

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 – May 2024

Enclosed is the PAS Dashboard Report for the month of **May 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.

Continuous Monitoring Instrumentation Uptime Summary:

All analyzers and instruments were greater than 90% operational for the month of May.

AAAQO/G Exceedance Summary:

There were 10 exceedances of the 1-hour and 3 exceedances of the 24-hour AAAQO/G for PM_{2.5} (80/29 µg/m³) in May.

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)			
Brooks	11-May-24	19:00	20:00	173	NNE	18.3	427946
Brooks	11-May-24	20:00	21:00	147	NNE	18.6	427946
Crescent Heights	11-May-24	20:00	21:00	127	NNE	14.5	426273
Brooks	11-May-24	21:00	22:00	105	NNE	9.6	427946
Crescent Heights	11-May-24	21:00	22:00	148	NE	15.9	427945
Taber	11-May-24	21:00	22:00	204	ENE	19.7	427947
Crescent Heights	11-May-24	22:00	23:00	107	E	8.5	427945
Taber	11-May-24	22:00	23:00	180	ENE	18.1	427947
Taber	11-May-24	23:00	00:00	110	E	14.3	427947
Taber	12-May-24	00:00	01:00	81	E	10.3	427947

Station Name	Date	24-Hour PM _{2.5} Concentration (µg/m ³)	Wind Direction	Wind Speed (km/h)	Reference Number
Brooks	11-May-24	30	SSW	12.6	427946
Crescent Heights	12-May-24	31	SSE	10.2	427945
Taber	12-May-24	32	SSW	5.7	427947

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

May 2024 Monthly Ambient Air Quality Summary

May-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	0.0	0.0	0	0	0	0.3	May-17 09:00	0.1	May-17	99.7	May-22
NO (ppb)					0.9	0.0				22.5	May-23 07:00	3.4	May-23	99.7	May-21
NO ₂ (ppb)	159				4.1	1.1	0			17.7	May-25 01:00	7.2	May-09	99.7	May-21
NO _x (ppb)					4.9	1.0				31.9	May-23 07:00	10.1	May-09	99.7	May-21
O ₃ (ppb)	76				31.8	2.0	0			60.1	May-12 17:00	46.6	May-12	99.7	May-21
CO (ppm)					0.1	0.0				0.6	May-11 22:00	0.2	May-12	99.7	May-22
CO 8-Hour (ppm)	5				-	0.0	0			0.4	May-12 04:00	-	-	100.0	-
THC (ppm)					2.2	2.0				2.5	May-09 05:00	2.3	May-09	99.7	May-22
PM _{2.5} (µg/m ³)	80	29			4.8	0.3	3	1		148.1	May-11 22:00	30.8	May-12	100.0	Apr-03
ET (°C)					12.1	0.5				27.8	May-28 17:00	19.7	May-28	100.0	-
RH (%)					66.8	17.4				100.0	May-01 20:00	100.0	May-07	100.0	-
GSR (W/m ²)					226.8	0.0				944.5	May-04 13:00	342.1	May-28	100.0	-
WSPD (km/h)					3.8	0.0				37.0	May-07 20:00	26.4	May-07	100.0	-
WDIR					WNW									100.0	-

Pollutant (units)	Analyzer			Notes
	Make		Model	
SO ₂	TEI		43i	Manual span checks May 1 and 24.
NO/NO ₂ /NO _x	TEI		42i	Manual span checks May 1 and 24.
O ₃	TECO		49i	Manual span checks May 1 and 24.
CO	TEI		48i-TLE	Manual span checks May 1 and 24.
THC	TECO		51C-LT	Manual span checks May 1 and 24.
PM _{2.5}	SHARP		5030	
ET/RH	RMYoung		41382VC	
GSR	EPPLEY			
WS/WD	RMYoung		5305-10	

May-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				20.0	May-21 08:00	1.8	May-23	99.5	May-27
NO ₂ (ppb)	159				3.7	0.7	0			15.0	May-17 20:00	7.2	May-13	99.5	May-27
NO _x (ppb)					4.5	0.8				32.9	May-09 07:00	8.3	May-13	99.5	May-27
O ₃ (ppb)	76				26.9	2.5	0			49.8	May-14 17:00	36.9	May-12	99.2	May-28
PM _{2.5} (µg/m ³)	80	29			5.9	0.0	4	1		203.8	May-11 22:00	32.4	May-12	99.9	Apr-24
ET (°C)					11.3	0.0				28.6	May-28 17:00	19.2	May-28	100.0	-
RH (%)					63.8	17.8				100.0	May-02 03:00	90.7	May-07	100.0	-
WSPD (km/h)					4.9	0.1				28.6	May-07 12:00	23.3	May-07	100.0	-
WDIR					W									100.0	-

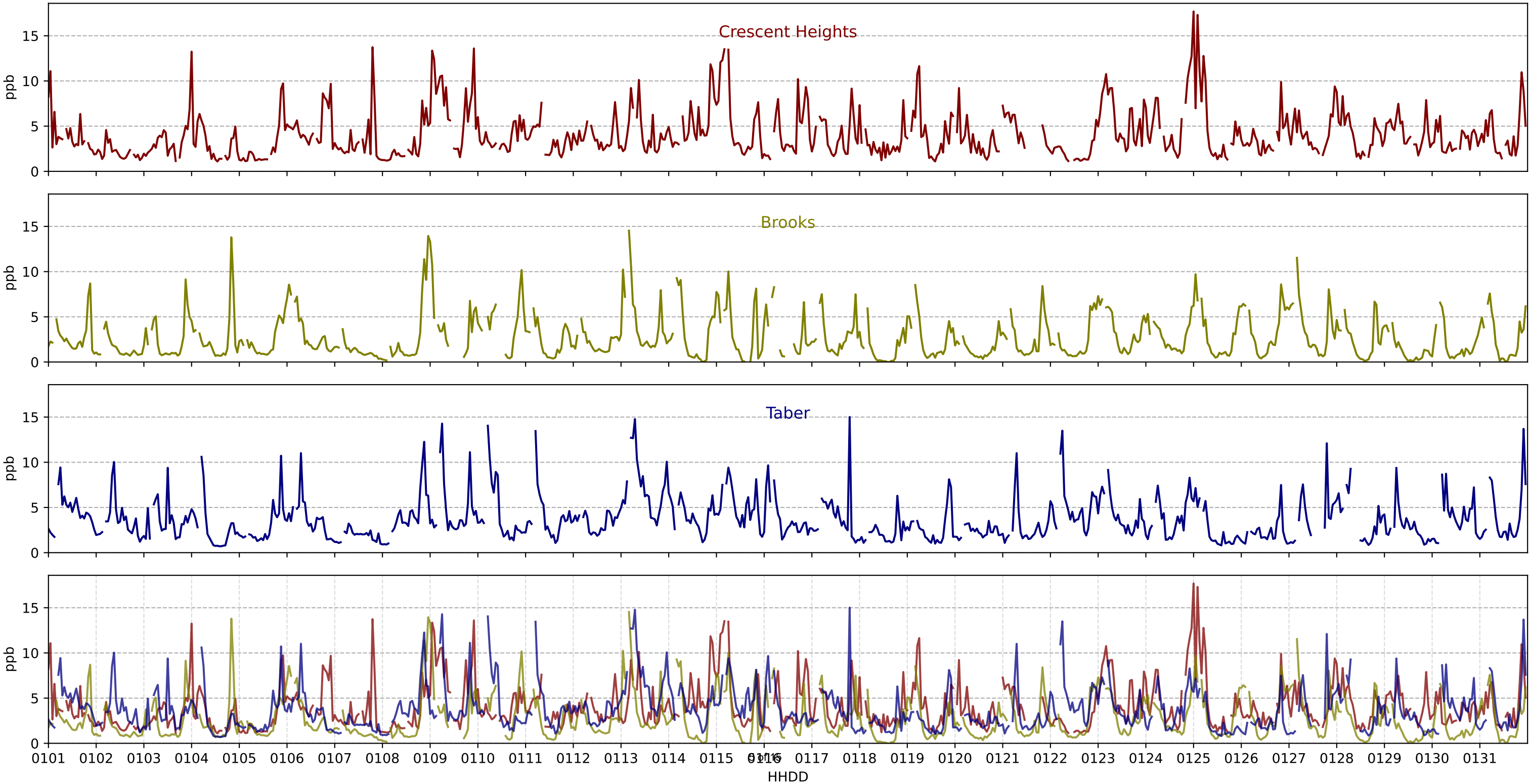
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	Analyzer offline during May 28 ozone calibration.
O ₃	API		T400	Analyzer offline during May 27 NO _x calibration.
PM _{2.5}	SHARP		5030	
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

May-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				8.8	May-13 06:00	1.3	May-13	98.8	May-09
NO ₂ (ppb)	159				2.7	0.0	0			14.5	May-13 05:00	4.4	May-13	98.8	May-09
NO _x (ppb)					3.4	0.1				20.4	May-13 05:00	5.7	May-13	98.8	May-09
O ₃ (ppb)	76				30.2	1.3	0			60.0	May-12 16:00	42.3	May-12	98.9	May-10
PM _{2.5} (µg/m ³)	80	29			5.3	0.0	3	1		172.7	May-11 20:00	30.0	May-11	100.0	Apr-25
ET (°C)					10.9	-0.9				26.9	May-28 16:00	18.2	May-11	100.0	-
RH (%)					60.4	20.5				88.8	May-24 07:00	80.9	May-07	100.0	-
WSPD (km/h)					5.6	0.1				52.3	May-07 16:00	41.2	May-07	100.0	-
WDIR					NW									100.0	-

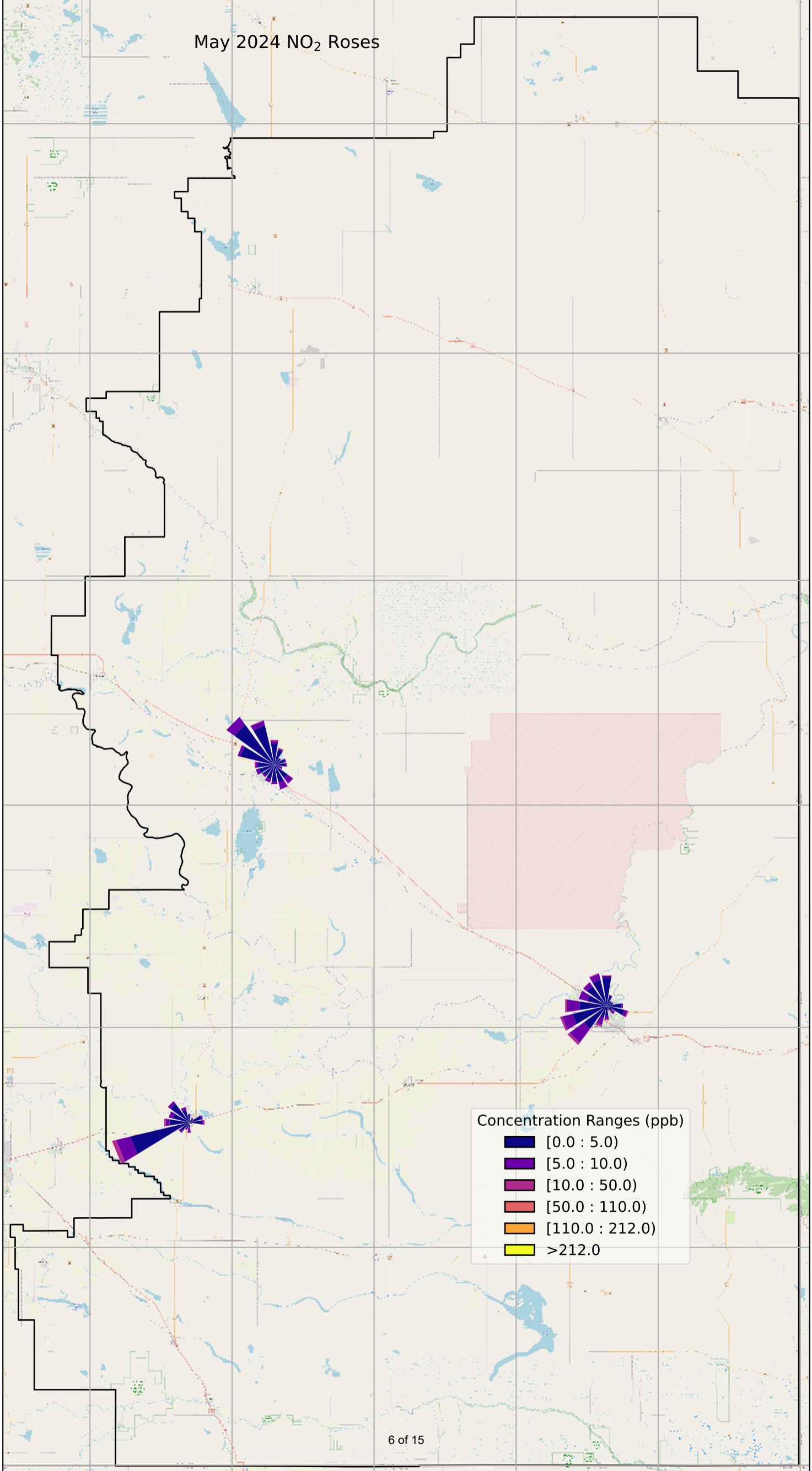
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	Analyzer offline during May 10 ozone calibration. Manual span checks May 16.
O ₃	API		T400	Analyzer offline during May 9 NO _x calibration. Manual span check May 16.
PM _{2.5}	SHARP		5030	
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

May 2024 NO₂

NO₂ AAAQO = 172 ppb



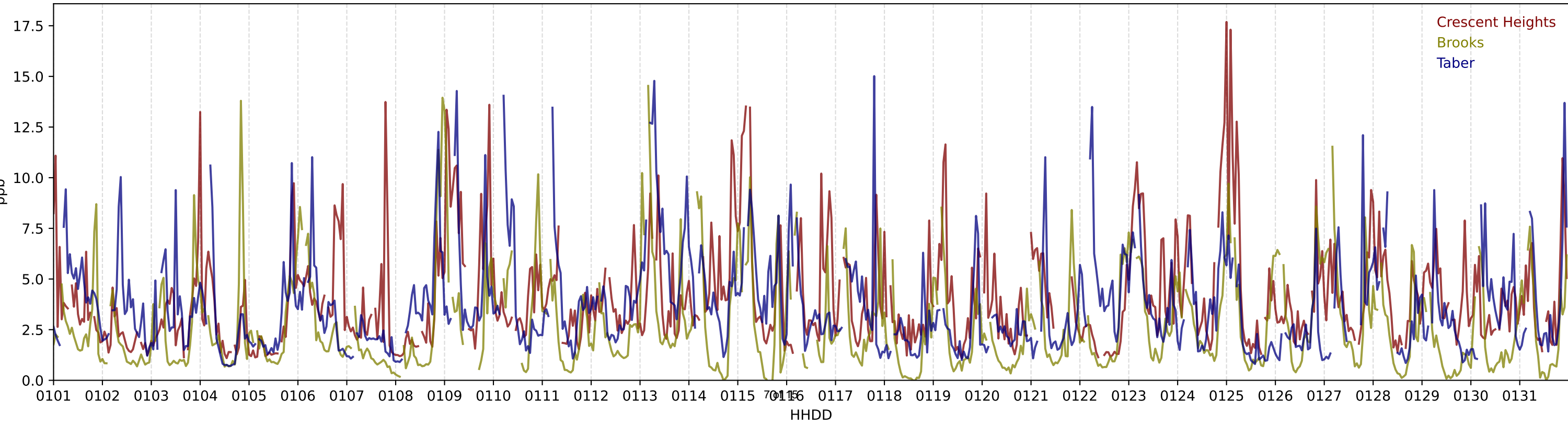
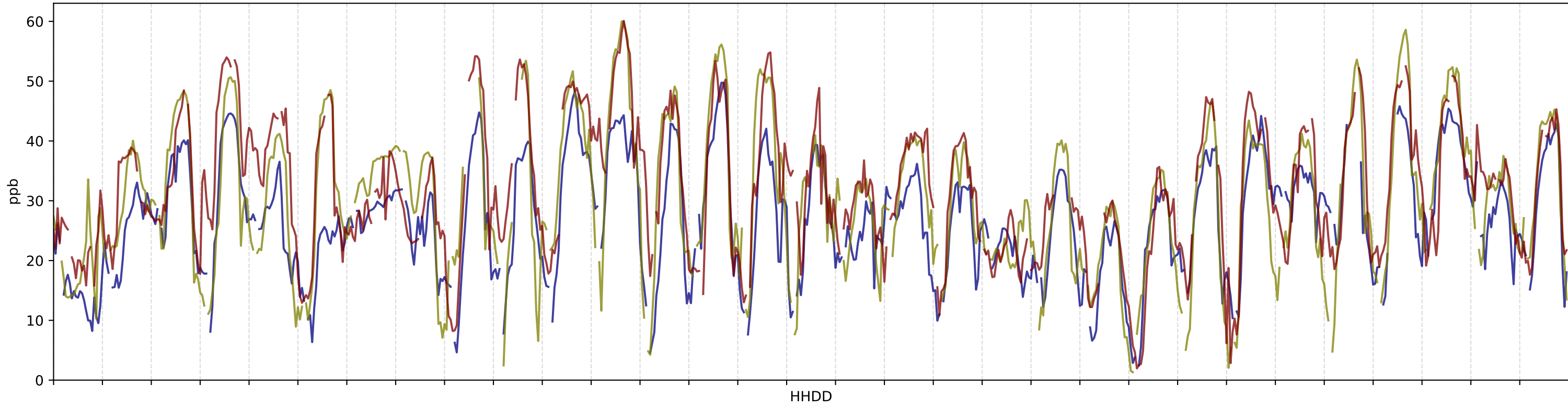
May 2024 NO₂ Roses



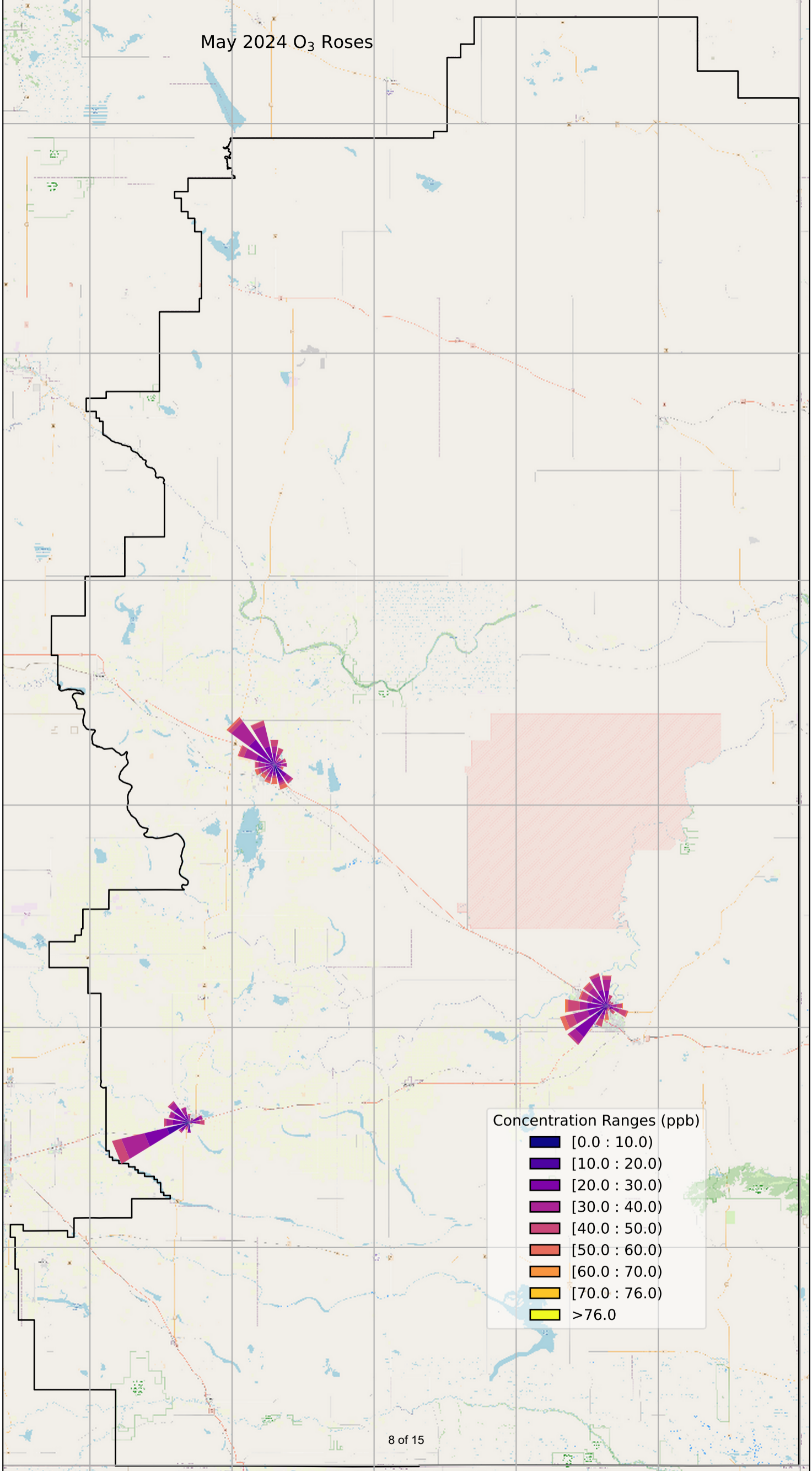
Concentration Ranges (ppb)

- [0.0 : 5.0]
- [5.0 : 10.0]
- [10.0 : 50.0]
- [50.0 : 110.0]
- [110.0 : 212.0]
- >212.0

May 2024 O₃ vs NO₂

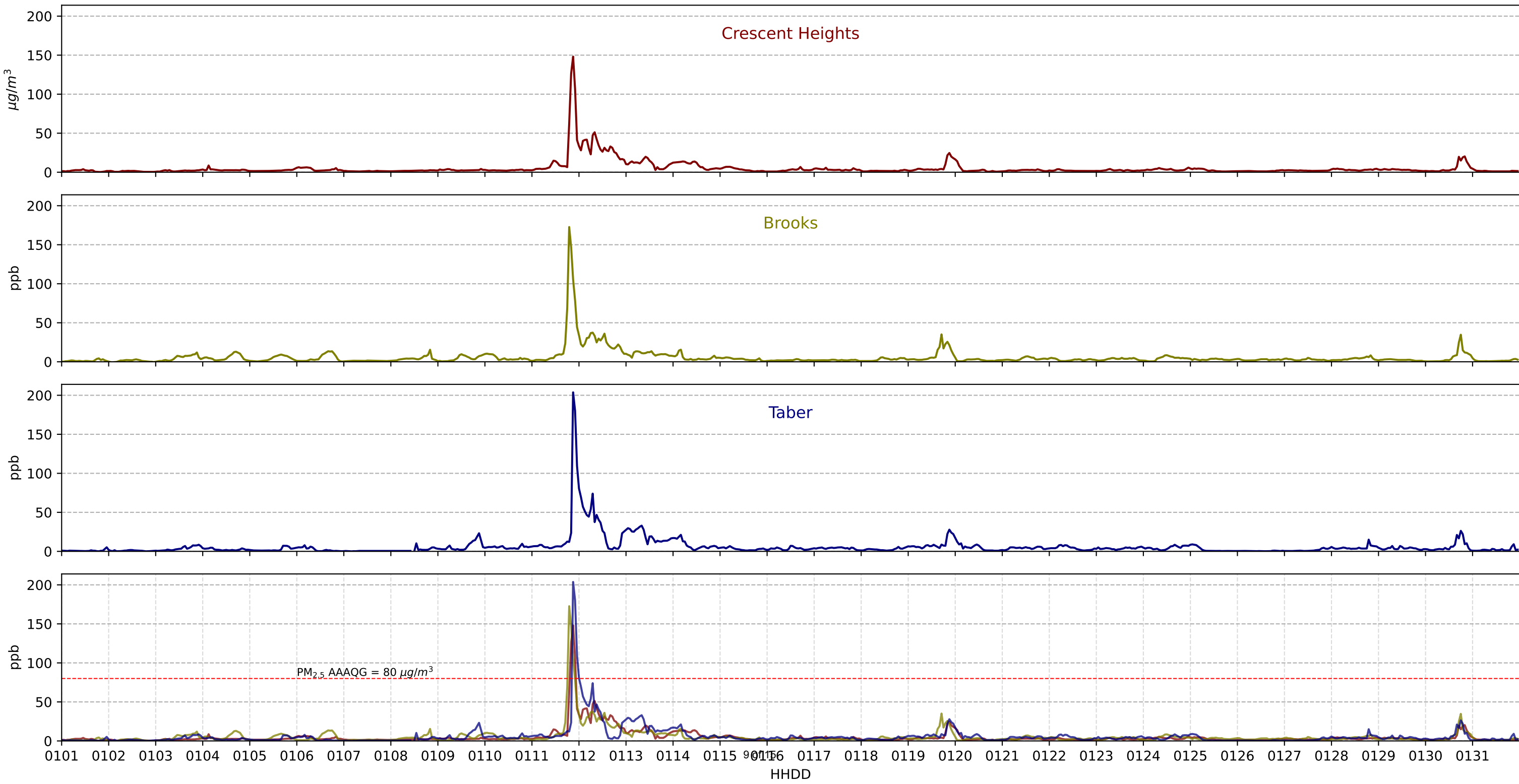


May 2024 O₃ Roses

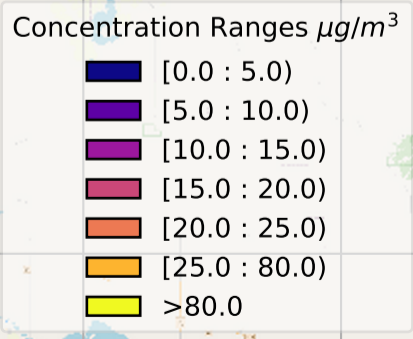
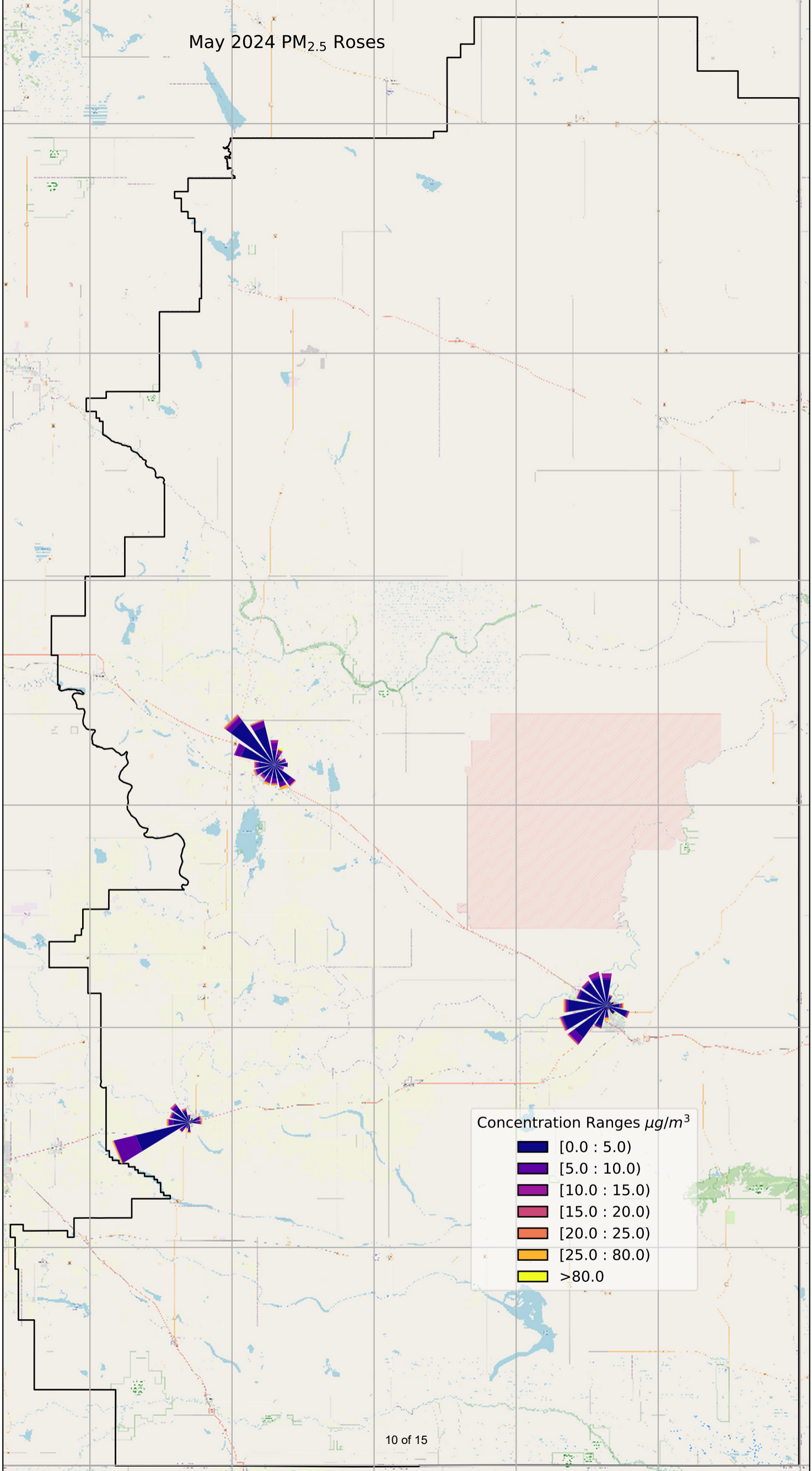


May 2024 PM_{2.5}

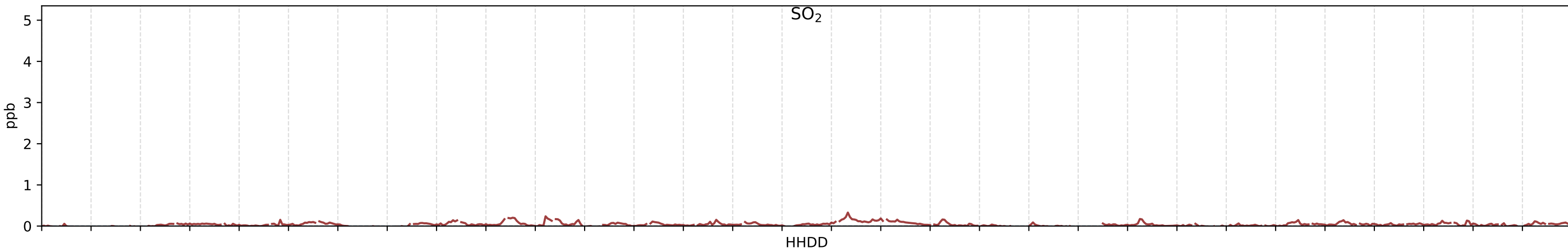
PM_{2.5} AAAQG = 80 $\mu\text{g}/\text{m}^3$



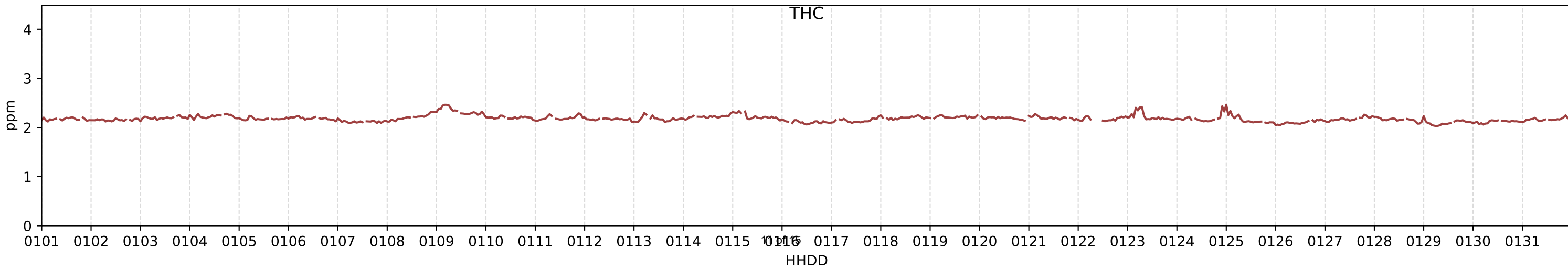
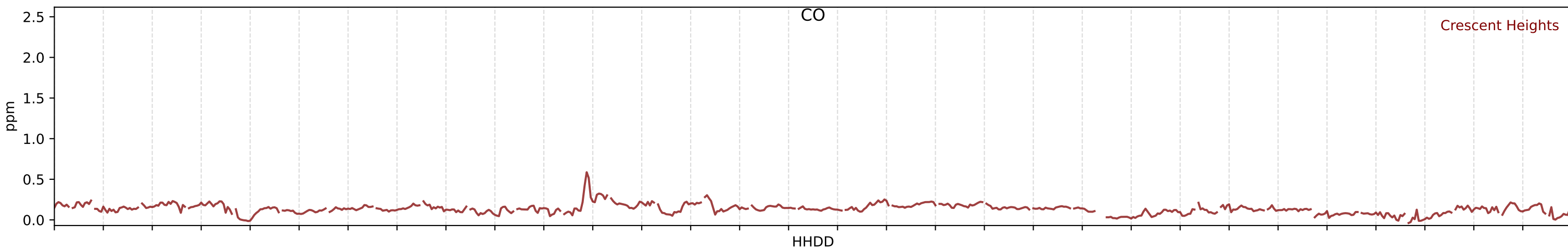
May 2024 PM_{2.5} Roses



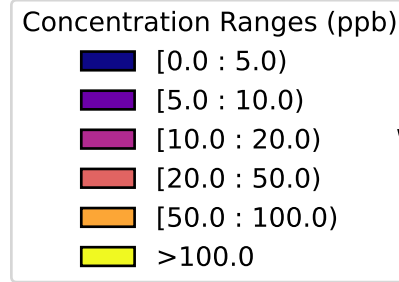
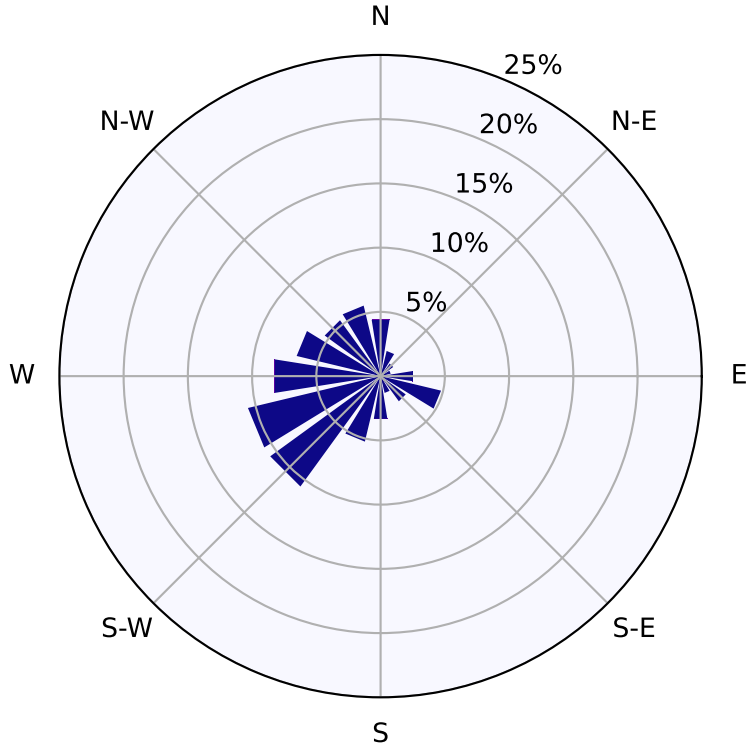
SO₂ AAAQO = 172 ppb



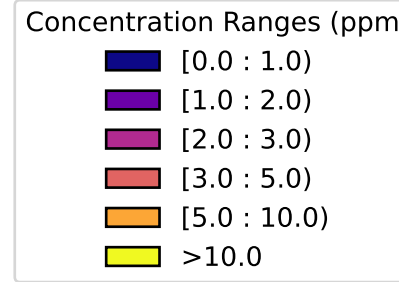
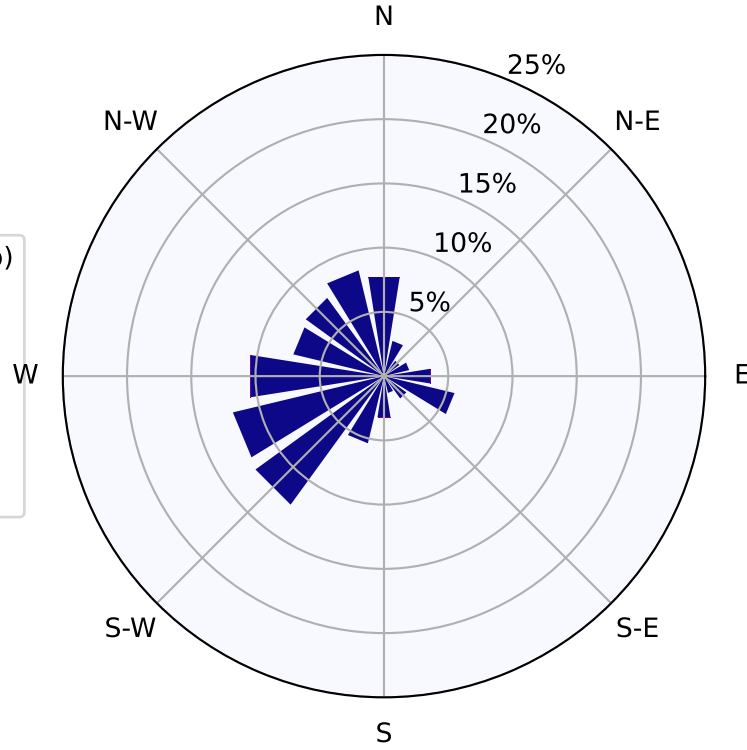
CO AAAQO = 13 ppm



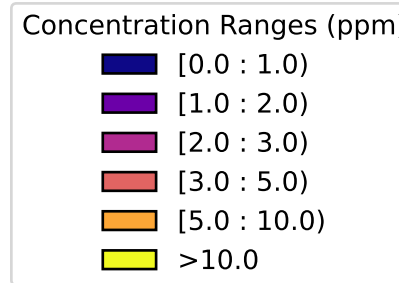
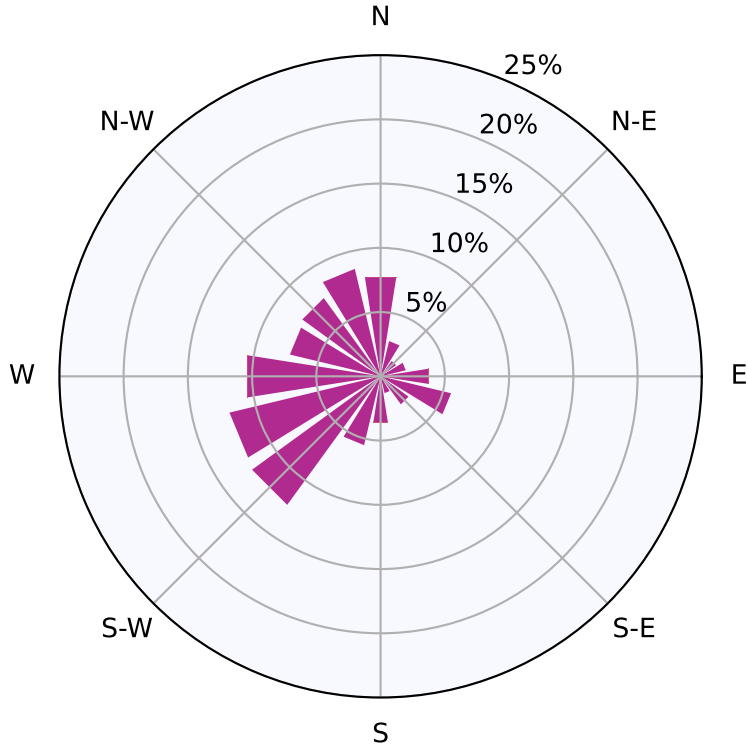
Crescent Heights SO₂

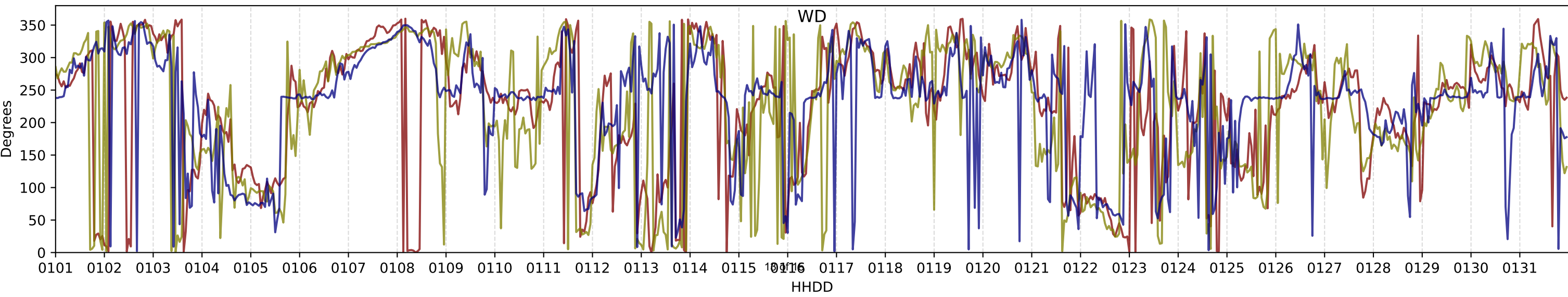
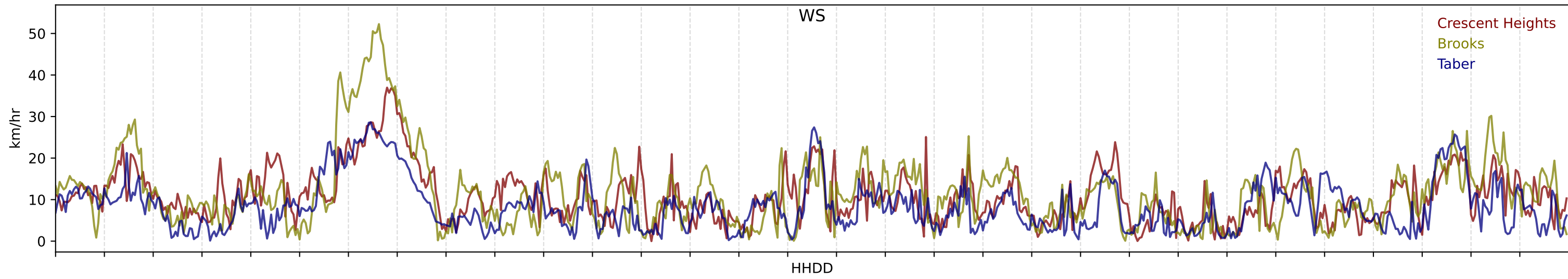
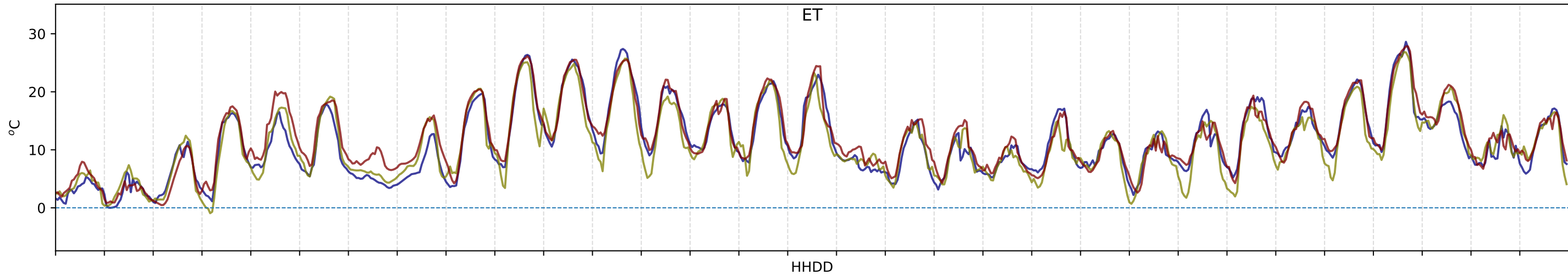


Crescent Heights CO



Crescent Heights THC





May 2024 WS Roses

