

Lorna Morishita

Executive Director of Palliser Airshed Society
 PO Box 23121 Medicine Hat Mall
 Medicine Hat AB T1B 4C7

RE: Palliser Airshed Society (PAS) Ambient Air Monitoring Report – February 2024

Enclosed is the PAS Dashboard Report for the month of **February 2024**.

Continuous Monitoring – Crescent Heights, Brooks, Taber Monitoring Stations

Included in this report are: Monthly Air Monitoring Summary Table, Station Issue Summary, Station Summary Graphs and Station Wind Roses.

Crescent Heights Station:

- ◆ All analyzers and instruments at the Crescent Heights Station were greater than 90% operational for the month of February.
- ◆ There were no exceedances of the AAAQO/G in February.

Brooks Station:

- ◆ All analyzers and instruments at the Crescent Heights Station were greater than 90% operational for the month of February.
- ◆ There were 2 exceedances of the 24-hour AAAQO for PM_{2.5} (29 ug/m³) in February.

Station Name	Date	24-Hour PM _{2.5} Concentration (mg/m ³)	Wind Direction	Wind Speed (km/h)	Reference Number
Brooks	20-Feb-24	36	SW	0.6	426087
Brooks	21-Feb-24	39	NW	1.4	426088

Taber Station:

- ◆ All analyzers and instruments at the Taber Station were greater than 90% operational for the month of February.
- ◆ There were no exceedances of the AAAQO/G in February.

If you have any questions, please contact the WSP office at 780.401.1356.

X *Patrick Andersen*

Patrick Andersen, B.Sc.
 WSP AQM Data Specialist

February 2024 Monthly Ambient Air Quality Summary

Feb-24				Palliser Airshed Society			Maximum Recorded Values						Operational Time (%)	Calibration Date		
Pollutant (units)	Objectives			Station	Monthly Average	1-Hour Minimum	Exceedence			1-hr		24-hr / 8-hr				
	1-hr	24-hr	30-day				1-hr	24-hr	30-day	Conc	Day	Conc			Day	
SO ₂ (ppb)	172	48	8	Crescent Heights	0.1	0.0	0	0	0	2.8	Feb-03 12:00	0.4	Feb-03	99.6	Feb-15	
NO (ppb)					2.6	0.0					106.1	Feb-02 09:00	14.3	Feb-02	92.5	Feb-14
NO ₂ (ppb)	159				8.5	0.9	0				42.7	Feb-18 07:00	19.0	Feb-20	92.5	Feb-14
NO _x (ppb)					11.0	1.2					131.0	Feb-02 09:00	26.8	Feb-02	92.5	Feb-14
O ₃ (ppb)	76				26.4	0.4	0				45.8	Feb-18 15:00	38.4	Feb-16	99.7	Feb-15
CO (ppm)					0.2	0.1					0.5	Feb-02 09:00	0.2	Feb-21	99.6	Feb-14
CO 8-Hour (ppm)	5				-	0.1	0				0.3	Feb-02 13:00	-	-	100.0	-
THC (ppm)					2.3	2.0					3.1	Feb-21 12:00	2.7	Feb-21	99.6	Feb-14
PM _{2.5} (µg/m ³)	80	29			6.2	0.2	0	0			67.8	Feb-03 05:00	28.9	Feb-21	100.0	Jan-17
ET (°C)					-3.9	-22.4					16.3	Feb-01 16:00	9.0	Feb-01	100.0	-
RH (%)					83.0	28.0					100.0	Feb-08 13:00	100.0	Feb-04	100.0	-
GSR (W/m ²)					86.4	0.0					531.8	Feb-28 13:00	132.7	Feb-19	100.0	-
WSPD (km/h)					4.2	0.0					34.6	Feb-29 13:00	22.9	Feb-29	100.0	-
WDIR					WSW										100.0	-

Pollutant (units)	Analyzer			Notes
	Make		Model	
SO ₂	TEI		43i	Manual span checks performed February 8 and 14.
NO/NO ₂ /NO _x	TEI		42i	Analyzer locked up February 7, reset February 9. Manual span checks performed February 9 and 15.
O ₃	TECO		49i	Manual span checks performed February 9 and 14.
CO	TEI		48i-TLE	Manual span checks performed February 9 and 15.
THC	TECO		51C-LT	Manual span checks performed February 9 and 15.
PM _{2.5}	SHARP		5030	
ET/RH	RMYoung		41382VC	
GSR	EPPLEY			
WS/WD	RMYoung		5305-10	

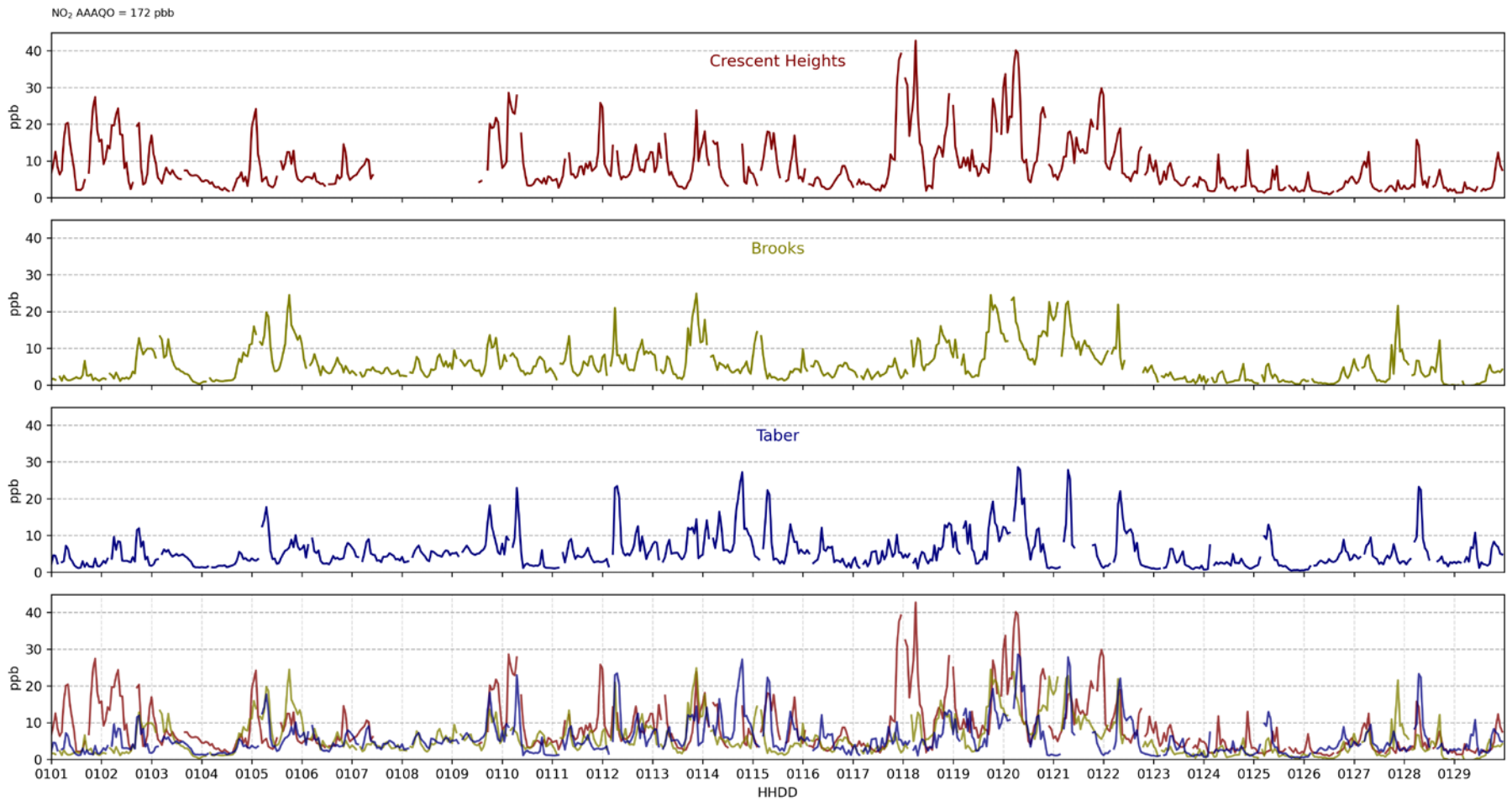
Feb-24				Palliser Airshed Society			Maximum Recorded Values						Operational Time (%)	Calibration Date		
Pollutant (units)	Objectives			Station	Monthly Average	1-Hour Minimum	Exceedence			1-hr		24-hr / 8-hr				
	1-hr	24-hr	30-day				1-hr	24-hr	30-day	Conc	Day	Conc			Day	
NO (ppb)				Taber	2.3	0.0				43.8	Feb-20 09:00	7.1	Feb-20	99.7	Feb-21	
NO ₂ (ppb)	159				5.5	0.5	0				28.6	Feb-20 08:00	11.4	Feb-14	99.7	Feb-21
NO _x (ppb)					7.8	0.5					71.7	Feb-20 09:00	18.1	Feb-20	99.7	Feb-21
O ₃ (ppb)	76				29.0	3.1	0				48.4	Feb-18 08:00	42.8	Feb-17	96.7	Feb-21
PM _{2.5} (µg/m ³)	80	29			5.6	0.0	0	0			60.9	Feb-21 08:00	18.9	Feb-21	95.8	Feb-28
ET (°C)					-4.0	-21.4					15.8	Feb-01 15:00	5.9	Feb-01	100.0	-
RH (%)					78.0	39.8					100.0	Feb-07 00:00	98.2	Feb-07	100.0	-
WSPD (km/h)					3.8	0.2					33.7	Feb-25 21:00	21.1	Feb-23	100.0	-
WDIR					W										100.0	-

Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	Analyzer permeation tube replaced February 28.
O ₃	API		T400	Analyzer did not return to service after NO _x maintenance February 28. Reset February 29.
PM _{2.5}	SHARP		5030	Analyzer returned invalid readings after swap on February 28. Readings stabilized February 29.
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

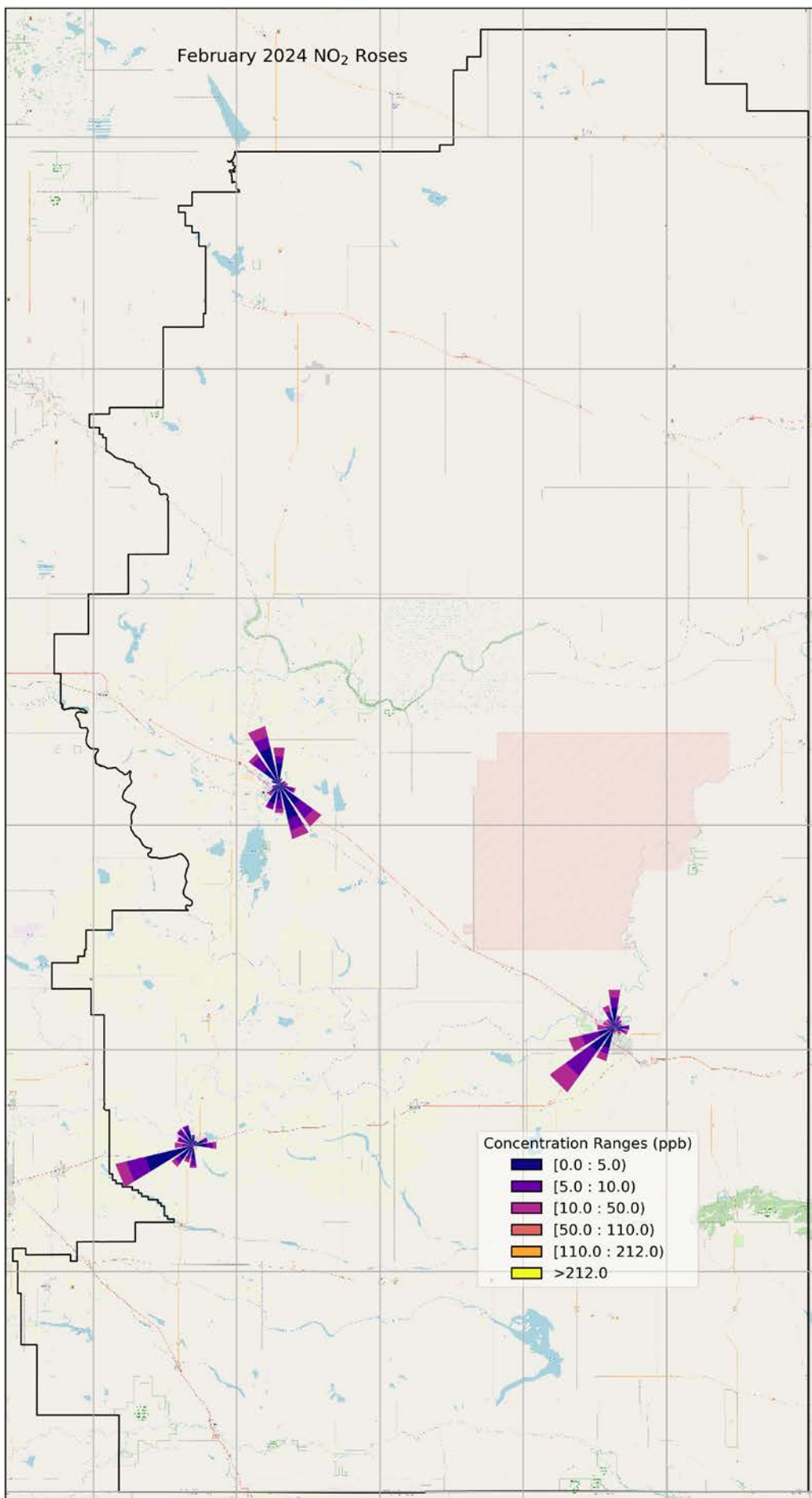
Feb-24				Palliser Airshed Society									Maximum Recorded Values					
Pollutant (units)	Objectives			Station	Monthly Average	1-Hour Minimum	Exceedence			1-hr		24-hr / 8-hr		Operational Time (%)	Calibration Date			
	1-hr	24-hr	30-day				1-hr	24-hr	30-day	Conc	Day	Conc	Day					
NO (ppb)				Brooks	1.9	0.0				31.1	Feb-21 09:00	6.9	Feb-21	100.0	Feb-22			
NO ₂ (ppb)	159				5.6	0.0	0			24.9	Feb-13 22:00	13.3	Feb-20	100.0	Feb-22			
NO _x (ppb)					7.0	0.0				49.2	Feb-21 09:00	19.4	Feb-21	100.0	Feb-22			
O ₃ (ppb)	76				25.0	0.0	0			45.6	Feb-26 11:00	38.1	Feb-24	100.0	Feb-22			
PM _{2.5} (µg/m ³)	80	29			8.6	0.7	0	2		54.4	Feb-21 03:00	38.8	Feb-21	100.0	Jan-08			
ET (°C)					-6.7	-25.3				12.5	Feb-01 15:00	4.3	Feb-01	100.0	-			
RH (%)					71.7	47.3				85.8	Feb-07 01:00	83.8	Feb-07	100.0	-			
WSPD (km/h)					1.4	0.1				35.4	Feb-26 06:00	19.2	Feb-29	100.0	-			
WDIR					WNW									100.0	-			

Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	
O ₃	API		T400	
PM _{2.5}	SHARP		5030	
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

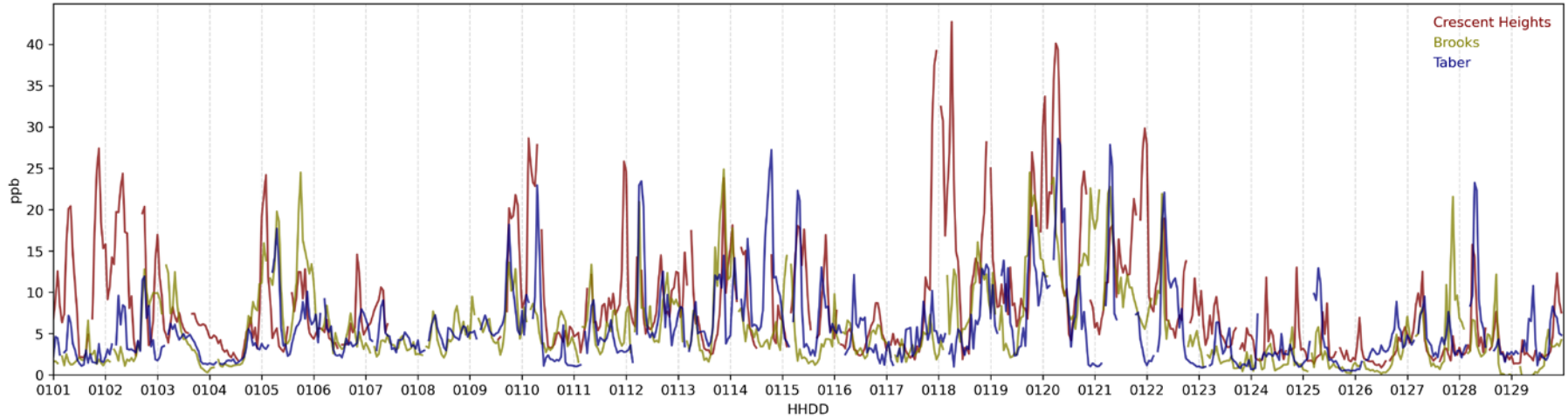
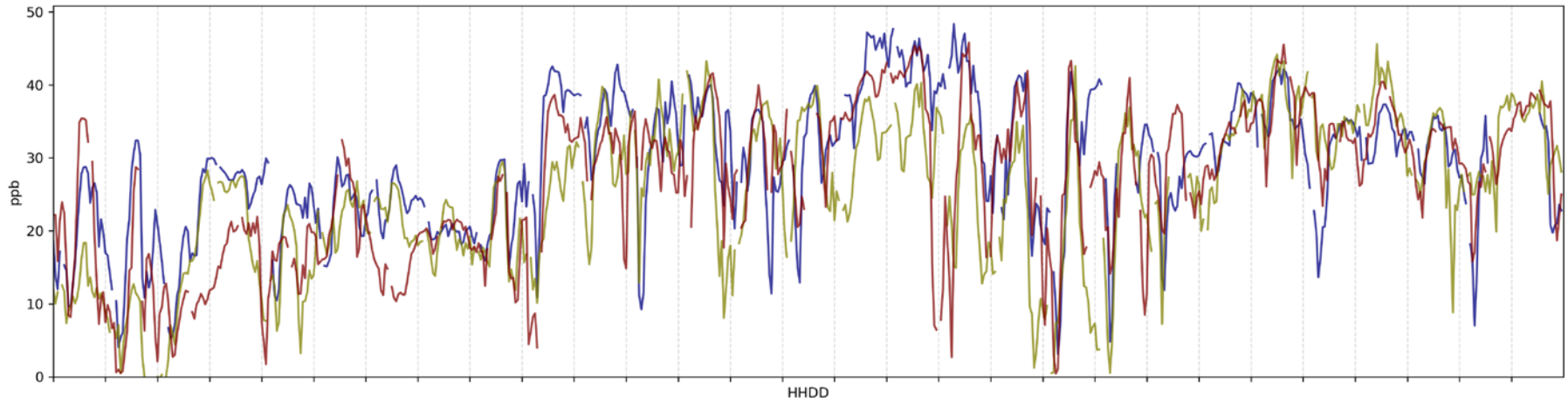
February 2024 NO₂

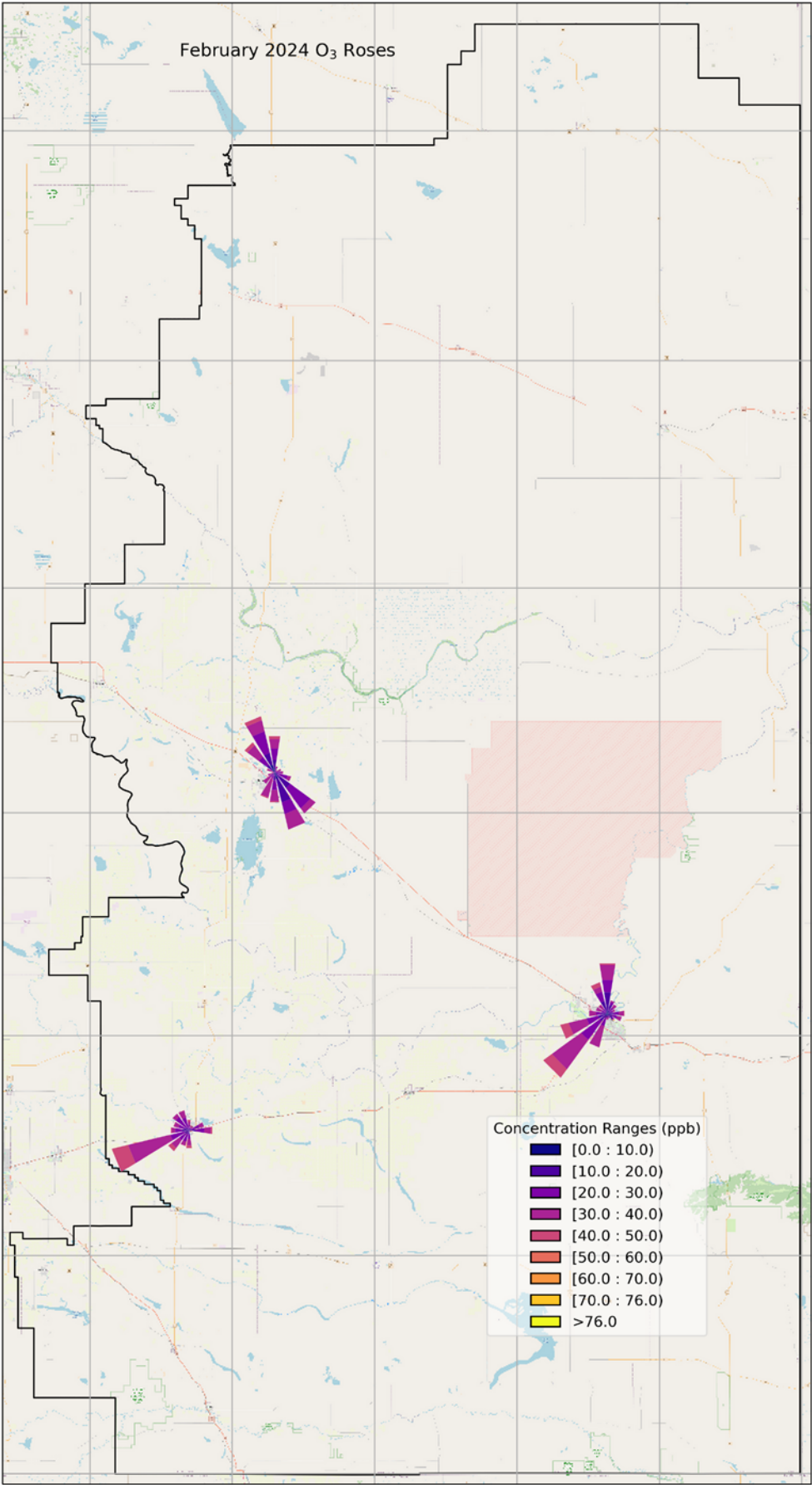


February 2024 NO₂ Roses

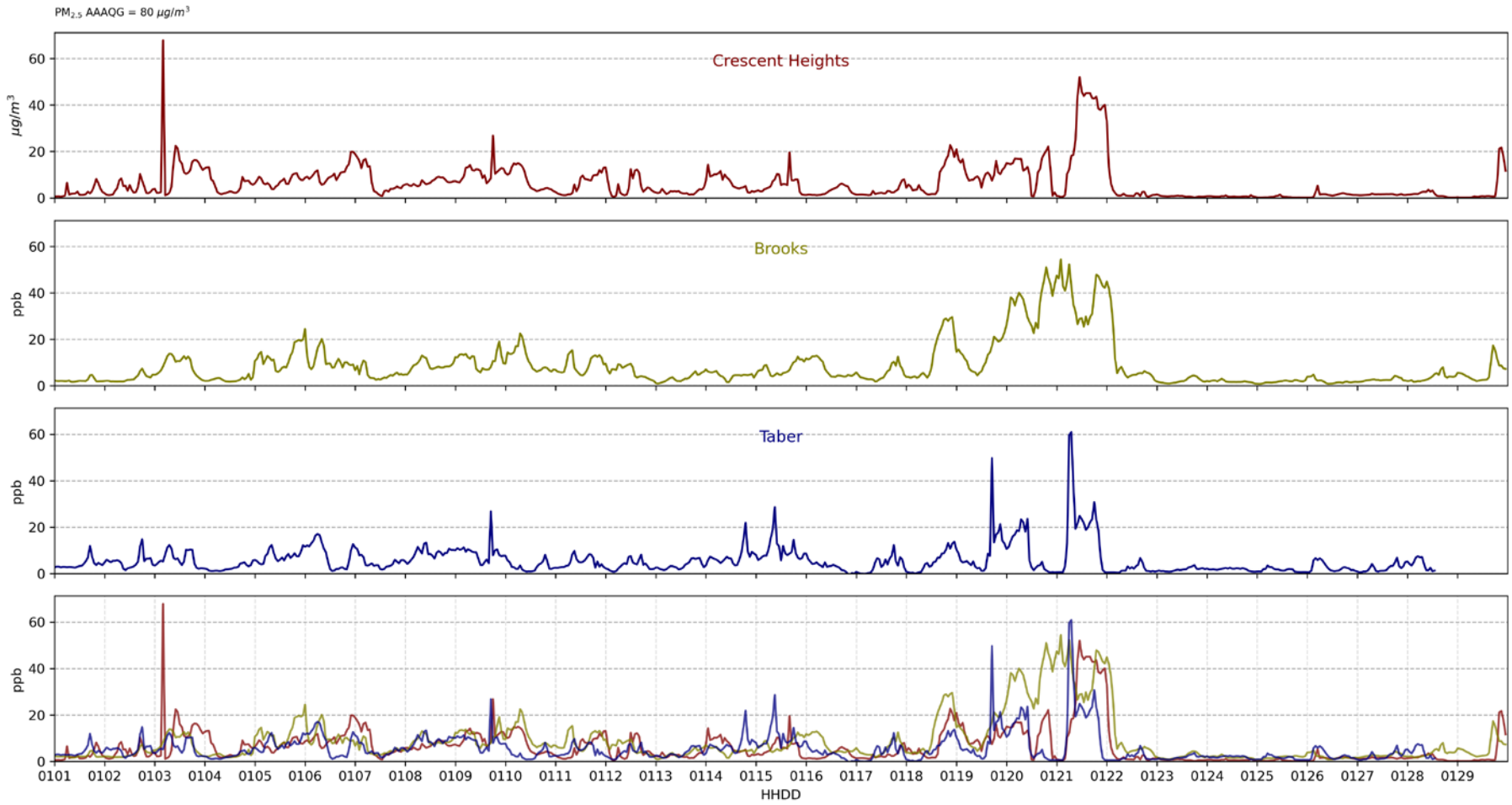


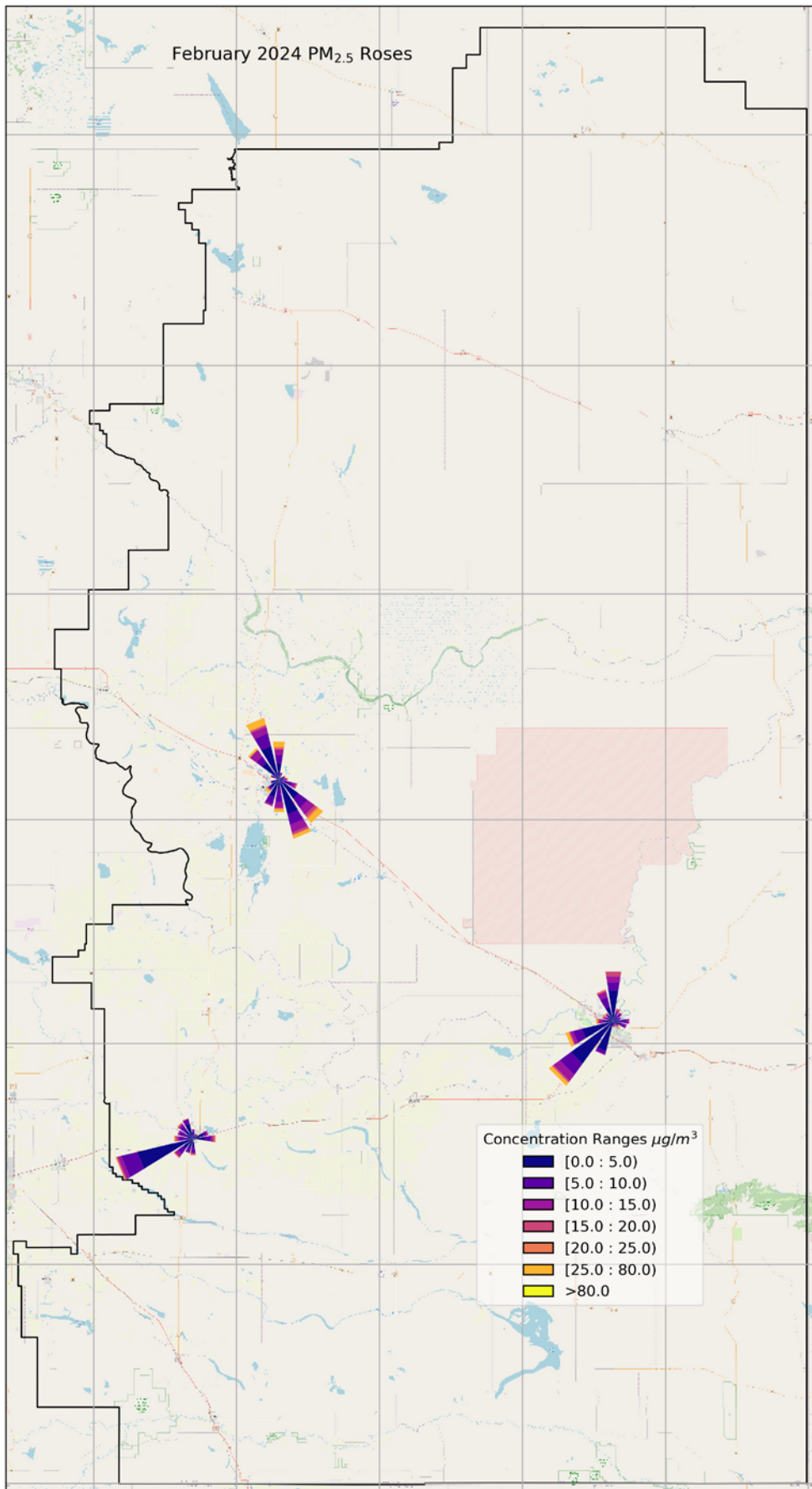
February 2024 O₃ vs NO₂



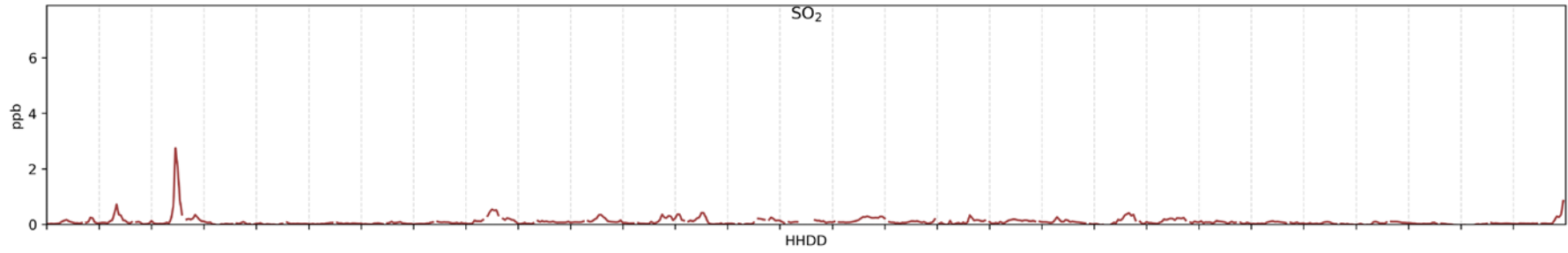


February 2024 PM_{2.5}

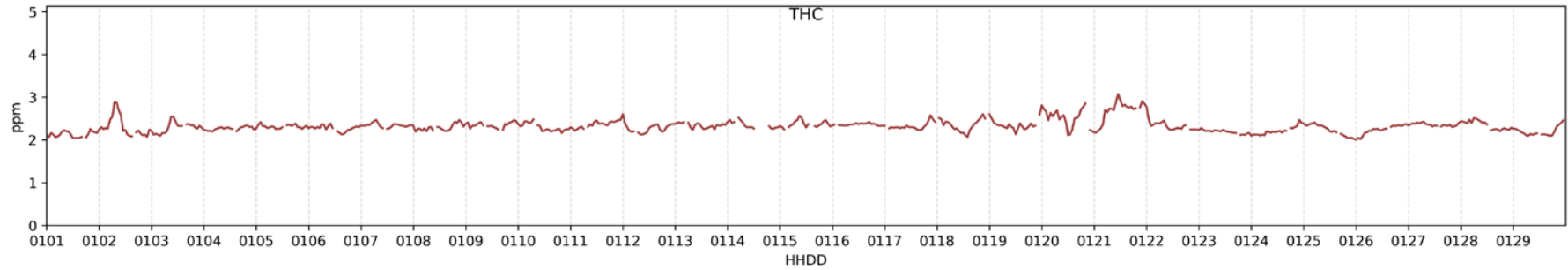
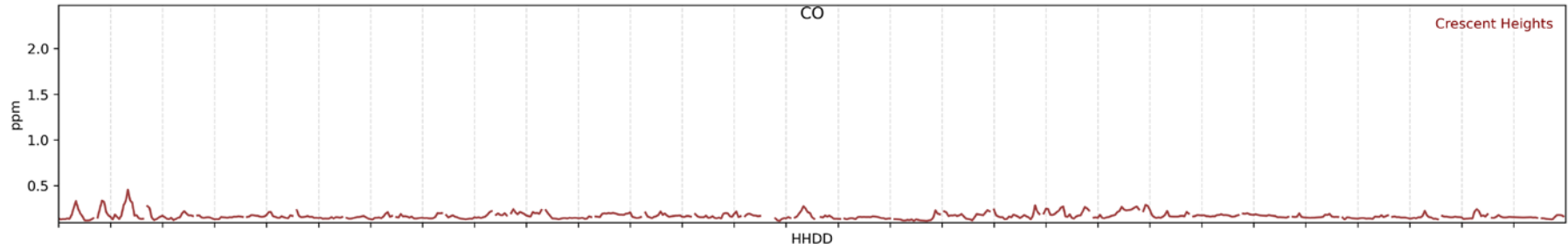




SO₂ AAAQO = 172 ppb



CO AAAQO = 13 ppm



February 2024

