

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 – March 2024

Enclosed is the PAS Dashboard Report for the month of **March 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:

- ◆ The THC sample pump failed March 22, analyzer remained offline until repaired at scheduled calibration visit April 5, with a March uptime of 67.9%. **Reference #427156.**
- ◆ There was 1 exceedance of the 1-hour AAAQG for PM_{2.5} (29 µg/m³) in March.

Station Name	Date	Start Time	End Time	1-Hour PM _{2.5} Concentration	Wind Direction	Wind Speed (km/h)	Reference Number
		(MST)	(MST)	(µg/m ³)			
Crescent Heights	26-Mar-24	05:00	06:00	108	WSW	0.2	426273

Brooks Station:

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

Taber Station:

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

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

X 

Lenin Flores
 Project Manager

March 2024 Monthly Ambient Air Quality Summary

Mar-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			
SO ₂ (ppb)	172	48	8	Crescent Heights	0.1	0.0	0	0	0	1.9	Mar-21 10:00	0.5	Mar-21	100.0	Mar-14	
NO (ppb)					1.6	0.0					33.3	Mar-16 09:00	5.4	Mar-07	100.0	Mar-14
NO ₂ (ppb)	159				6.0	0.9	0				40.9	Mar-26 04:00	16.9	Mar-07	100.0	Mar-14
NO _x (ppb)					7.4	0.7					54.4	Mar-07 07:00	22.3	Mar-07	100.0	Mar-14
O ₃ (ppb)	76				31.1	1.5	0				48.2	Mar-18 16:00	40.0	Mar-23	100.0	Mar-14
CO (ppm)					0.2	0.0					0.4	Mar-25 07:00	0.2	Mar-07	100.0	Mar-14
CO 8-Hour (ppm)	5				-	0.0	0				0.3	Mar-26 10:00	-	-	100.0	-
THC (ppm)					2.3	2.0					2.7	Mar-07 20:00	2.5	Mar-07	67.9	Mar-14
PM _{2.5} (µg/m ³)	80	29			4.8	0.2	1	0			108.3	Mar-26 06:00	12.0	Mar-07	100.0	Jan-17
ET (°C)					-2.6	-21.3					19.0	Mar-18 17:00	10.8	Mar-18	100.0	-
RH (%)					76.3	15.8					100.0	Mar-02 05:00	99.0	Mar-21	100.0	-
GSR (W/m ²)					153.6	0.0					766.1	Mar-30 13:00	230.5	Mar-30	100.0	-
WSPD (km/h)					0.7	0.0					31.3	Mar-10 13:00	22.4	Mar-10	98.9	-
WDIR					SSW										98.9	-

Pollutant (units)	Analyzer			Notes
	Make		Model	
SO ₂	TEI		43i	
NO/NO ₂ /NO _x	TEI		42i	
O ₃	TECO		49i	
CO	TEI		48i-TLE	
THC	TECO		51C-LT	Analyzer sample pump failed March 22, remained offline until April 5 calibrations.
PM _{2.5}	SHARP		5030	
ET/RH	RMYoung		41382VC	
GSR	EPPLEY			
WS/WD	RMYoung		5305-10	Wind head returned invalid readings March 26.

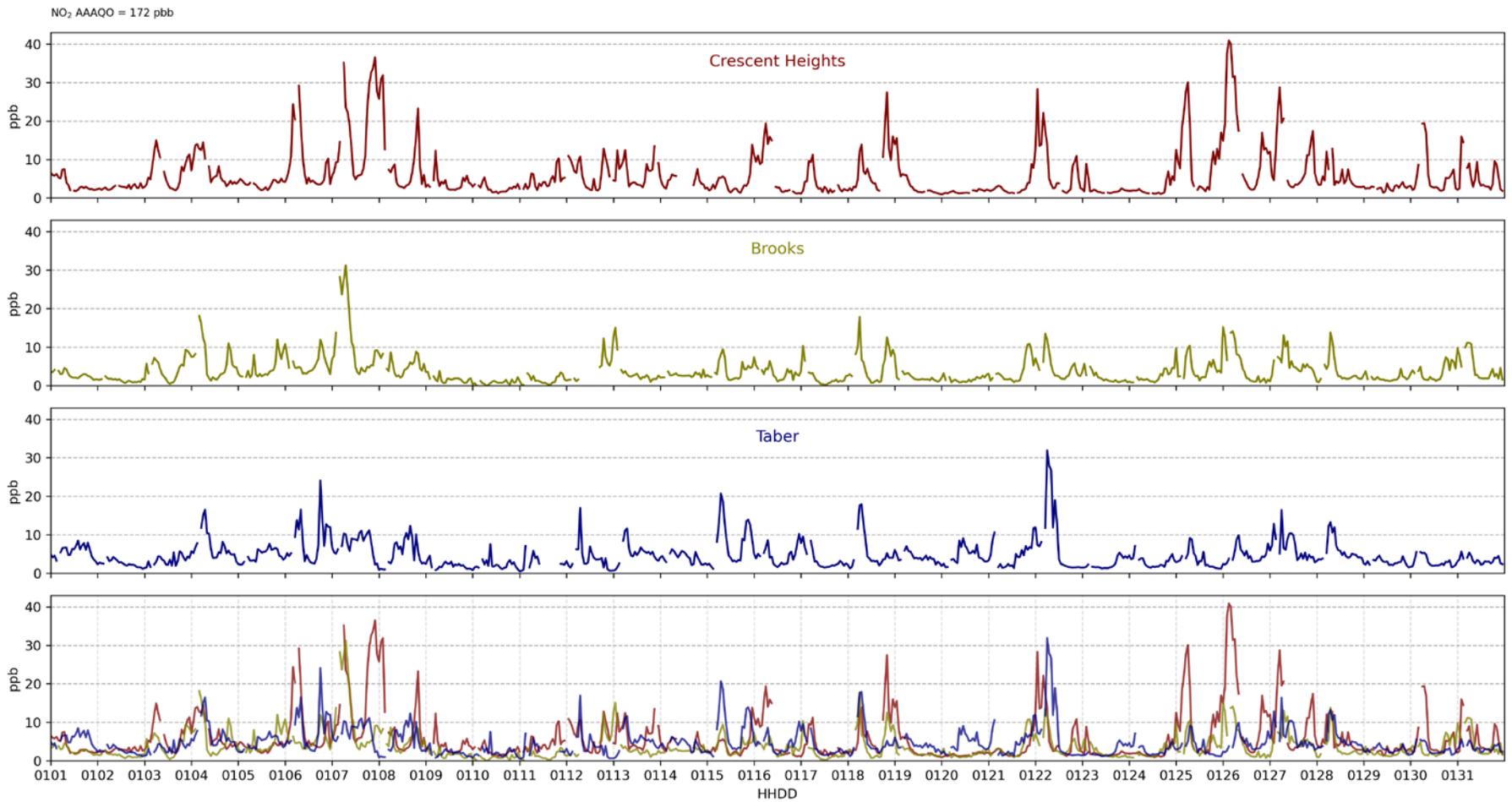
Mar-24		Palliser Airshed Society			Maximum Recorded Values											
Pollutant (units)	Objectives			Station	Monthly Average	1-Hour Minimum	Exceedence			1-hr		24-hr / 8-hr		Operational Time (%)	Calibration Date	
	1-hr	24-hr	30-day				1-hr	24-hr	30-day	Conc	Day	Conc	Day			
NO (ppb)				Taber	1.2	0.0				18.6	Mar-15 08:00	3.0	Mar-15	100.0	Mar-11	
NO ₂ (ppb)	159				4.7	0.5	0				31.9	Mar-22 07:00	8.7	Mar-22	100.0	Mar-11
NO _x (ppb)					5.9	0.5					49.7	Mar-22 07:00	11.5	Mar-22	100.0	Mar-11
O ₃ (ppb)	76				29.9	2.4	0				51.1	Mar-31 18:00	38.4	Mar-09	100.0	Mar-11
PM _{2.5} (µg/m ³)	80	29			6.8	0.0	0	0			30.5	Mar-13 17:00	15.7	Mar-07	97.3	Mar-19
ET (°C)					-2.9	-20.9					18.2	Mar-18 15:00	10.7	Mar-18	100.0	-
RH (%)					75.2	23.2					100.0	Mar-14 04:00	98.5	Mar-21	100.0	-
WSPD (km/h)					0.4	0.1					22.9	Mar-12 14:00	13.4	Mar-11	100.0	-
WDIR					WNW										100.0	-

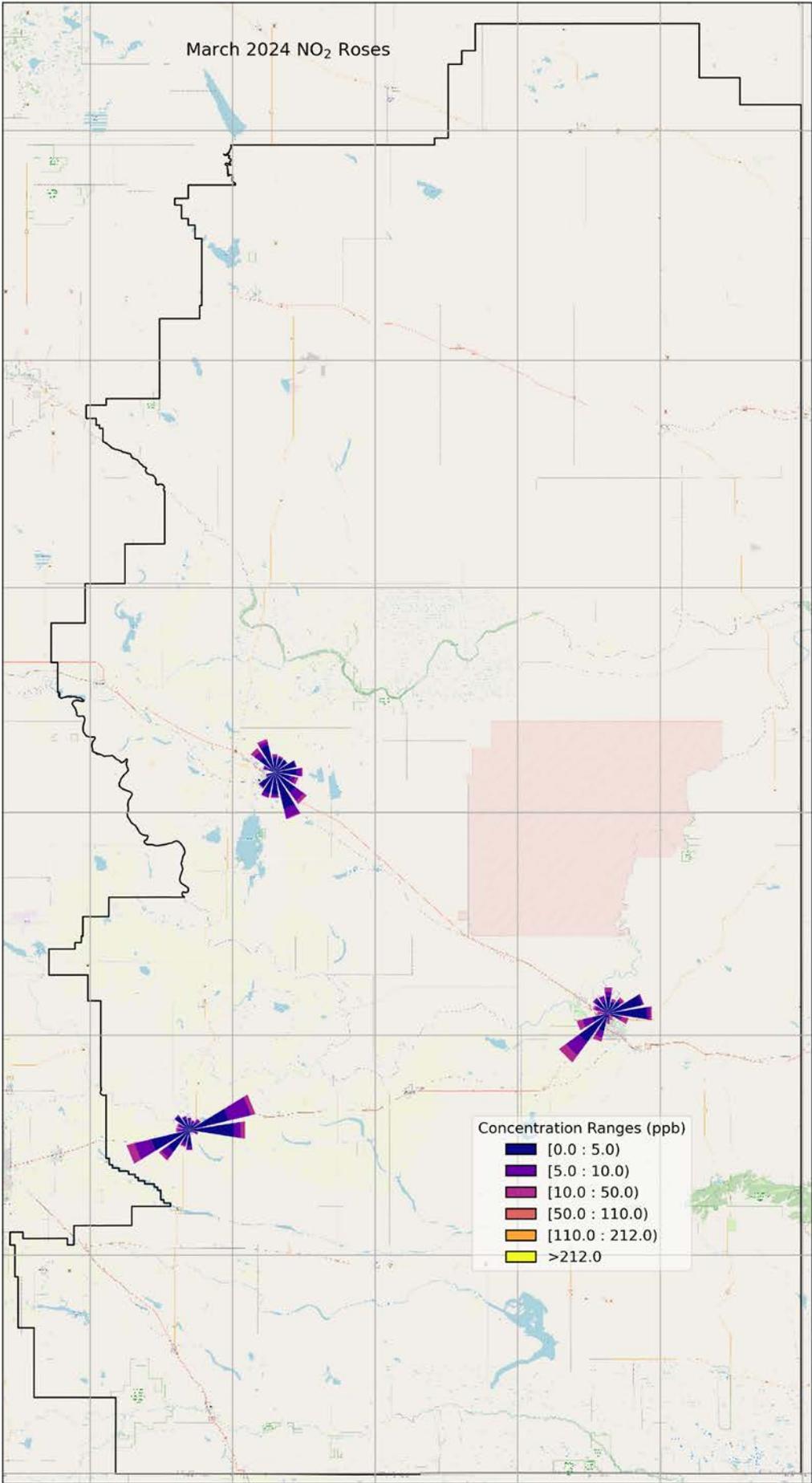
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	
O ₃	API		T400	
PM _{2.5}	SHARP		5030	Analyzer ran out of tape March 18, returned to service March 19.
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

Mar-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	1.1	0.0				28.8	Mar-07 09:00	6.0	Mar-07	100.0	Mar-12				
NO ₂ (ppb)	159				3.7	0.0	0			31.2	Mar-07 08:00	11.5	Mar-07	100.0	Mar-12				
NO _x (ppb)					4.9	0.0				54.4	Mar-07 08:00	17.5	Mar-07	100.0	Mar-12				
O ₃ (ppb)	76				32.0	0.0	0			54.9	Mar-27 16:00	40.7	Mar-26	100.0	Mar-12				
PM _{2.5} (µg/m ³)	80	29			5.7	0.8	0	0		31.9	Mar-07 04:00	16.2	Mar-07	100.0	Jan-08				
ET (°C)					-4.8	-23.9				18.3	Mar-18 17:00	9.0	Mar-18	100.0	-				
RH (%)					69.3	20.9				86.7	Mar-14 10:00	83.0	Mar-13	100.0	-				
WSPD (km/h)					1.0	0.3				32.1	Mar-09 22:00	17.5	Mar-10	99.7	-				
WDIR					SE									99.7	-				

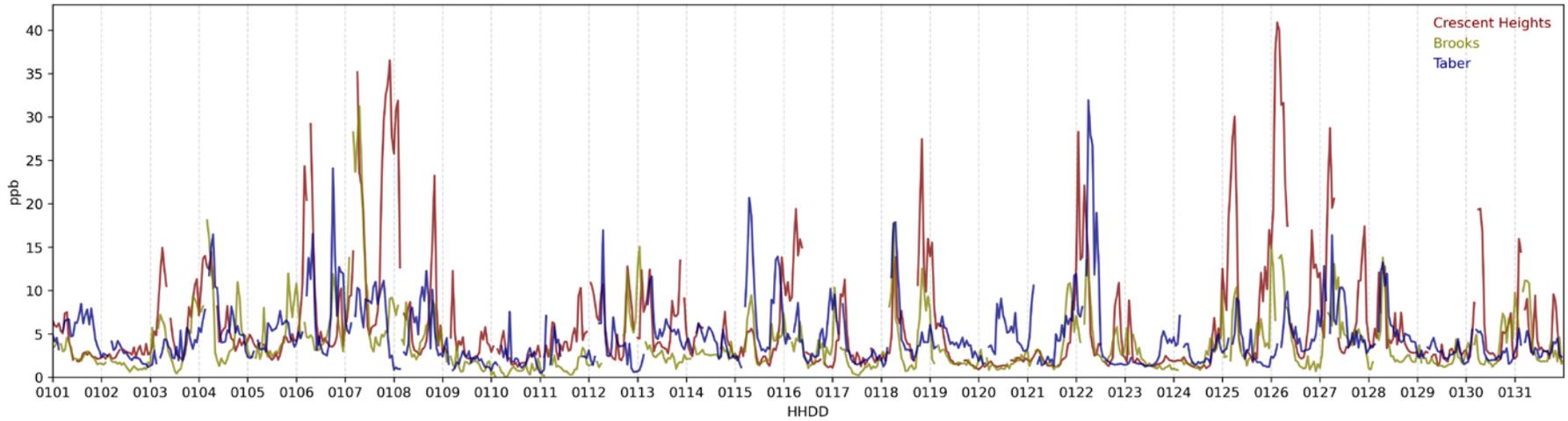
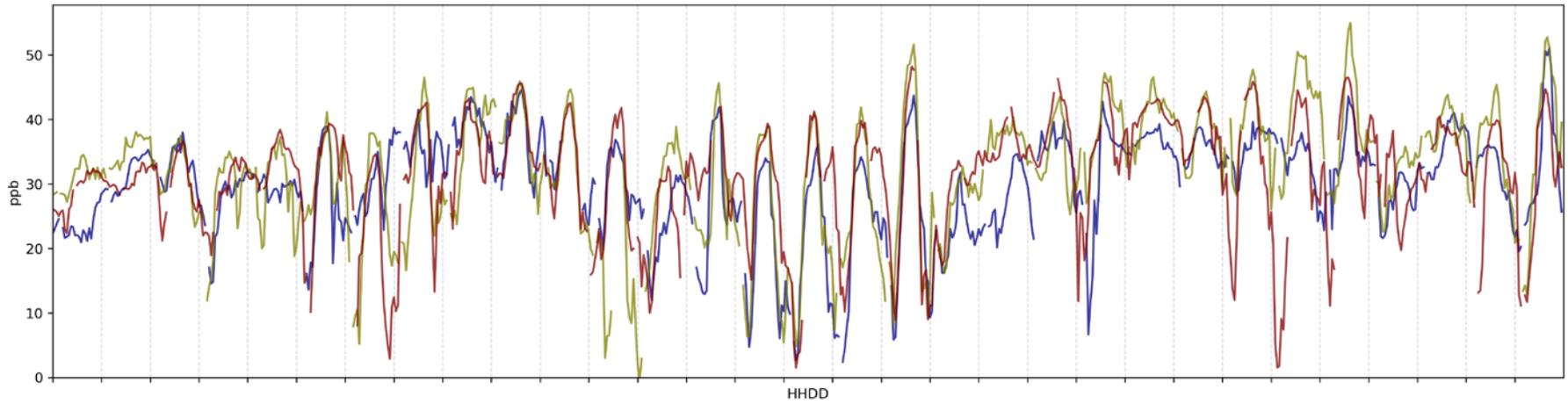
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	
O ₃	API		T400	
PM _{2.5}	SHARP		5030	
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	Wind system failed to capture 2 hours of data March 30.

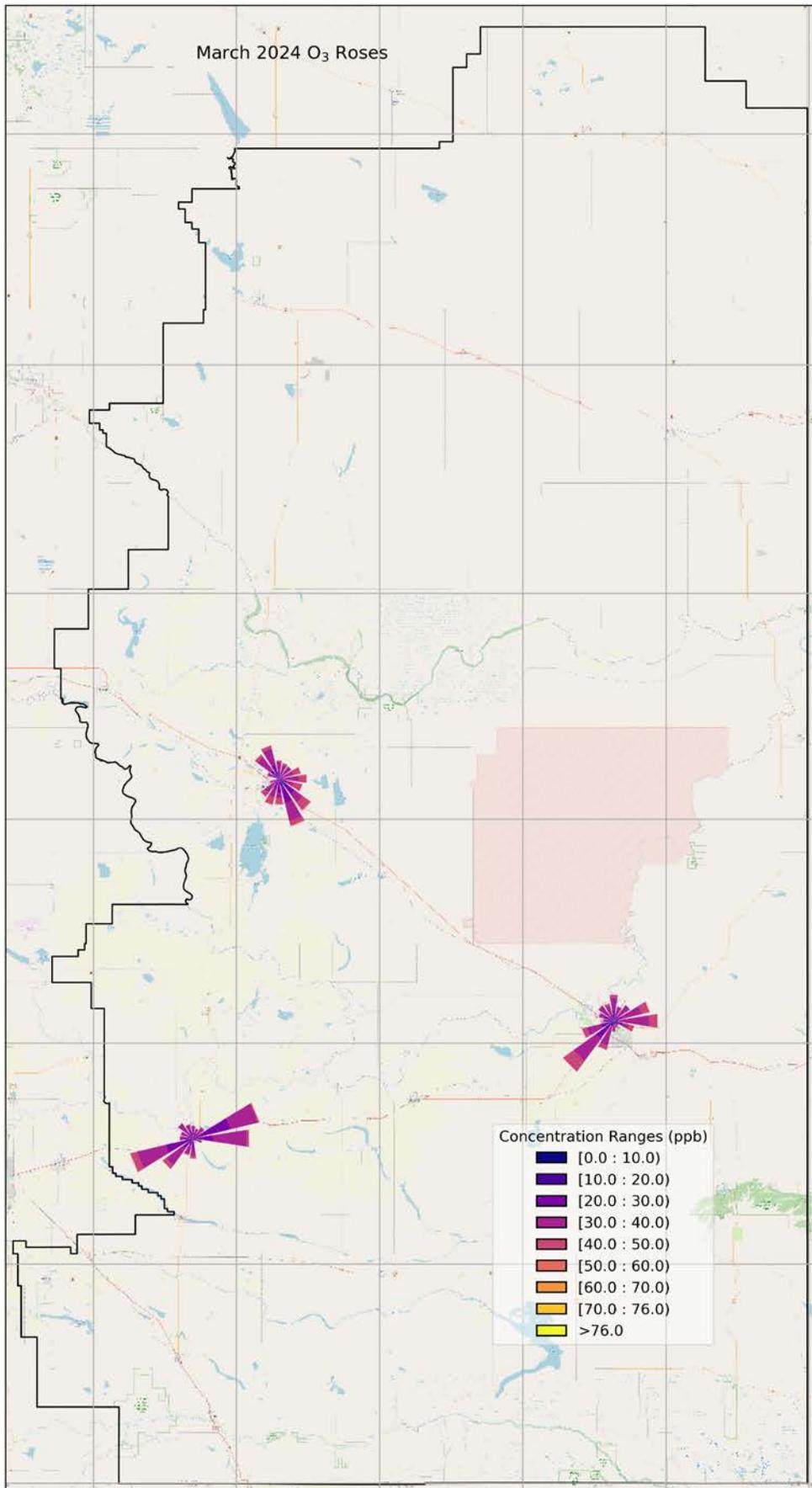
March 2024 NO₂



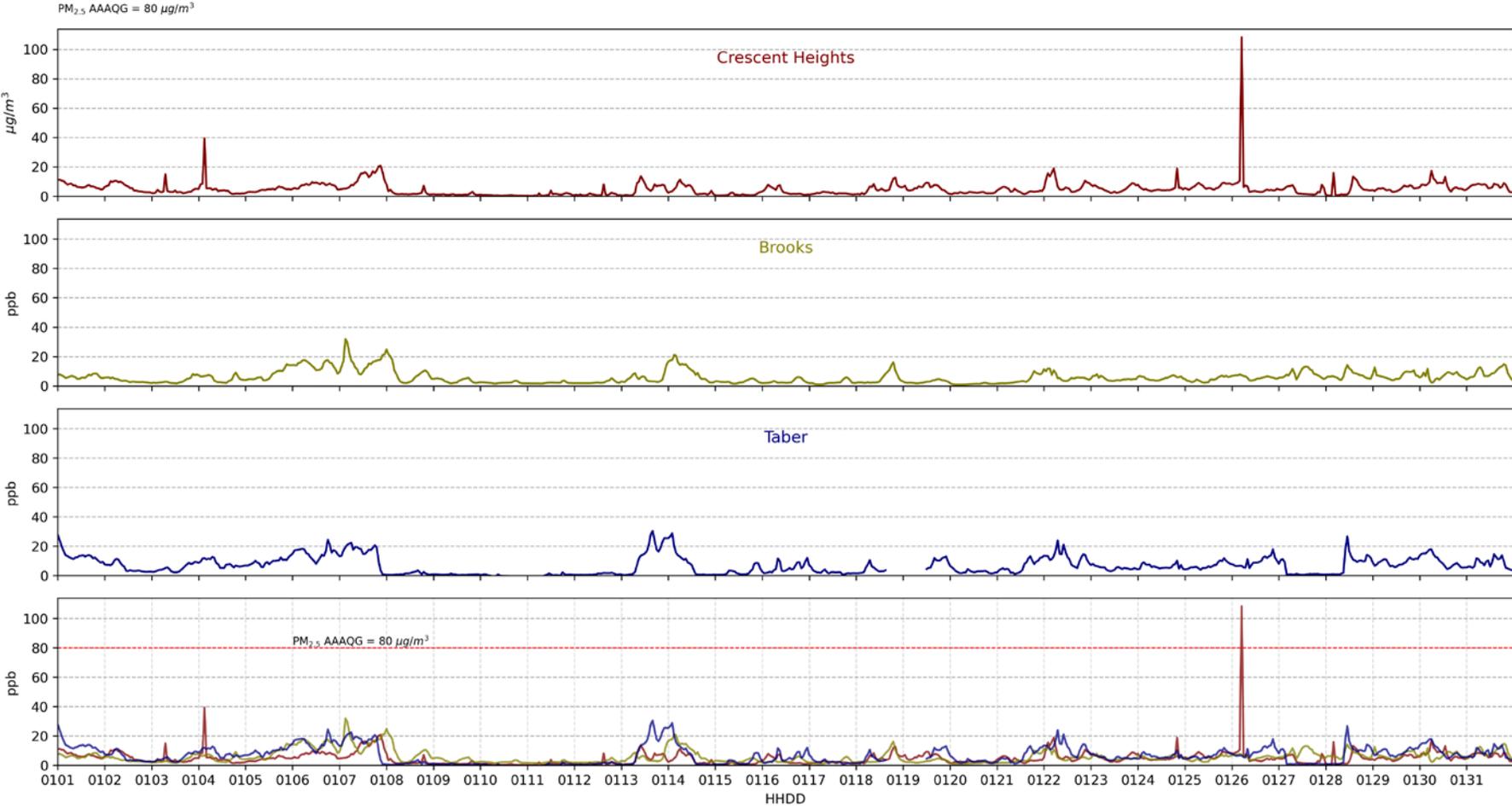


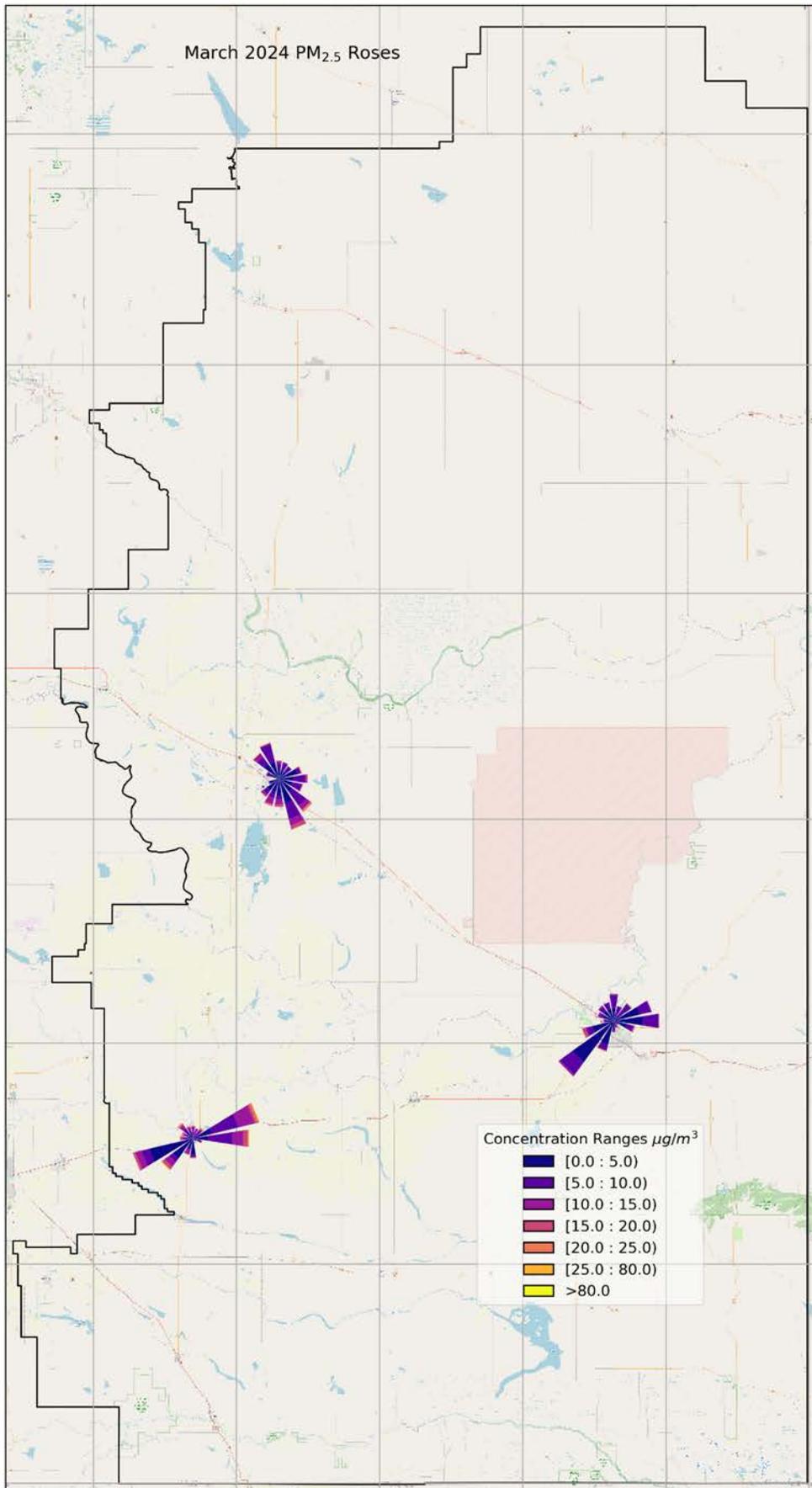
March 2024 O₃ vs NO₂



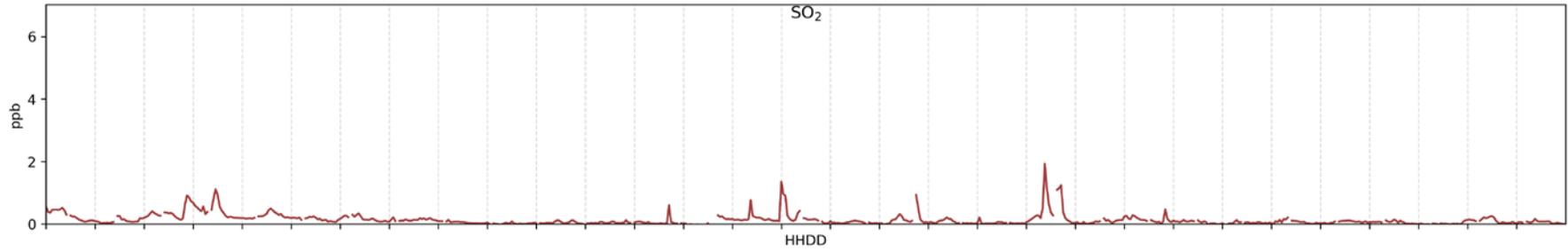


March 2024 PM_{2.5}

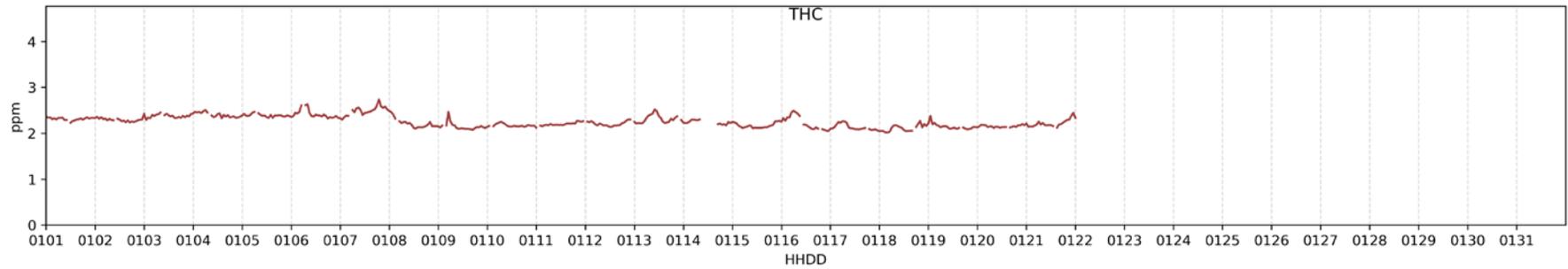
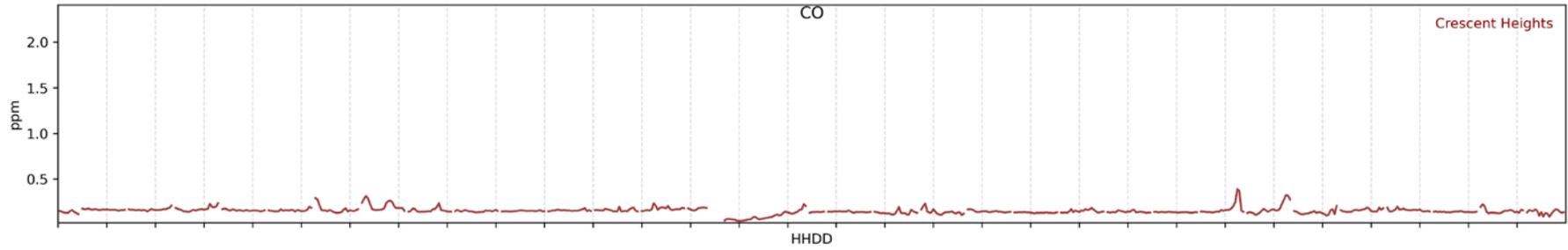




SO₂ AAAQO = 172 ppb



CO AAAQO = 13 ppm



March 2024

