

May 15, 2024

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 – April 2024

Enclosed is the PAS Dashboard Report for the month of **April 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 an April uptime of 84.9%. **Reference #427156.**
- ◆ There were no exceedances of the AAAQO/G in April.

Brooks Station:

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

Taber Station:

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

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

April 2024 Monthly Ambient Air Quality Summary

Apr-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	0.7	Apr-16 04:00	0.2	Apr-14	100.0	Apr-04
NO (ppb)					1.0	0.0	0			18.5	Apr-23 01:00	2.8	Apr-02	99.6	Apr-03
NO ₂ (ppb)	159				4.4	1.0	0			27.6	Apr-23 01:00	7.8	Apr-02	99.6	Apr-03
NO _x (ppb)					5.3	1.1				46.1	Apr-23 01:00	10.6	Apr-02	99.6	Apr-03
O ₃ (ppb)	76				34.3	1.0	0			59.0	Apr-23 17:00	46.0	Apr-24	99.6	Apr-03
CO (ppm)					0.1	0.0				0.6	Apr-30 18:00	0.4	Apr-30	99.6	Apr-04
CO 8-Hour (ppm)	5				-	0.0	0			0.5	Apr-30 18:00	-	-	100.0	-
THC (ppm)					2.2	2.0				2.7	Apr-11 07:00	2.4	Apr-11	84.9	Apr-04
PM _{2.5} (µg/m ³)	80	29			3.8	0.2	0	0		45.3	Apr-07 20:00	10.5	Apr-07	100.0	Apr-03
ET (°C)					8.0	-5.5				22.8	Apr-24 15:00	15.8	Apr-24	100.0	-
RH (%)					56.2	8.8				100.0	Apr-04 05:00	99.9	Apr-06	100.0	-
GSR (W/m ²)					191.9	0.0				879.3	Apr-23 13:00	305.9	Apr-23	100.0	-
WSPD (km/h)					5.2	0.0				36.2	Apr-03 11:00	24.1	Apr-17	100.0	-
WDIR					WNW									100.0	-

Pollutant (units)	Analyzer			Notes
	Make		Model	
SO ₂	TEI		43i	
NO/NO ₂ /NO _x	TEI		42i	Manual span checks April 9 and 27.
O ₃	TECO		49i	Manual span checks April 9 and 27.
CO	TEI		48i-TLE	Manual span checks April 9 and 27.
THC	TECO		51C-LT	Analyzer sample pump failed March 22, remained offline until April 5 calibrations. Analyzer returned invalid readings April 7-8.
				Manual span checks April 9 and 27.
PM _{2.5}	SHARP		5030	
ET/RH	RMYoung		41382VC	
GSR	EPPLEY			
WS/WD	RMYoung		5305-10	

Apr-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	0.9	0.0				68.3	Apr-13 07:00	3.5	Apr-13	100.0	Apr-24
NO ₂ (ppb)	159				3.7	0.5	0			27.2	Apr-13 07:00	5.6	Apr-02	100.0	Apr-24
NO _x (ppb)					4.6	0.5				95.5	Apr-13 07:00	7.8	Apr-13	100.0	Apr-24
O ₃ (ppb)	76				30.0	4.7	0			49.2	Apr-01 15:00	37.3	Apr-21	100.0	Apr-24
PM _{2.5} (µg/m ³)	80	29			4.1	0.0	0	0		29.9	Apr-21 10:00	11.5	Apr-06	100.0	Apr-24
ET (°C)					7.2	-7.0				19.6	Apr-23 17:00	13.1	Apr-24	100.0	-
RH (%)					54.8	12.9				100.0	Apr-04 08:00	97.6	Apr-04	100.0	-
WSPD (km/h)					5.6	0.2				37.2	Apr-21 10:00	19.4	Apr-21	100.0	-
WDIR					W									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	

Apr-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	0.7	0.0				10.6	Apr-01 08:00	2.2	Apr-01	100.0	Apr-25			
NO ₂ (ppb)	159				2.6	0.0	0			22.9	Apr-25 21:00	5.8	Apr-01	100.0	Apr-25			
NO _x (ppb)					3.2	0.0				29.9	Apr-25 21:00	7.9	Apr-01	100.0	Apr-25			
O ₃ (ppb)	76				32.7	1.5	0			58.9	Apr-24 16:00	42.5	Apr-22	100.0	Apr-25			
PM _{2.5} (µg/m ³)	80	29			3.9	0.0	0	0		17.4	Apr-06 06:00	8.2	Apr-02	100.0	Apr-25			
ET (°C)					6.3	-8.0				19.8	Apr-24 13:00	11.9	Apr-25	100.0	-			
RH (%)					54.1	15.0				87.4	Apr-05 05:00	84.4	Apr-05	100.0	-			
WSPD (km/h)					5.5	0.6				42.7	Apr-21 10:00	28.3	Apr-17	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	

April 2024 NO₂

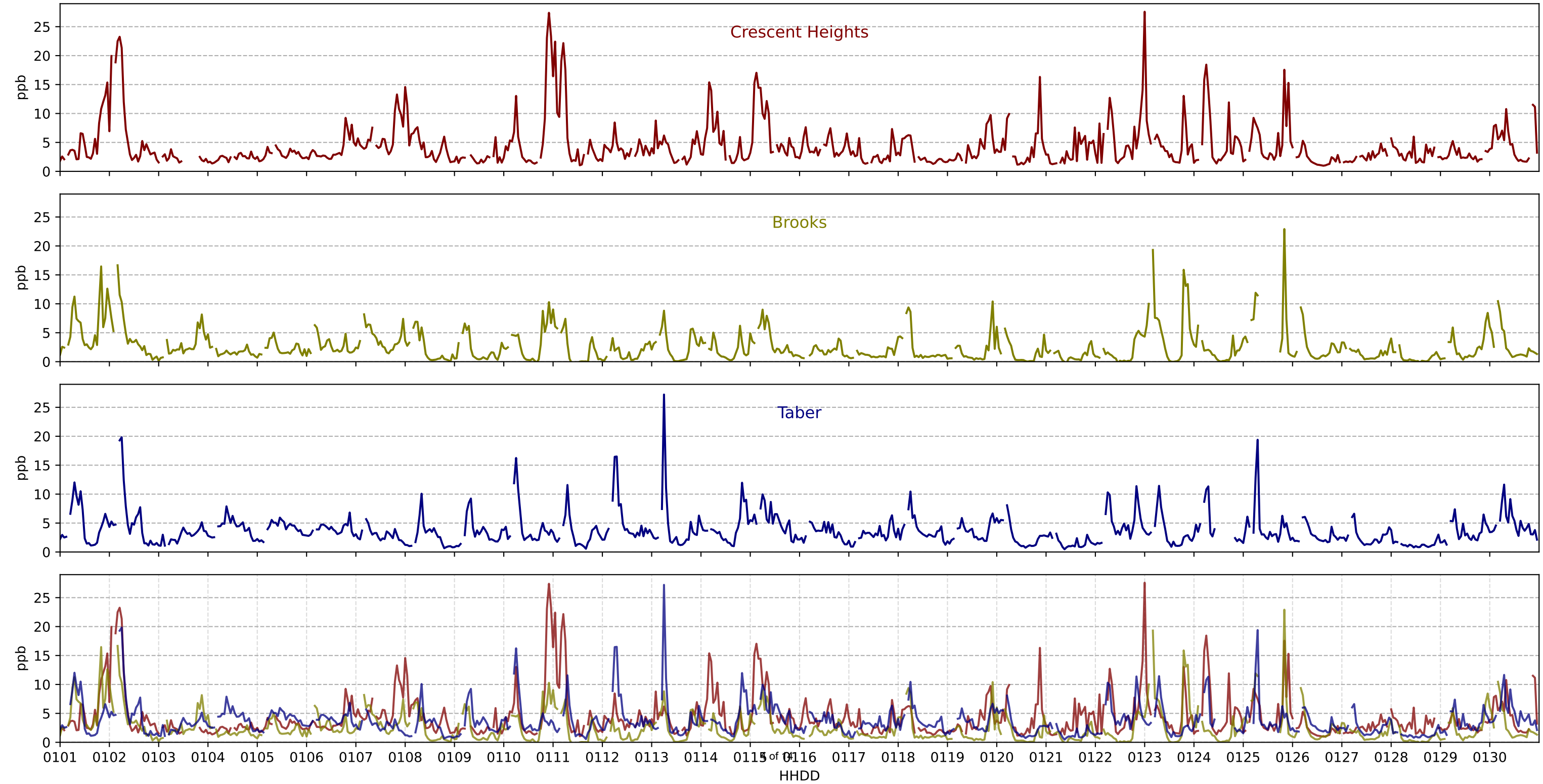
NO₂ AAAQO = 172 ppb

Crescent Heights

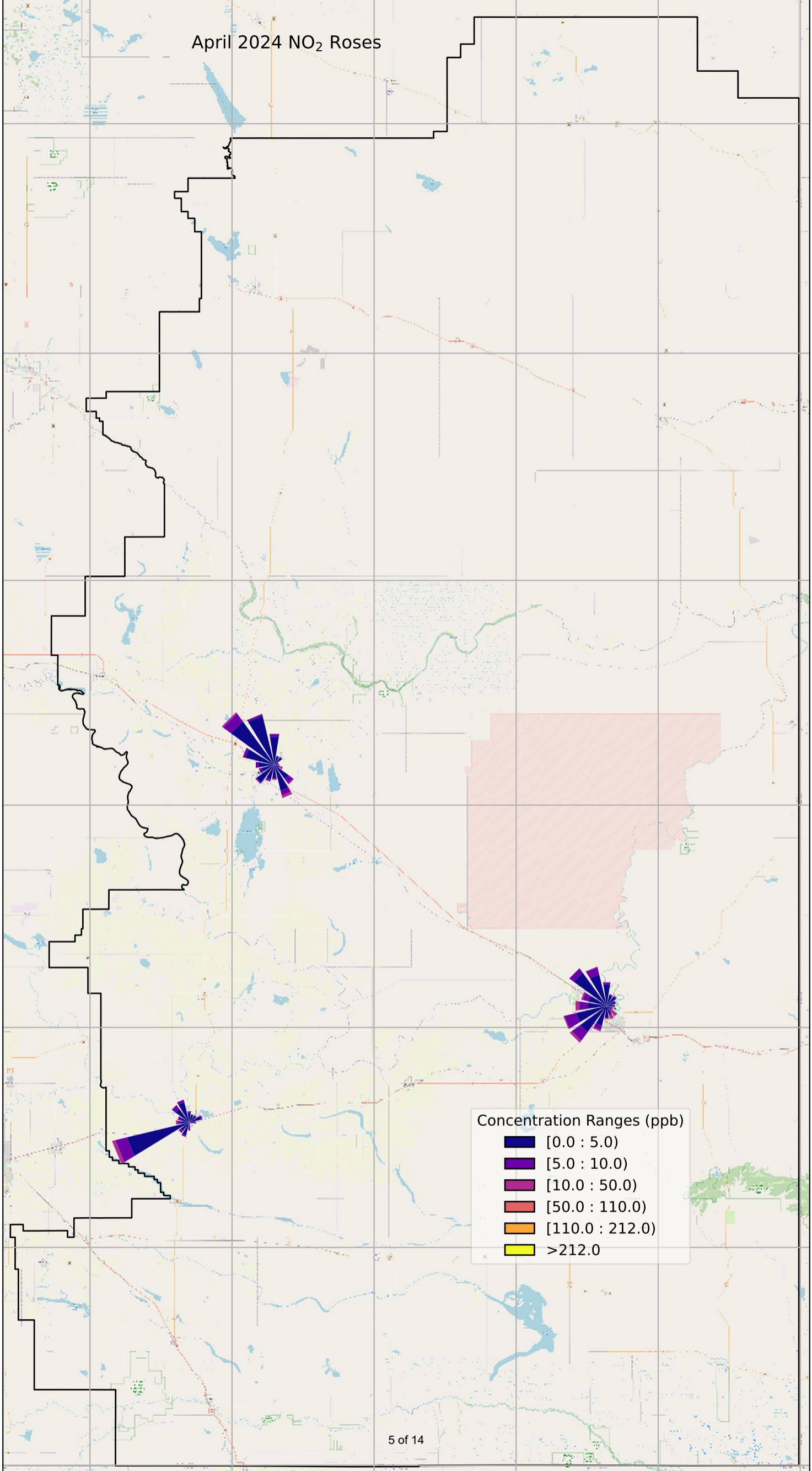
Brooks

Taber

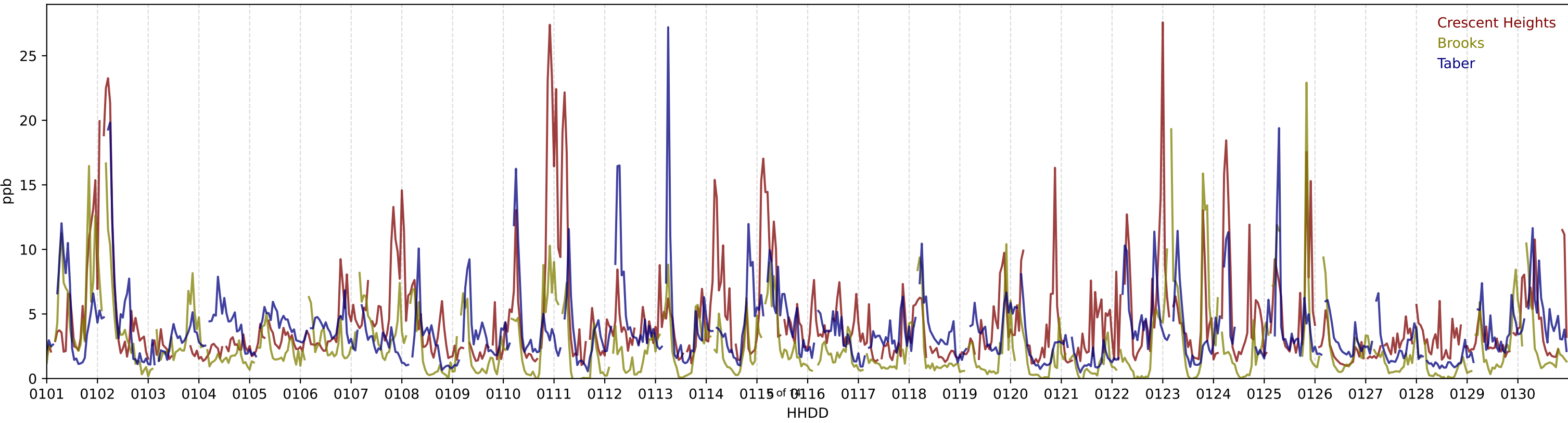
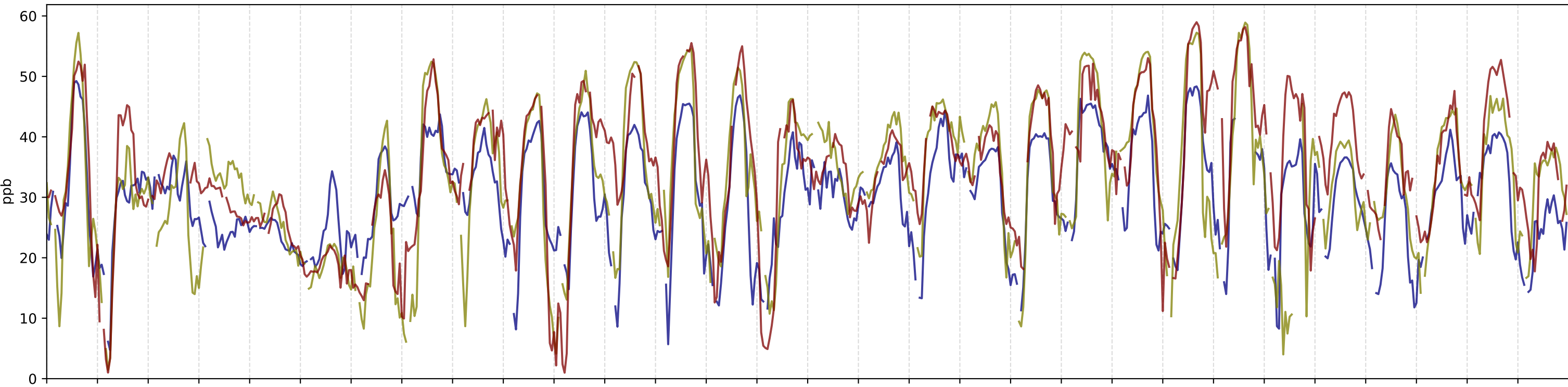
HHDD



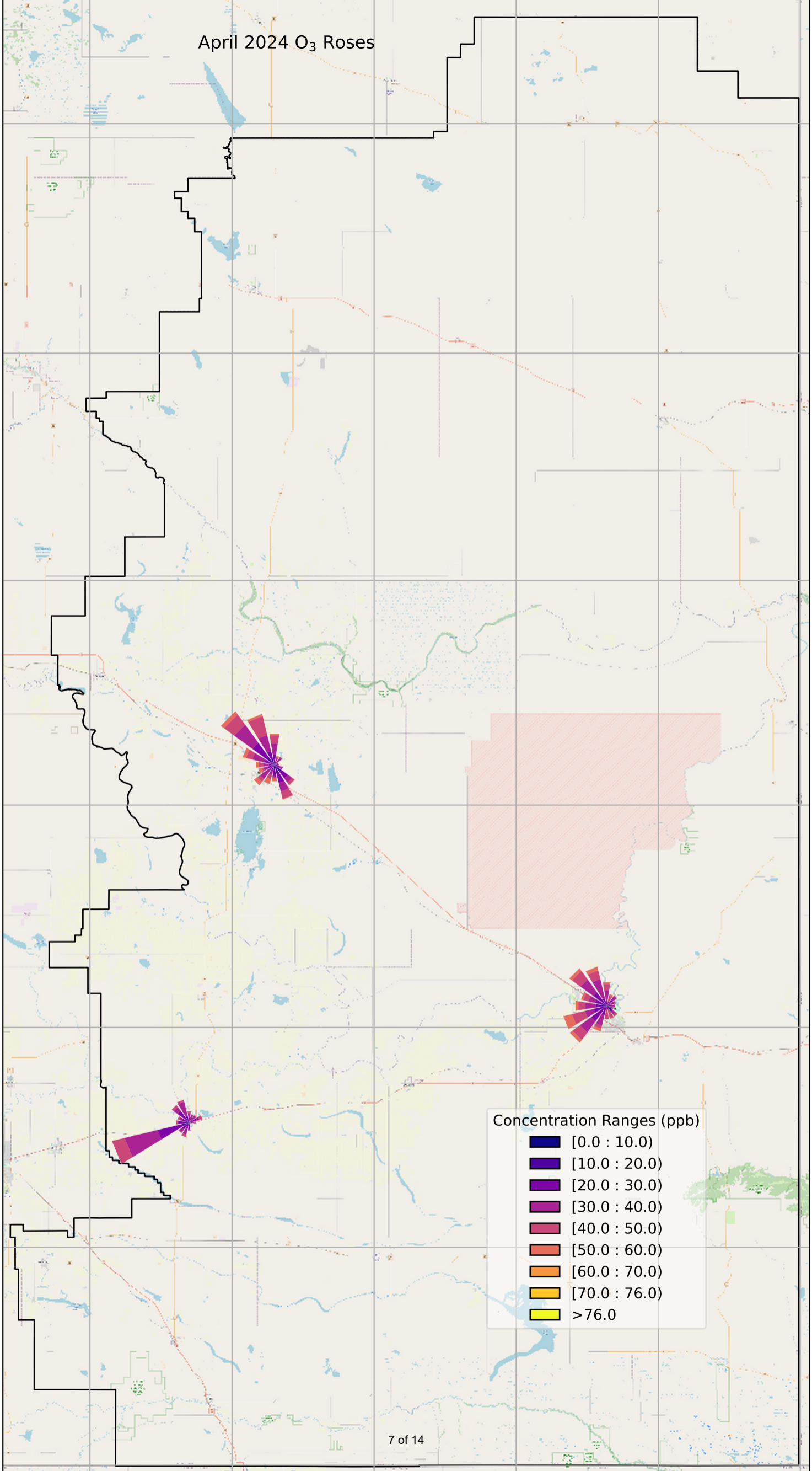
April 2024 NO₂ Roses



April 2024 O₃ vs NO₂

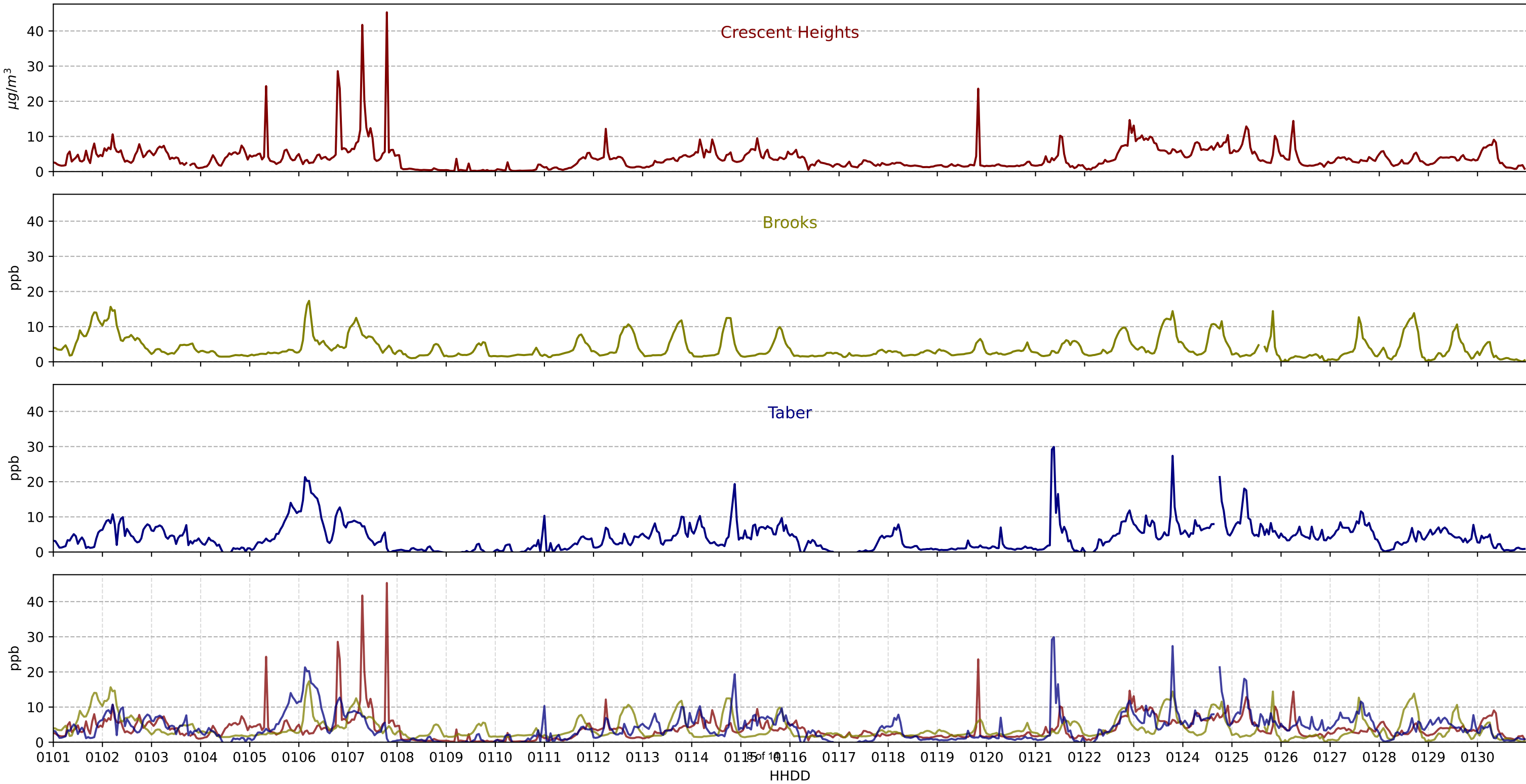


April 2024 O₃ Roses

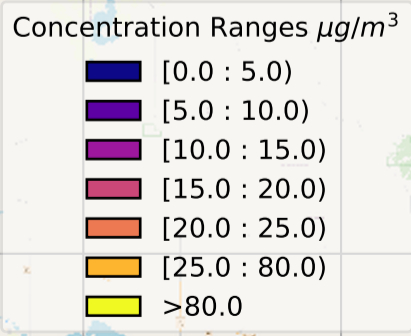
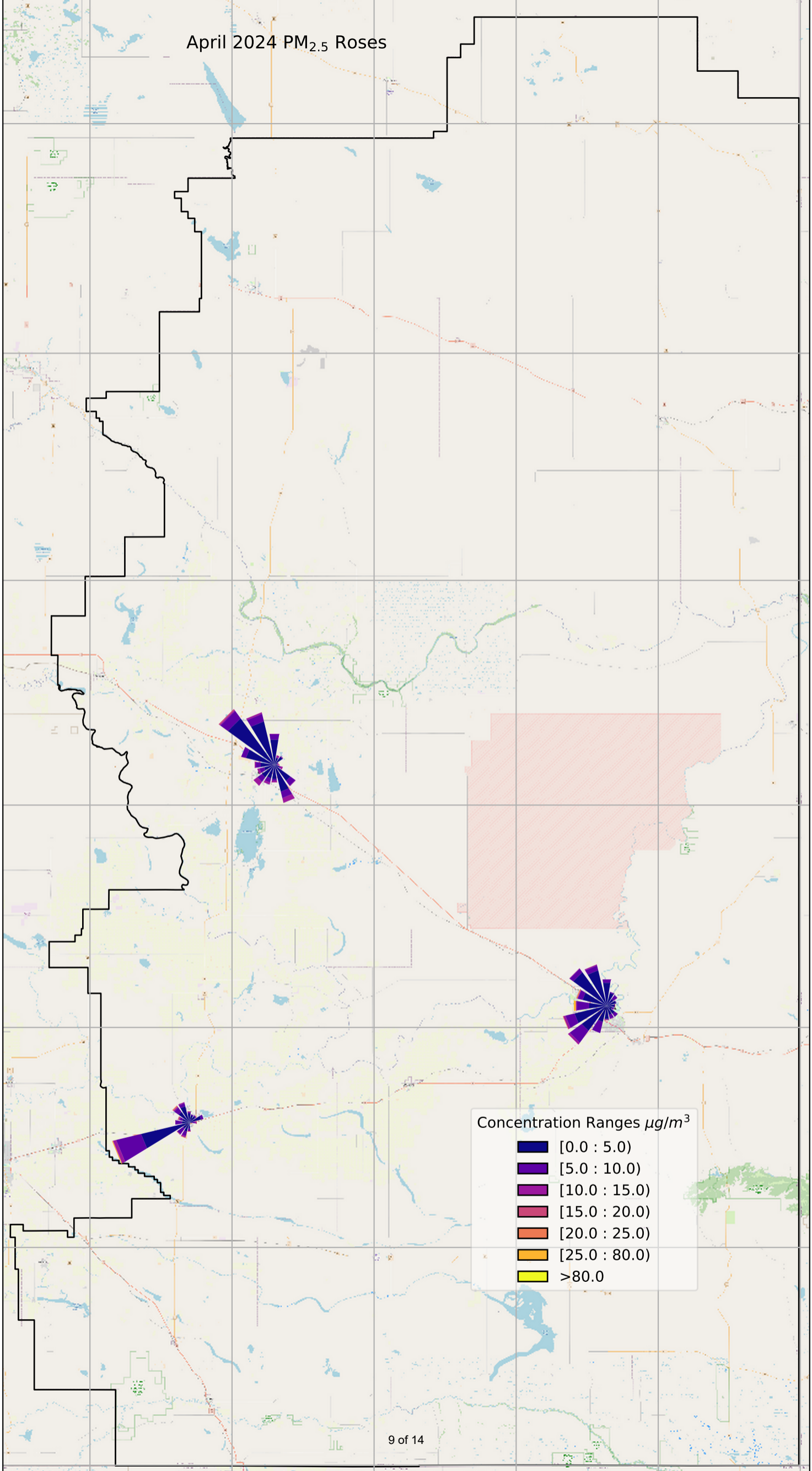


April 2024 PM_{2.5}

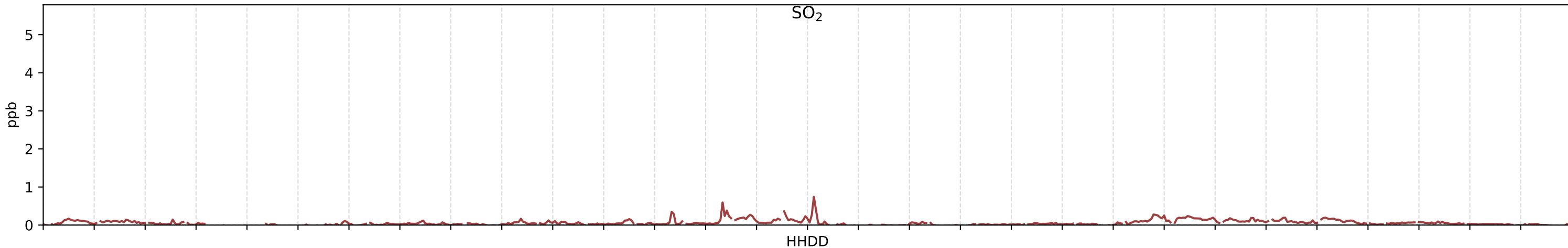
PM_{2.5} AAAQG = 80 $\mu\text{g}/\text{m}^3$



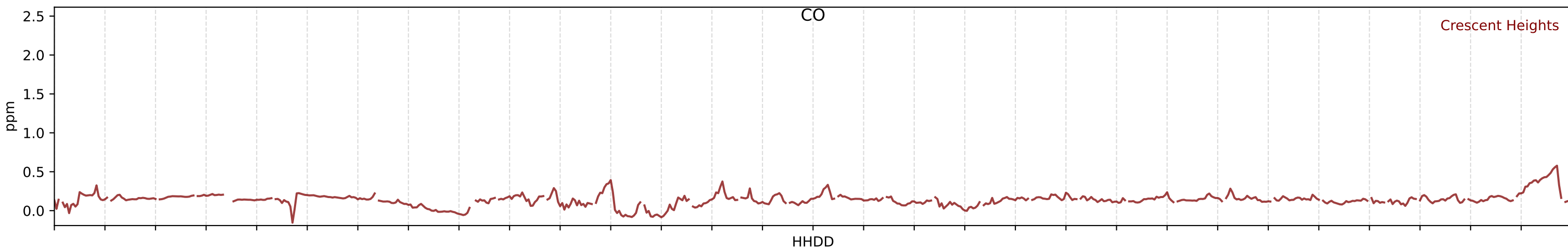
April 2024 PM_{2.5} Roses



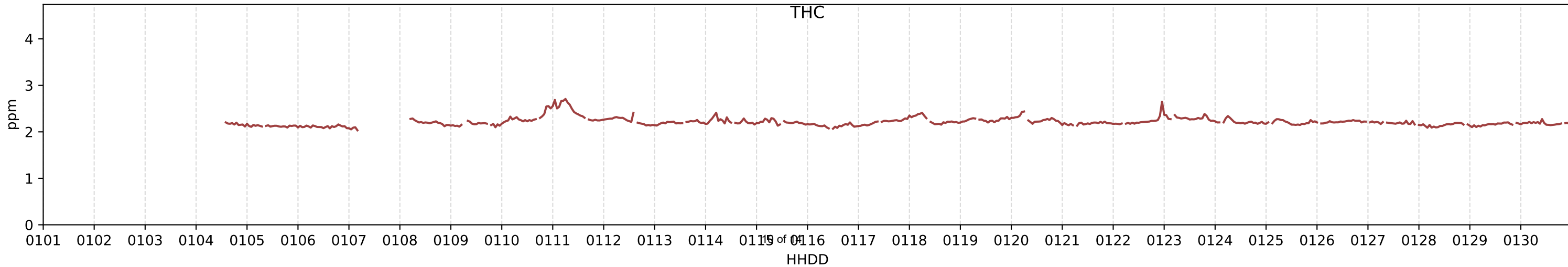
SO₂ AAAQO = 172 ppb



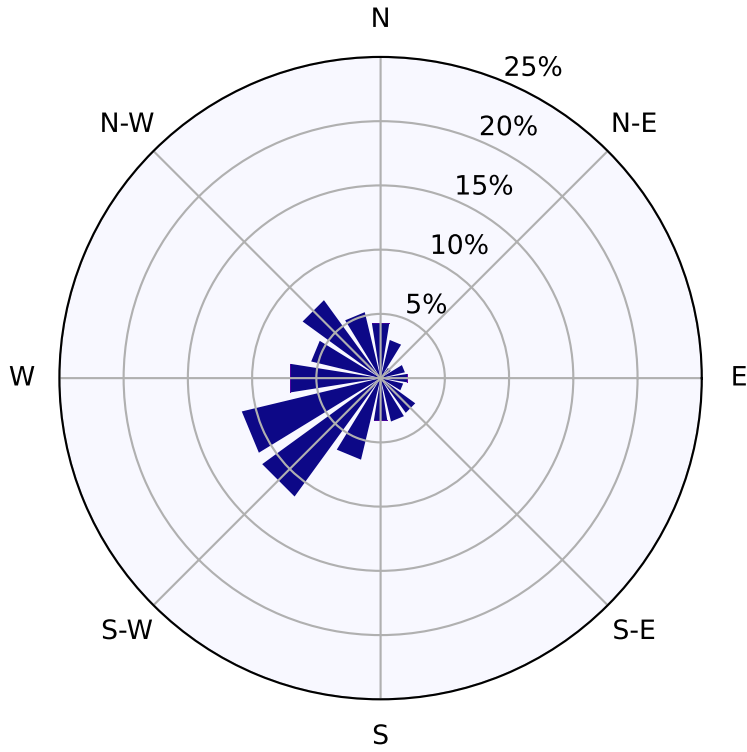
CO AAAQO = 13 ppm



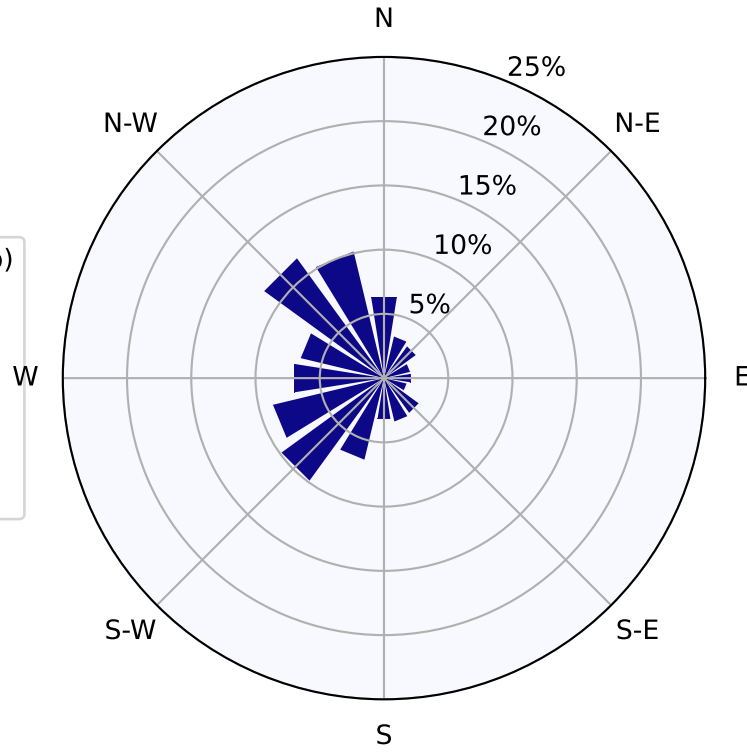
THC



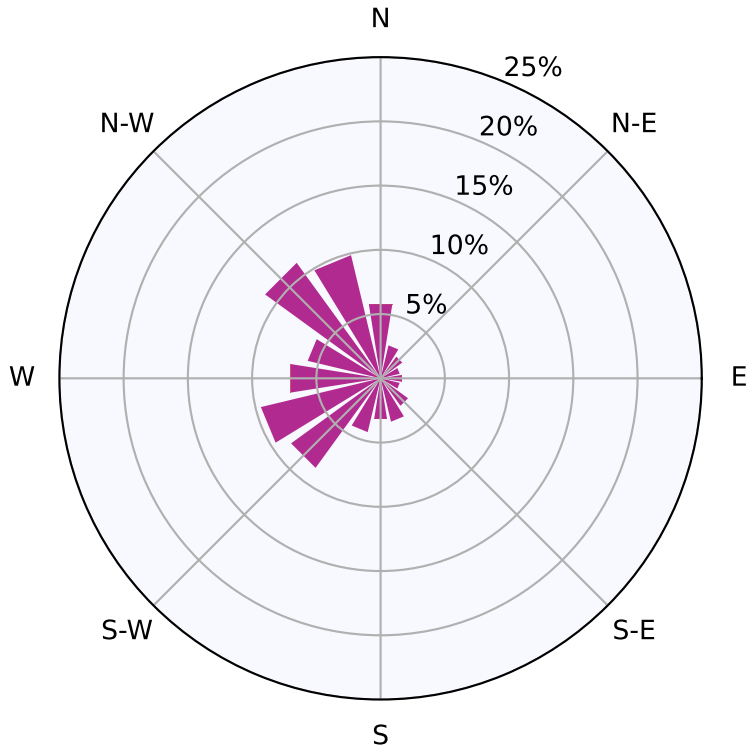
Crescent Heights SO₂

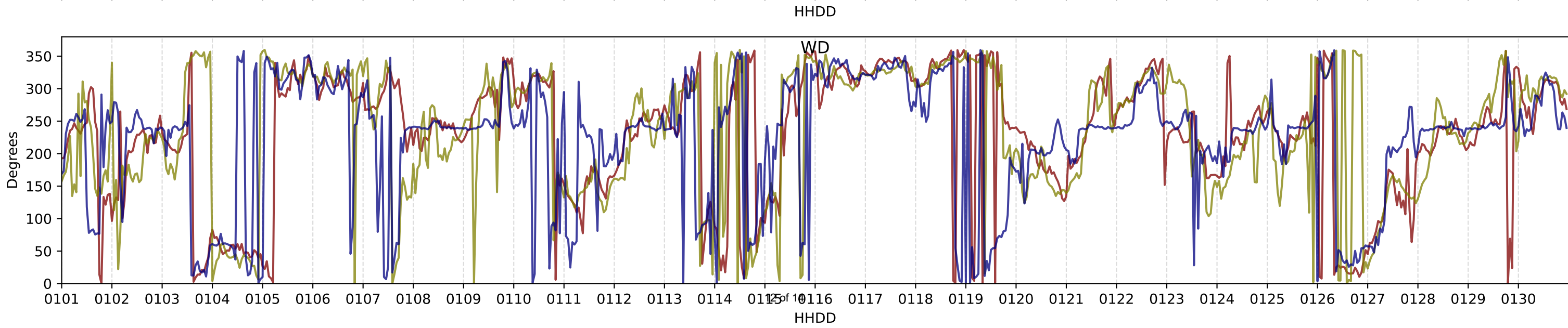
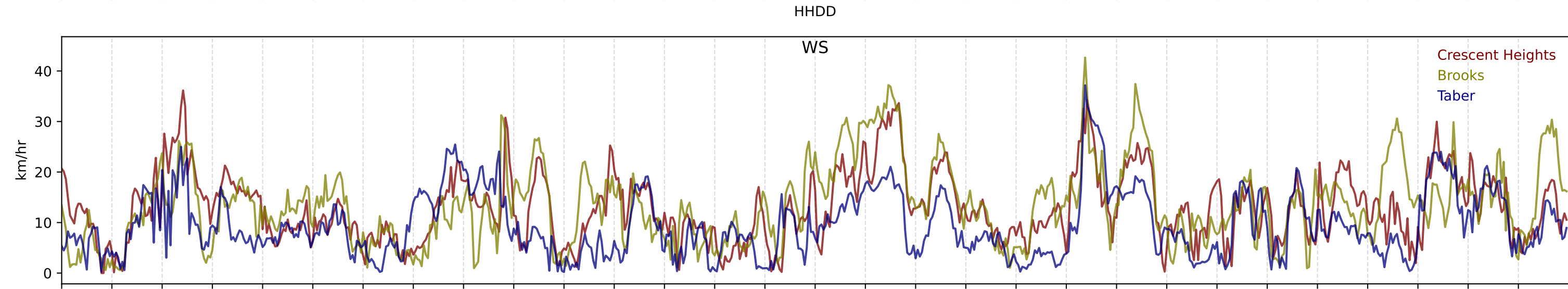
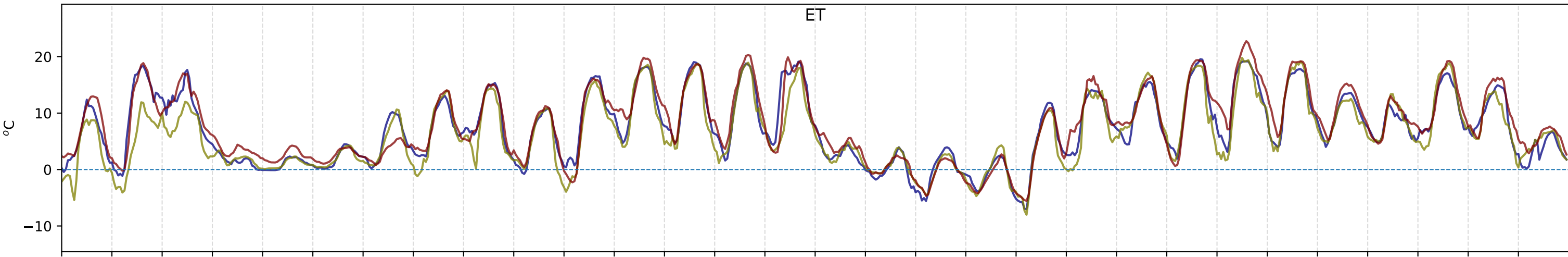


Crescent Heights CO



Crescent Heights THC





April 2024 WS Roses

