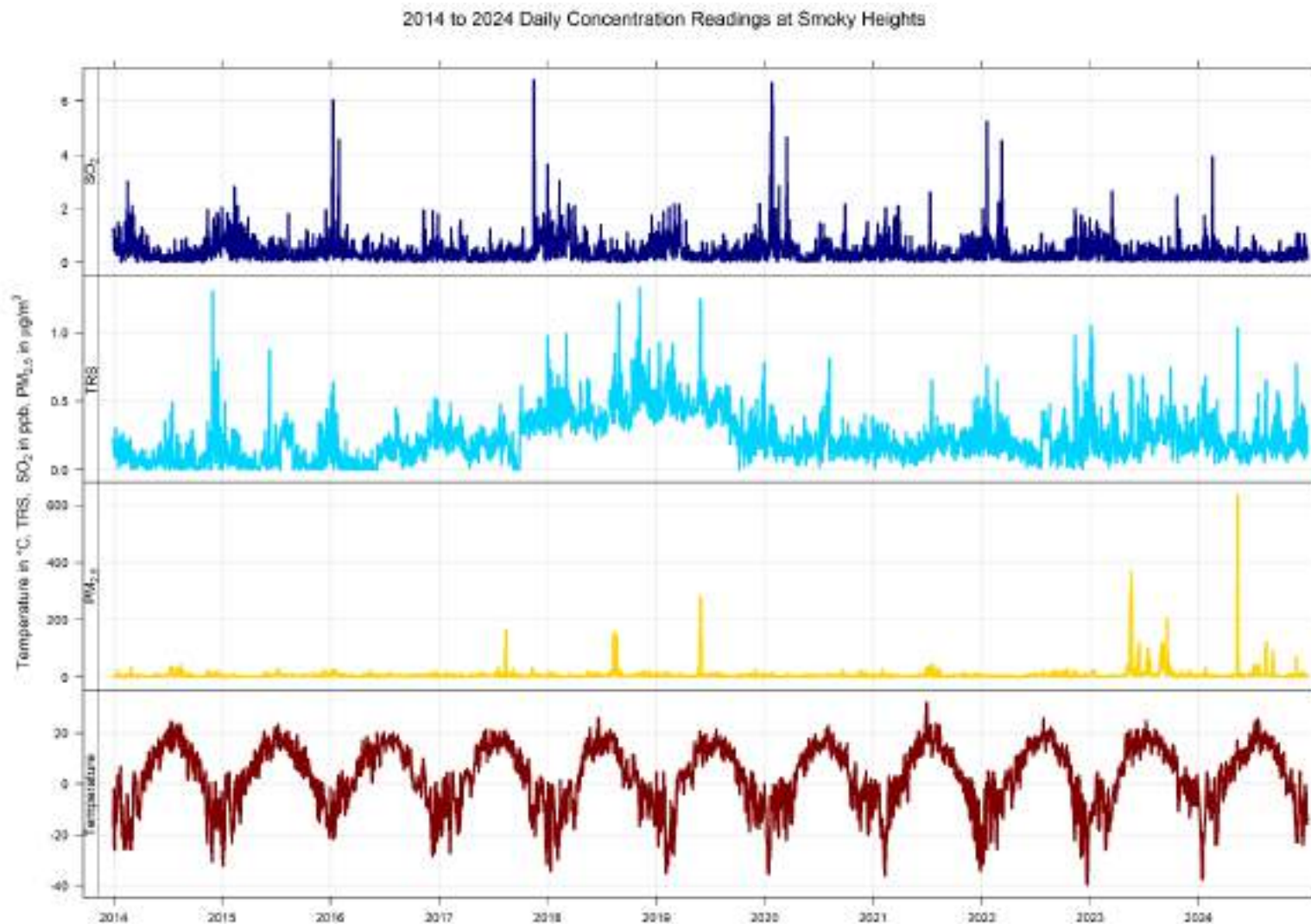


Smoky Heights 2024 Wind Rose, wind speed in km/hr

Calms (<1km/hr) = 1 %

9.6 Smoky Heights Annual Trends, 2014 to 2024

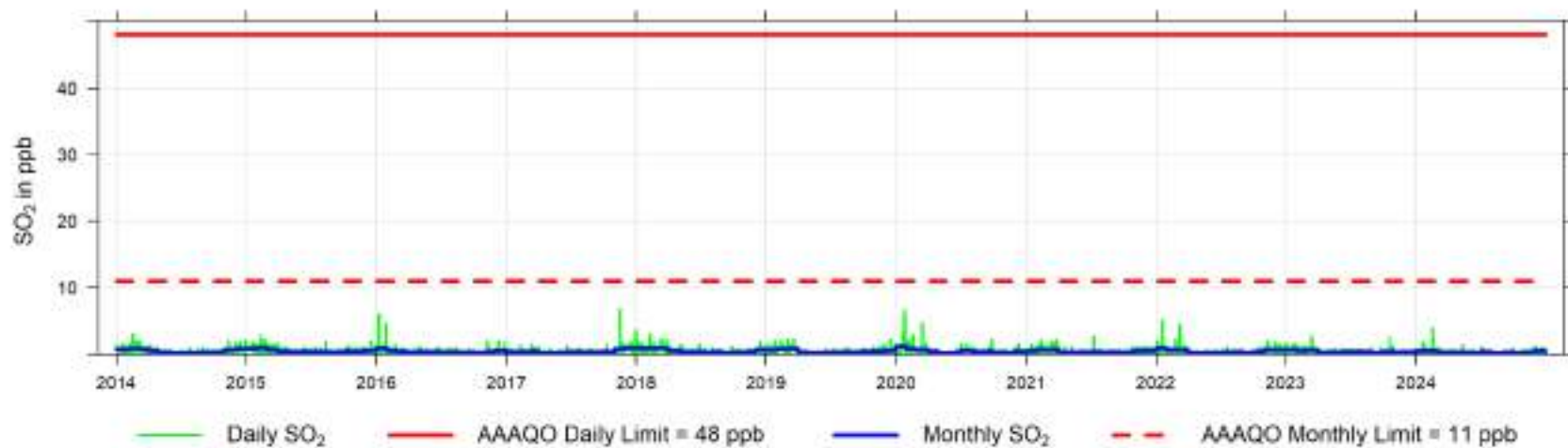
The following pages include historical annual charts collected between 2014 and 2024 at the Smoky Heights Station.



Years 2014 to 2024 Annual Concentration Readings of SO₂ (in ppb) at Smoky Heights



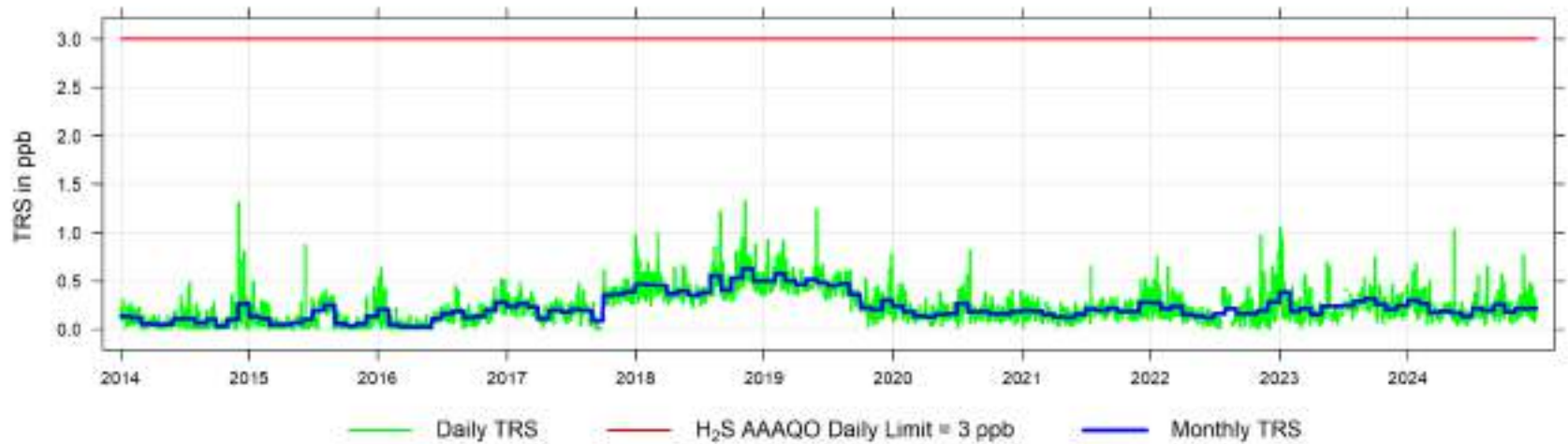
Years 2014 to 2024 Concentration Readings of SO₂ (in ppb) at Smoky Heights



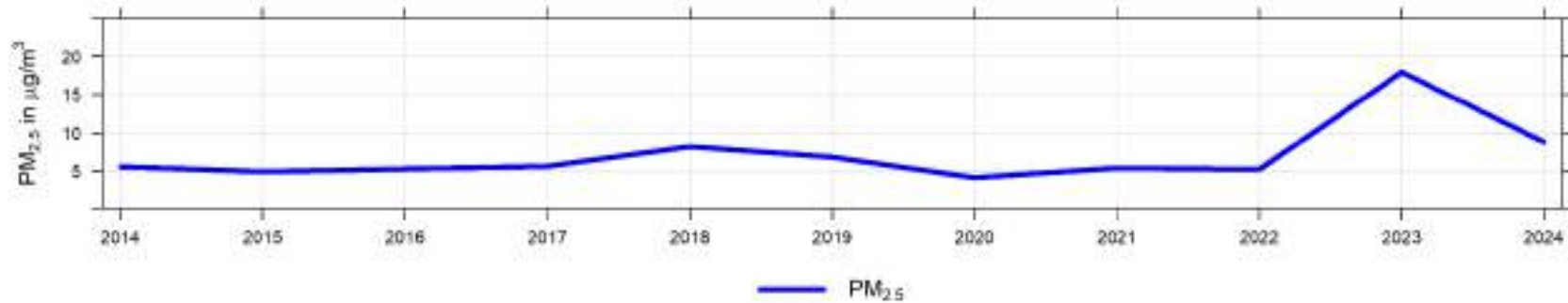
Years 2024 Annual Concentration Readings of TRS (in ppb) at Smoky Heights



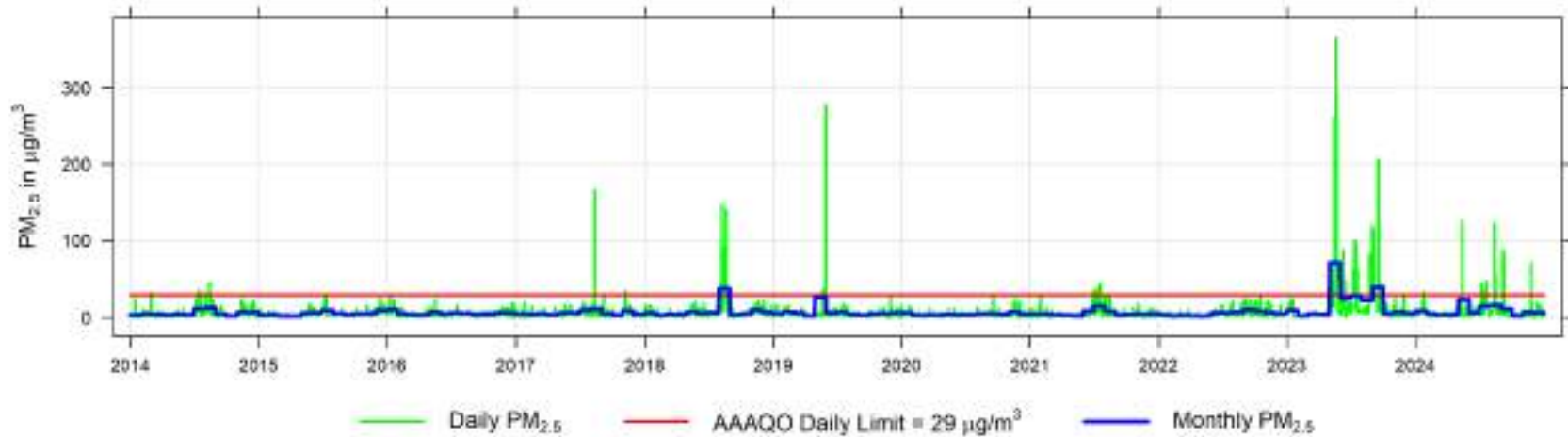
Years 2014 to 2024 Concentration Readings of TRS (in ppb) at Smoky Heights



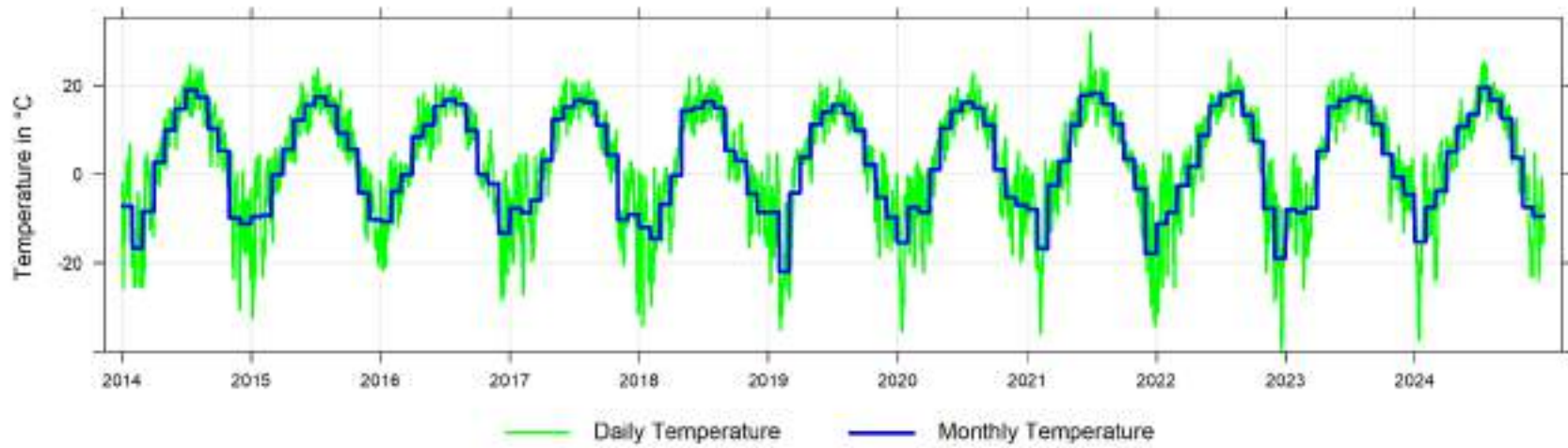
2014 to 2024 Annual Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



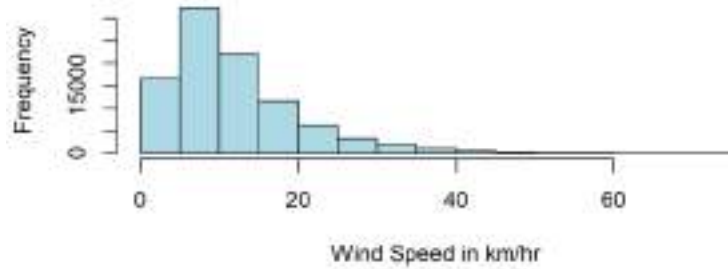
Years 2014 to 2024 Concentration Readings of PM_{2.5} in $\mu\text{g}/\text{m}^3$ at Smoky Heights



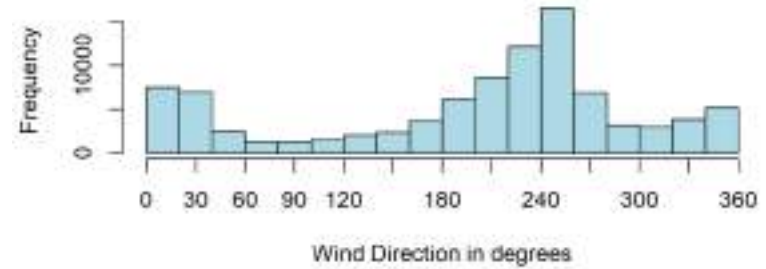
Years 2014 to 2024 Temperature Readings (in °C) at Smoky Heights



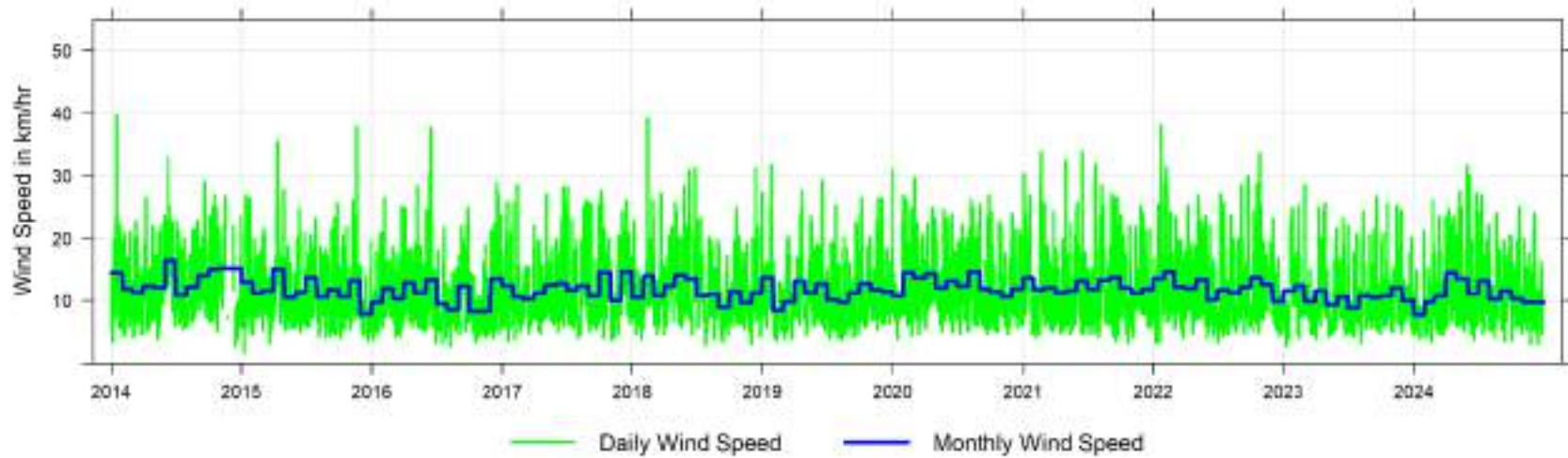
Years 2014 to 2024 Wind Speed Histogram

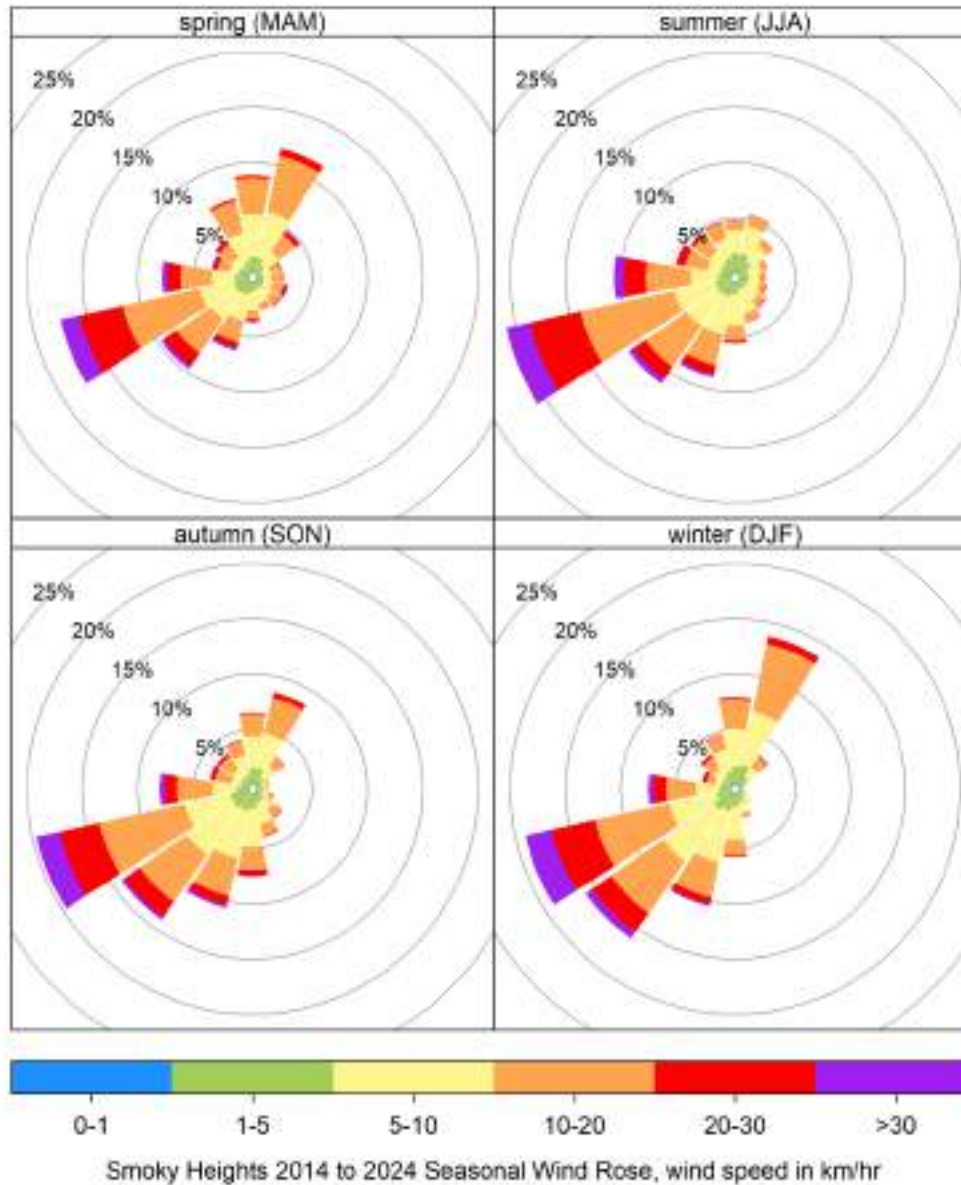


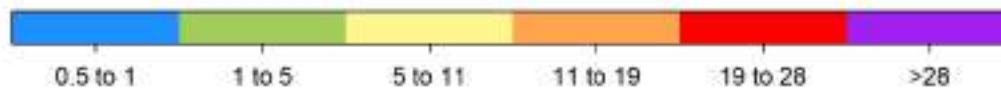
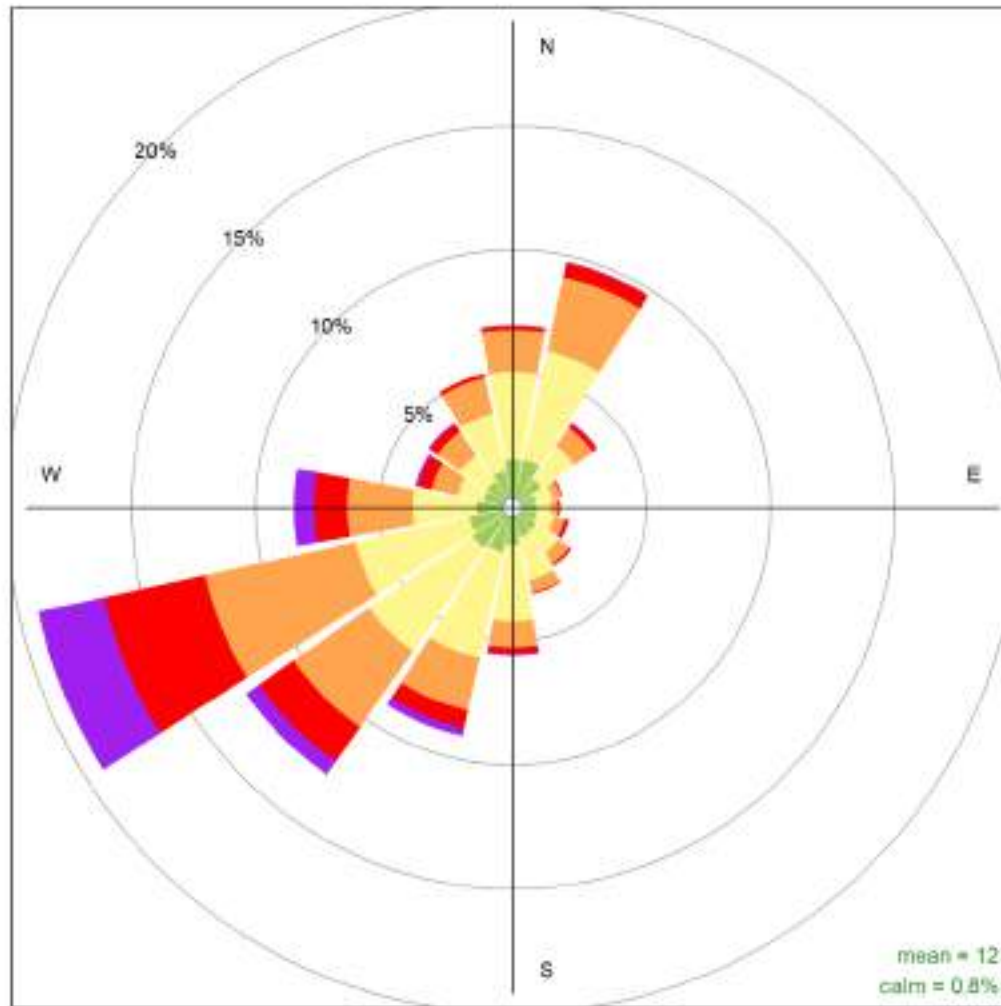
Years 2014 to 2024 Wind Direction Histogram



Years 2014 to 2024 Wind Speed Readings (in km/hr) at Smoky Heights







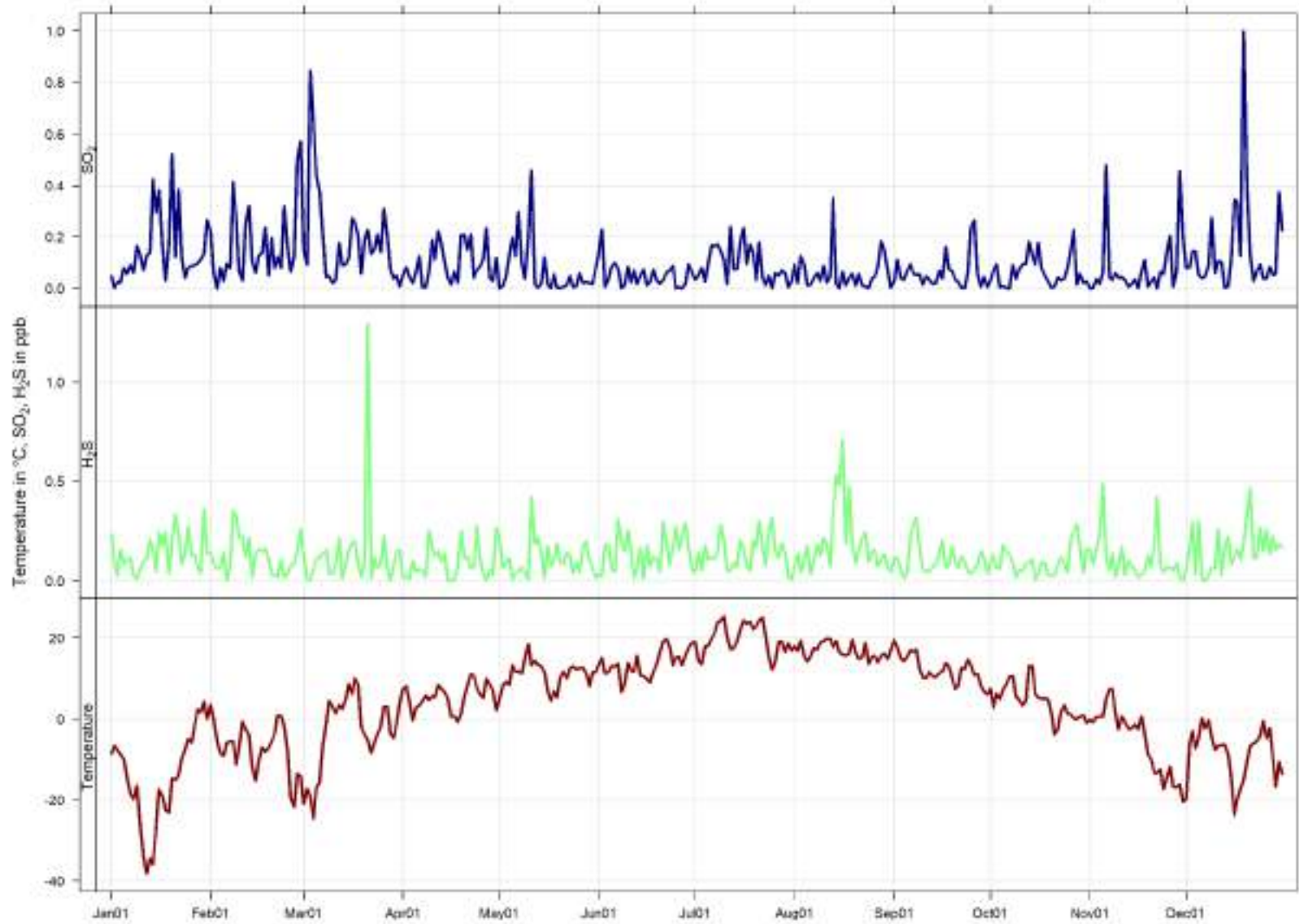
Smoky Heights 2014 to 2024 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

10 Valleyview Key Parameters - Continuous Monitoring Data - 2024 Summary

Valleyview Key Parameters - Continuous Monitoring Data - 2024 Summary

Valleyview Station	Parameter	Average	Maximum Values			Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG				
			24-hr	Date	1-hr			Date	1-hr	24-hr	30-d	Annual
	Sulphur Dioxide SO ₂ measured in ppb	0.1	1.0	Dec 19	7.6	Nov 06 01:00	99.7%	95.0%	0	0	0	0
	Hydrogen Sulphide H ₂ S measured in ppb	0.1	1.2	Mar 21	5.1	Aug 18 23:00	99.8%	95.0%	0	0	-	-

2024 Daily Concentration Readings at Valleyview



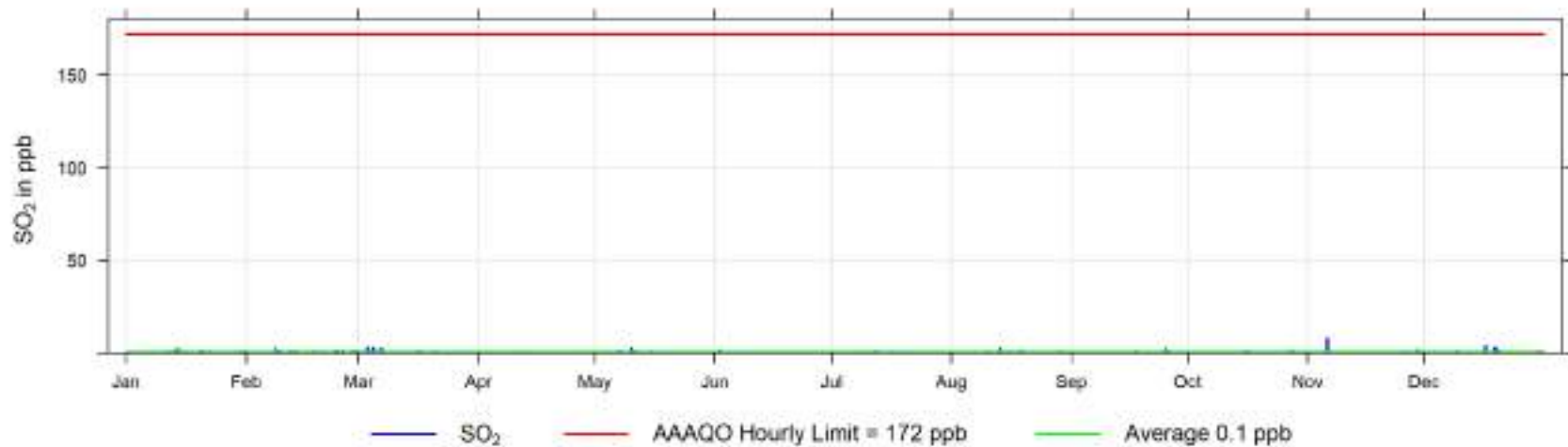
10.1 Sulphur Dioxide (SO₂) - Valleyview 2024 Summary

Sulphur Dioxide (SO₂) Frequency Distribution at Valleyview

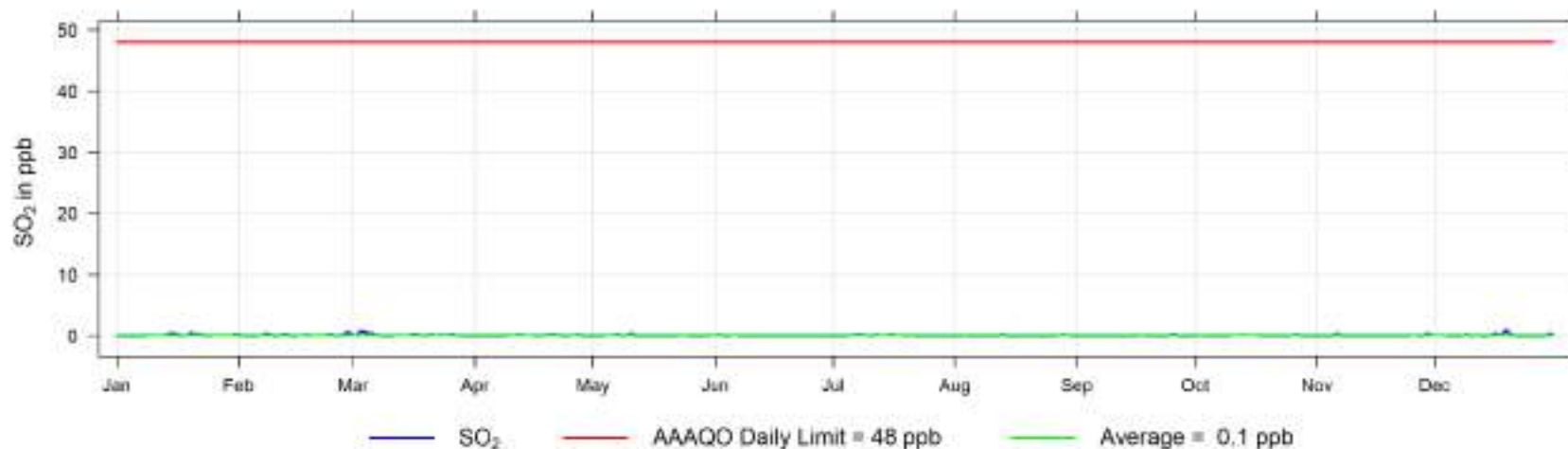
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents		
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024	710	99.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.5	Jan 20	1.8	Jan 14 14:00	100.0%	95.4%	0	0	0
February 2024	663	99.1%	0.9%	0.0%	0.0%	0.0%	0.0%	0.2	0.6	Feb 29	1.9	Feb 08 14:00	100.0%	95.3%	0	0	0
March 2024	706	97.0%	3.0%	0.0%	0.0%	0.0%	0.0%	0.2	0.8	Mar 03	2.6	Mar 03 09:00	99.6%	94.9%	0	0	0
April 2024	669	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Apr 27	0.8	Apr 06 09:00	97.5%	92.9%	0	0	0
May 2024	704	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1	0.5	May 11	2.3	May 10 13:00	99.7%	94.6%	0	0	0
June 2024	686	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Jun 02	1.4	Jun 02 09:00	100.0%	95.3%	0	0	0
July 2024	710	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Jul 12	1.0	Jul 12 16:00	100.0%	95.4%	0	0	0
August 2024	709	99.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Aug 13	2.1	Aug 13 17:00	100.0%	95.3%	0	0	0
September 2024	687	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Sep 26	1.8	Sep 25 10:00	100.0%	95.4%	0	0	0
October 2024	710	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1	0.2	Oct 27	1.3	Oct 27 17:00	100.0%	95.4%	0	0	0
November 2024	686	99.1%	0.7%	0.1%	0.0%	0.0%	0.0%	0.1	0.5	Nov 29	7.6	Nov 06 01:00	100.0%	95.3%	0	0	0
December 2024	709	98.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.2	1.0	Dec 19	3.6	Dec 16 23:00	100.0%	95.3%	0	0	0
Annual	8349	99.2%	0.8%	0.0%	0.0%	0.0%	0.0%	0.1	1.0	MAXIMUM VALUES		99.7%	95.0%	0	0	0	

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

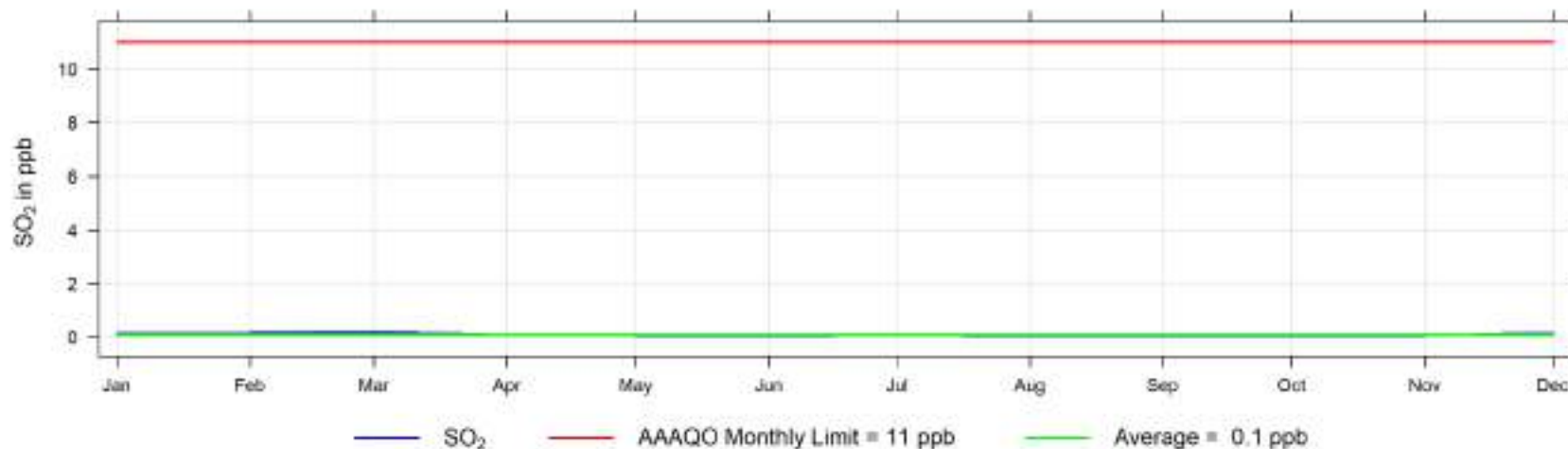
2024 Hourly Concentration Readings of SO₂ (in ppb) at Valleyview

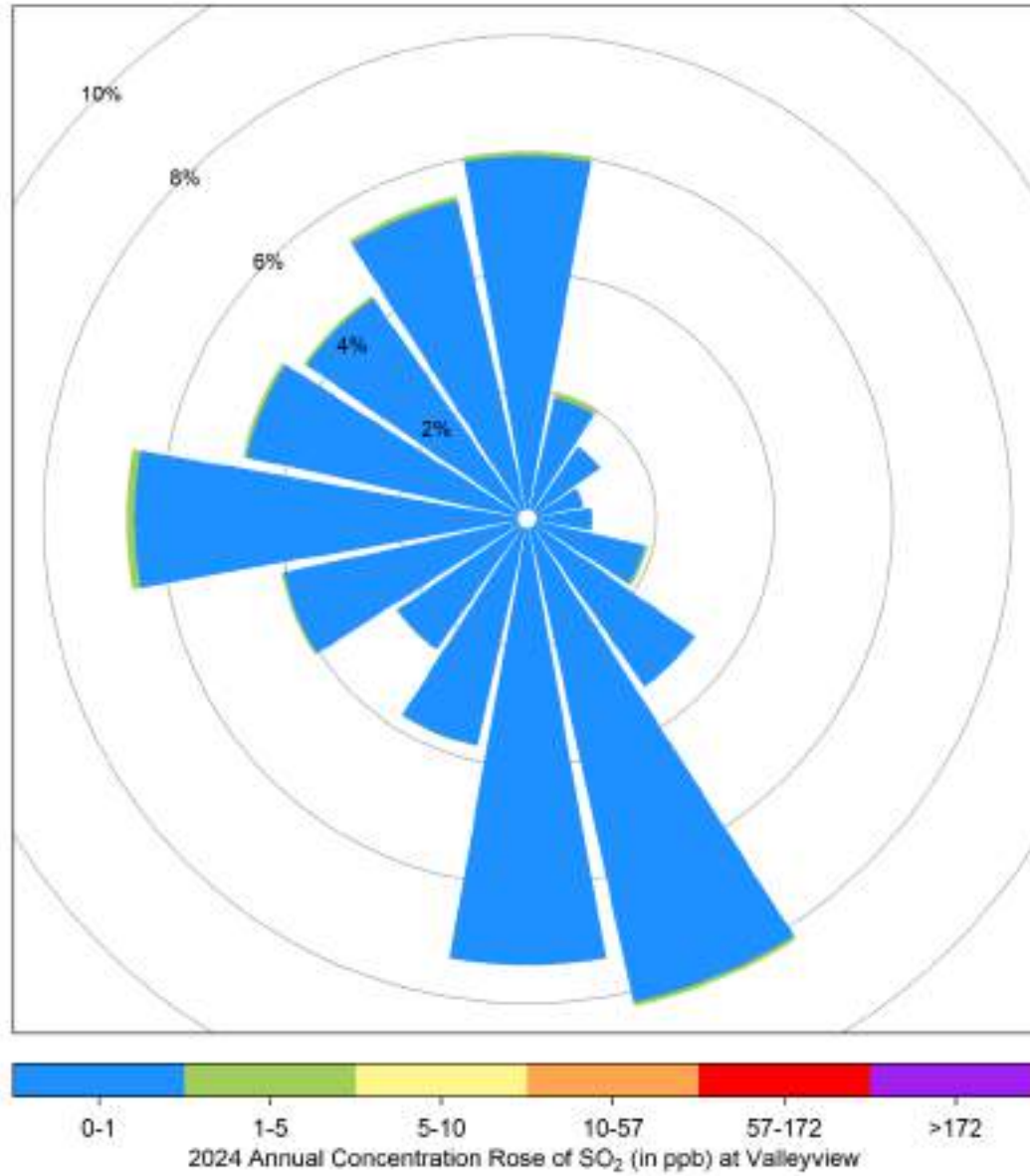


2024 Daily Concentration Readings of SO₂ (in ppb) at Valleyview



2024 Monthly Concentration Readings of SO₂ (in ppb) at Valleyview





Hourly Maximum SO₂ (in ppb) for 2024 at Valleyview



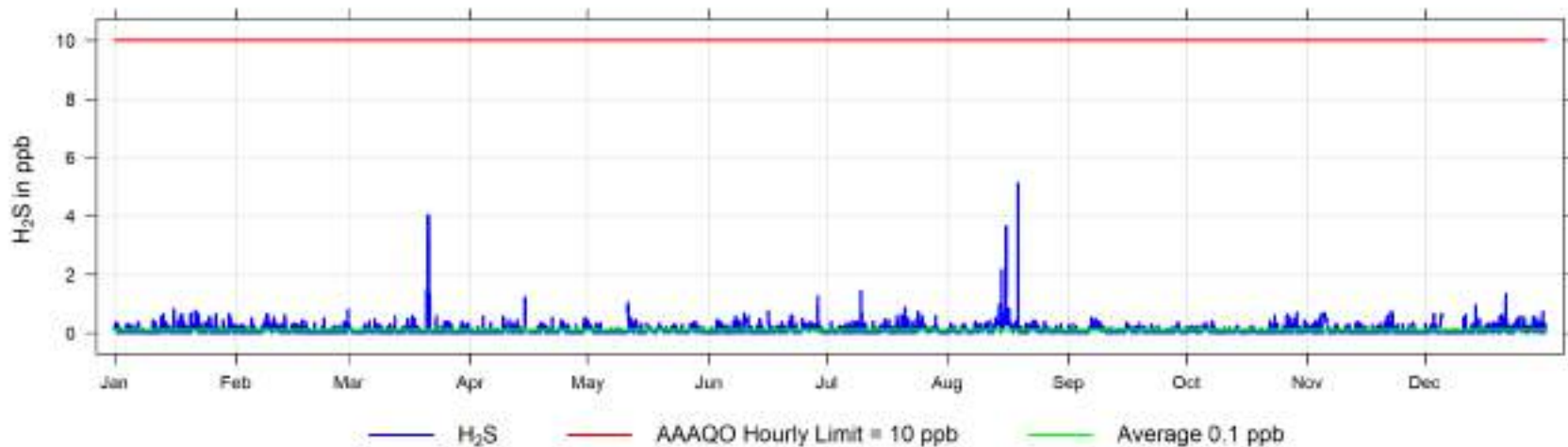
10.2 Hydrogen Sulphide (H₂S) - Valleyview 2024 Summary

Hydrogen Sulphide (H₂S) Frequency Distribution at Valleyview

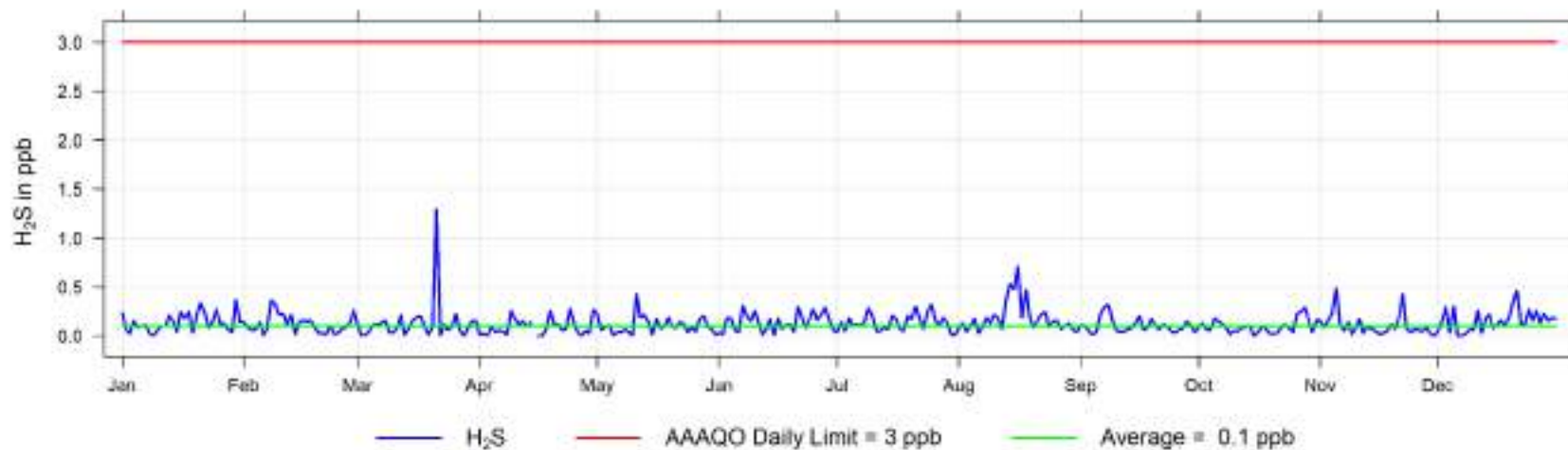
Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb
January 2024	709	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	Jan 30	0.8	Jan 16 07:00	100.0%	95.3%	0	0
February 2024	662	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	Feb 08	0.8	Feb 29 17:00	100.0%	95.1%	0	0
March 2024	706	98.0%	1.6%	0.4%	0.0%	0.0%	0.0%	0.1	1.2	Mar 21	4.0	Mar 21 01:00	99.6%	94.9%	0	0
April 2024	669	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Apr 24	1.2	Apr 14 22:00	97.5%	92.9%	0	0
May 2024	709	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1	0.4	May 11	1.0	May 11 09:00	100.0%	95.3%	0	0
June 2024	686	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Jun 07	1.3	Jun 28 22:00	100.0%	95.3%	0	0
July 2024	709	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0	0.3	Jul 25	1.4	Jul 09 22:00	100.0%	95.3%	0	0
August 2024	709	99.0%	0.6%	0.3%	0.1%	0.0%	0.0%	0.2	0.6	Aug 16	5.1	Aug 18 23:00	100.0%	95.3%	0	0
September 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Sep 08	0.5	Sep 06 20:00	100.0%	95.3%	0	0
October 2024	709	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.3	Oct 28	0.7	Oct 29 06:00	100.0%	95.3%	0	0
November 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1	0.5	Nov 05	0.8	Nov 22 13:00	100.0%	95.3%	0	0
December 2024	709	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.2	0.5	Dec 21	1.3	Dec 21 20:00	100.0%	95.3%	0	0
Annual	8349	99.7%	0.2%	0.1%	0.0%	0.0%	0.0%	0.1	1.2	MAXIMUM VALUES			99.8%	95.0%	0	0

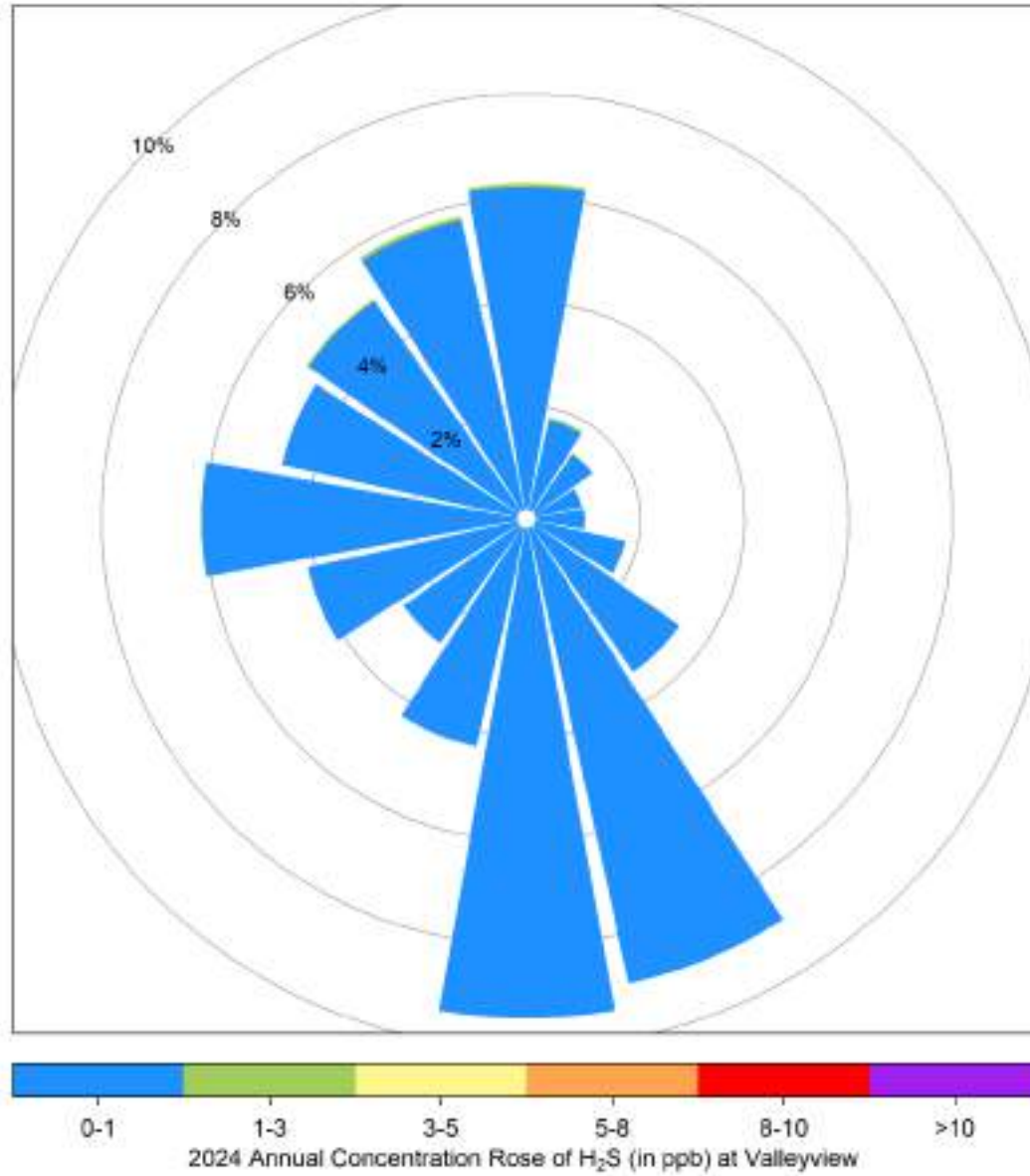
AAAQO Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

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



2024 Daily Concentration Readings of H₂S (in ppb) at Valleyview





Hourly Maximum H₂S (in ppb) for 2024 at Valleyview

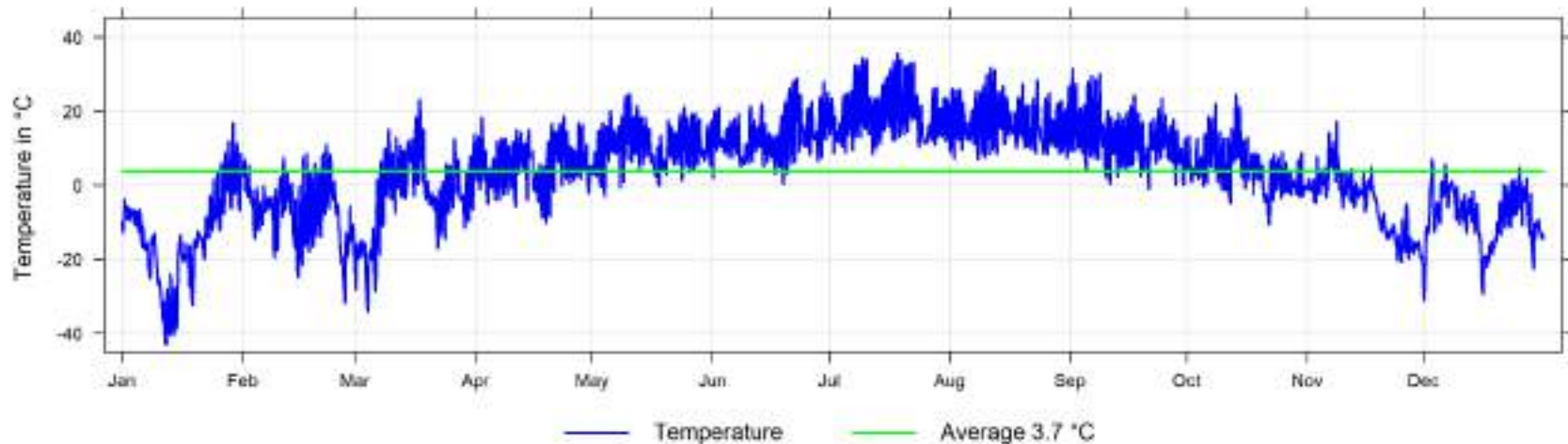


10.3 Temperature (ET) - Valleyview 2024 Summary

Temperature (ET) Frequency Distribution at Valleyview

Month	Valid Hours	Monthly Average (°C)	Maximum Values			Minimum Values			Operational time (%)	Valid time (%)			
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date			1-hr (°C)	Date	
January 2024	744	-14.6	4.2	Jan 30	16.8	Jan 29 15:00	-38.0	Jan 12	-43.2	Jan 12 06:00	100.0%	100.0%	
February 2024	696	-7.2	3.3	Feb 01	11.1	Feb 22 16:00	-21.4	Feb 27	-31.8	Feb 27 08:00	100.0%	100.0%	
March 2024	744	-3.2	10.4	Mar 17	23.3	Mar 17 16:00	-24.1	Mar 04	-34.2	Mar 04 08:00	100.0%	100.0%	
April 2024	702	5.4	11.1	Apr 22	18.5	Apr 23 17:00	-0.9	Apr 18	-10.2	Apr 19 06:00	97.5%	97.5%	
May 2024	744	10.9	18.5	May 10	24.8	May 10 18:00	4.4	May 17	-3.1	May 04 06:00	100.0%	100.0%	
June 2024	720	13.5	19.8	Jun 22	28.9	Jun 22 14:00	6.5	Jun 08	0.4	Jun 19 05:00	100.0%	100.0%	
July 2024	744	19.7	25.1	Jul 10	35.7	Jul 18 17:00	12.1	Jul 25	8.2	Jul 12 05:00	100.0%	100.0%	
August 2024	744	16.7	19.8	Aug 11	31.7	Aug 11 17:00	13.5	Aug 24	6.9	Aug 08 06:00	100.0%	100.0%	
September 2024	720	12.3	19.4	Sep 01	31.5	Sep 01 18:00	6.1	Sep 30	-1.0	Sep 21 07:00	100.0%	100.0%	
October 2024	744	4.2	13.2	Oct 13	24.5	Oct 13 16:00	-3.9	Oct 21	-10.7	Oct 22 08:00	100.0%	100.0%	
November 2024	720	-5.5	7.4	Nov 08	17.1	Nov 08 14:00	-20.9	Nov 30	-29.1	Dec 01 00:00	100.0%	100.0%	
December 2024	744	-8.5	0.1	Dec 06	6.9	Dec 03 02:00	-23.5	Dec 16	-31.2	Dec 01 02:00	100.0%	100.0%	
		AVERAGE	MAXIMUM VALUES			MINIMUM VALUES							
		8766	3.7	25.1	Jul 10	35.7	Jul 18 17:00	-38.0	Jan 12	-43.2	Jan 12 06:00	99.8%	99.8%

2024 Hourly Temperature Readings (in °C) at Valleyview

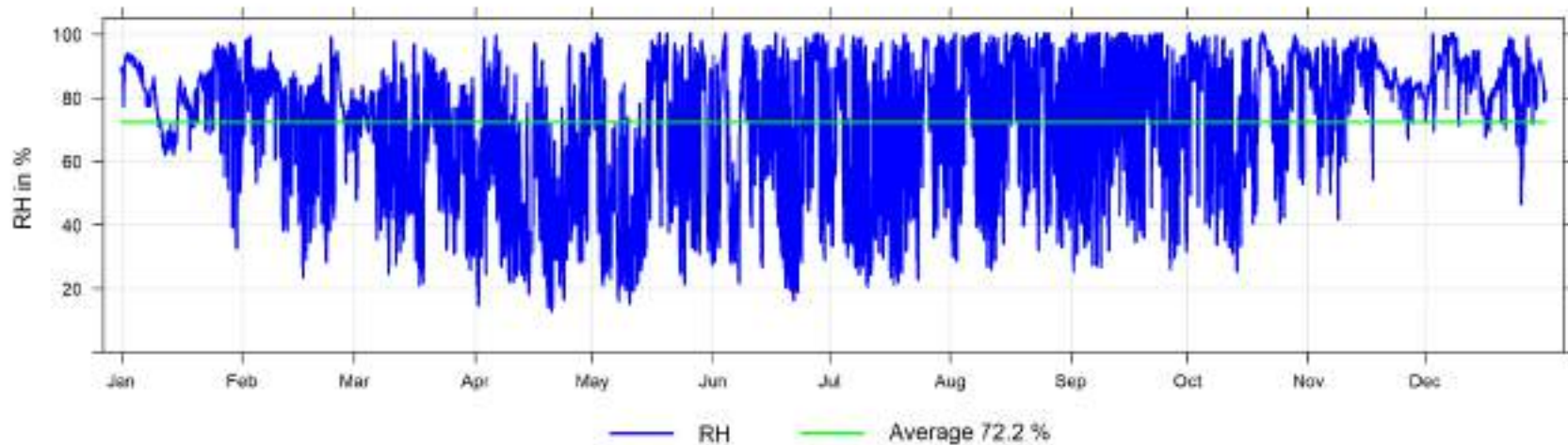


10.4 Relative Humidity (RH) - Valleyview 2024 Summary

Relative Humidity (RH) Frequency Distribution at Valleyview

Month	Valid Hours	Monthly Average (%)	Maximum Values			Operational time (%)	Valid time (%)		
			24-hr (%)	Date	1-hr (%)			Date	
January 2024	744	80.5	93.4	Jan 02	97.4	Jan 29 00:00	100.0%	100.0%	
February 2024	696	74.0	93.0	Feb 02	99.2	Feb 03 02:00	100.0%	100.0%	
March 2024	744	65.6	84.3	Mar 20	97.8	Mar 11 03:00	100.0%	100.0%	
April 2024	702	55.1	85.3	Apr 30	99.5	Apr 06 08:00	97.5%	97.5%	
May 2024	744	59.4	92.1	May 29	100.0	May 02 06:00	100.0%	100.0%	
June 2024	720	67.2	96.6	Jun 27	100.0	Jun 04 05:00	100.0%	100.0%	
July 2024	744	65.2	97.1	Jul 25	100.0	Jul 20 07:00	100.0%	100.0%	
August 2024	744	74.7	93.8	Aug 05	100.0	Aug 02 04:00	100.0%	100.0%	
September 2024	720	75.6	90.0	Sep 22	100.0	Sep 01 05:00	100.0%	100.0%	
October 2024	744	78.4	99.1	Oct 20	100.0	Oct 01 07:00	100.0%	100.0%	
November 2024	720	84.5	94.1	Nov 13	99.0	Nov 17 05:00	100.0%	100.0%	
December 2024	744	86.2	98.5	Dec 07	100.0	Dec 02 22:00	100.0%	100.0%	
		AVERAGE	MAXIMUM VALUES						
		8766	72.2	99.1	Oct 20	100.0	May 02 06:00	99.8%	99.8%

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

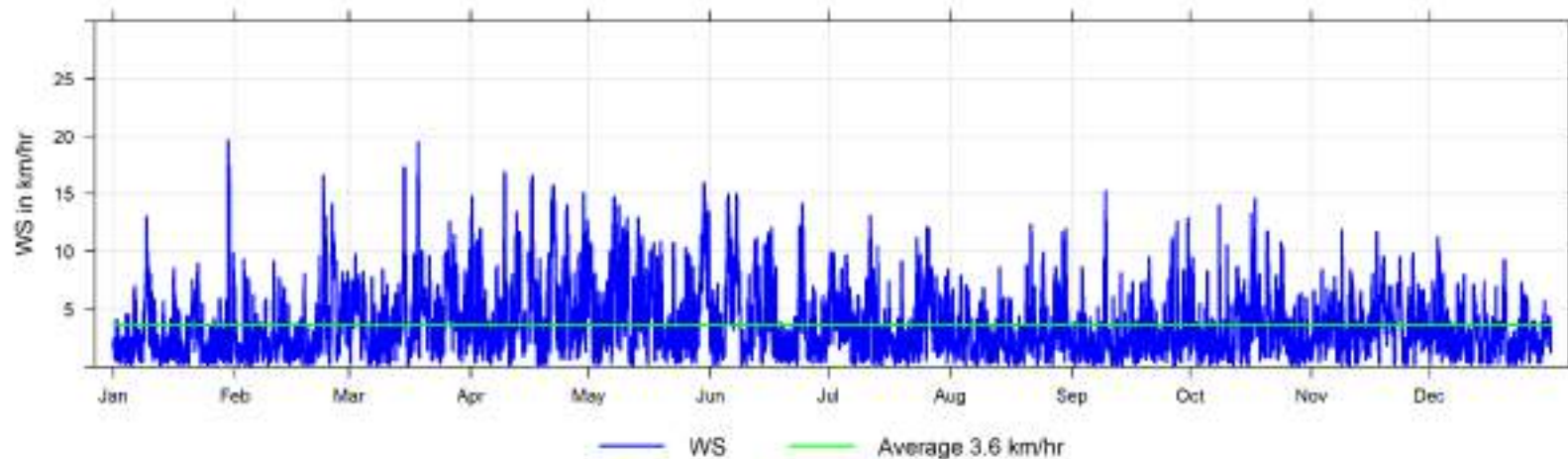


10.5 Wind Speed and Wind Direction (WS and WD) - Valleyview 2024 Summary

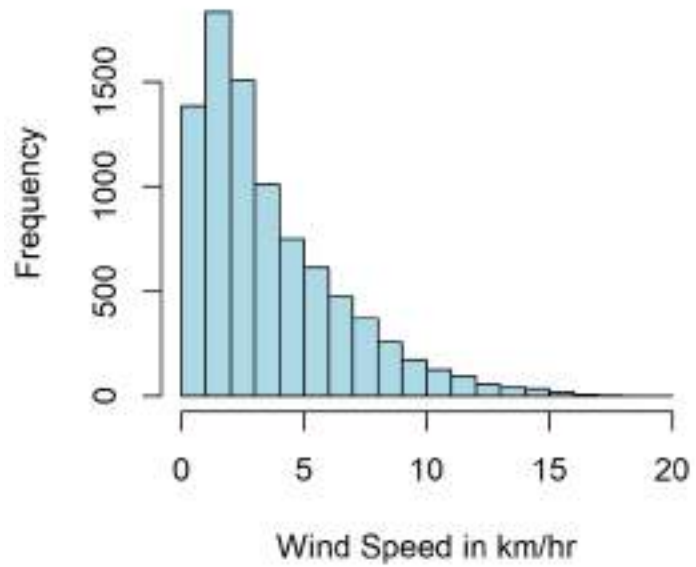
Wind Speed Frequency Distribution at Valleyview

Month	Valid Hours	Calm	% of Readings in Concentration Range					Monthly Average (km/hr)	24-hr (km/hr)	MAXIMUM VALUES			Operational time (%)	Valid time (%)		
			0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)			Date	1-hr (km/hr)	Date				
January 2024	744	7.0%	77.2%	14.8%	0.9%	0.1%	0.0%	2.7	7.5	Jan 09	19.6	Jan 30 08:00	100.0%	100.0%		
February 2024	696	5.9%	73.4%	18.5%	2.2%	0.0%	0.0%	3.2	7.1	Feb 26	16.6	Feb 23 15:00	100.0%	100.0%		
March 2024	744	3.8%	59.3%	34.5%	2.3%	0.1%	0.0%	4.4	7.8	Mar 26	19.5	Mar 18 18:00	100.0%	100.0%		
April 2024	702	2.4%	56.0%	30.8%	10.8%	0.0%	0.0%	5.2	11.0	Apr 16	16.9	Apr 09 15:00	97.5%	97.5%		
May 2024	744	4.0%	53.5%	34.5%	7.9%	0.0%	0.0%	5.0	12.4	May 30	16.0	May 30 10:00	100.0%	100.0%		
June 2024	720	4.4%	64.3%	26.1%	5.1%	0.0%	0.0%	4.1	10.4	Jun 05	15.0	Jun 07 13:00	100.0%	100.0%		
July 2024	744	4.8%	65.2%	28.5%	1.5%	0.0%	0.0%	3.7	7.7	Jul 26	13.1	Jul 11 15:00	100.0%	100.0%		
August 2024	744	5.5%	76.1%	17.3%	1.1%	0.0%	0.0%	2.9	5.8	Aug 24	12.4	Aug 21 16:00	100.0%	100.0%		
September 2024	720	7.5%	77.4%	13.3%	1.8%	0.0%	0.0%	2.8	6.3	Sep 09	15.2	Sep 09 14:00	100.0%	100.0%		
October 2024	744	5.0%	75.4%	18.1%	1.5%	0.0%	0.0%	3.2	7.4	Oct 17	14.6	Oct 17 17:00	100.0%	100.0%		
November 2024	720	3.5%	69.2%	27.1%	0.3%	0.0%	0.0%	3.7	6.2	Nov 19	11.9	Nov 08 16:00	100.0%	100.0%		
December 2024	744	7.1%	79.0%	13.6%	0.3%	0.0%	0.0%	2.8	8.1	Dec 03	11.2	Dec 03 03:00	100.0%	100.0%		
Annual	8766	5.1%	68.8%	23.1%	3.0%	0.0%	0.0%	3.6	12.4	MAXIMUM VALUES May 30			19.6	Jan 30 08:00	99.8%	99.8%

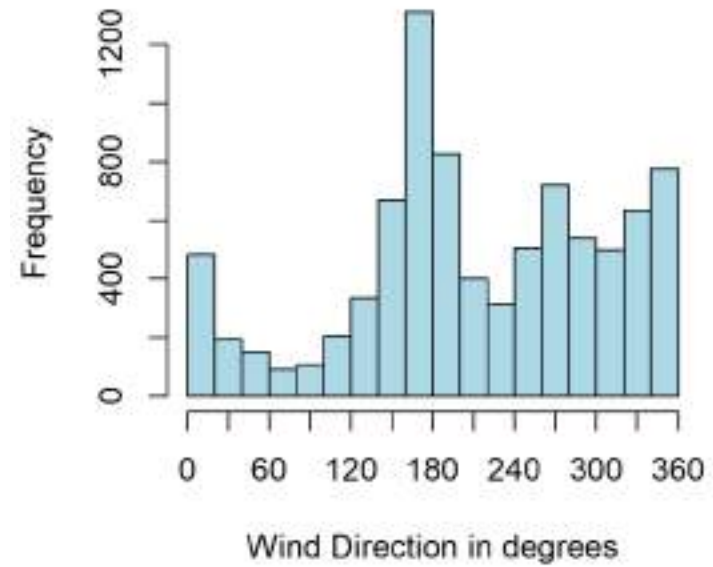
2024 Hourly Readings of Wind Speed (in km/hr) at Valleyview



2024 Wind Speed Histogram

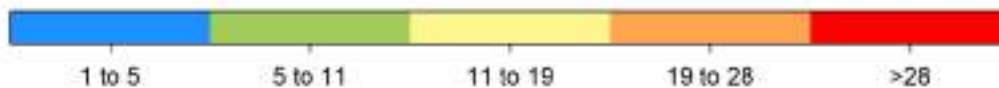
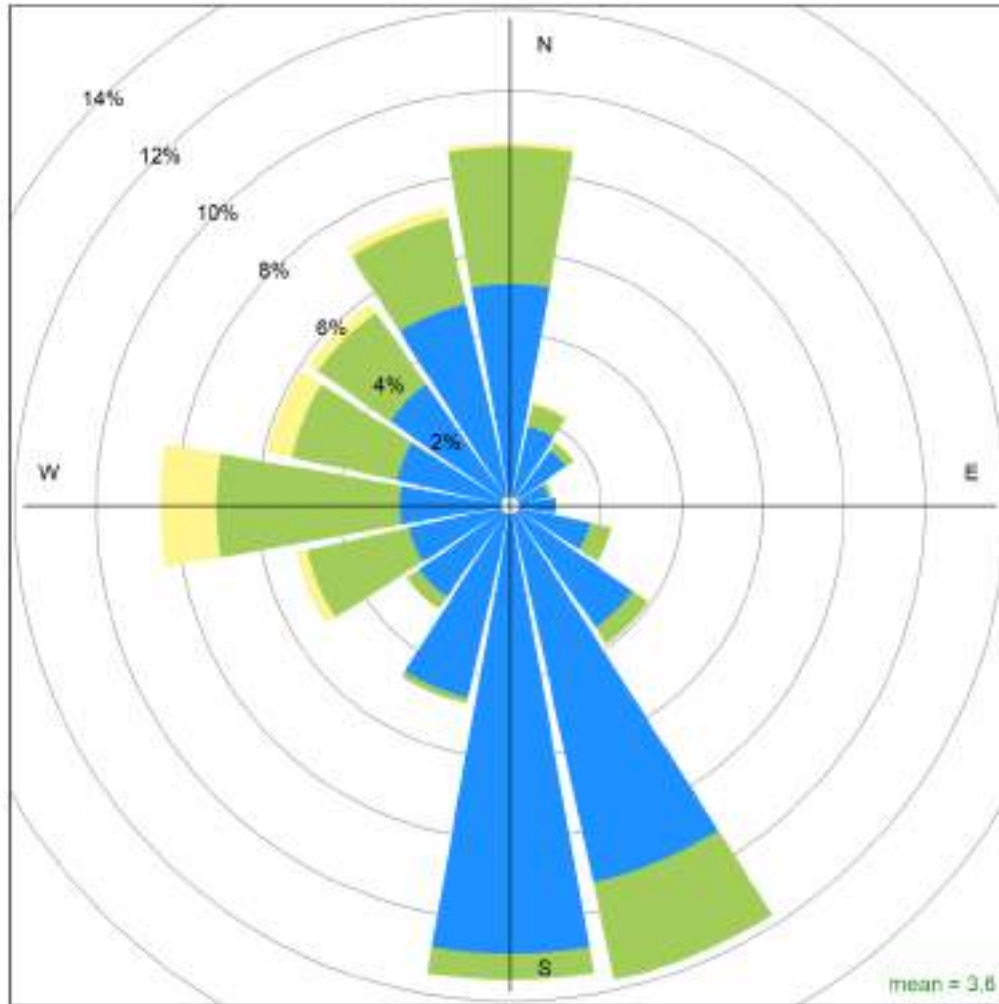


2024 Wind Direction Histogram



Wind Speed and Wind Direction Frequency Distribution at Valleyview

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	824	0.2%	5.7%	3.4%	0.1%	0.0%	0.0%	9.4%
NNE	267	0.2%	2.2%	0.6%	0.1%	0.0%	0.0%	3.0%
NE	185	0.2%	1.7%	0.2%	0.0%	0.0%	0.0%	2.1%
ENE	109	0.2%	1.0%	0.1%	0.0%	0.0%	0.0%	1.2%
E	121	0.2%	1.1%	0.0%	0.0%	0.0%	0.0%	1.4%
ESE	243	0.2%	2.0%	0.5%	0.0%	0.0%	0.0%	2.8%
SE	445	0.4%	4.2%	0.5%	0.0%	0.0%	0.0%	5.1%
SSE	1157	0.4%	10.3%	2.5%	0.0%	0.0%	0.0%	13.2%
S	1221	0.6%	12.7%	0.7%	0.0%	0.0%	0.0%	13.9%
SSW	566	0.5%	5.8%	0.2%	0.0%	0.0%	0.0%	6.5%
SW	359	0.5%	3.2%	0.4%	0.0%	0.0%	0.0%	4.1%
WSW	536	0.4%	2.9%	2.6%	0.2%	0.0%	0.0%	6.1%
W	800	0.3%	2.9%	4.5%	1.4%	0.0%	0.0%	9.1%
WNW	591	0.3%	3.2%	2.7%	0.6%	0.0%	0.0%	6.7%
NW	607	0.4%	4.1%	2.2%	0.3%	0.0%	0.0%	6.9%
NNW	735	0.3%	5.7%	2.2%	0.2%	0.0%	0.0%	8.4%
Total	8766	5.1%	68.8%	23.1%	2.9%	0.0%	0.0%	100.0%

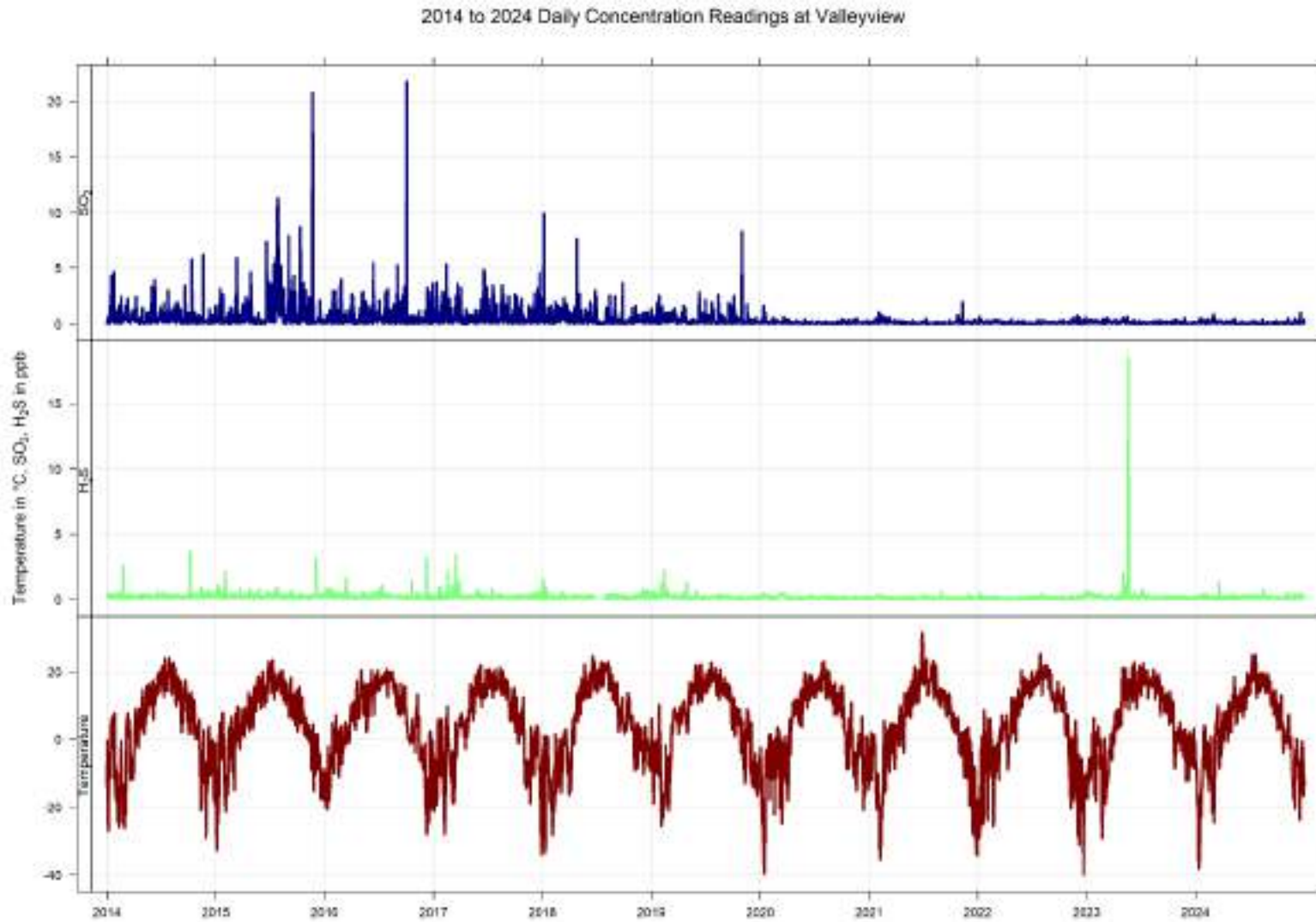


Valleyview 2024 Wind Rose, wind speed in km/hr

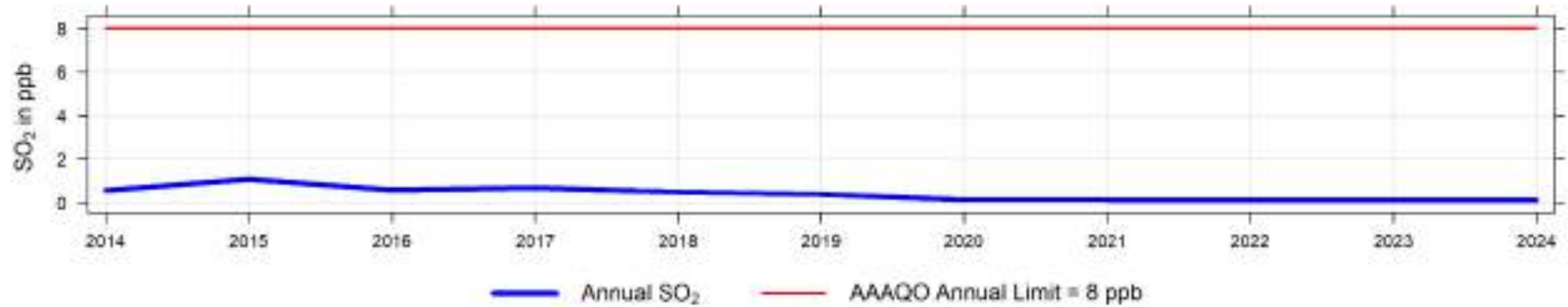
Calms (<1km/hr) = 15.8 %

10.6 Valleyview Annual Trends, 2014 to 2024

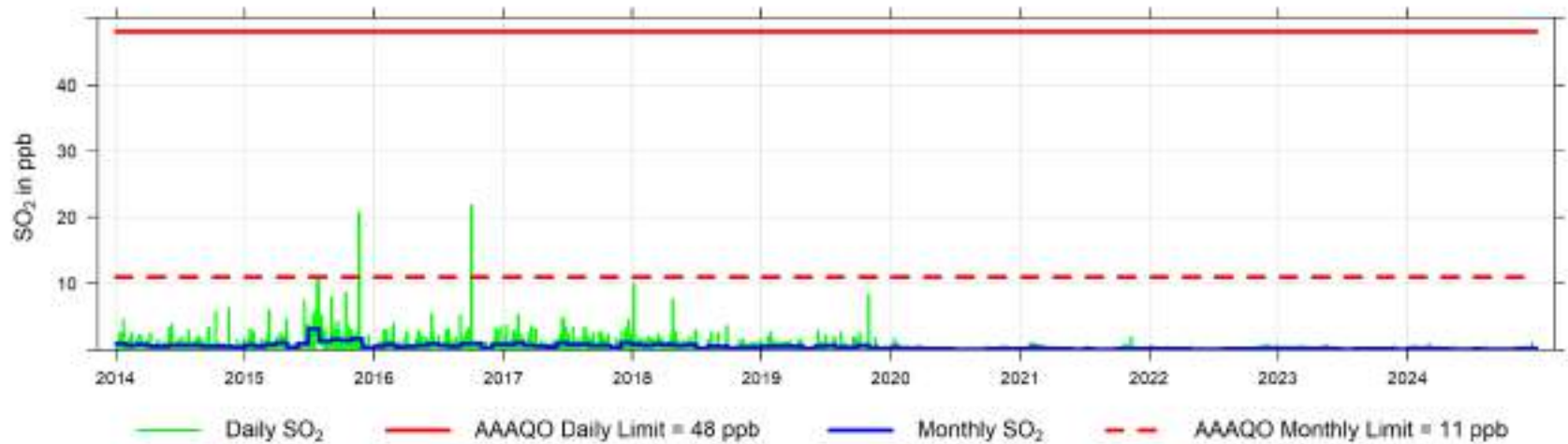
The following pages include historical annual charts collected between 2014 and 2024 at the Valleyview Station.



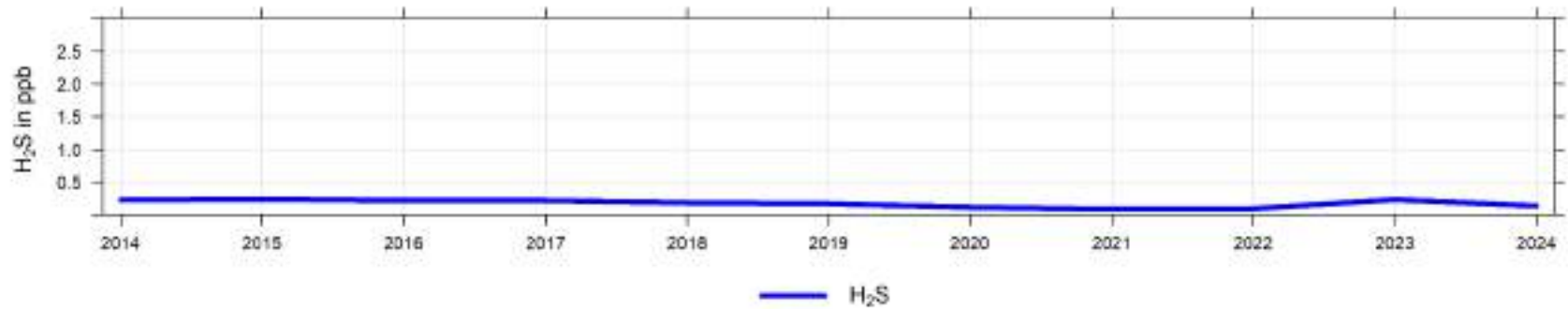
Years 2014 to 2024 Annual Concentration Readings of SO₂ (in ppb) at Valleyview



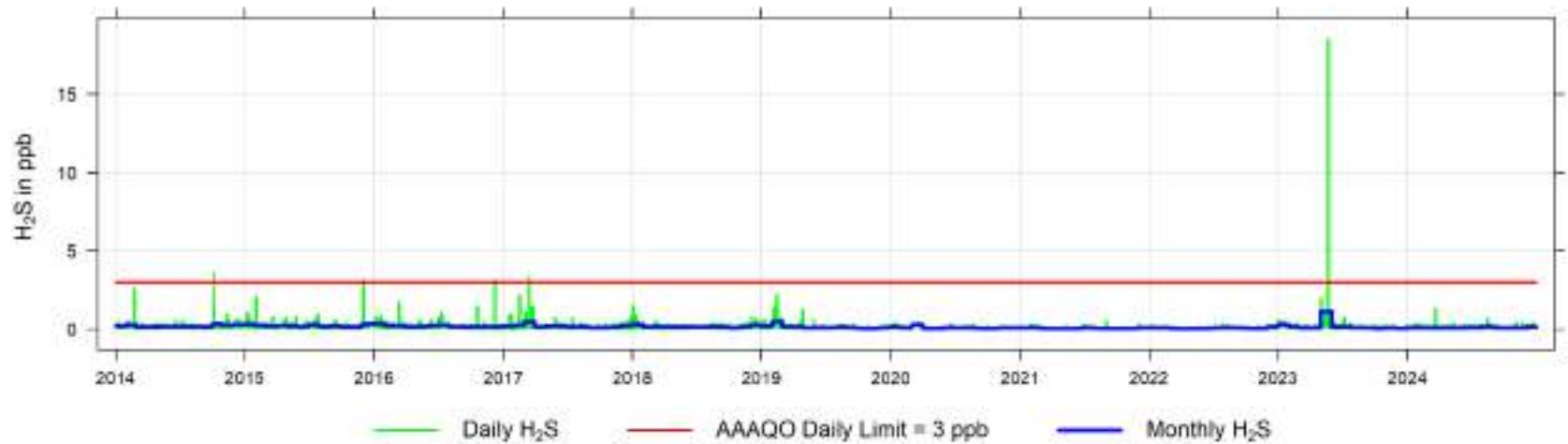
Years 2014 to 2024 Concentration Readings of SO₂ (in ppb) at Valleyview



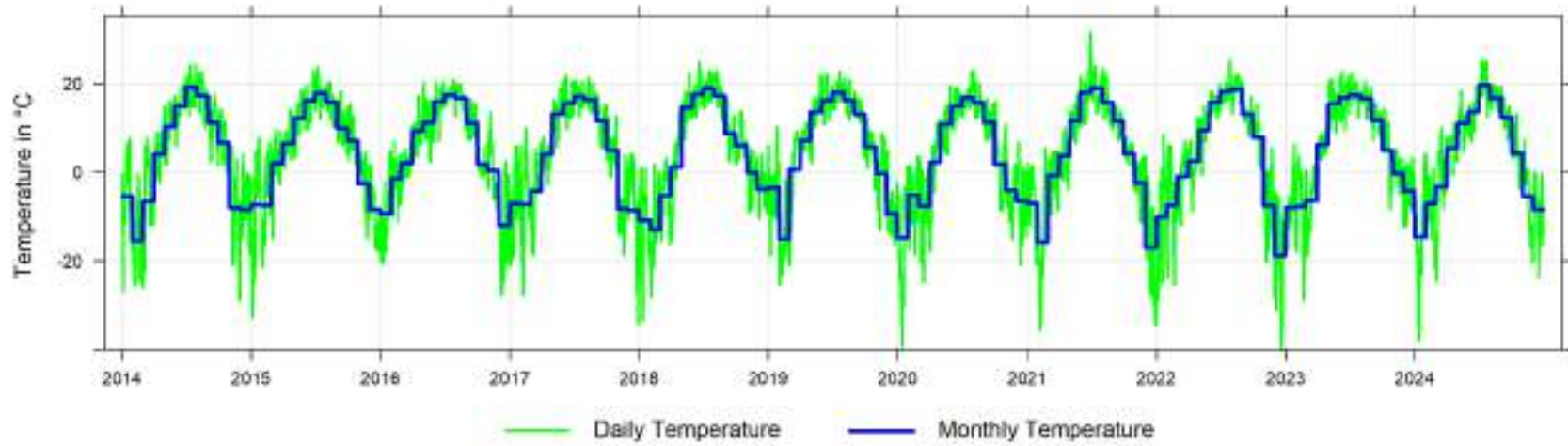
Years 2014 to 2024 Annual Concentration Readings of H₂S (in ppb) at Valleyview



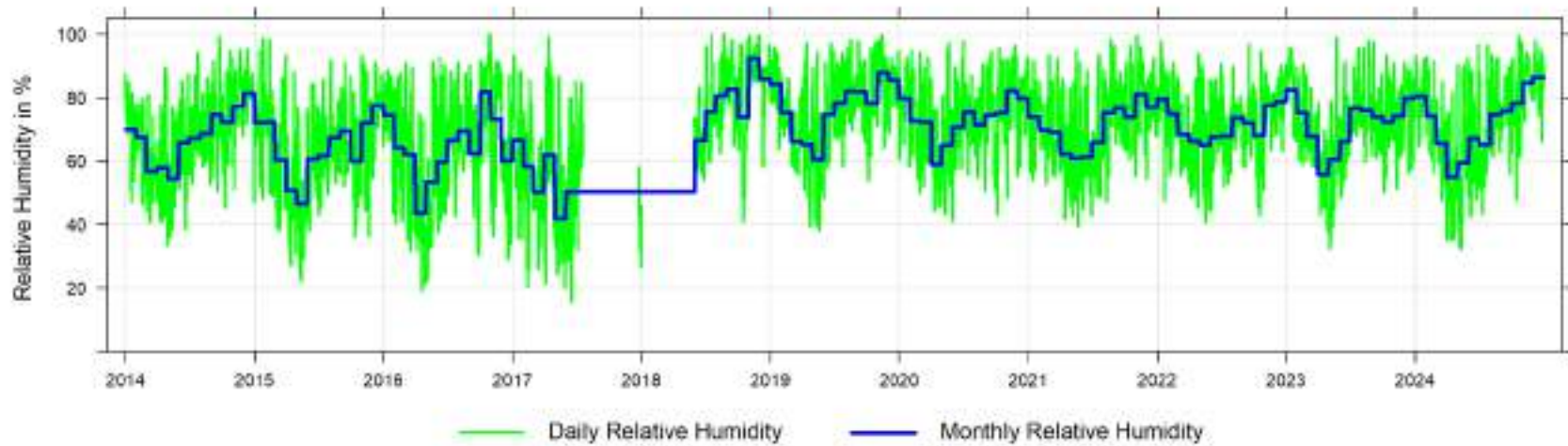
Years 2014 to 2024 Concentration Readings of H₂S (in ppb) at Valleyview

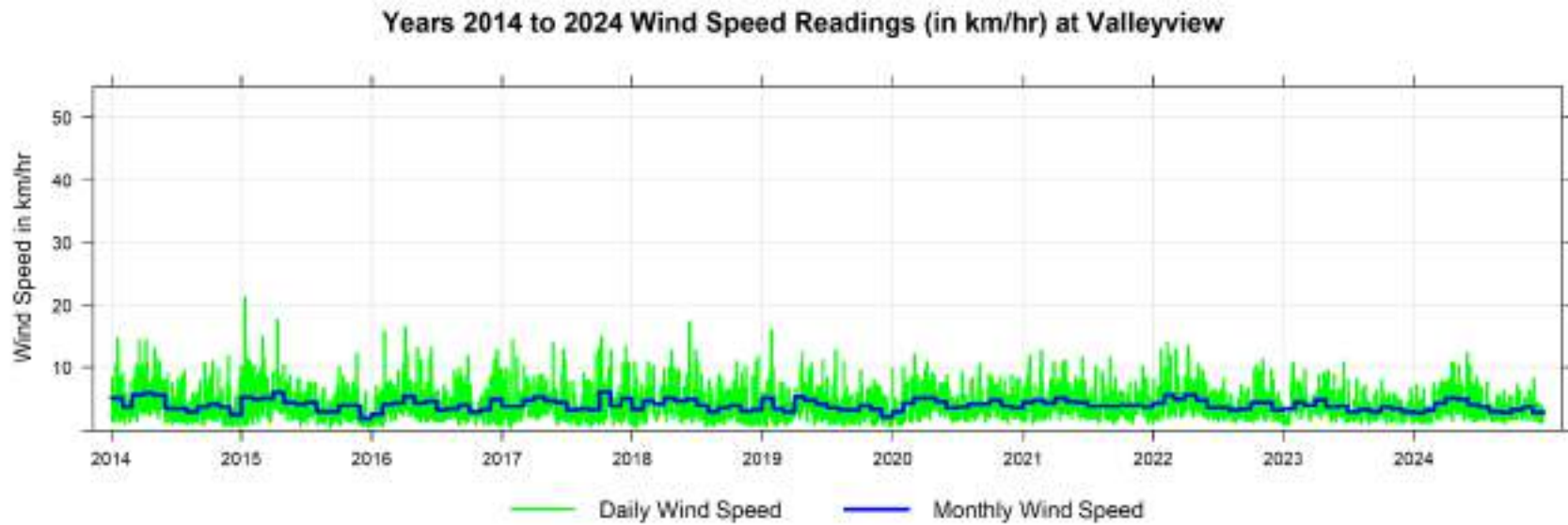
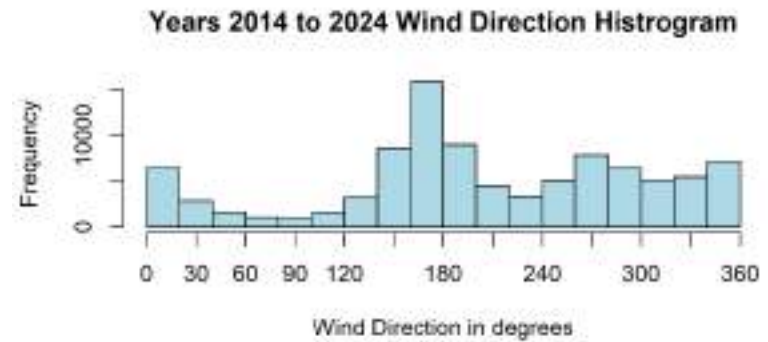
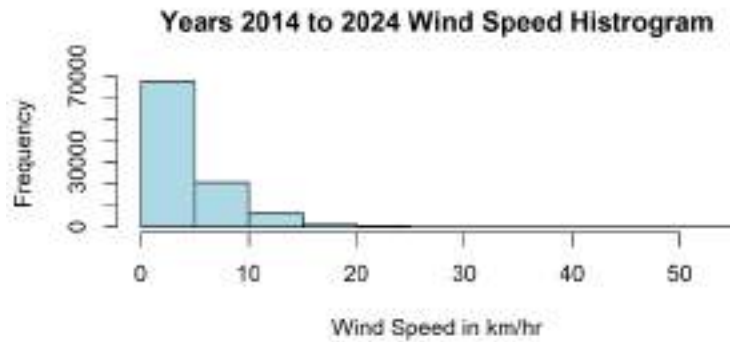


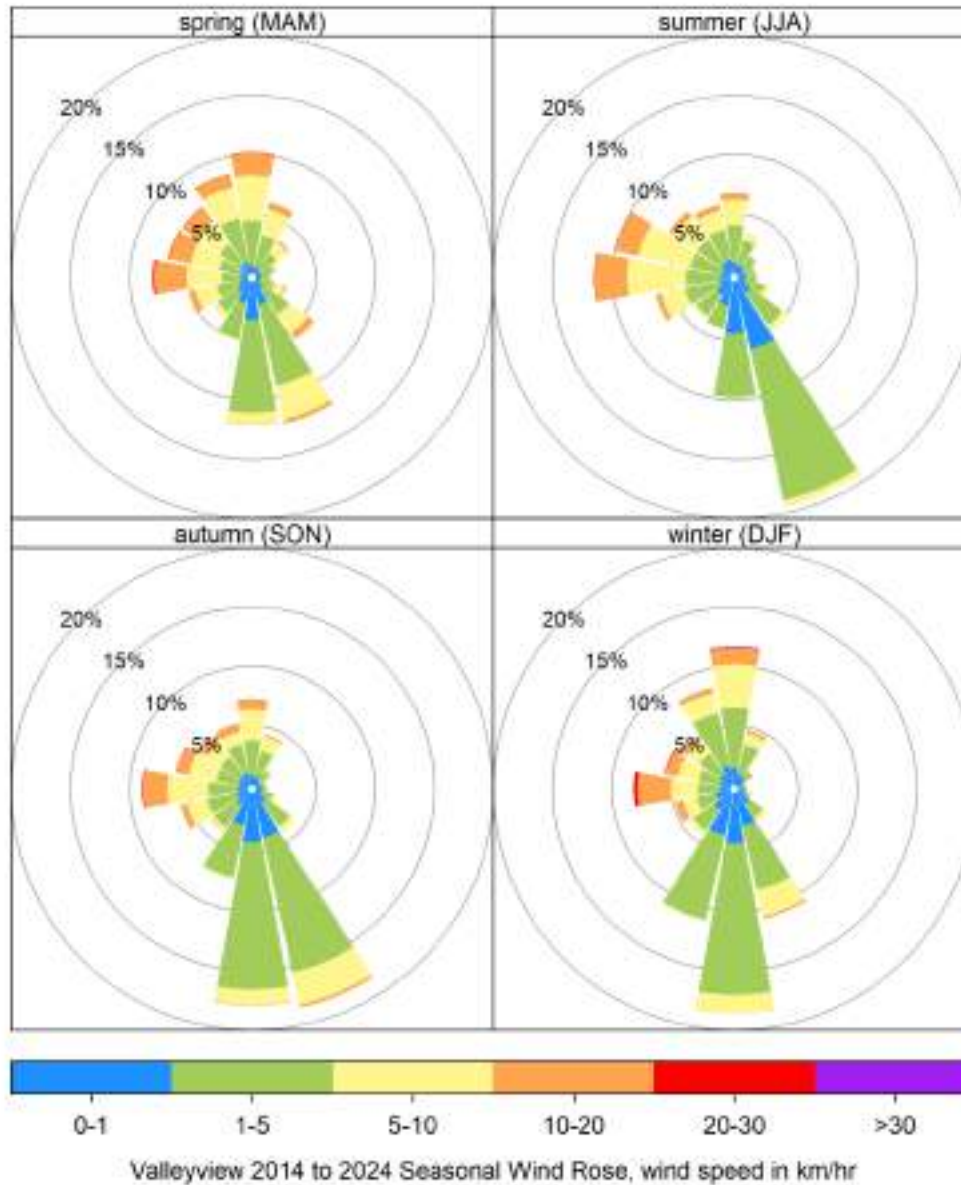
Years 2014 to 2024 Temperature Readings (in °C) at Valleyview

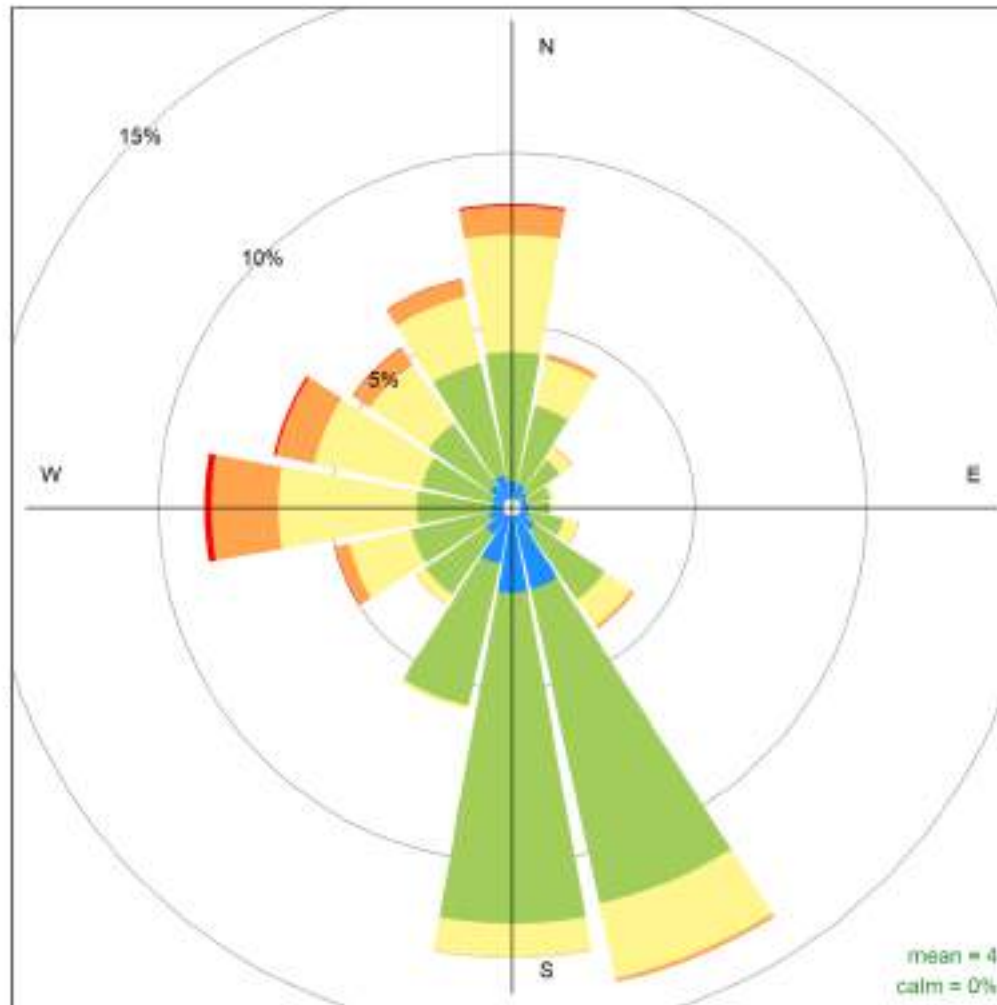


Years 2014 to 2024 Relative Humidity Readings (in %) at Valleyview









Valleyview 2014 to 2024 Wind Rose, wind speed in km/hr
Frequency of counts by wind direction (%)

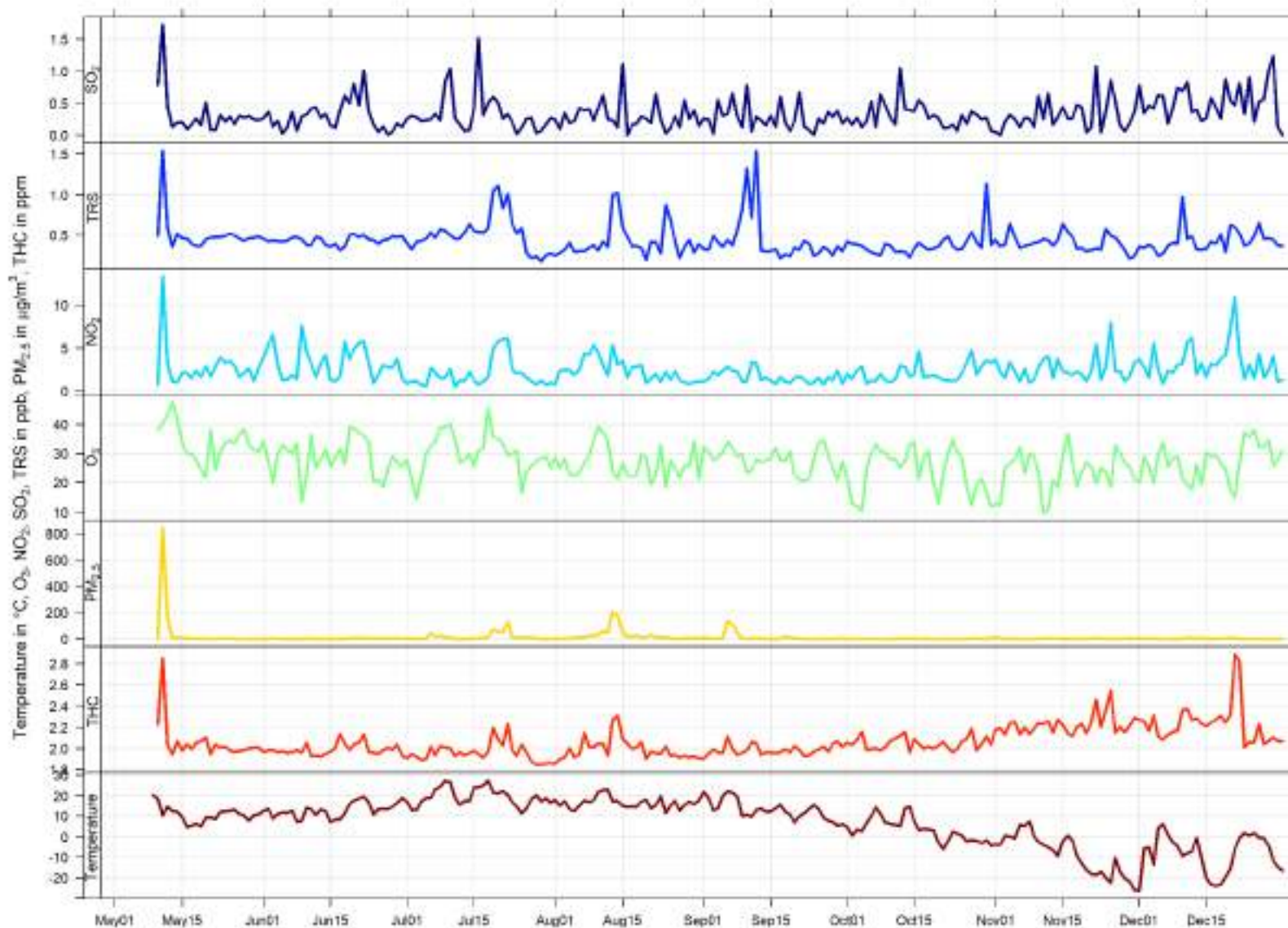
11 Happy Valley Key Parameters - Continuous Monitoring Data - 2024 Summary

Happy Valley Key Parameters - Continuous Monitoring Data - 2024 May to December Summary

Happy Valley Station	Parameter	Average	Maximum Values				Operational Time (%)	Valid Time (%)	Readings above AAAQO & AAAQG					
			24-hr	Date	1-hr	Date			30-min	1-hr	8-hr	24-hr	30-d	Annual
			Sulphur Dioxide SO ₂ measured in ppb	1.7	May 11	13.5			Aug 15 13:00	66.6%	63.5%	-	0	-
Total Reduced Sulphur TRS measured in ppb	1.6	May 11	11.3	Dec 10 22:00	66.2%	63.1%	11	-	-	-	-	-		
Nitrogen Dioxide NO ₂ measured in ppb	13.7	May 11	24.2	Dec 21 11:00	66.6%	63.4%	-	0	-	-	-	0		
Nitrogen Oxides NO _x measured in ppb	14.4	May 11	83.8	Jun 10 05:00	66.6%	63.4%	-	-	-	-	-	-		
Nitric Oxide NO measured in ppb	7.3	Jun 10	74.5	Jun 10 05:00	66.6%	63.4%	-	-	-	-	-	-		
Ozone O ₃ measured in ppb	47.3	May 13	64.6	Jul 10 12:00	66.6%	63.5%	-	0	-	-	-	-		
Total Hydrocarbons THC measured in ppm	2.9	Dec 21	5.1	May 14 13:00	65.9%	62.8%	-	-	-	-	-	-		
Particulate Matter PM _{2.5} measured in µg/m ³	868.0	May 11	1378.5	May 11 06:00	66.6%	66.4%	-	151	-	17	-	-		

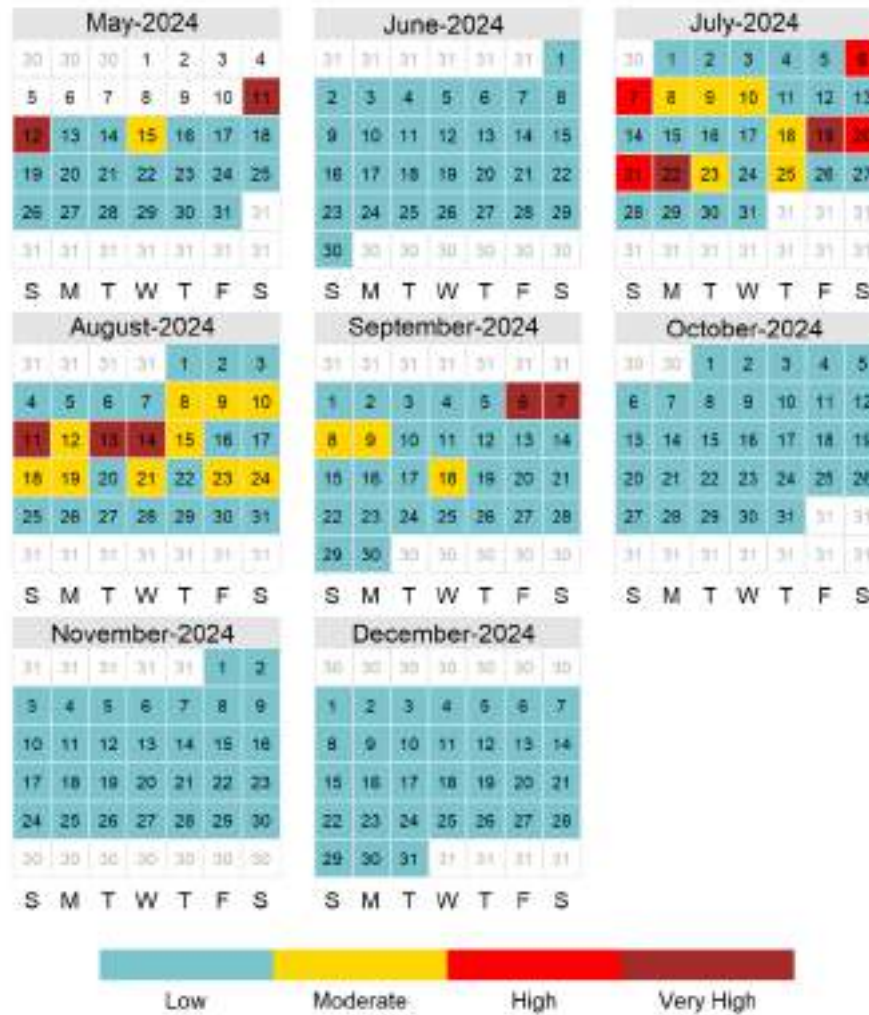
Note: Operational May to December 2024, annual average not valid

2024 Daily Concentration Readings at Happy Valley



11.1 Happy Valley AQHI Calendar Plot for 2024

Hourly Maximum AQHI for 2024 at Happy Valley



11.2 Sulphur Dioxide (SO₂) - Happy Valley 2024 Summary

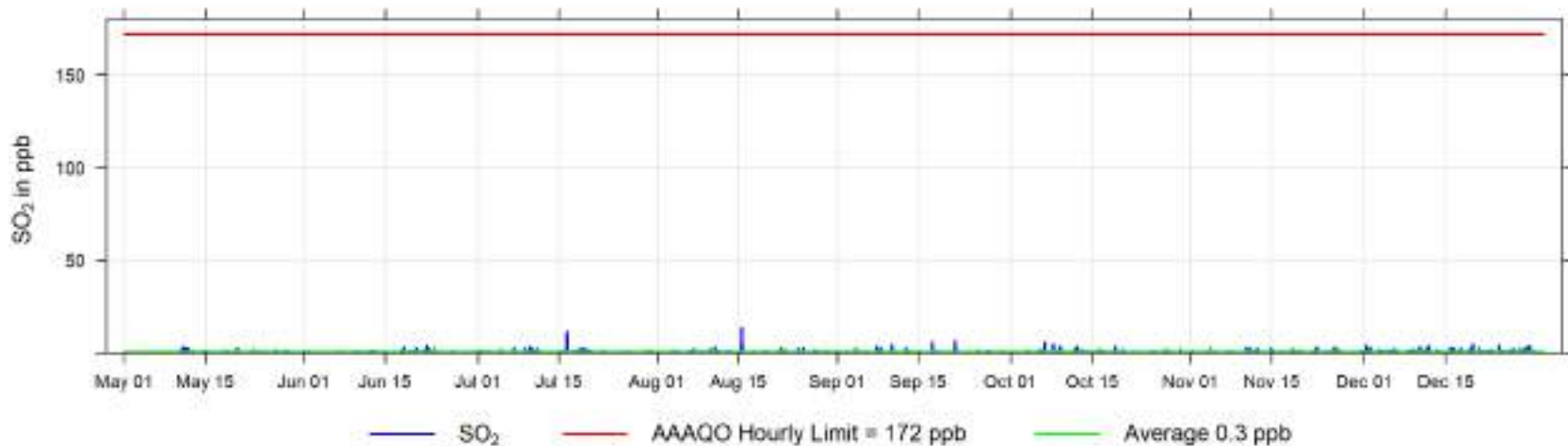
Sulphur Dioxide (SO₂) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents			
		0 to 1 (ppb)	1 to 5 (ppb)	5 to 10 (ppb)	10 to 57 (ppb)	57 to 172 (ppb)	> 172 (ppb)			Date	1-hr (ppb)			Date	30-d 11 ppb	24-hr 48 ppb	1-hr 172 ppb
January 2024																	
February 2024																	
March 2024																	
April 2024																	
May 2024	493	91.9%	8.1%	0.0%	0.0%	0.0%	0.0%	0.3	1.7	May 11	3.0	May 11 02:00	100.0%	95.4%	0	0	0
June 2024	687	96.5%	3.5%	0.0%	0.0%	0.0%	0.0%	0.3	1.0	Jun 22	3.6	Jun 22 04:00	100.0%	95.4%	0	0	0
July 2024	706	94.3%	5.2%	0.3%	0.1%	0.0%	0.0%	0.3	1.5	Jul 16	11.3	Jul 16 09:00	99.5%	94.9%	0	0	0
August 2024	709	96.1%	3.7%	0.1%	0.1%	0.0%	0.0%	0.3	1.1	Aug 15	13.5	Aug 15 13:00	100.0%	95.3%	0	0	0
September 2024	686	95.9%	3.8%	0.3%	0.0%	0.0%	0.0%	0.3	0.8	Sep 10	6.1	Sep 21 09:00	100.0%	95.3%	0	0	0
October 2024	710	95.6%	4.2%	0.1%	0.0%	0.0%	0.0%	0.3	1.0	Oct 12	5.6	Oct 06 21:00	100.0%	95.4%	0	0	0
November 2024	685	92.8%	7.2%	0.0%	0.0%	0.0%	0.0%	0.3	1.1	Nov 22	2.9	Nov 22 19:00	100.0%	95.1%	0	0	0
December 2024	709	84.5%	15.5%	0.0%	0.0%	0.0%	0.0%	0.5	1.2	Dec 29	4.3	Dec 19 15:00	100.0%	95.3%	0	0	0
Annual	5385	93.5%	6.4%	0.1%	0.0%	0.0%	0.0%			MAXIMUM VALUES				0	0	0	

AAAQO Objectives: Annual: 8ppb, 30-Day: 11ppb, 24-Hr: 48ppb, 1-Hr: 172ppb

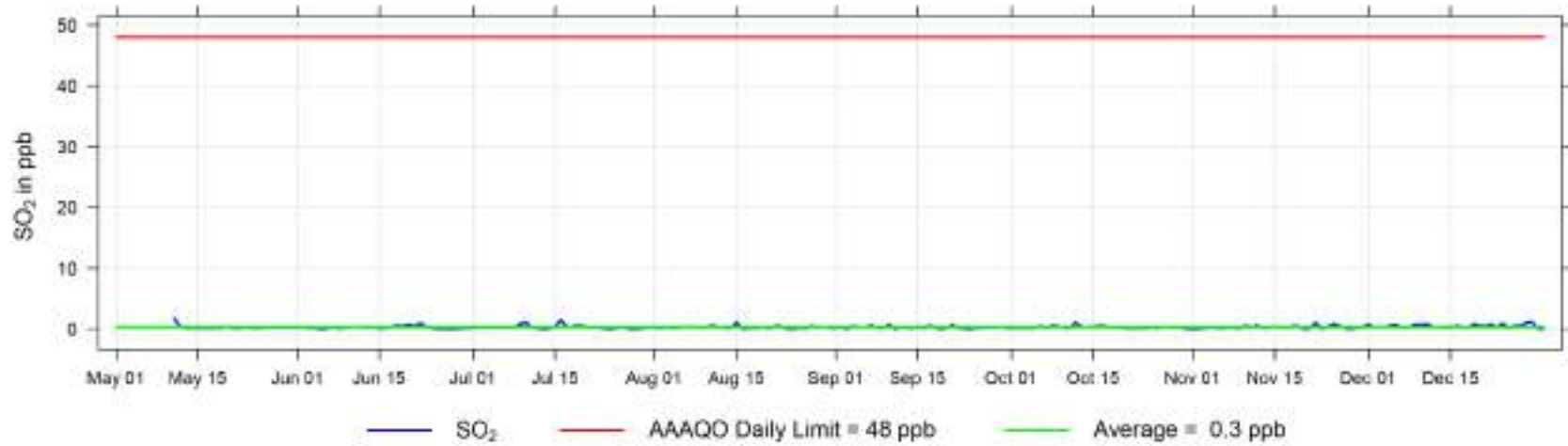
Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of SO₂ (in ppb) at Happy Valley



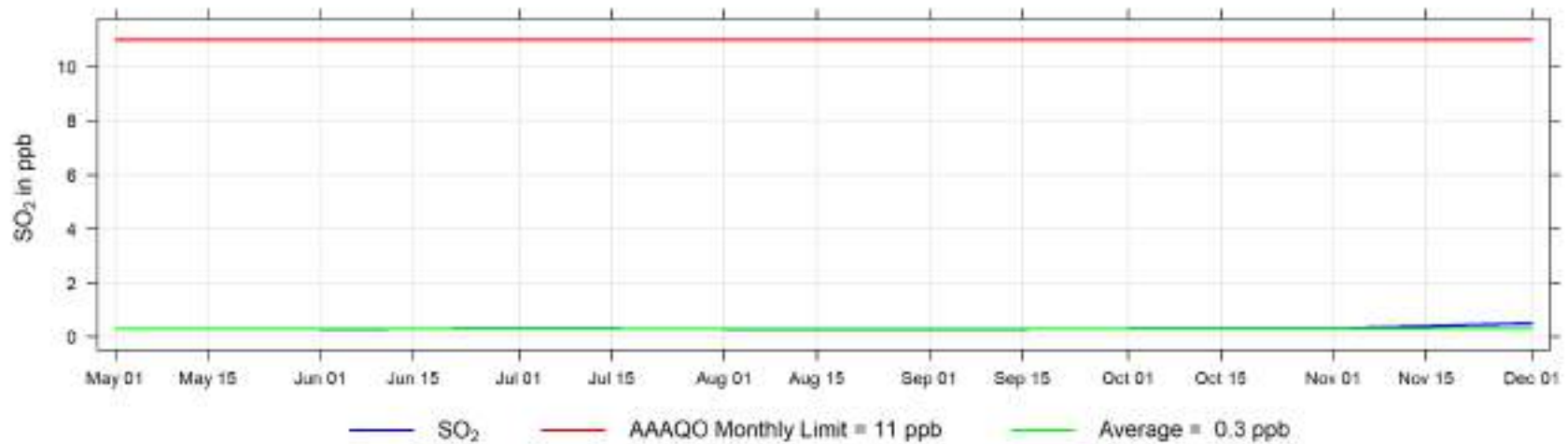
Note: average shown just for May to December 2024

2024 Daily Concentration Readings of SO₂ (in ppb) at Happy Valley

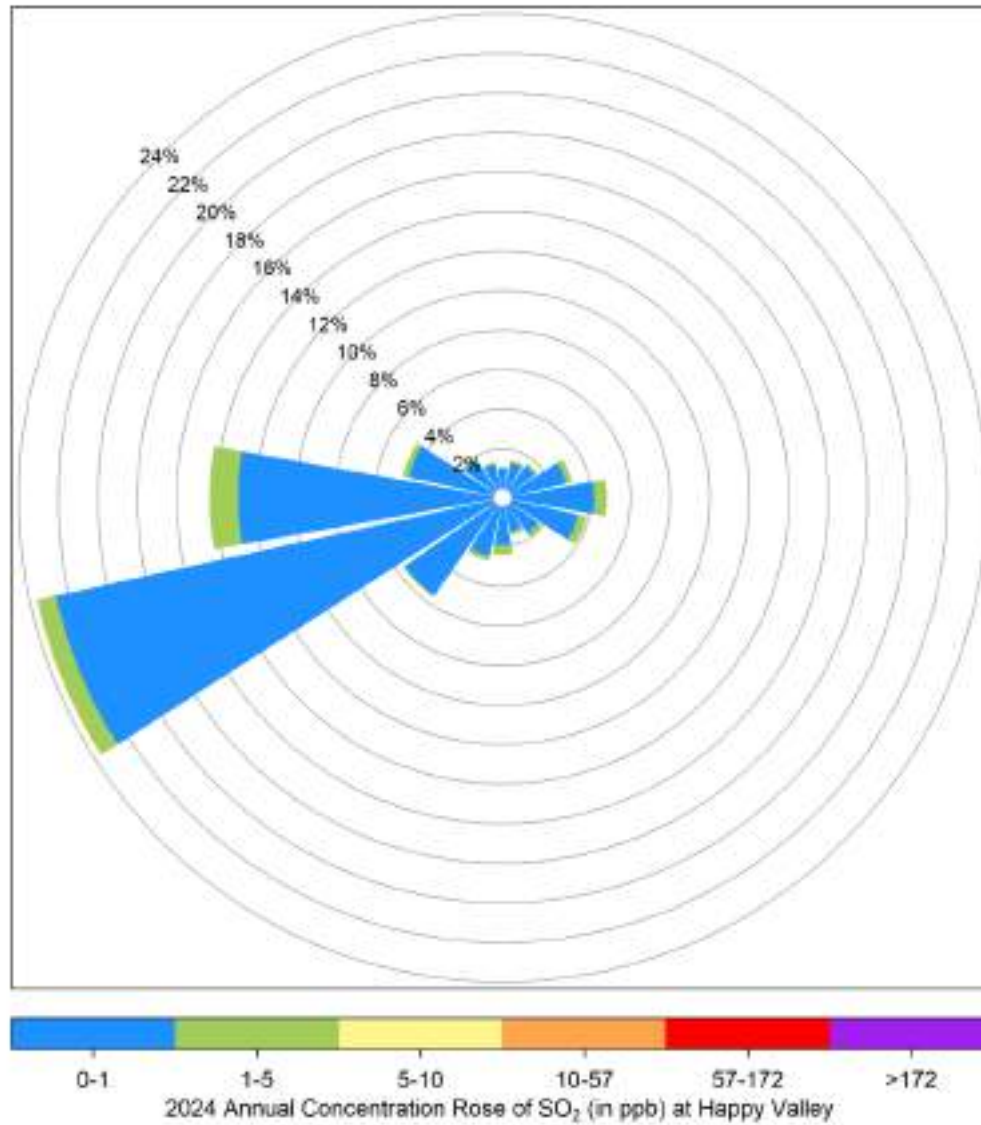


Note: average shown just for May to December 2024

2024 Monthly Concentration Readings of SO₂ (in ppb) at Happy Valley

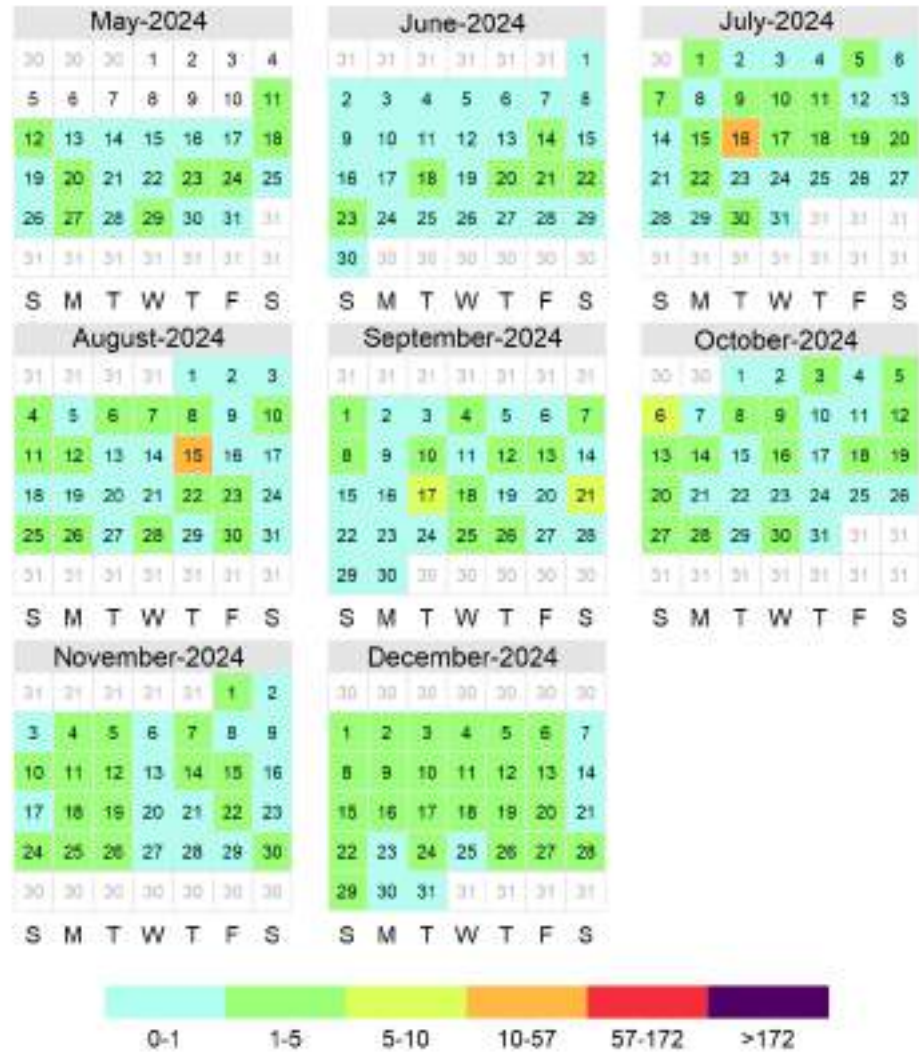


Note: average shown just for May to December 2024



Note: rose shown just for May to December 2024

Hourly Maximum SO₂ (in ppb) for 2024 at Happy Valley



11.3 Total Reduced Sulphur (TRS) - Happy Valley 2024 Summary

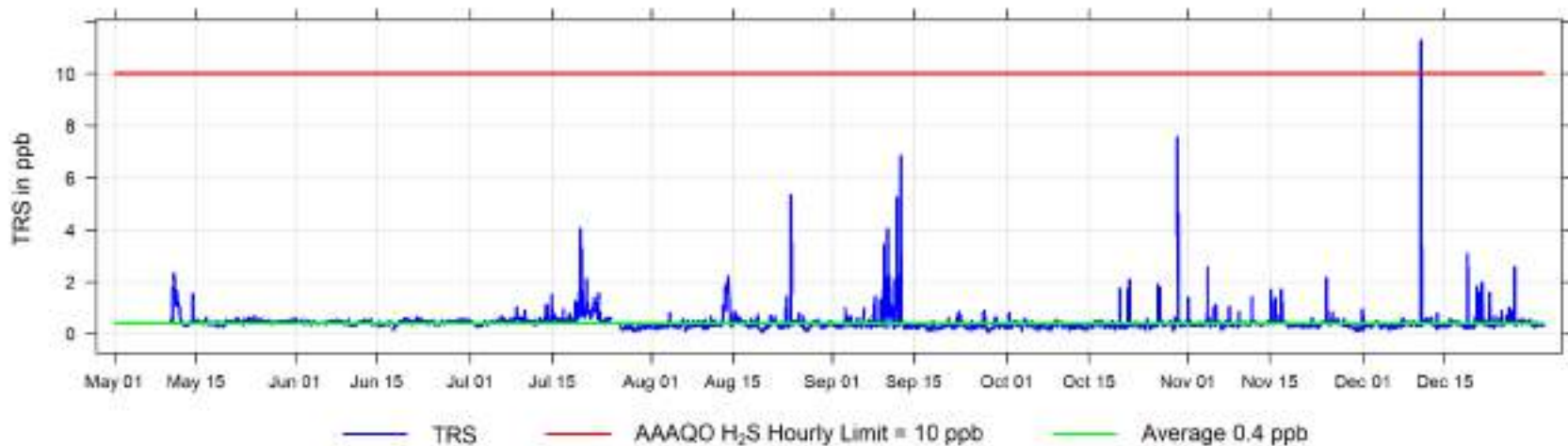
Total Reduced Sulphur (TRS) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents			
		0 to 1 (ppb)	1 to 3 (ppb)	3 to 5 (ppb)	5 to 8 (ppb)	8 to 10 (ppb)	> 10 (ppb)		24-hr (ppb)	Date	1-hr (ppb)	Date			24-hr 3 ppb	1-hr 10 ppb	30-min 5 ppb	
January 2024																		
February 2024																		
March 2024																		
April 2024																		
May 2024	492	94.7%	5.3%	0.0%	0.0%	0.0%	0.0%	0.5	1.6	May 11	2.3	May 11 07:00	100.0%	95.4%	0	0	0	
June 2024	686	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4	0.5	Jun 20	0.6	Jun 21 21:00	100.0%	95.3%	0	0	0	
July 2024	670	94.0%	5.7%	0.3%	0.0%	0.0%	0.0%	0.5	1.1	Jul 20	4.1	Jul 19 21:00	94.6%	90.1%	0	0	0	
August 2024	709	96.5%	3.1%	0.3%	0.1%	0.0%	0.0%	0.4	1.1	Aug 13	5.4	Aug 24 22:00	100.0%	95.3%	0	0	2	
September 2024	686	94.6%	4.8%	0.3%	0.3%	0.0%	0.0%	0.4	1.5	Sep 12	6.8	Sep 12 20:00	100.0%	95.3%	0	0	3	
October 2024	709	97.7%	1.8%	0.3%	0.1%	0.0%	0.0%	0.4	1.1	Oct 30	7.6	Oct 30 04:00	100.0%	95.3%	0	0	3	
November 2024	685	98.1%	1.9%	0.0%	0.0%	0.0%	0.0%	0.4	0.7	Nov 15	2.6	Nov 04 08:00	100.0%	95.1%	0	0	0	
December 2024	709	98.3%	1.3%	0.3%	0.0%	0.0%	0.1%	0.4	1.0	Dec 10	11.3	Dec 10 22:00	100.0%	95.3%	0	0	3	
Annual	5346	96.7%	3.0%	0.2%	0.1%	0.0%	0.0%			MAXIMUM VALUES				66.2%	63.1%	0	0	11

AAAQO H₂S Objectives: 24-Hr: 3ppb, 1-Hr: 10ppb

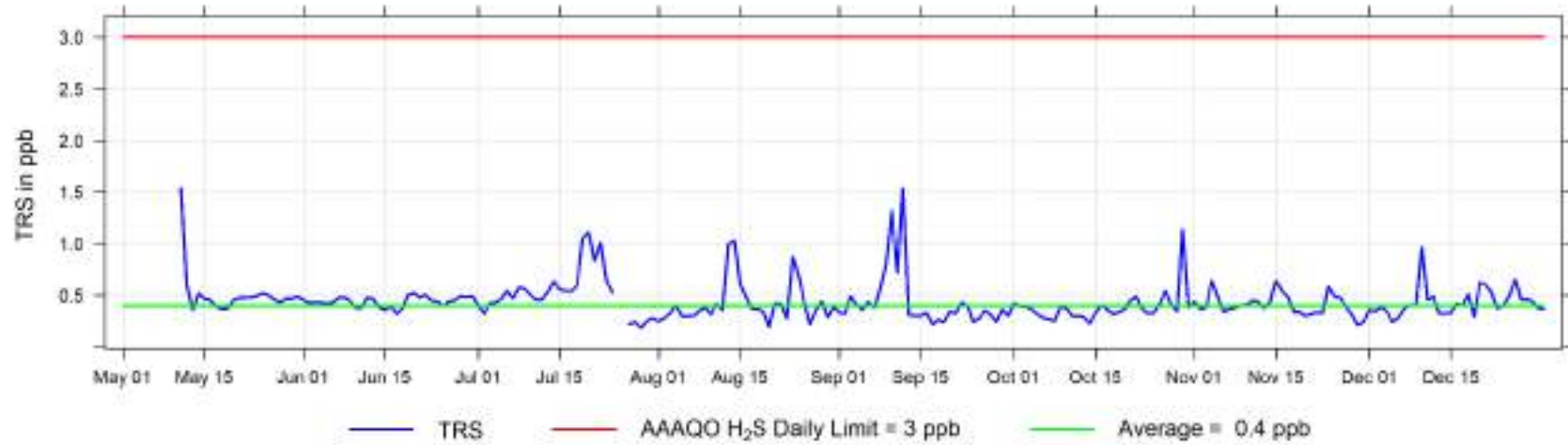
Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of TRS (in ppb) at Happy Valley

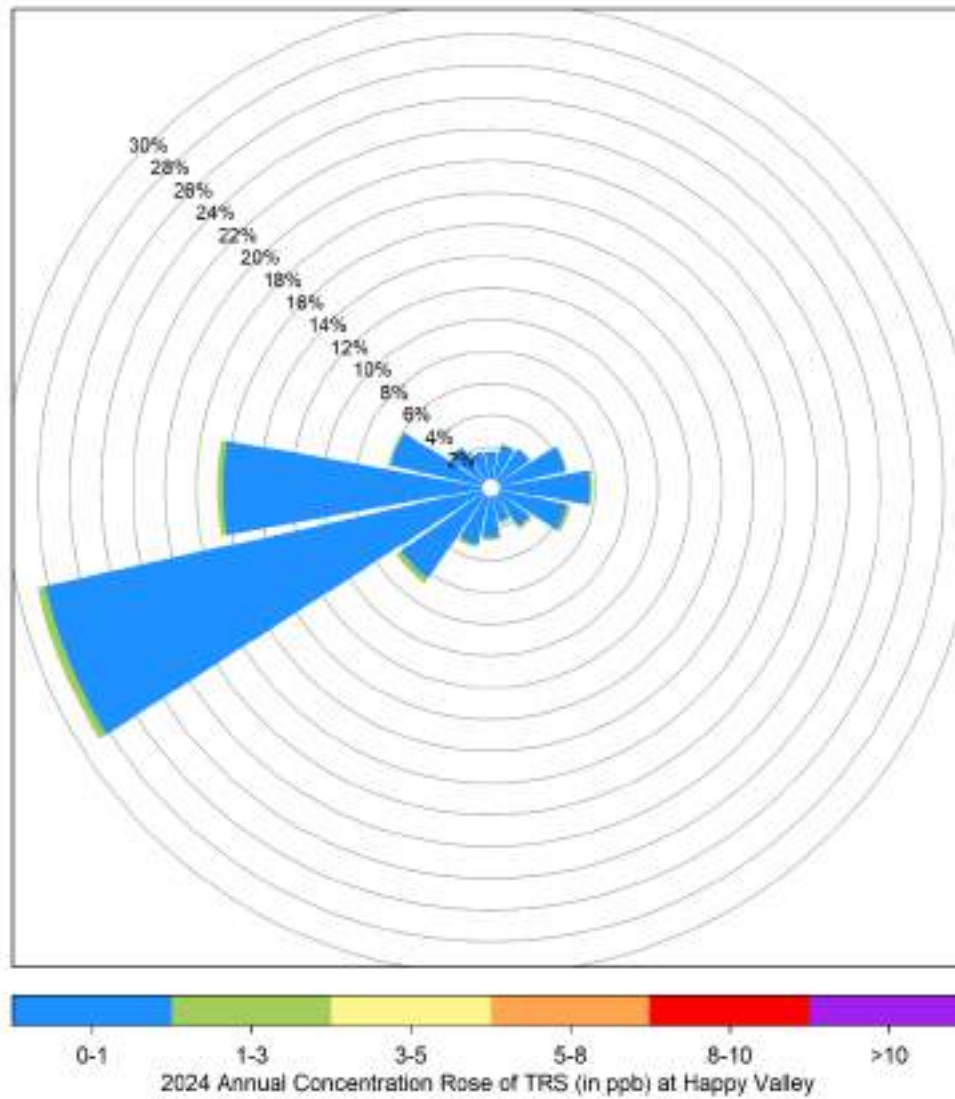


Note: average shown just for May to December 2024

2024 Daily Concentration Readings of TRS (in ppb) at Happy Valley

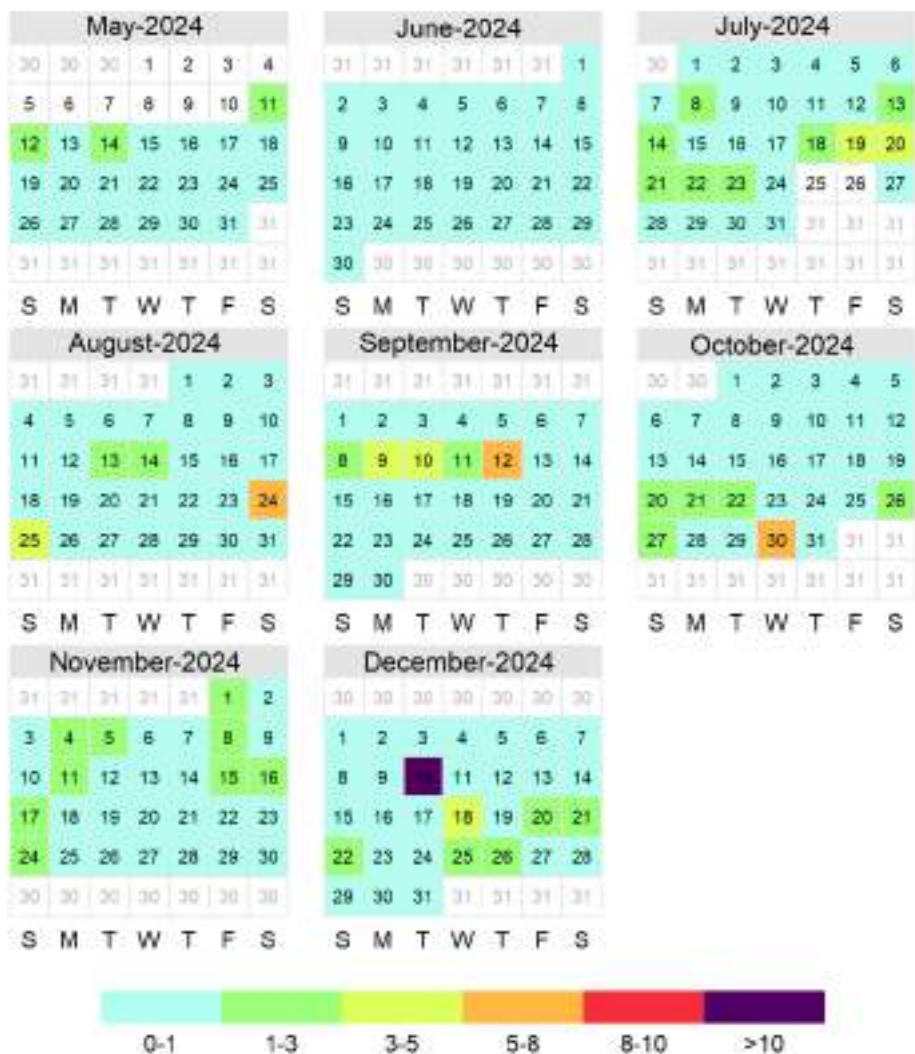


Note: average shown just for May to December 2024



Note: rose shown just for May to December 2024

Hourly Maximum TRS (in ppb) for 2024 at Happy Valley



11.4 Nitrogen Dioxide (NO₂) - Happy Valley 2024 Summary

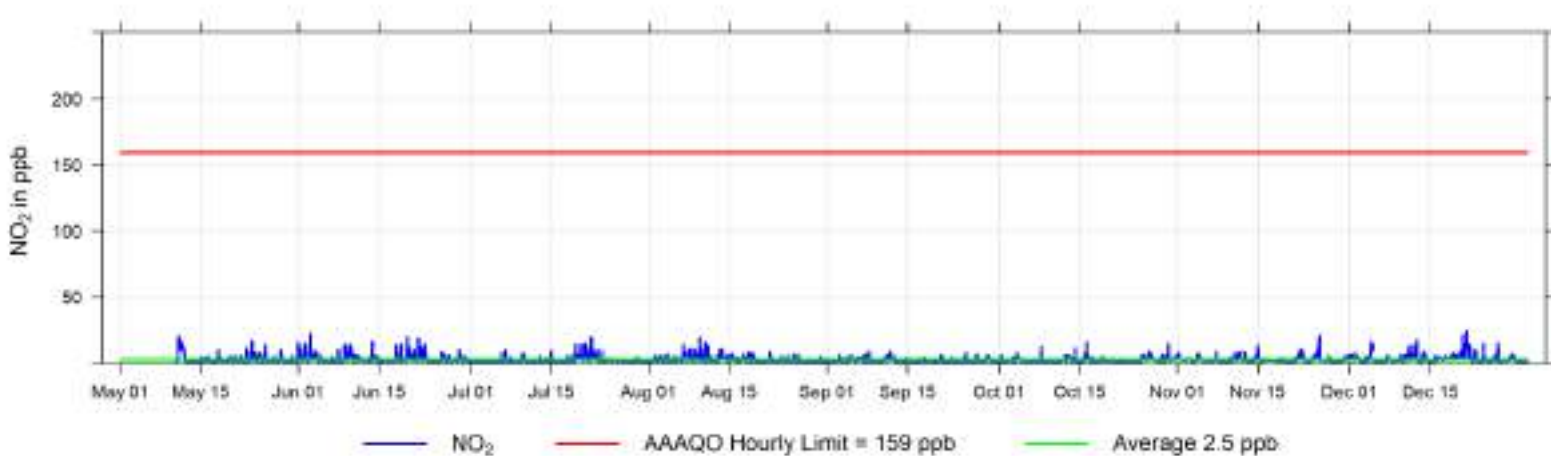
Nitrogen Dioxide (NO₂) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES			Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 159 ppb	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr (ppb)	Date				
January 2024																
February 2024																
March 2024																
April 2024																
May 2024	492	86.2%	11.8%	2.0%	0.0%	0.0%	0.0%	2.8	13.7	May 11	20.4	May 11 07:00	100.0%	95.0%	0	
June 2024	685	81.5%	17.1%	1.5%	0.0%	0.0%	0.0%	3.2	7.4	Jun 09	22.4	Jun 03 02:00	100.0%	95.1%	0	
July 2024	705	91.2%	8.4%	0.4%	0.0%	0.0%	0.0%	2.0	6.4	Jul 21	19.8	Jul 21 23:00	99.6%	94.8%	0	
August 2024	708	88.6%	11.0%	0.4%	0.0%	0.0%	0.0%	2.4	5.5	Aug 09	19.4	Aug 09 21:00	100.0%	95.2%	0	
September 2024	685	96.9%	3.1%	0.0%	0.0%	0.0%	0.0%	1.6	3.6	Sep 11	8.7	Sep 08 09:00	100.0%	95.1%	0	
October 2024	708	94.1%	5.6%	0.3%	0.0%	0.0%	0.0%	2.1	4.6	Oct 27	16.1	Oct 16 06:00	100.0%	95.2%	0	
November 2024	684	90.4%	9.2%	0.4%	0.0%	0.0%	0.0%	2.6	7.8	Nov 25	21.0	Nov 25 20:00	100.0%	95.0%	0	
December 2024	708	81.1%	17.7%	1.3%	0.0%	0.0%	0.0%	3.3	10.7	Dec 21	24.2	Dec 21 11:00	100.0%	95.2%	0	
Annual	5375	88.7%	10.5%	0.8%	0.0%	0.0%	0.0%			MAXIMUM VALUES			66.6%	63.4%	0	

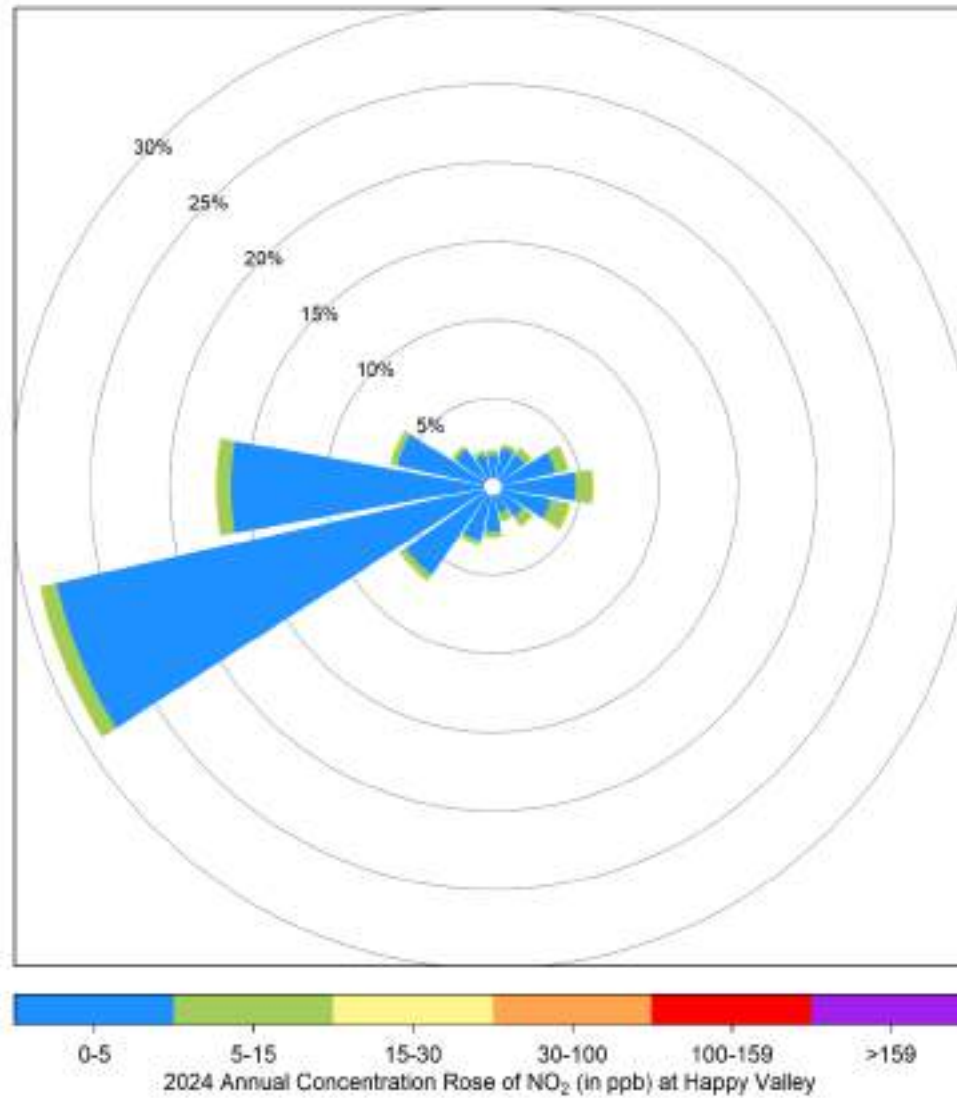
AAAQO Objectives: Annual: 24ppb, 1-Hr: 159ppb

Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of NO₂ (in ppb) at Happy Valley

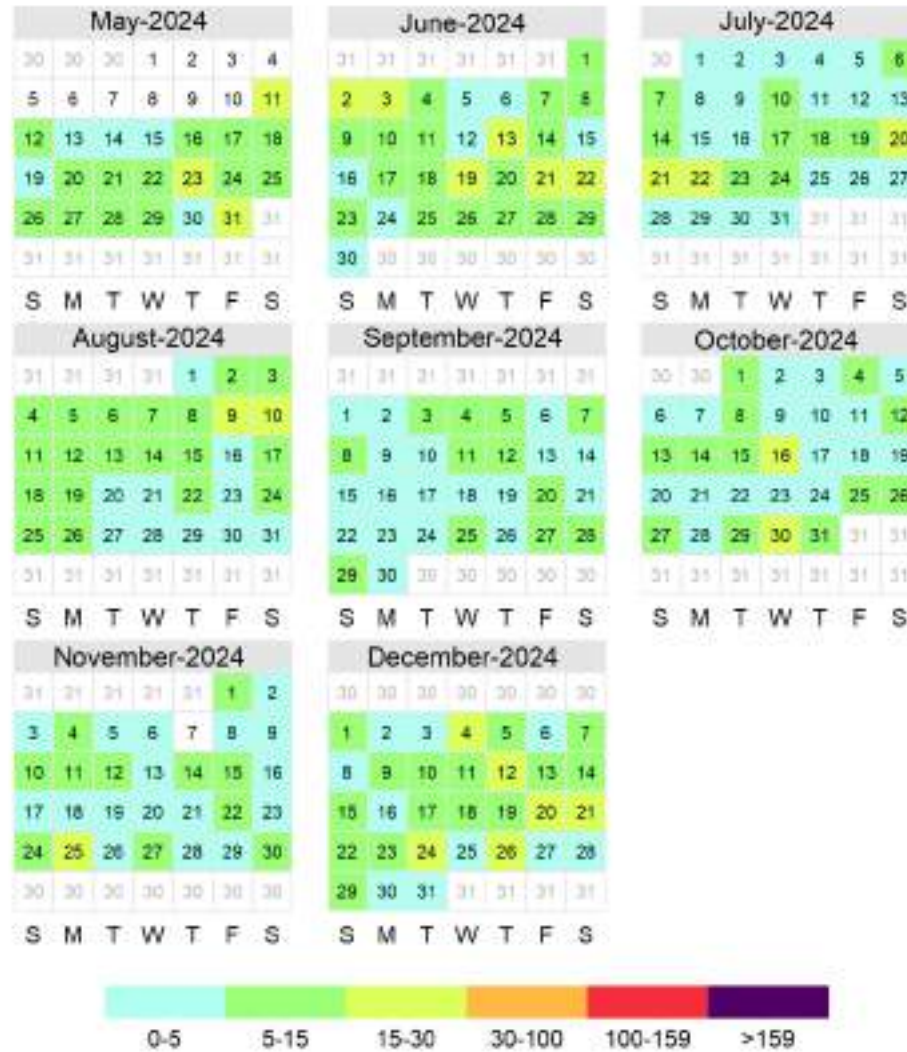


Note: average shown just for May to December 2024



Note: rose shown just for May to December 2024

Hourly Maximum NO₂ (in ppb) for 2024 at Happy Valley



11.5 Nitric Oxide (NO) - Happy Valley 2024 Summary

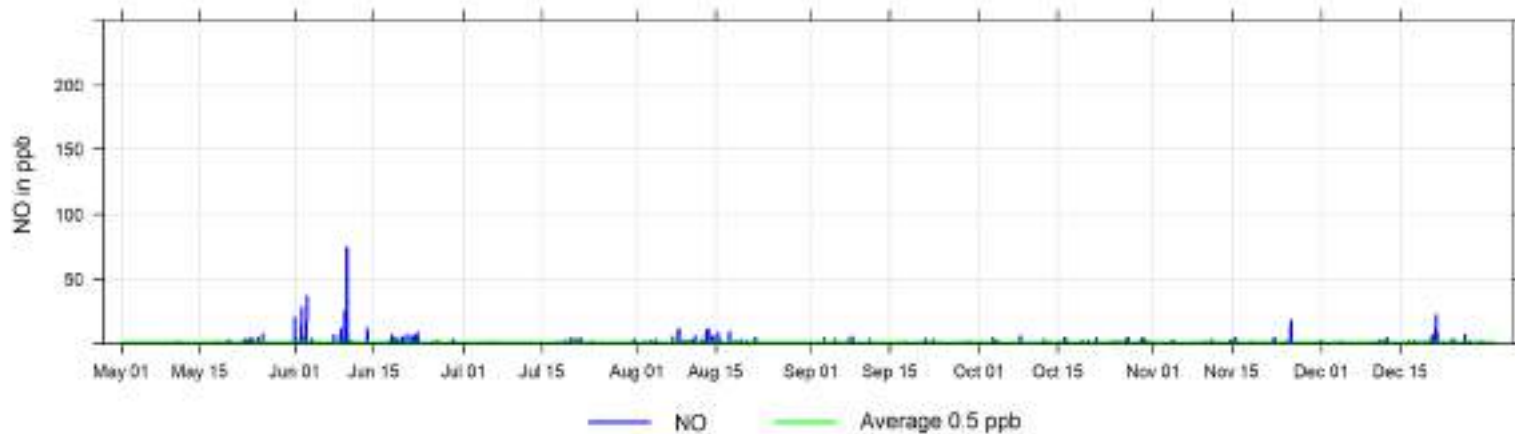
Nitric Oxide (NO) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr Date			
January 2024														
February 2024														
March 2024														
April 2024														
May 2024	492	99.4%	0.4%	0.2%	0.0%	0.0%	0.0%	0.4	1.4	May 31	20.1	May 31 22:00	100.0%	95.0%
June 2024	685	95.8%	2.9%	0.9%	0.4%	0.0%	0.0%	1.1	7.3	Jun 10	74.5	Jun 10 05:00	100.0%	95.1%
July 2024	705	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.4	1.1	Jul 20	4.6	Jul 20 07:00	99.6%	94.8%
August 2024	708	98.3%	1.7%	0.0%	0.0%	0.0%	0.0%	0.4	2.5	Aug 13	11.1	Aug 13 17:00	100.0%	95.2%
September 2024	685	99.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3	0.8	Sep 11	5.4	Sep 08 09:00	100.0%	95.1%
October 2024	708	99.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.5	1.5	Oct 27	5.5	Oct 08 09:00	100.0%	95.2%
November 2024	684	99.3%	0.6%	0.1%	0.0%	0.0%	0.0%	0.4	2.8	Nov 25	17.9	Nov 25 15:00	100.0%	95.0%
December 2024	708	99.0%	0.8%	0.1%	0.0%	0.0%	0.0%	0.4	2.9	Dec 21	21.9	Dec 21 11:00	100.0%	95.2%
Annual	5375	98.9%	0.9%	0.2%	0.1%	0.0%	0.0%			MAXIMUM VALUES				
									7.3	Jun 10	74.5	Jun 10 05:00	66.6%	63.4%

AAAQO Objectives: none

Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of NO (in ppb) at Happy Valley



Note: average shown just for May to December 2024

11.6 Oxides of Nitrogen (NO_x) - Happy Valley 2024 Summary

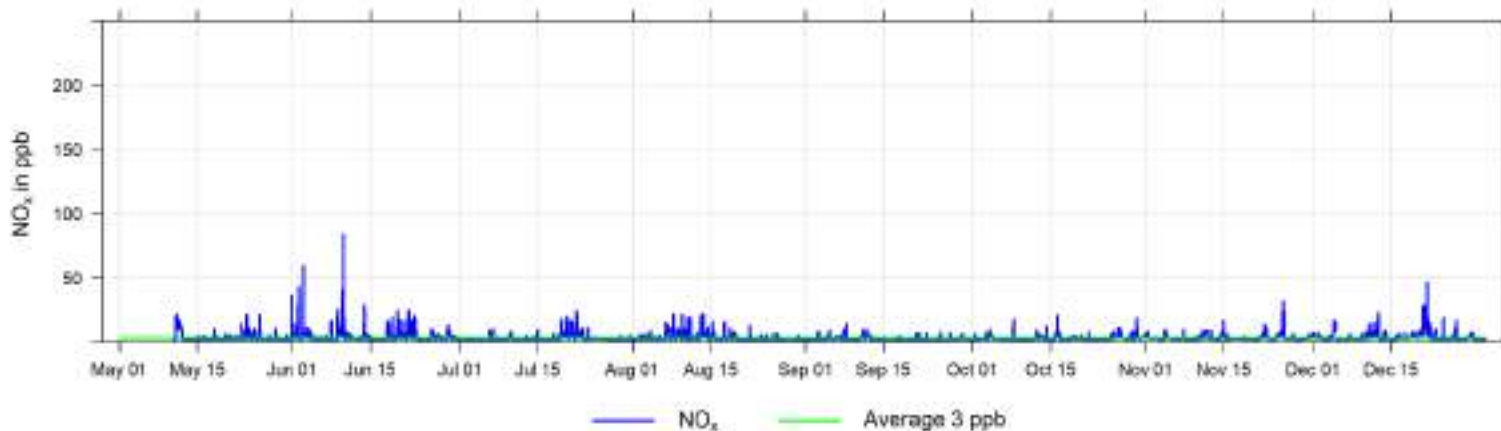
Nitrogen Oxides (NO_x) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	
		0 to 5 (ppb)	5 to 15 (ppb)	15 to 30 (ppb)	30 to 100 (ppb)	100 to 159 (ppb)	> 159 (ppb)			Date	1-hr Date			
January 2024														
February 2024														
March 2024														
April 2024														
May 2024	492	84.3%	13.2%	2.2%	0.2%	0.0%	0.0%	3.2	14.4	May 11	36.2	May 31 22:00	100.0%	95.0%
June 2024	685	76.8%	18.0%	3.9%	1.3%	0.0%	0.0%	4.4	12.7	Jun 09	83.8	Jun 10 05:00	100.0%	95.1%
July 2024	705	89.1%	9.6%	1.3%	0.0%	0.0%	0.0%	2.4	7.5	Jul 21	24.1	Jul 21 23:00	99.6%	94.8%
August 2024	708	83.8%	14.5%	1.7%	0.0%	0.0%	0.0%	2.8	7.9	Aug 13	21.9	Aug 08 08:00	100.0%	95.2%
September 2024	685	95.0%	5.0%	0.0%	0.0%	0.0%	0.0%	1.9	4.4	Sep 11	14.2	Sep 08 09:00	100.0%	95.1%
October 2024	708	89.3%	10.3%	0.4%	0.0%	0.0%	0.0%	2.6	6.0	Oct 27	20.8	Oct 16 06:00	100.0%	95.2%
November 2024	684	87.9%	11.1%	0.9%	0.1%	0.0%	0.0%	3.0	10.8	Nov 25	31.6	Nov 25 15:00	100.0%	95.0%
December 2024	708	77.0%	20.5%	2.3%	0.3%	0.0%	0.0%	3.8	13.7	Dec 21	46.3	Dec 21 11:00	100.0%	95.2%
Annual	5375	85.4%	12.8%	1.6%	0.2%	0.0%	0.0%			MAXIMUM VALUES				
									14.4	May 11	83.8	Jun 10 05:00	66.6%	63.4%

AAAQO Objectives: none

Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of NO_x (in ppb) at Happy Valley



Note: average shown just for May to December 2024

11.7 Ozone (O₃) - Happy Valley 2024 Summary

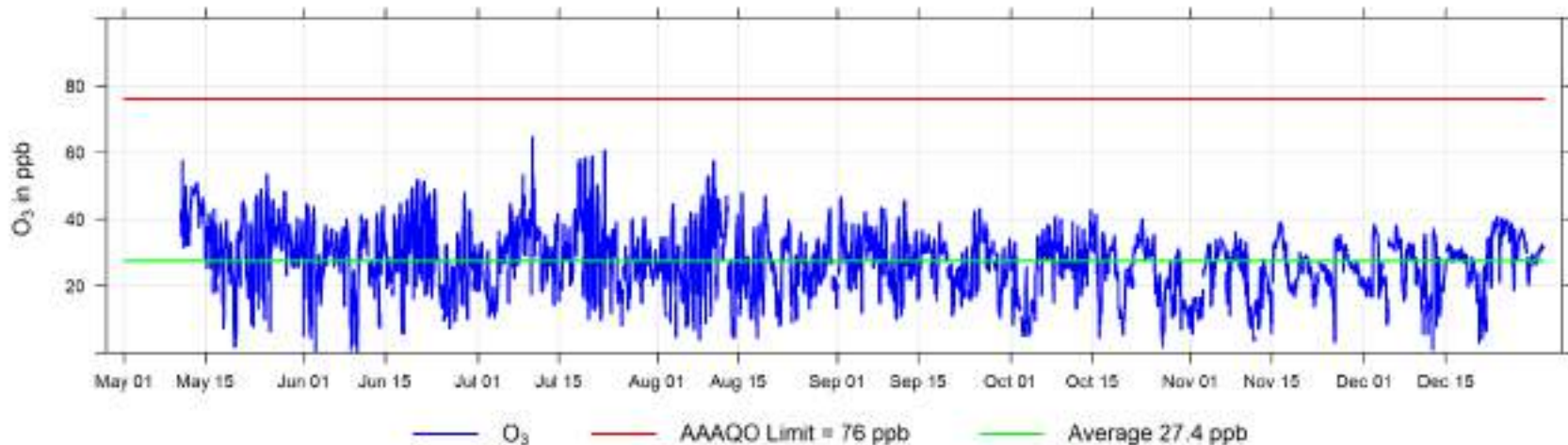
Ozone (O₃) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppb)	24-hr (ppb)	MAXIMUM VALUES		Operational time (%)	Valid time (%)	Reportable Incidents 1-hr 76 ppb	
		0 to 10 (ppb)	10 to 20 (ppb)	20 to 40 (ppb)	40 to 60 (ppb)	60 to 76 (ppb)	> 76 (ppb)			Date	1-hr Date				
January 2024															
February 2024															
March 2024															
April 2024															
May 2024	489	3.9%	7.4%	62.6%	26.2%	0.0%	0.0%	33.5	47.3	May 13	57.4	May 11 02:00	100.0%	95.3%	0
June 2024	687	4.7%	15.9%	66.1%	13.4%	0.0%	0.0%	28.6	38.7	Jun 19	51.9	Jun 20 15:00	100.0%	95.4%	0
July 2024	706	0.7%	17.6%	69.1%	12.3%	0.3%	0.0%	29.7	45.4	Jul 18	64.6	Jul 10 12:00	99.6%	94.9%	0
August 2024	710	4.9%	22.0%	61.5%	11.5%	0.0%	0.0%	26.6	39.9	Aug 10	57.3	Aug 10 18:00	100.0%	95.4%	0
September 2024	687	0.0%	17.2%	78.2%	4.7%	0.0%	0.0%	27.8	34.2	Sep 26	46.5	Sep 01 15:00	100.0%	95.4%	0
October 2024	709	8.5%	24.7%	65.9%	1.0%	0.0%	0.0%	24.0	34.7	Oct 23	42.6	Oct 14 19:00	100.0%	95.3%	0
November 2024	687	4.5%	23.1%	72.3%	0.0%	0.0%	0.0%	23.8	36.5	Nov 16	39.1	Nov 16 10:00	100.0%	95.4%	0
December 2024	709	3.4%	16.2%	79.5%	0.8%	0.0%	0.0%	27.0	38.0	Dec 23	40.6	Dec 23 22:00	100.0%	95.3%	0
Annual	5384	3.8%	18.0%	69.4%	8.7%	0.0%	0.0%			MAXIMUM VALUES					
									47.3	May 13	64.6	Jul 10 12:00	66.6%	63.5%	0

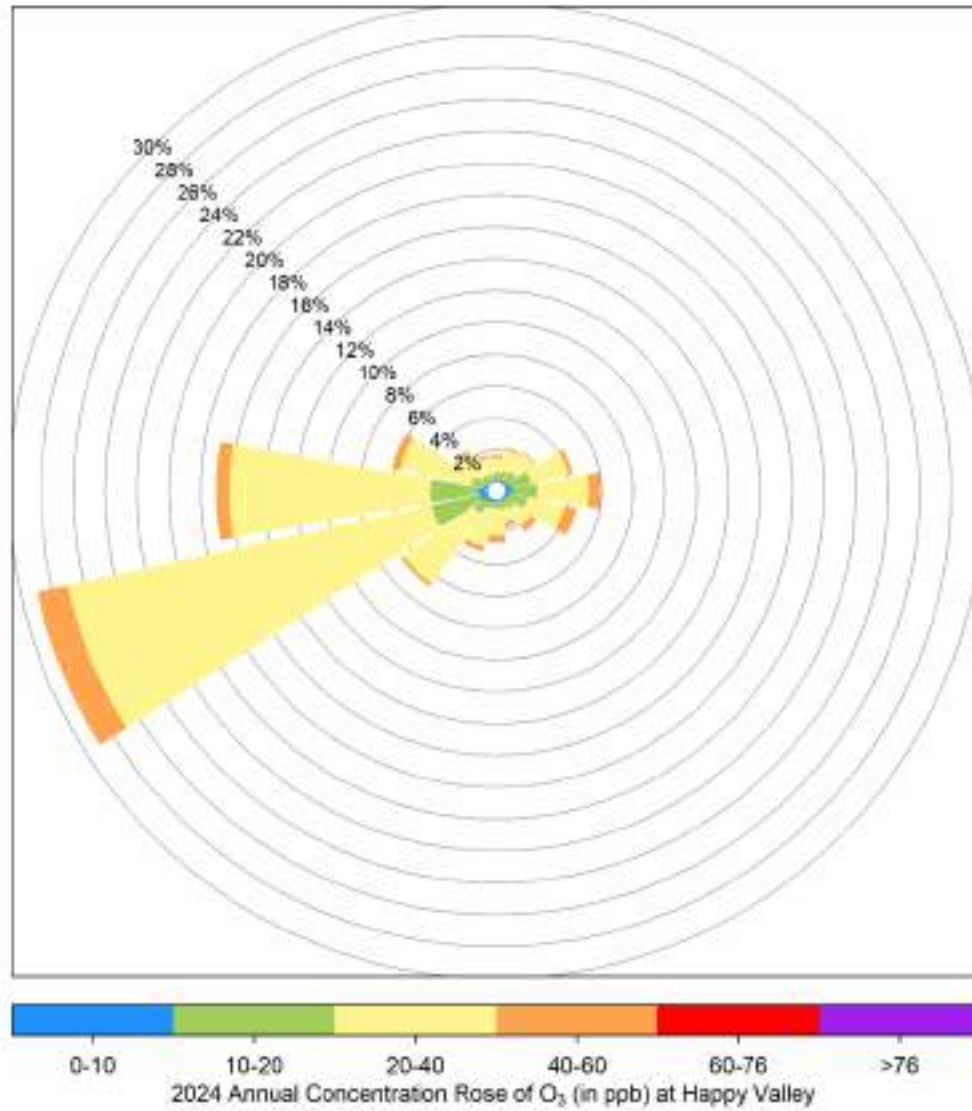
AAAQO Objectives: 1-Hr: 76ppb

Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of O₃ (in ppb) at Happy Valley

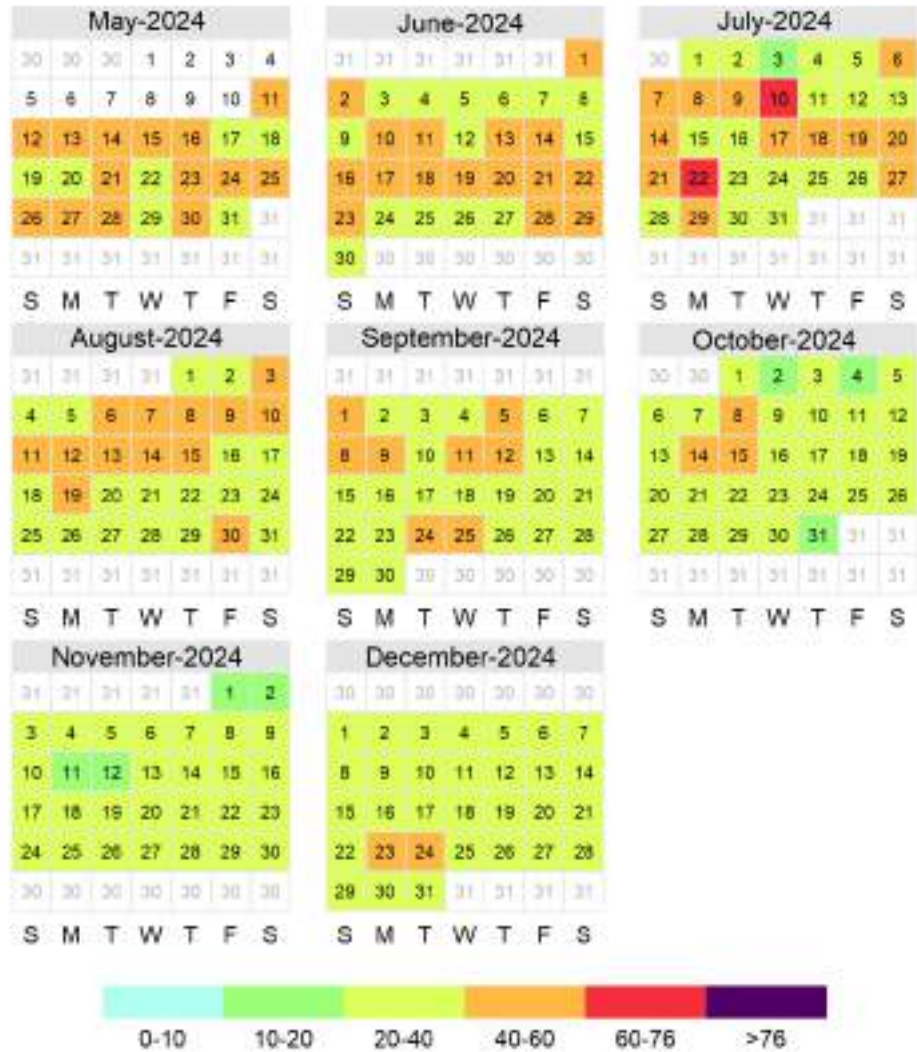


Note: average shown just for May to December 2024



Note: rose shown just for May to December 2024

Hourly Maximum O₃ (in ppb) for 2024 at Happy Valley



11.8 Total Hydrocarbons (THC) - Happy Valley 2024 Summary

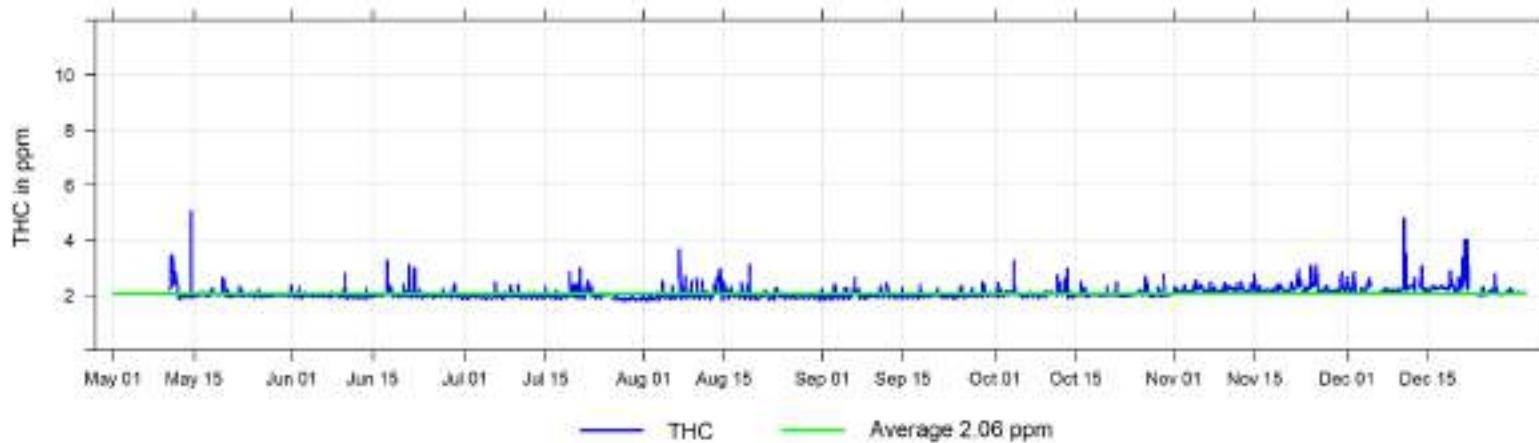
Total Hydrocarbons (THC) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (ppm)	24-hr (ppm)	MAXIMUM VALUES			Operational time (%)	Valid time (%)
		0 to 1.5 (ppm)	1.5 to 2 (ppm)	2 to 2.5 (ppm)	2.5 to 5 (ppm)	5 to 10 (ppm)	> 10 (ppm)			Date	1-hr (ppm)	Date		
January 2024														
February 2024														
March 2024														
April 2024														
May 2024	489	0.0%	55.2%	39.9%	4.7%	0.2%	0.0%	2.05	2.9	May 11	5.1	May 14 13:00	100.0%	95.1%
June 2024	686	0.0%	71.7%	27.0%	1.3%	0.0%	0.0%	1.99	2.1	Jun 17	3.3	Jun 17 12:00	100.0%	95.3%
July 2024	698	0.0%	73.1%	26.1%	0.9%	0.0%	0.0%	1.97	2.2	Jul 22	3.0	Jul 20 23:00	98.5%	93.8%
August 2024	707	0.0%	69.9%	27.0%	3.1%	0.0%	0.0%	2.00	2.3	Aug 13	3.7	Aug 07 05:00	99.7%	95.0%
September 2024	685	0.0%	69.9%	29.9%	0.1%	0.0%	0.0%	1.99	2.1	Sep 06	2.6	Sep 06 15:00	100.0%	95.1%
October 2024	710	0.0%	38.3%	60.1%	1.5%	0.0%	0.0%	2.05	2.2	Oct 04	3.3	Oct 04 05:00	100.0%	95.4%
November 2024	682	0.0%	0.0%	95.3%	4.7%	0.0%	0.0%	2.22	2.5	Nov 25	3.1	Nov 25 16:00	99.4%	94.7%
December 2024	659	0.0%	0.8%	91.4%	7.9%	0.0%	0.0%	2.22	2.9	Dec 21	4.8	Dec 10 22:00	92.9%	88.6%
Annual	5316	0.0%	47.4%	49.6%	3.0%	0.0%	0.0%		2.9	MAXIMUM VALUES			65.9%	62.8%

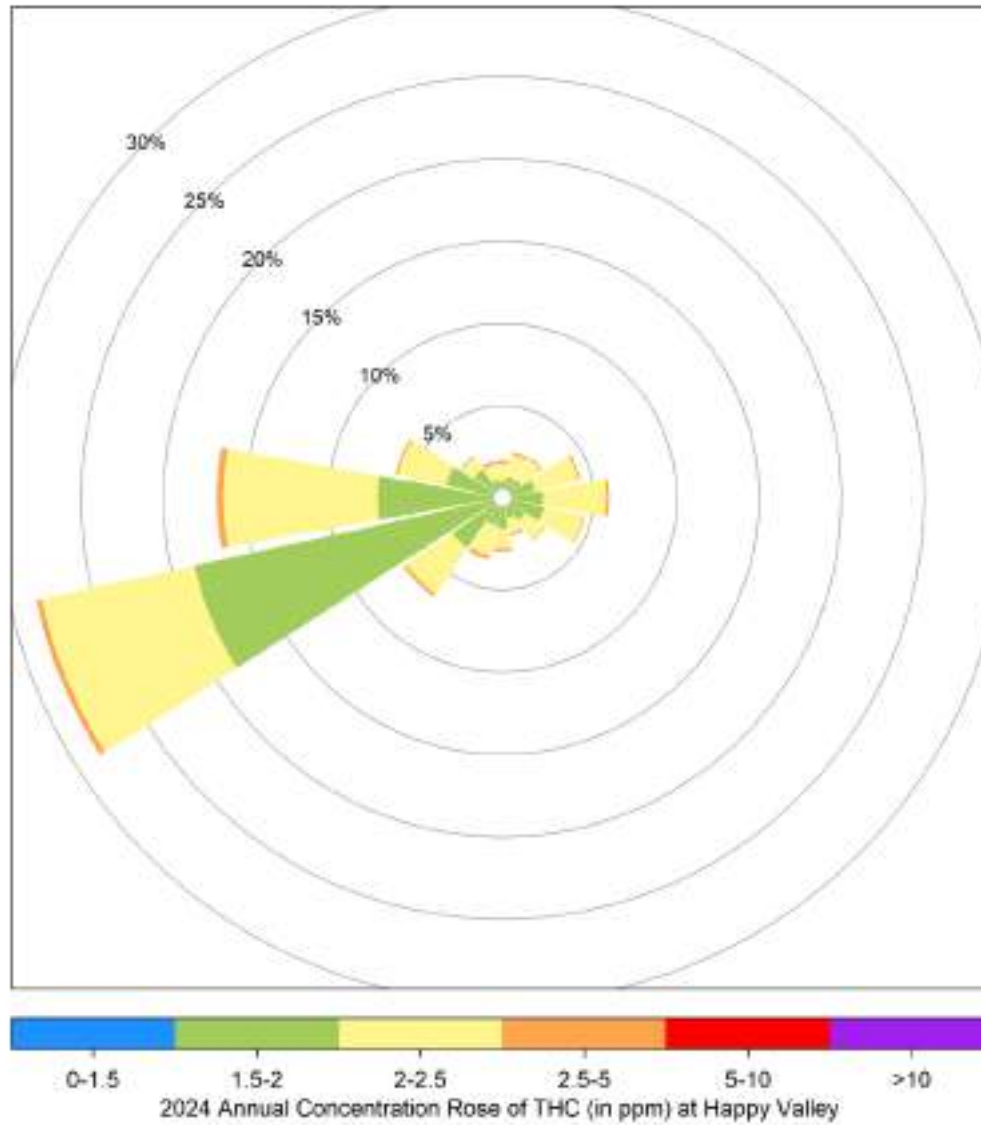
AAAQO Objectives: none

Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of THC (in ppm) at Happy Valley

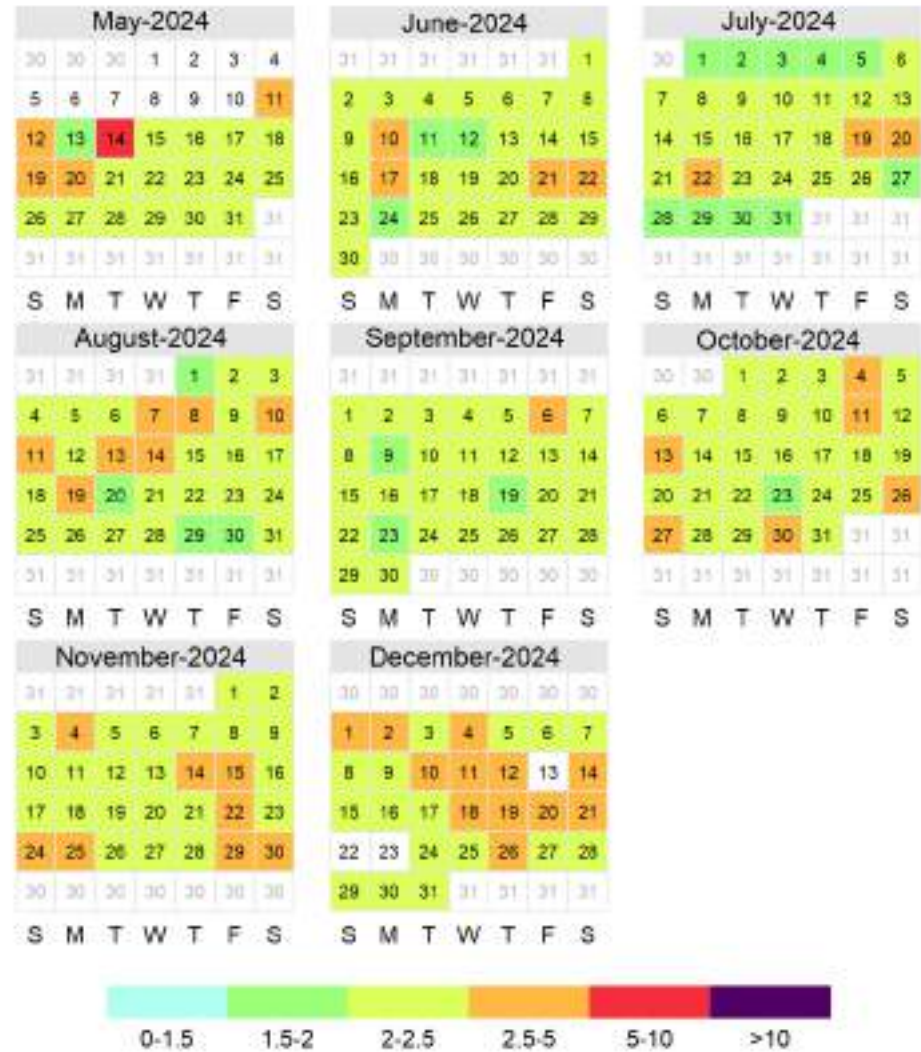


Note: average shown just for May to December 2024



Note: rose shown just for May to December 2024

Hourly Maximum THC (in ppm) for 2024 at Happy Valley



11.9 Particulate Matter (PM_{2.5}) - Happy Valley 2024 Summary

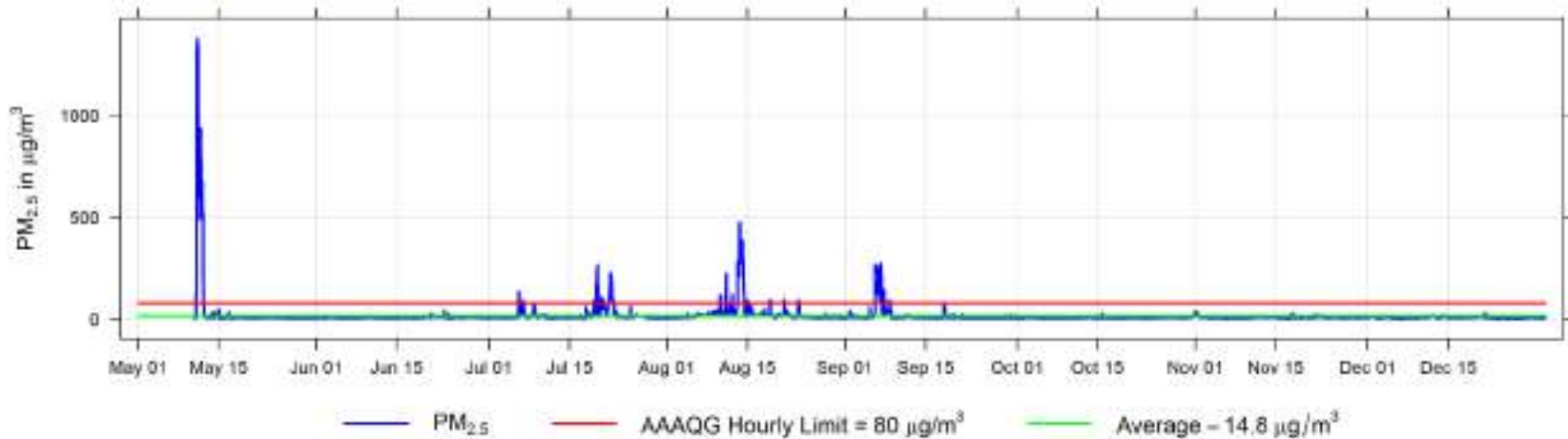
Particulate Matter (PM_{2.5}) Frequency Distribution at Happy Valley

Month	Valid Hours	% of Readings in Concentration Range						Monthly Average (µg/m ³)	MAXIMUM VALUES				Operational time (%)	Valid time (%)	Reportable Incidents	
		0 to 5 (µg/m ³)	5 to 15 (µg/m ³)	15 to 30 (µg/m ³)	30 to 50 (µg/m ³)	50 to 80 (µg/m ³)	> 80 (µg/m ³)		24-hr (µg/m ³)	Date	1-hr (µg/m ³)	Date			24-hr 29 µg/m ³	1-hr 80 µg/m ³
January 2024																
February 2024																
March 2024																
April 2024																
May 2024	509	66.4%	22.4%	3.5%	1.4%	0.4%	5.9%	51.4	868.0	May 11	1378.5	May 11 06:00	99.6%	98.6%	2	30
June 2024	719	69.7%	28.9%	1.1%	0.3%	0.0%	0.0%	4.3	8.8	Jun 21	43.0	Jun 23 06:00	100.0%	99.9%	0	0
July 2024	740	42.8%	31.6%	11.5%	3.5%	4.2%	6.4%	19.1	126.1	Jul 22	268.5	Jul 19 21:00	99.6%	99.5%	5	47
August 2024	743	22.7%	29.5%	27.6%	10.0%	4.2%	6.1%	29.2	215.9	Aug 13	474.0	Aug 13 18:00	100.0%	99.9%	7	45
September 2024	715	62.5%	23.6%	4.2%	3.6%	2.0%	4.1%	13.9	142.2	Sep 06	275.0	Sep 07 07:00	100.0%	99.3%	3	29
October 2024	743	83.8%	15.2%	0.7%	0.3%	0.0%	0.0%	3.3	10.0	Oct 31	37.4	Nov 01 00:00	100.0%	99.9%	0	0
November 2024	719	69.5%	27.8%	2.1%	0.6%	0.0%	0.0%	4.3	13.7	Nov 01	41.6	Nov 01 01:00	100.0%	99.9%	0	0
December 2024	743	76.4%	21.1%	2.0%	0.4%	0.0%	0.0%	3.8	11.4	Dec 12	34.3	Dec 21 09:00	100.0%	99.9%	0	0
Annual	5631	61.8%	25.0%	6.6%	2.5%	1.3%	2.8%		868.0	May 11	1378.5	May 11 06:00	66.6%	66.4%	17	151

AAAQO Objectives: 24-Hr: 29 µg/m³, AAAQO Guideline: 1-Hr: 80 µg/m³

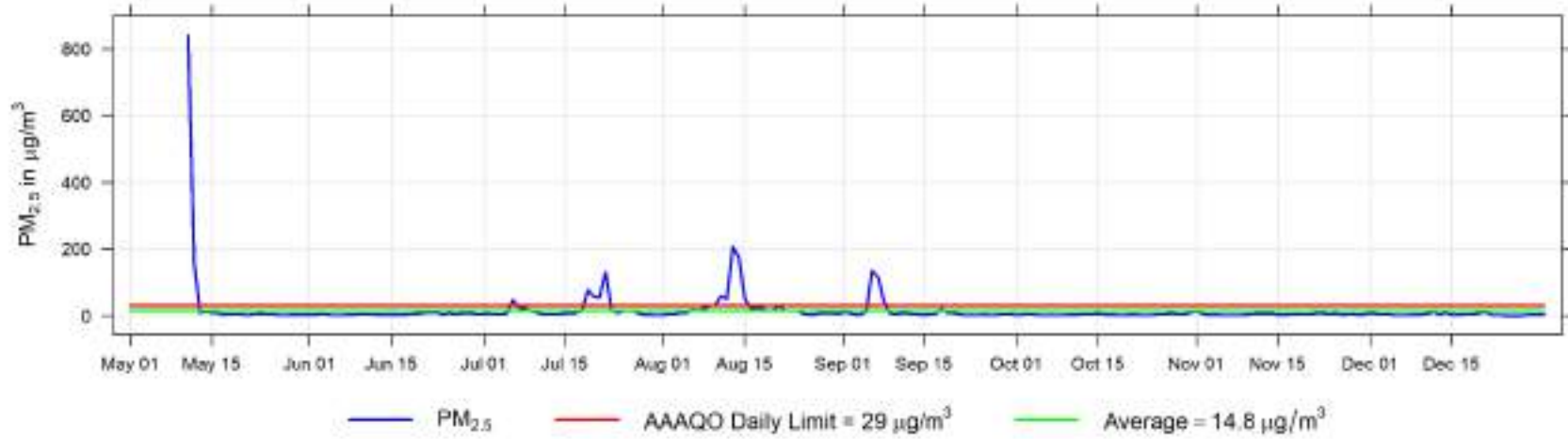
Note: Operational May to December 2024, annual average not valid

2024 Hourly Concentration Readings of PM_{2.5} in µg/m³ at Happy Valley

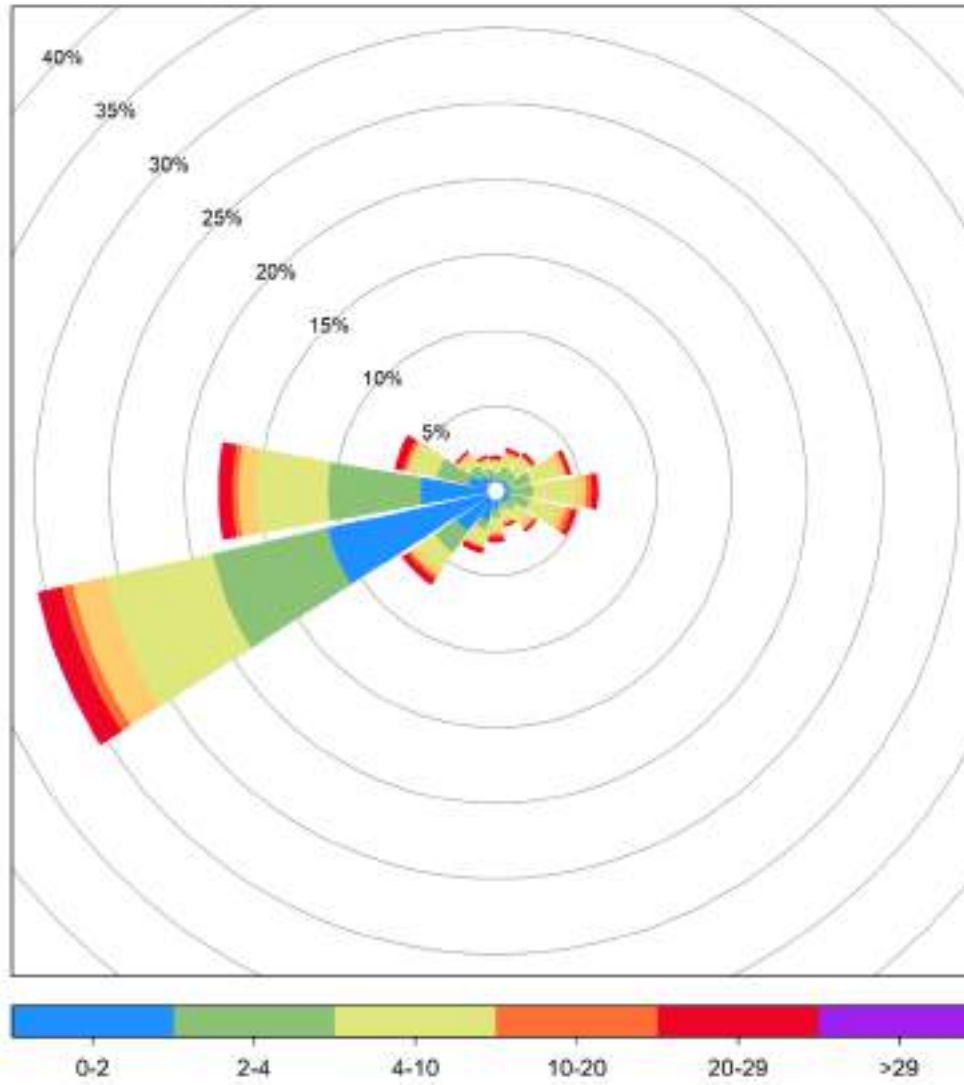


Note: average shown just for May to December 2024

2024 Daily Concentration Readings of PM_{2.5} in µg/m³ at Happy Valley



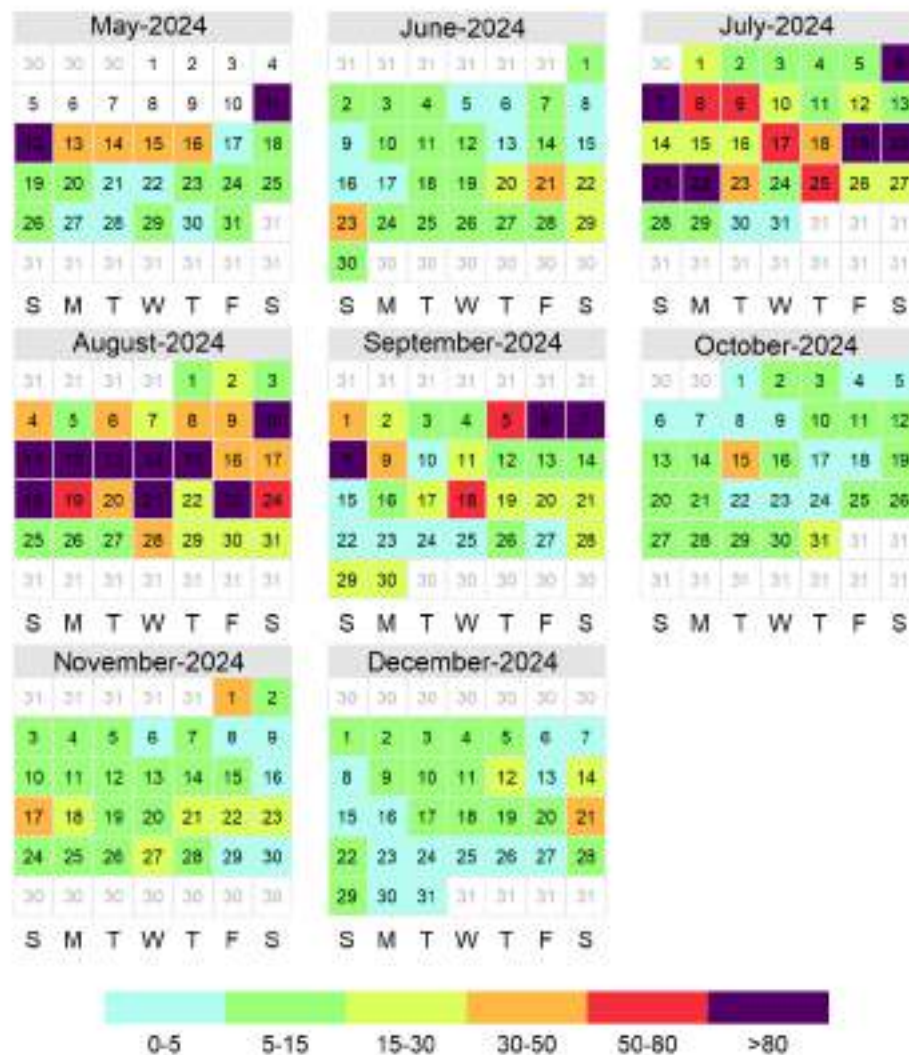
Note: average shown just for May to December 2024



2024 Annual Concentration Readings of PM_{2.5} in µg/m³ at Happy Valley

Note: rose shown just for May to December 2024

Hourly Maximum PM_{2.5} (in µg/m³) for 2024 at Happy Valley



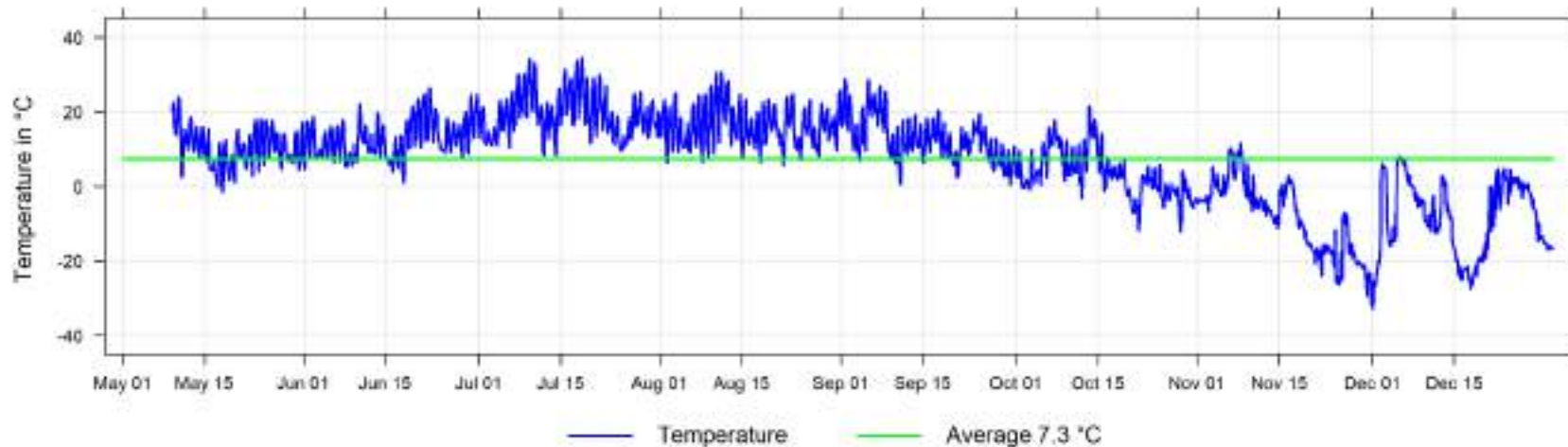
11.10 Temperature (ET) - Happy Valley 2024 Summary

Temperature (ET) Frequency Distribution at Happy Valley

Month	Valid Hours	Monthly Average (°C)	Maximum Values				Minimum Values				Operational time (%)	Valid time (%)
			24-hr (°C)	Date	1-hr (°C)	Date	24-hr (°C)	Date	1-hr (°C)	Date		
January 2024												
February 2024												
March 2024												
April 2024												
May 2024	540	10.4	18.3	May 10	24.0	May 10 16:00	4.5	May 16	-1.5	May 18 04:00	100.0%	100.0%
June 2024	720	12.8	19.7	Jun 22	26.5	Jun 22 15:00	7.0	Jun 15	1.1	Jun 18 05:00	100.0%	100.0%
July 2024	741	19.5	27.7	Jul 18	34.7	Jul 18 17:00	11.3	Jul 25	8.2	Jul 14 05:00	99.6%	99.6%
August 2024	744	16.5	23.1	Aug 12	30.6	Aug 11 14:00	11.2	Aug 24	5.5	Aug 22 04:00	100.0%	100.0%
September 2024	720	13.0	21.9	Sep 06	28.8	Sep 01 16:00	5.3	Sep 29	0.4	Sep 30 00:00	100.0%	100.0%
October 2024	744	3.4	14.2	Oct 14	21.6	Oct 13 14:00	-6.5	Oct 21	-12.1	Oct 29 05:00	100.0%	100.0%
November 2024	713	-8.4	7.1	Nov 08	11.6	Nov 08 11:00	-26.6	Nov 30	-32.1	Dec 01 00:00	99.0%	99.0%
December 2024	744	-8.4	5.8	Dec 06	8.0	Dec 05 14:00	-25.9	Dec 01	-32.8	Dec 01 02:00	100.0%	100.0%
	5666	AVERAGE	27.7	MAXIMUM VALUES			MINIMUM VALUES				66.6%	66.6%

Note: Operational May to December 2024, annual average not valid

2024 Hourly Temperature Readings (in °C) at Happy Valley



Note: average shown just for May to December 2024

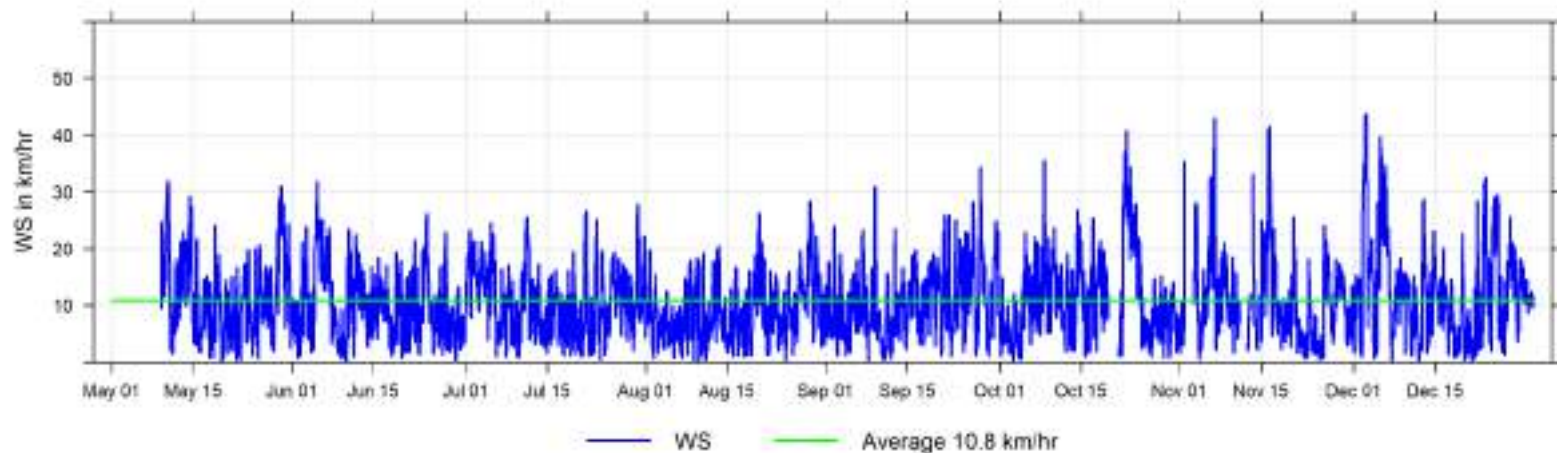
11.11 Wind Speed and Wind Direction (WS and WD) - Happy Valley 2024 Summary

Wind Speed Frequency Distribution at Happy Valley

Month	Valid Hours	Calm	% of Readings in Concentration Range					Monthly Average (km/hr)	24-hr (km/hr)	MAXIMUM VALUES			Operational time (%)	Valid time (%)
			0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)			Date	1-hr (km/hr)	Date		
January 2024														
February 2024														
March 2024														
April 2024														
May 2024	540	0.7%	18.1%	33.5%	31.7%	13.3%	2.6%	11.7	22.9	May 30	31.9	May 10 17:00	100.0%	100.0%
June 2024	720	0.3%	23.5%	36.5%	29.9%	9.4%	0.4%	10.0	22.8	Jun 05	31.8	Jun 05 08:00	100.0%	100.0%
July 2024	741	0.1%	19.4%	37.9%	32.9%	9.6%	0.0%	10.6	17.7	Jul 11	27.7	Jul 30 16:00	99.6%	99.6%
August 2024	744	0.5%	25.7%	42.9%	26.5%	4.3%	0.1%	9.0	18.0	Aug 29	28.4	Aug 29 09:00	100.0%	100.0%
September 2024	720	0.3%	18.8%	36.8%	35.8%	7.5%	0.8%	10.6	18.0	Sep 30	34.2	Sep 27 15:00	100.0%	100.0%
October 2024	701	0.3%	19.3%	35.2%	30.2%	12.1%	2.9%	11.5	26.7	Oct 22	40.7	Oct 22 19:00	94.2%	94.2%
November 2024	641	0.2%	25.0%	35.1%	27.6%	9.2%	3.0%	10.8	25.1	Nov 16	42.9	Nov 07 00:00	89.0%	89.0%
December 2024	744	0.5%	21.5%	23.7%	36.0%	11.3%	7.0%	12.6	25.0	Dec 06	43.7	Dec 03 01:00	100.0%	100.0%
Annual	5551	0.4%	21.4%	35.2%	31.3%	9.6%	2.1%		26.7	Oct 22	43.7	Dec 03 01:00	65.2%	65.2%

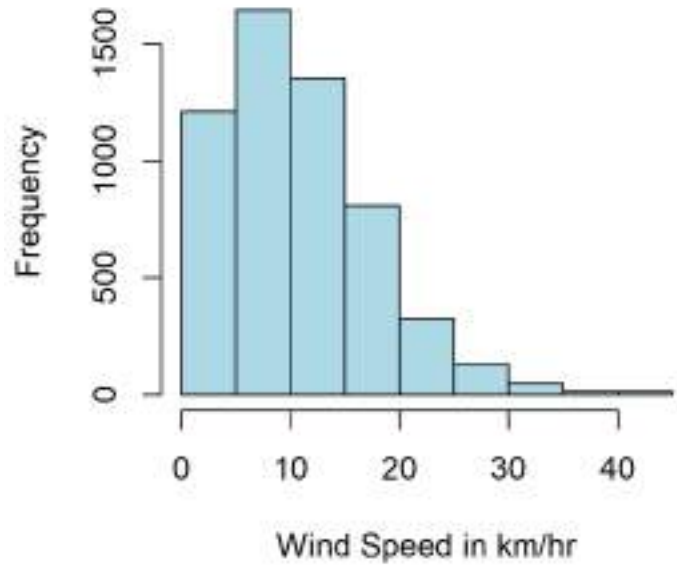
Note: Operational May to December 2024, annual average not valid

2024 Hourly Readings of Wind Speed (in km/hr) at Happy Valley

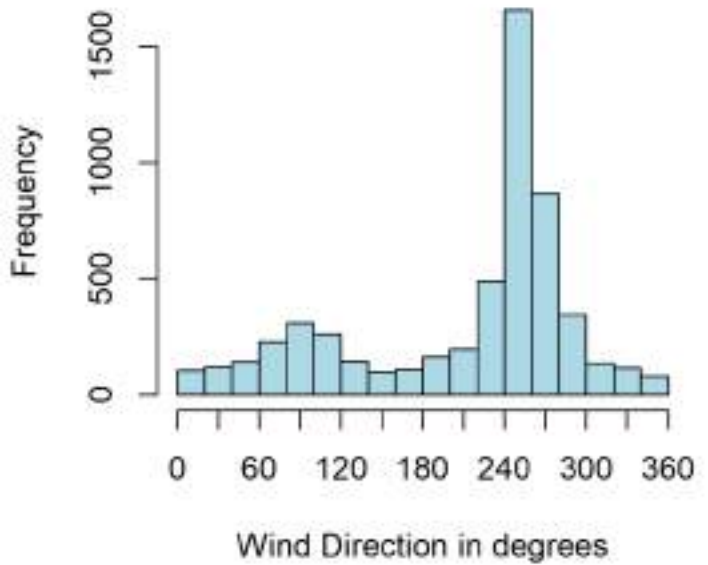


Note: average shown just for May to December 2024

2024 Wind Speed Histogram



2024 Wind Direction Histogram



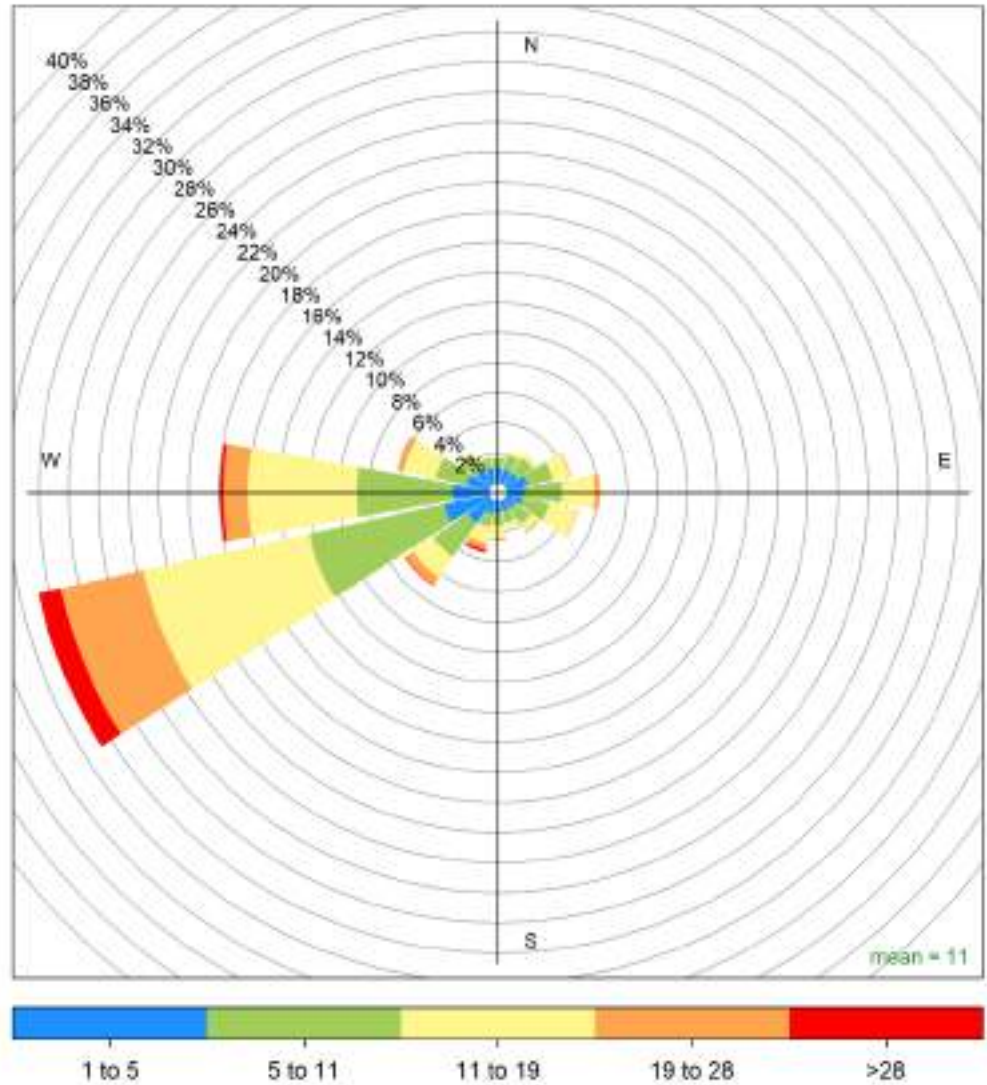
Note: data shown just for May to December 2024

Wind Speed and Wind Direction Frequency Distribution at Happy Valley

Direction	Number of Readings	% of wind speed range						Total %
		Calm (<0.5) (km/hr)	0.5 to 5 (km/hr)	5 to 11 (km/hr)	11 to 19 (km/hr)	19 to 28 (km/hr)	>28 (km/hr)	
N	97	0.0%	1.0%	0.6%	0.1%	0.0%	0.0%	1.7%
NNE	129	0.1%	1.0%	1.0%	0.3%	0.0%	0.0%	2.3%
NE	142	0.0%	1.0%	1.2%	0.4%	0.0%	0.0%	2.6%
ENE	249	0.1%	1.5%	1.7%	1.1%	0.1%	0.0%	4.5%
E	344	0.0%	1.2%	2.5%	2.2%	0.3%	0.0%	6.2%
ESE	271	0.0%	1.1%	1.8%	1.9%	0.1%	0.0%	4.9%
SE	152	0.0%	0.8%	1.3%	0.6%	0.1%	0.0%	2.7%
SSE	103	0.0%	0.8%	0.8%	0.3%	0.0%	0.0%	1.9%
S	155	0.1%	1.0%	0.8%	0.8%	0.1%	0.0%	2.8%
SSW	201	0.0%	1.0%	0.9%	1.1%	0.4%	0.2%	3.6%
SW	393	0.0%	2.0%	2.8%	1.6%	0.6%	0.1%	7.1%
WSW	1712	0.0%	3.2%	9.2%	11.3%	5.6%	1.5%	30.8%
W	1000	0.0%	2.4%	6.4%	7.3%	1.6%	0.2%	18.0%
WNW	352	0.0%	1.6%	2.1%	2.2%	0.4%	0.0%	6.3%
NW	149	0.0%	1.2%	1.4%	0.1%	0.0%	0.0%	2.7%
NNW	104	0.0%	1.1%	0.7%	0.1%	0.0%	0.0%	1.9%
Total	5553	0.4%	21.5%	35.3%	31.4%	9.5%	2.1%	100.0%

Note: Operational May to December 2024, annual average not valid

Note: data shown just for May to December 2024



Happy Valley 2024 Wind Rose, wind speed in km/hr
Calms (<1km/hr) = 1.4 %

Note: rose shown just for May to December 2024

12 Passive Monitoring Data - 2024 Summary

Samples that are listed as **NA** are primarily below detection limit of the passive monitoring, or not collected for that month.

12.1 O₃ Monitoring Passive Data - 2024 Summary

Ozone (O₃) passive summaries for 2024 are tabulated as follows:

O ₃ in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Bay Tree	27.8	26.2	44.2	37.7	41.6	30.8	28.6	31.5	24.6	26.7	30.1	32.1
Crooked Creek	26.9	32.2	41.3	39.5	41	33.3	31.8	23.1	26.6	25.4	25.4	26.9
Kinuso	27.4	33	31.9	45.3	43.2	32.2	22.8	26.2	19	24.3	24.8	31.5

36 passive ozone samples collected over 12 months at 3 sites in PAZA

- Minimum annual average was 30.1ppb collected at Kinuso
- Maximum annual average was 31.8ppb collected at Bay Tree
- Maximum overall monthly average was 45.3ppb at Kinuso in April 2024

12.2 H₂S Monitoring Passive Data - 2024 Summary

Hydrogen Sulphide (H₂S) passive summaries for 2024 are tabulated as follows:

H ₂ S in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Guy	0.22	0.17	0.23	0.13	0.22	0.09	0.23	0.24	0.13	0.11	0.17	0.14
Jayar1 Plant	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Jayar2 14-8	0.22	0.14	NA	0.06	0.07	0.06	0.14	0.13	0.12	0.14	0.16	0.19
Jayar3 Bone Yard	0.17	0.07	NA	0.06	0.06	0.06	0.11	0.08	0.06	0.08	0.08	0.11
Jayar4 7-8 or 8-8 Pad	0.16	0.11	NA	0.05	0.09	0.08	0.09	0.06	0.05	0.08	0.11	0.35
Jayar5 Camp	0.18	0.13	0.02	0.27	0.44	0.25	0.25	0.22	0.05	0.35	0.18	0.39
Gordondale	NA	NA	NA	NA	NA	NA	0.9	0.4	NA	NA	NA	0.2
Girouxville 3	0.54	0.7	0.54	0.43	0.34	0.61	0.83	0.52	0.23	0.33	0.4	0.52
Girouxville 4	0.25	0.26	0.33	0.24	0.14	0.25	0.82	0.41	0.42	0.32	0.22	0.18
Duvernay 1	0.17	0.14	0.04	0.04	0.06	0.06	0.13	0.16	0.06	0.1	0.14	0.12
Duvernay 2	0.17	0.13	0.06	0.06	0.05	0.06	0.12	0.16	0.06	0.09	0.17	0.11
Duvernay 3	0.21	0.11	0.06	0.07	0.05	0.05	0.23	0.16	0.14	0.16	0.26	0.12
Duvernay 4	0.27	0.25	0.06	0.07	0.04	0.06	0.19	0.24	0.22	0.1	0.23	0.18
Kakwa 1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kakwa 2	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Kakwa 3	0.21	0.18	NA	NA	0.05	0.11	0.1	0.16	0.16	0.12	0.22	0.16
Kakwa 4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

190 passive hydrogen sulphide samples collected over 12 months at 16 sites in PAZA

- Minimum annual average was 0.01ppb collected at Jayar1 Plant, Kakwa1, Kakwa2, and Kakwa4
- Maximum annual average was 0.5ppb collected at Gordondale (only 3 valid samples in year) and Girouxville 3
- Maximum overall monthly average was 0.9ppb at Gordondale in July 2024

12.3 NO₂ Monitoring Data - 2024 Summary

Nitrogen Dioxide (NO₂) passive summaries for 2024 are tabulated as follows:

NO ₂ in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Bay Tree	3.2	2.5	1.2	0.5	0.6	0.5	0.3	0.4	0.4	1	1.4	1.6
Forth Creek	0.7	0.6	0.4	0.2	1.1	2.7	1.3	0.5	0.6	1	1	0.6
Boone Creek	3	1.2	0.8	0.2	0.7	1	0.7	0.5	0.6	1.1	1.6	1.4
Steeprock Creek	2.1	0.6	0.6	0.2	0.3	0.3	0.1	0.4	0.3	0.6	1.2	1.3
Spirit River	NA	1.3	0.8	0.8	1.1	0.4	1	1	1	0.9	1	1.4
Webber Creek	6.4	4.6	3.1	1.6	2	1.8	1.4	1.6	1.7	2.6	3.1	5.2
Hythe	3.8	1.4	1	0.8	1.1	1.3	0.6	1	1.1	1.5	2.1	3
Sylvester	1.9	0.9	0.6	0.2	0.3	0.2	0.2	0.2	0.2	0.6	1.2	0.9
Beaverlodge	8.7	3	2.2	1	1.3	1.1	1.1	1.1	1.4	1.9	3.3	4
Poplar	5.7	2.6	2.4	1.5	1.5	2.1	0.8	1.1	2	2.4	3.1	3.8
Saddle Hills	2.2	0.9	0.7	0.2	0.4	0.5	0.5	0.5	0.6	1	1.4	1.2
Wanham	1.2	0.9	0.5	0.2	0.6	0.8	0.4	0.4	0.8	0.8	1.1	1.5
Eaglesham	1	0.6	0.4	0.4	NA	1	0.3	0.3	0.4	0.6	0.8	1.3
Wembley	5.5	2.3	1.9	2	1.4	2.8	1.2	1	1.4	2.2	2.7	3.9
Pinto Creek	2.7	0.8	0.5	0.2	0.4	0.5	0.4	0.5	0.5	1	1.5	1.6
Grande Prairie I	15.2	10.9	7.4	3.3	2	2	1.2	1.8	2.5	5	6	10.3
Smoky Heights	3.4	1.9	0.8	0.3	1.1	1	0.6	0.7	1	1.7	1.4	3.3
Fitzsimmons	3.2	1.9	0.8	0.4	0.6	0.7	0.6	0.7	1	1.4	1.5	3.5
Gold Creek	6.6	2.8	2.8	1.3	1	1	0.7	0.8	1.4	2.2	3.1	4.2
Jean Cote	1.7	1.3	0.8	0.6	2.4	1.9	0.5	0.4	0.8	0.9	1.1	1.3
Guy	1.3	0.7	0.5	0.3	3.1	NA	0.5	0.3	0.5	0.7	0	1.3
Crooked Creek	2.7	1.9	1.1	0.6	0.8	0.9	0.4	0.6	0.8	1.2	1.7	2.6
Karr Creek	2.6	2	1.1	0.5	0.6	0.5	0.4	0.3	0.6	1	1.7	2
Clouston Creek	1.9	0.9	0.5	0.2	1.6	1.1	0.4	0.4	0.6	1	0.9	1.8
McLennan	1.4	1.1	0.8	0.7	1.8	1	0.5	0.5	0.6	0.8	1.3	1.2
Sunset House	1.1	0.8	0.4	0.1	0.4	NA	0.3	0.7	0.6	1	1	1.5
Peavine	1.3	1.4	0.7	0.2	0.3	0.2	0.3	0.3	0.5	0.8	1	1.4
Little Smoky	5.6	3.4	1.7	1.3	1.5	1	0.9	1	1.6	2.3	2.5	4.1
Kinuso	2.2	1	0.8	0.3	0.3	0.2	0.3	0.3	0.4	0.6	1.3	2.2
Deer Mountain	1.7	1.3	0.8	0.2	0.3	0.2	0.3	0.2	0.3	0.6	0.8	1.1
Henry Pirker	12.8	8.4	5.9	2	1.8	1.4	1	1.4	3.1	5.3	6	13.5
East Prairie	1.3	0.7	0.5	0	0.4	0.3	0.2	0.2	0.4	0.7	0.9	1
Jayar1 Plant	2.7	2.3	1.5	2.2	1.1	1	0.6	0.8	1.4	1.7	2.8	3.4
Jayar2 14-8	3.9	4.8	1.3	1.2	1.8	1	0.6	1	2	2.3	3.9	4.9
Jayar3 Bone Yard	2	1.6	1	0.5	0.9	0.7	0.4	0.5	0.9	1.3	2.9	2.7
Jayar4 7-8 or 8-8 Pad	2.1	1.3	0.8	0.6	1	1.2	0.4	0.9	1.4	1.1	2.2	2.3
Jayar5 Camp	5.3	3.5	3.1	2.9	3.4	2.9	1.7	1.8	2.9	2.2	2.6	4.8

NO ₂ in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Milner Pipeline	3.6	3.1	1.5	2.1	1.3	0.9	0.9	0.8	1.5	2.9	3.5	3.4
Milner Bridge	2.9	2.7	1.3	0.5	0.5	0.4	0.6	0.6	0.9	1.3	3.3	2.8
Milner Wanyandie	1.9	2.2	0.7	0.4	0.4	0.5	1.1	0.6	1.5	1	1.8	1.8
Milner Ambient Trailer	3.9	3.3	1.7	1.4	1.2	1.1	0.9	0.8	1.6	2.1	3.5	4.5
Milner Powerline	NA	3.9	3.8	2.1	2	2.2	1.7	1.3	2.3	3.9	7.5	8.3
Kakwa 1	4.8	4	2	1.9	1	1.2	0.9	1.1	2.2	2.5	4.5	4.6
Kakwa 2	5	3.9	2	1.7	1.5	1.3	1.7	1.6	1.6	2.8	3.5	3.9
Kakwa 3	5.1	4	1.8	3.2	3.2	1.5	1.3	1.8	3.5	4.8	4.8	6.2
Kakwa 4	5	4.7	2.8	3.5	3.9	2.3	1.6	2.7	3.2	3.2	3.8	4.8

547 passive nitrogen dioxide samples collected over 12 months at 46 sites in PAZA

- Minimum annual average was 0.6ppb collected at East Prairie
- Maximum annual average was 5.6ppb collected at Grande Prairie
- Maximum overall monthly value was 15.2ppb at Grande Prairie in January 2024

12.4 SO₂ Monitoring Data - 2024 Summary

Sulphur Dioxide (SO₂) passive summaries for 2024 are tabulated as follows:

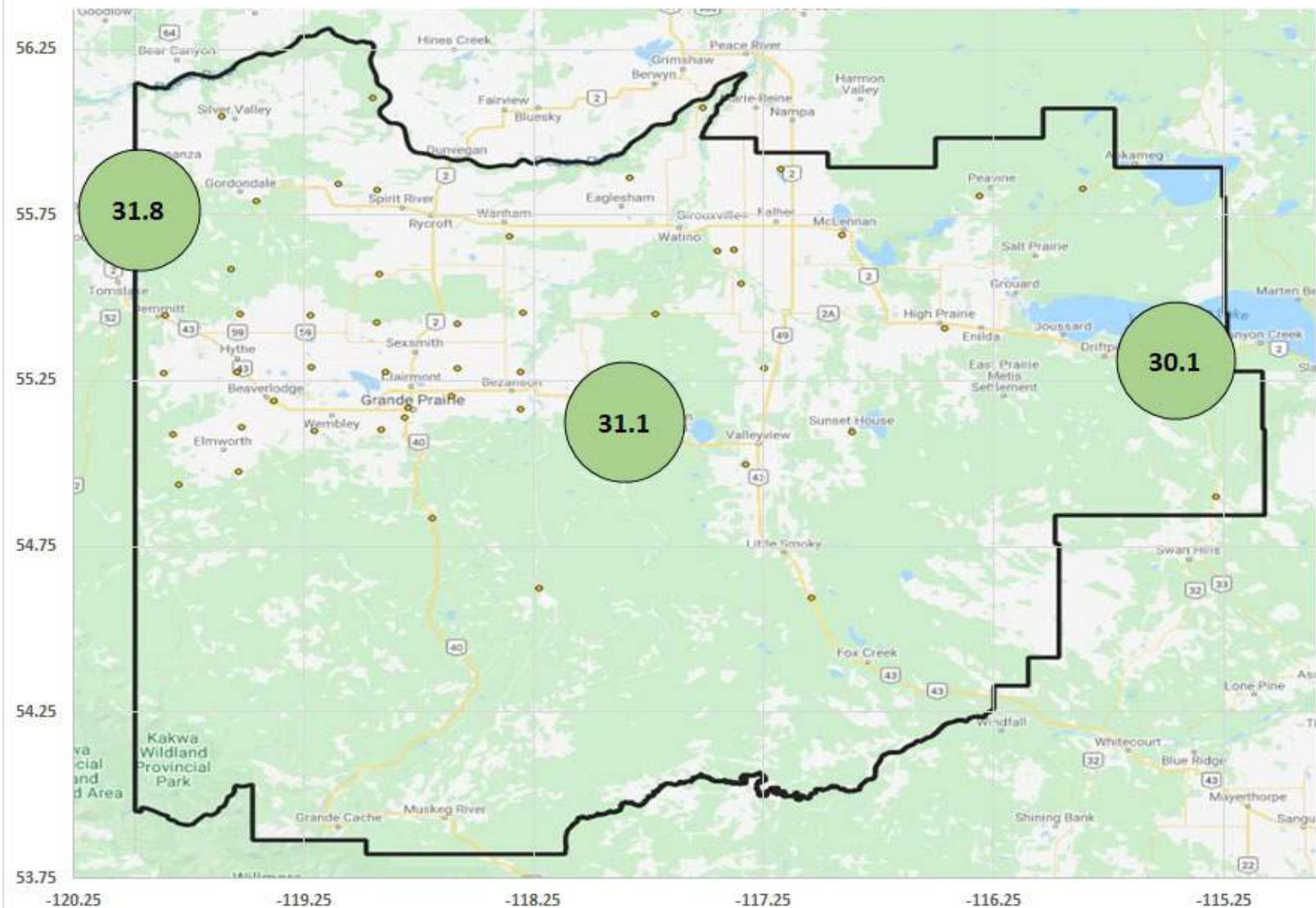
SO ₂ in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Bay Tree	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.2
Forth Creek	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Boone Creek	0.5	0.4	0.4	0.3	0.4	0.2	0.4	0.3	0.4	0.4	0.3	0.3
Steepprock Creek	0.4	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.4	0.2
Spirit River	0.4	0.4	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.2	0.3
Webber Creek	0.8	0.6	0.5	0.3	0.3	0.2	0.6	0.2	0.3	0.4	0.5	0.3
Hythe	1.1	0.5	0.6	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.3
Beaverlodge	1.2	1.1	0.6	0.3	0.5	0.5	0.3	0.5	0.3	0.5	1.1	0.9
Poplar	1.1	0.9	0.5	0.4	0.3	0.4	0.3	0.3	0.2	0.6	0.9	0.6
Saddle Hills	0.4	0.5	0.5	0.3	0.3	0.2	0.5	0.3	0.4	0.2	0.4	0.4
Wanham	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.4
Eaglesham	0.3	0.3	0.1	0.1	0.3	0.1	0.2	0.1	0.2	0.1	0.1	0.2
Wembley	1.7	0.8	0.6	0.3	0.5	0.3	0.9	0.5	0.5	0.4	0.8	0.5
Pinto Creek	0.5	0.4	0.2	0.2	0.4	0.1	0.1	0.1	0.1	0.1	0.3	0.2
Grande Prairie I	0.9	1.3	0.7	0.4	0.4	0.4	0.8	0.5	0.6	0.4	0.5	0.6
Smoky Heights	0.5	0.6	0.3	0.2	0.3	0.2	0.5	0.2	0.4	0.3	0.3	0.4
Fitzsimmons	0.4	0.5	0.2	0.1	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.3
Gold Creek	0.3	0.4	0.1	0.2	0.3	0.2	0.3	0.4	0.2	0.4	0.4	0.3
Jean Cote	0.3	0.3	0.1	0.1	0.4	0.1	0.2	0.2	0.2	0.2	0.1	0.2
Guy	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1

SO ₂ in ppb	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Crooked Creek	0.4	0.3	0.2	0.1	0.4	0.1	0.2	0.1	0.1	0.1	0.1	0.2
Karr Creek	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Clouston Creek	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
McLennan	0.2	0.2	0.2	0.2	0.4	0.1	0.3	0.2	0.3	0.2	0.1	0.2
Sunset House	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2
Peavine	0.1	0.2	0.2	0.1	0.2	0	0.2	0.1	0.1	0.1	0.1	0.1
Little Smoky	0.2	0.2	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Kinuso	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Deer Mountain	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Henry Pirker	0.8	0.8	0.6	0.3	0.3	0.3	0.6	0.3	0.5	0.4	0.6	0.5
East Prairie	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Sylvester	NA	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.3	0.1
Jayar1 Plant	0.4	0.5	0.4	0.1	0.4	0.3	0.4	0.4	0.3	0.2	0.6	0.4
Jayar2 14-8	0.6	0.8	0.5	0.4	0.5	0.4	0.4	0.7	0.7	0.7	0.7	0.7
Jayar3 Bone Yard	0.5	0.9	0.6	0.9	1.6	1	0.6	1	1	0.9	0.6	0.4
Jayar4 7-8 or 8-8 Pad	0.5	0.7	0.6	0.3	1.2	0.5	0.5	0.6	0.6	0.4	0.5	0.6
Jayar5 Camp	0.4	0.5	0.4	0.5	1.1	0.8	0.5	0.4	0.6	0.4	0.4	0.4
Duvernay 1	0.4	0.9	0.6	0.5	0.6	0.4	0.4	0.6	0.3	0.4	0.5	0.5
Duvernay 2	0.3	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.6
Duvernay 3	0.3	0.9	0.6	0.7	1.2	1.2	0.7	0.6	1	0.7	0.5	0.7
Duvernay 4	0.7	1.3	0.8	0.9	1.3	1.1	0.8	0.9	0.3	0.6	0.7	1
Milner Pipeline	0.1	0.2	NA	NA	0.3	NA	NA	0.6	NA	0.2	0.1	NA
Milner Bridge	0.2	0.1	0.2	NA	0.1	NA	NA	0.3	0.1	0.2	0.1	0.1
Milner Wanyandie	0.1	0.2	0.2	NA	0.5	NA	NA	0.2	NA	0.2	0.2	0.3
Milner Ambient Trailer	0.2	0.2	NA	NA	0.3	0.1	NA	1.4	NA	NA	0.1	0.1
Milner Powerline	NA	0.2	0.2	NA	0.2	NA	NA	0.8	NA	0.1	0.2	NA
Kakwa 1	0.4	0.5	0.5	2.5	0.3	0.3	0.2	0.2	0.2	0.2	0.6	0.5
Kakwa 2	0.5	1.1	2.4	1.5	0.9	3.3	2.5	1.4	0.9	0.3	2.4	1
Kakwa 3	1.3	2.6	4.2	5.6	4.2	11.2	16.6	8.8	7.5	2.2	1.5	2.3
Kakwa 4	3.5	3.5	4.1	2.5	2	6.4	5.9	6.7	5.2	2.6	9.5	7.2

575 passive sulphur dioxide samples collected over 12 months at 48 sites in PAZA

- Minimum annual average was 0.1ppb collected at Little Smoky and East Prairie
- Maximum annual average was 5.7ppb collected at Kakwa 3
- Maximum overall monthly average was 16.6ppb in July 2024

O₃ 2024 Average (units in ppb)



13 Dustfall Monitoring Data - 2024 Summary

13.1 Dustfall Monitoring Passive Data - 2024 Summary

Dustfall summaries for 2024 are tabulated as follows:

Dustfall in mg/100cm ² /30day	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24
Milner Pipeline	90.4	191	163.5	105.2	70	91.1	102	72.5	161.3	84.1	35.2	90.4
Milner Bridge	12.5	25.7	21.5	27.3	13.9	23.3	18.9	30	59.6	4.6	12.2	15.3
Milner Wanyandie	20.6	55.2	34	36.4	21.5	59.4	54.8	22.7	32.8	111.1	13.5	25.7
Milner Powerline	NA	26	28.8	23.7	10.8	39	31.5	39.2	45.4	28.2	12.2	43.2
Milner Waste Pond	73	78.6	62.4	57.2	25.6	80.2	32.8	95	73.1	54	34.1	55.8

Note:

AAAQG for residential and recreation areas = 53 mg/100cm²/30day

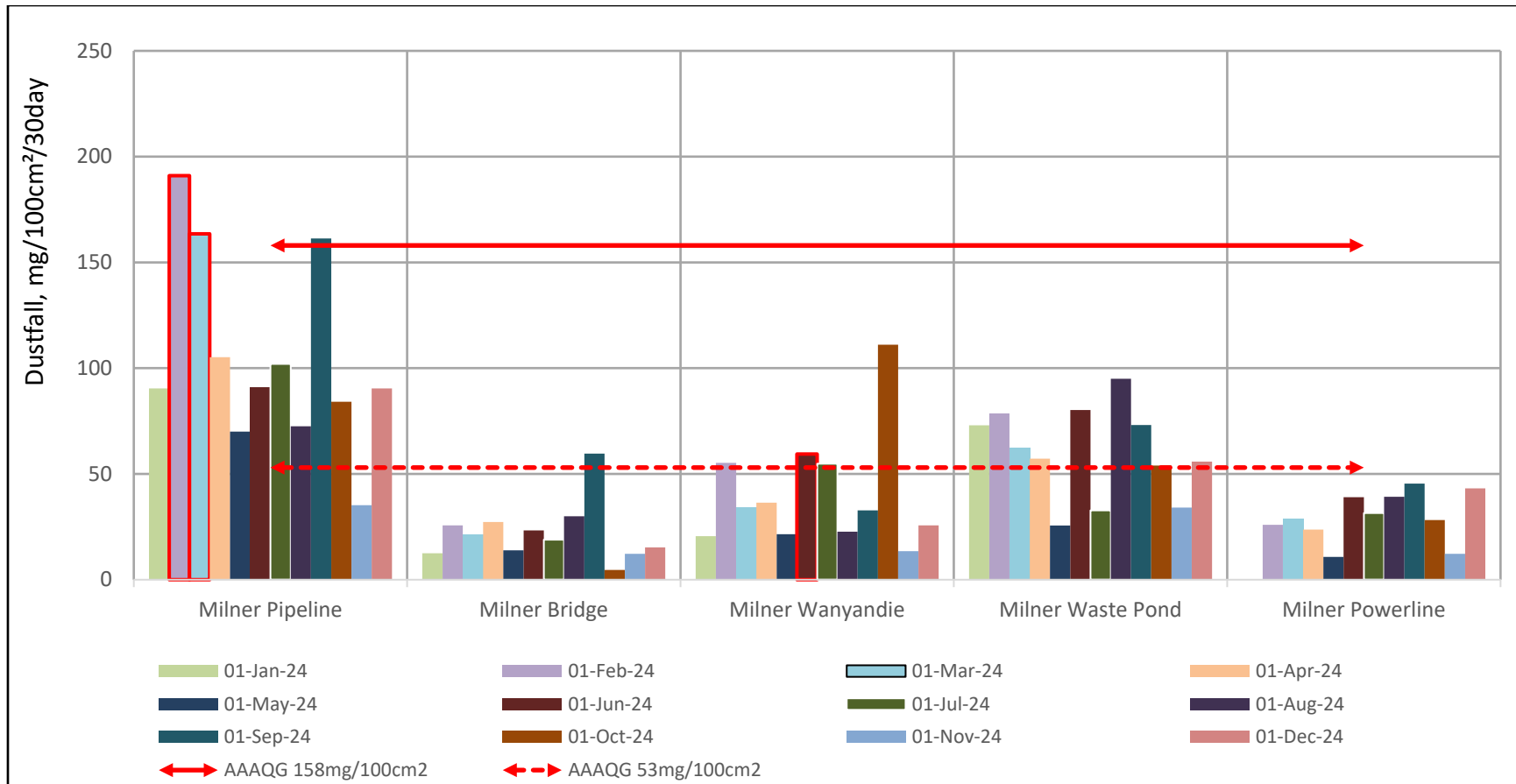
AAAQG for commercial and industrial areas = 158 mg/100cm²/30day

Wanyandie site compared to residential and recreation areas, all other sites compared to commercial and industrial areas

59 dustfall samples collected over 12 months at 5 sites in PAZA

- Minimum annual average was 22.1 mg/100cm²/30day collected at Milner Bridge
- Maximum annual average was 104.7 mg/100cm²/30day collected at Milner Pipeline
- Maximum monthly average was 191.0 mg/100cm²/30day collected at Milner Pipeline in February 2024

There were seven monthly events above the AAAQGs for dustfall, four based on the residential and recreational area and three based on the commercial and industrial area during 2024 (noted in highlight of table).



End of Report



Peace Airshed Zone Association

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