

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 – August 2024

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

Continuous Monitoring – Crescent Heights, Brooks, Brooks – Meadow Place, 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:

The PM_{2.5} analyzer at Brooks locked up August 1 and was returned to service at the August 12 calibration visit. Ref #433168.

AAAQO/G Exceedance Summary:

There were 19 1-hour and 9 24-hour exceedances of the PM_{2.5} AAAQO/G (80/29 µg/m³) in August.

Station Name	Date	Start Time	End Time	1-Hour PM _{2.5} Concentration	Wind Direction	Wind Speed	Reference Number
		(MST)	(MST)	(µg/m ³)		(km/h)	
Crescent Heights	15-Aug-24	06:00	07:00	84	SE	1.1	431973
Brooks - Meadow Place	15-Aug-24	07:00	08:00	99	NE	5.3	431974
Brooks (Airpointer)	15-Aug-24	07:00	08:00	84	NNE	3.9	431974
Crescent Heights	15-Aug-24	07:00	08:00	112	E	0.9	431973
Brooks - Meadow Place	15-Aug-24	08:00	09:00	151	NE	3.6	431974
Brooks (Airpointer)	15-Aug-24	08:00	09:00	149	NE	2.3	431974
Crescent Heights	15-Aug-24	08:00	09:00	153	ENE	6.4	431973
Brooks - Meadow Place	15-Aug-24	09:00	10:00	207	ESE	6.9	431974
Brooks (Airpointer)	15-Aug-24	09:00	10:00	181	E	5.2	431974
Crescent Heights	15-Aug-24	09:00	10:00	184	ENE	5.9	431973
Brooks - Meadow Place	15-Aug-24	10:00	11:00	154	ENE	7.0	431974
Brooks (Airpointer)	15-Aug-24	10:00	11:00	123	NE	4.9	431974
Crescent Heights	15-Aug-24	10:00	11:00	158	NE	4.7	431973
Brooks - Meadow Place	15-Aug-24	11:00	12:00	108	ENE	6.0	431974
Crescent Heights	15-Aug-24	11:00	12:00	105	NNE	8.0	431973
Taber	15-Aug-24	11:00	12:00	85	E	8.8	431975
Crescent Heights	15-Aug-24	12:00	13:00	87	NNE	9.5	431973
Taber	15-Aug-24	12:00	13:00	84	E	7.0	431975
Crescent Heights	15-Aug-24	14:00	15:00	82	NNE	8.7	431973

Station Name	Date	24-Hour PM _{2.5} Concentration (µg/m ³)	Wind Direction	Wind Speed (km/h)	Reference Number
Crescent Heights	08-Aug-24	31	ENE	5.9	431973
Brooks - Meadow Place	14-Aug-24	39	NNW	7.4	431974
Crescent Heights	14-Aug-24	33	NW	4.1	431973
Brooks - Meadow Place	15-Aug-24	67	ENE	7.2	431974
Brooks (Airpointer)	15-Aug-24	51	NE	4.4	431974
Crescent Heights	15-Aug-24	77	NE	5.2	431973
Taber	15-Aug-24	49	E	5.7	431975
Brooks - Meadow Place	16-Aug-24	39	S	3.8	431974
Crescent Heights	16-Aug-24	34	ESE	2.3	431973

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

August 2024 Monthly Ambient Air Quality Summary

Aug-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	0.6	Aug-23 20:00	0.2	Aug-23	99.9	Aug-01	
NO (ppb)					0.7	0.0					29.8	Aug-30 21:00	3.6	Aug-30	99.3	Aug-01
NO ₂ (ppb)	159				2.5	0.0	0				23.1	Aug-29 22:00	5.1	Aug-14	99.3	Aug-01
NO _x (ppb)					3.2	0.0					52.6	Aug-30 21:00	8.0	Aug-30	99.3	Aug-01
O ₃ (ppb)	76				35.9	4.8	0				59.9	Aug-14 12:00	45.3	Aug-23	99.9	Aug-01
CO (ppm)					0.2	0.0					1.5	Aug-15 11:00	0.7	Aug-15	97.5	Aug-01
CO 8-Hour (ppm)	5				-	0.0	0				1.1	Aug-15 16:00	-	-	96.6	-
THC (ppm)					2.0	1.9					2.4	Aug-16 06:00	2.1	Aug-15	99.9	Aug-01
PM _{2.5} (µg/m ³)	80	29			13.9	1.6	8	4			184.1	Aug-15 10:00	77.1	Aug-15	99.9	Jun-12
ET (°C)					21.0	8.3					34.7	Aug-19 17:00	27.7	Aug-19	99.9	-
RH (%)					50.4	13.8					100.0	Aug-05 06:00	88.3	Aug-28	99.9	-
GSR (W/m ²)					243.1	0.0					877.1	Aug-01 13:00	324.2	Aug-01	99.9	-
WSPD (km/h)					1.5	0.0					35.3	Aug-19 23:00	14.7	Aug-24	99.9	-
WDIR					SW										99.9	-

Pollutant (units)	Analyzer			Notes
	Make	Model		
SO ₂	TEI	43i	Incomplete data capture for 1 hour on August 2.	
NO/NO ₂ /NO _x	TEI	42i	Manual span checks August 9 and 10.	
O ₃	TECO	49i		
CO	TEI	48i-TLE	Analyzer repaired August 1 and returned to service. Adjustments to span system performed August 2 and 10.	
THC	TECO	51C-LT		
PM _{2.5}	SHARP	5030		
ET/RH	RMYoung	41382VC		
GSR	EPPLEY			
WS/WD	RMYoung	5305-10		

Aug-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	1.1	0.0				35.1	Aug-08 06:00	4.5	Aug-08	99.9	Aug-28	
NO ₂ (ppb)	159				2.8	0.0	0				18.8	Aug-18 21:00	4.6	Aug-14	99.9	Aug-28
NO _x (ppb)					3.9	0.1					46.2	Aug-08 06:00	8.0	Aug-08	99.9	Aug-28
O ₃ (ppb)	76				31.9	1.3	0				59.5	Aug-05 18:00	39.2	Aug-19	99.9	Aug-28
PM _{2.5} (µg/m ³)	80	29			11.5	0.2	2	1			84.5	Aug-15 12:00	49.0	Aug-15	99.9	Jun-20
ET (°C)					19.4	7.3					32.9	Aug-19 16:00	25.2	Aug-02	99.9	-
RH (%)					57.5	18.3					99.8	Aug-28 23:00	83.8	Aug-28	99.9	-
WSPD (km/h)					1.6	0.1					23.2	Aug-27 17:00	12.9	Aug-24	99.9	-
WDIR					WSW										99.9	-

Pollutant (units)	Analyzer			Notes
	Make	Model		
NO/NO ₂ /NO _x	API	42i	Logger failed to capture 1 hour of data August 8.	
O ₃	API	T400		
PM _{2.5}	SHARP	5030		
ET/RH	Vaisala	WXT520		
WS/WD	Vaisala	WXT520		

Aug-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	1.0	0.0				18.8	Aug-23 07:00	2.0	Aug-17	100.0	Aug-12
NO ₂ (ppb)	159				3.2	0.0	0			22.3	Aug-13 22:00	6.9	Aug-14	100.0	Aug-12
NO _x (ppb)					4.2	0.0				33.2	Aug-23 07:00	8.2	Aug-14	100.0	Aug-12
O ₃ (ppb)	76				30.3	0.3	0			55.2	Aug-05 18:00	38.4	Aug-20	100.0	Aug-12
PM _{2.5} (µg/m ³)	80	29			10.5	0.0	4	1		180.5	Aug-15 10:00	50.5	Aug-15	62.2	Aug-13
ET (°C)					19.0	6.8				32.5	Aug-03 16:00	24.5	Aug-19	100.0	-
RH (%)					54.5	16.3				90.2	Aug-17 07:00	76.8	Aug-28	100.0	-
WSPD (km/h)					1.9	0.2				35.3	Aug-24 10:00	22.9	Aug-24	100.0	-
WDIR					SW									100.0	-

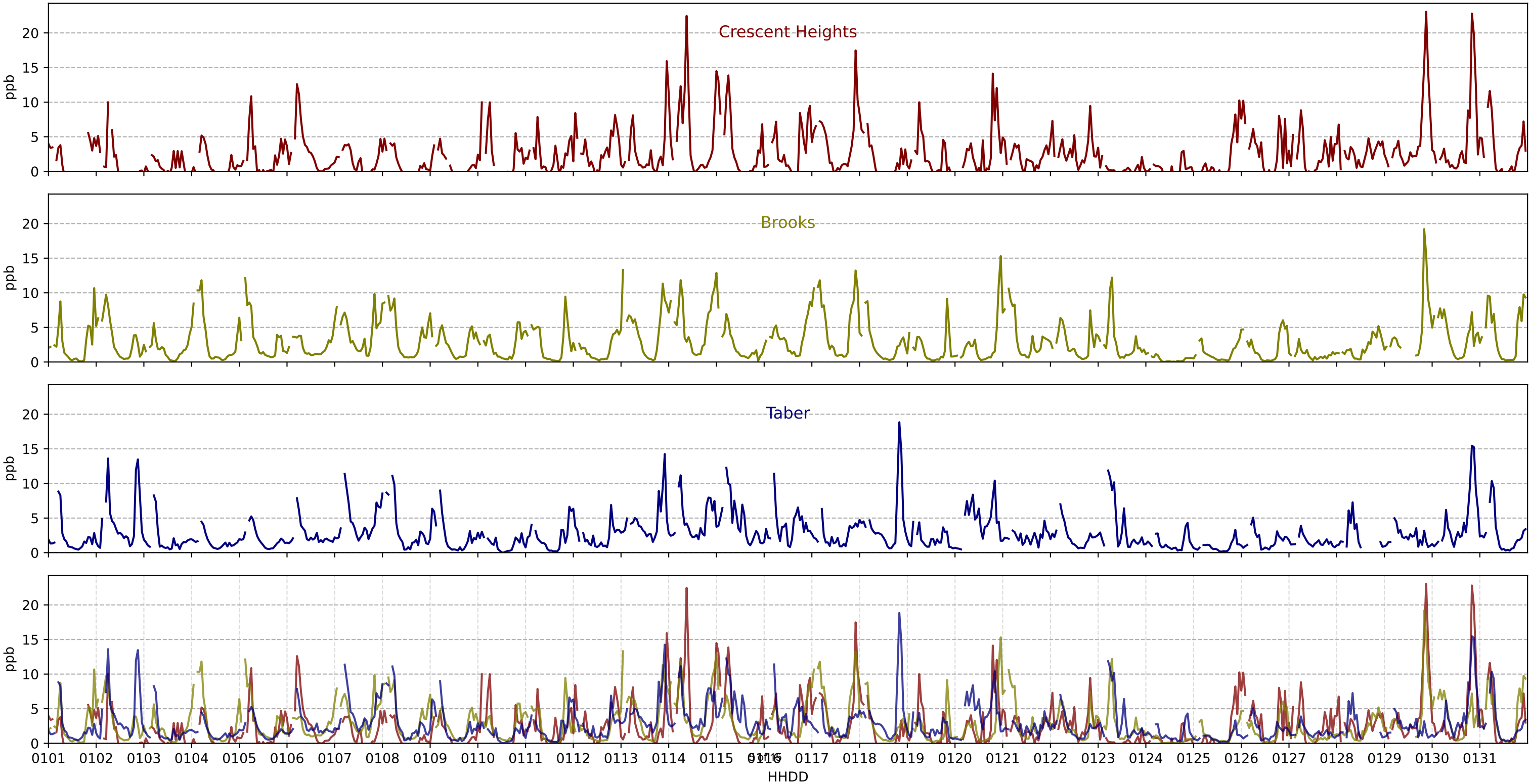
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	API		42i	Station was removed from service August 29.
O ₃	API		T400	
PM _{2.5}	SHARP		5030	Analyzer locked up August 1, returned to service during August 12 calibration visit.
ET/RH	Vaisala		WXT520	
WS/WD	Vaisala		WXT520	

Aug-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 Meadow Place	0.4	0.0				15.0	Aug-23 08:00	1.3	Aug-08	100.0	Aug-29
NO ₂ (ppb)	159				2.9	0.0	0			19.2	Aug-29 21:00	5.5	Aug-17	100.0	Aug-29
NO _x (ppb)					3.2	0.0				29.9	Aug-29 21:00	6.7	Aug-17	100.0	Aug-29
O ₃ (ppb)	76				32.1	0.5	0			57.5	Aug-19 16:00	40.6	Aug-20	100.0	Aug-29
PM _{2.5} (µg/m ³)	80	29			14.2	1.0	5	3		206.6	Aug-15 10:00	66.7	Aug-15	100.0	Aug-29
ET (°C)					19.2	6.1				32.7	Aug-03 16:00	24.9	Aug-19	100.0	-
RH (%)					68.6	58.6				72.1	Aug-19 13:00	70.8	Aug-19	100.0	-
WSPD (km/h)					2.1	0.3				35.3	Aug-03 20:00	23.3	Aug-24	100.0	-
WDIR					WSW									100.0	-

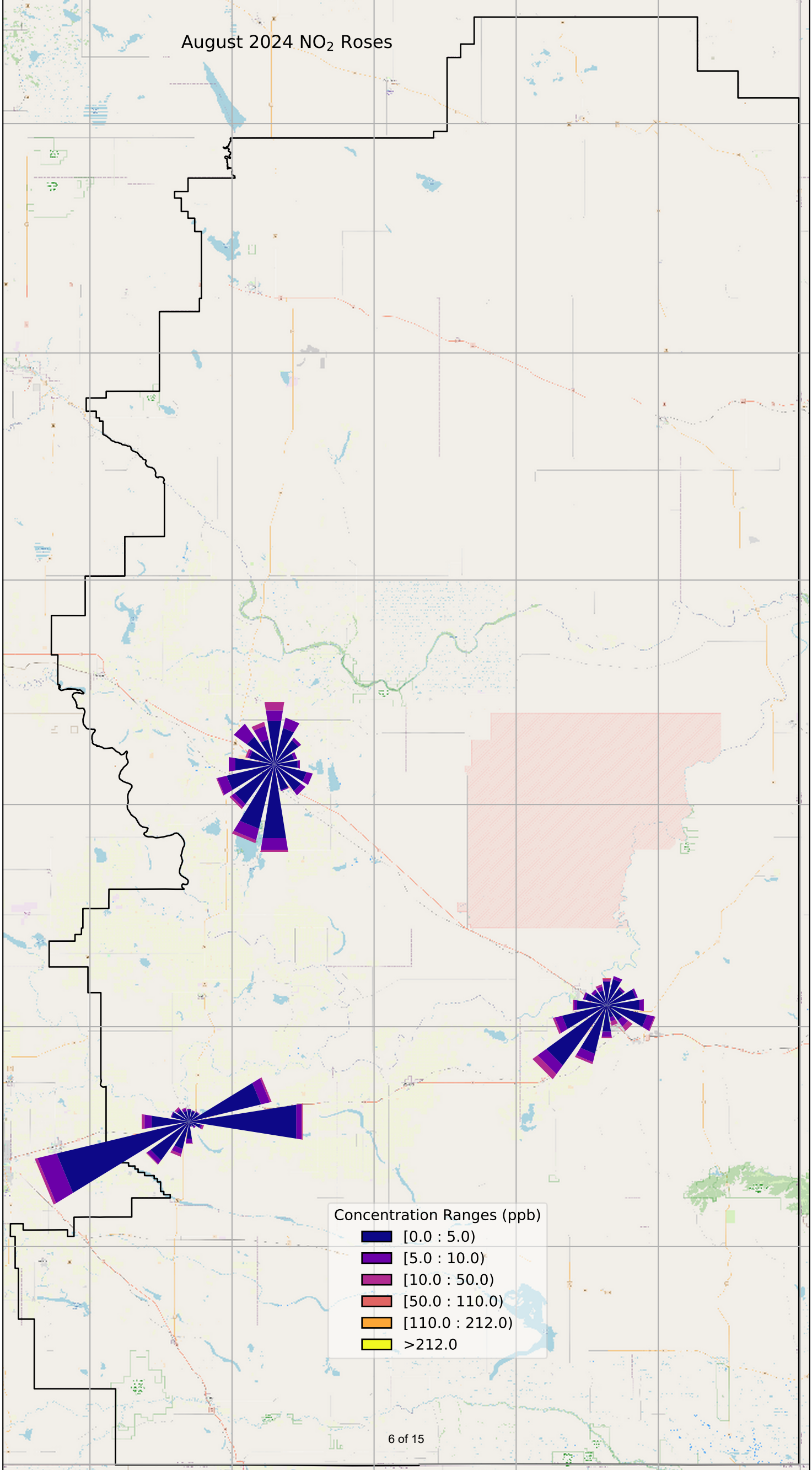
Pollutant (units)	Analyzer			Notes
	Make		Model	
NO/NO ₂ /NO _x	TEI		42i	Station installation calibrations performed July 25, 26 and 30 and began reporting in August.
O ₃	TEI		49iQ	
PM _{2.5}	API		T640	
ET/RH				
WS/WD				

August 2024 NO₂

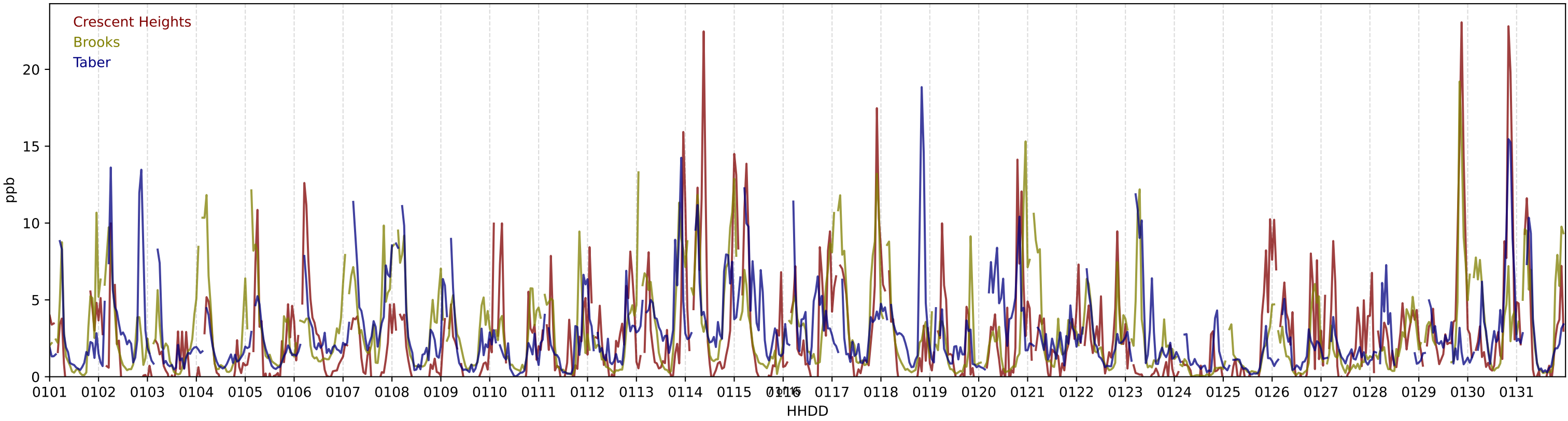
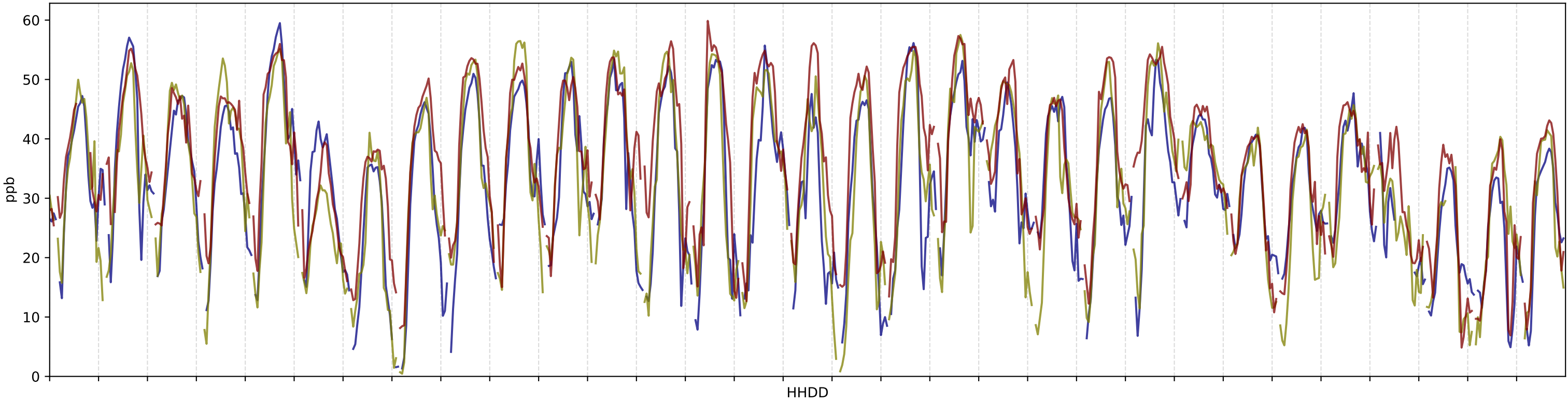
NO₂ AAAQO = 172 ppb



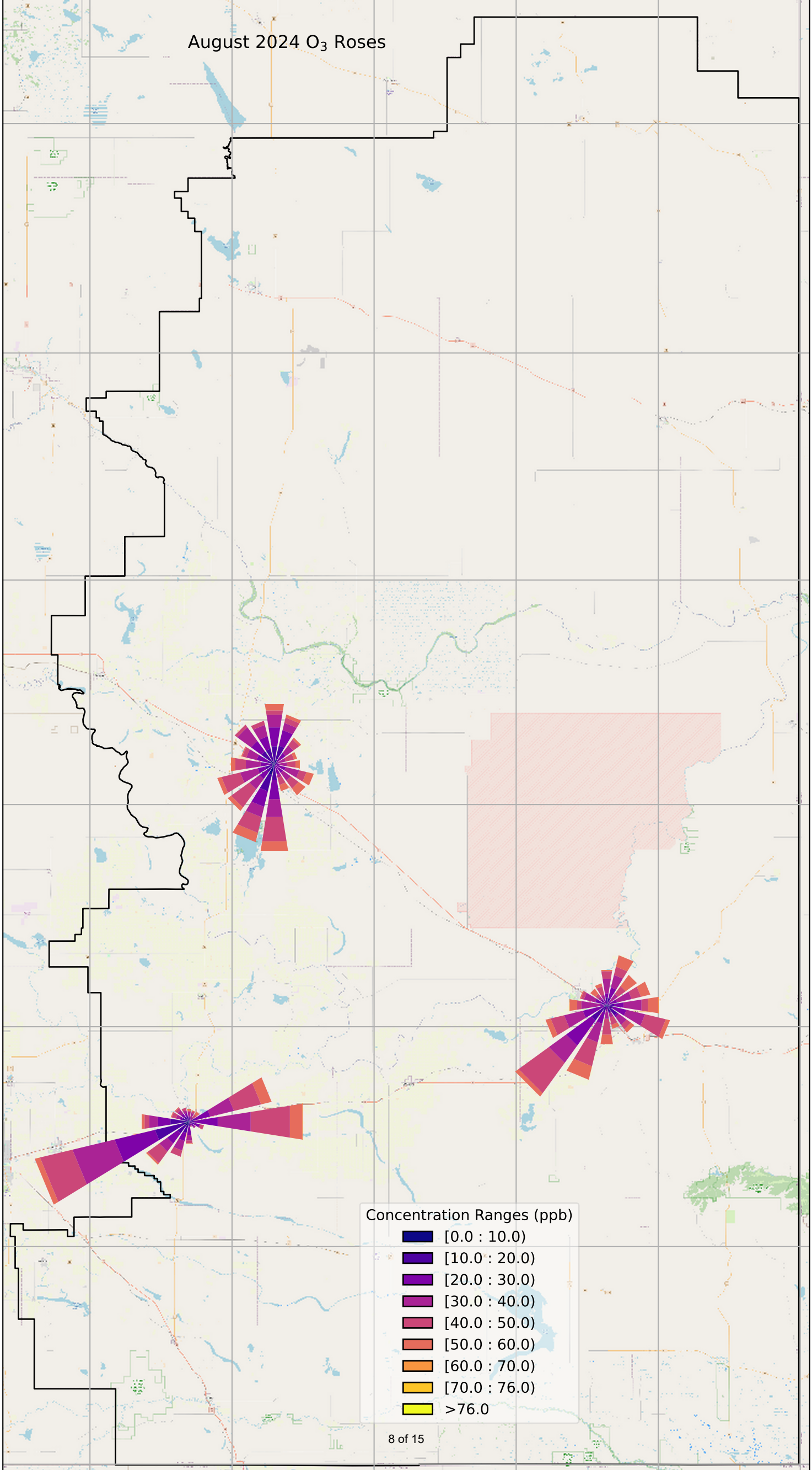
August 2024 NO₂ Roses



August 2024 O₃ vs NO₂



August 2024 O₃ Roses

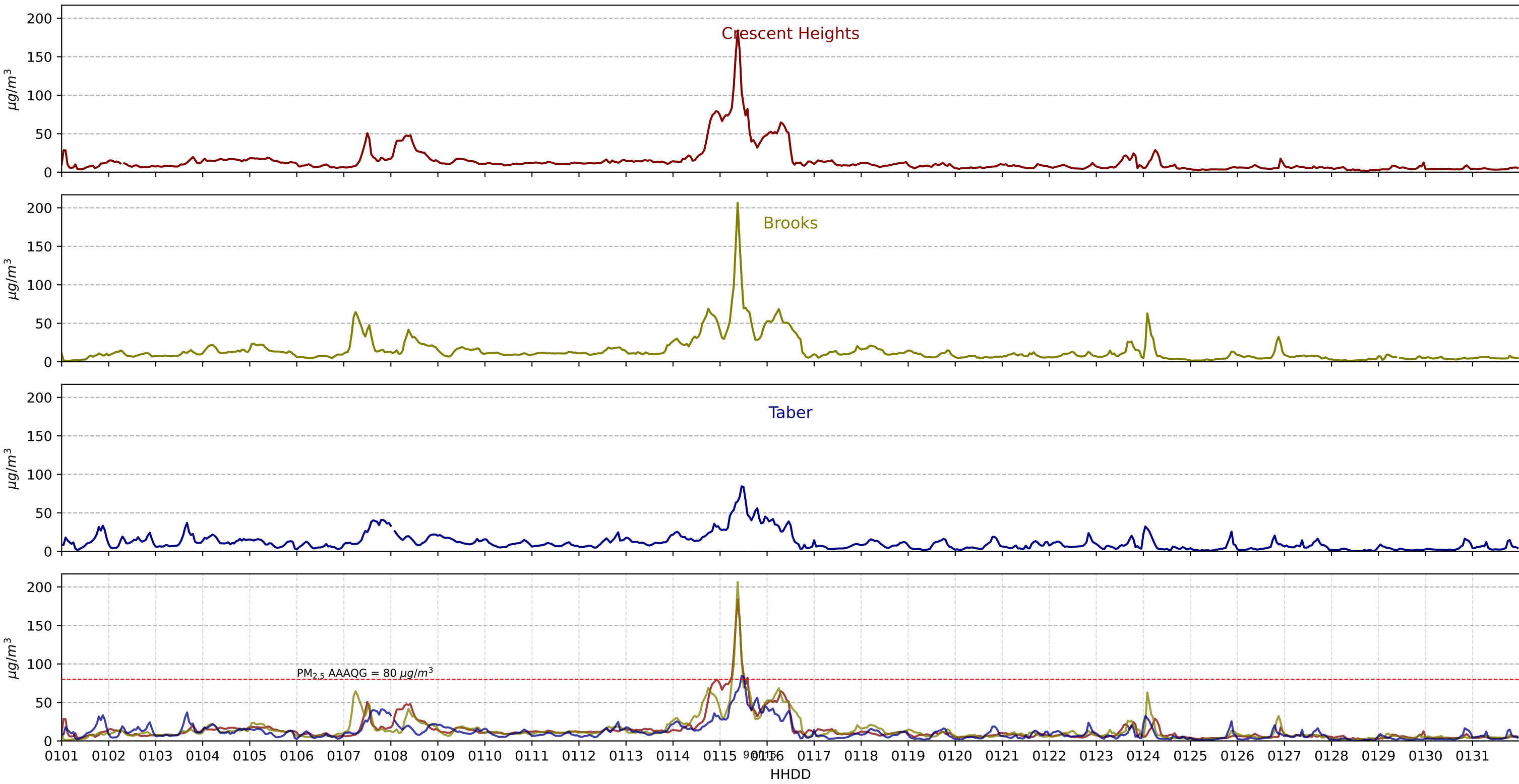


Concentration Ranges (ppb)

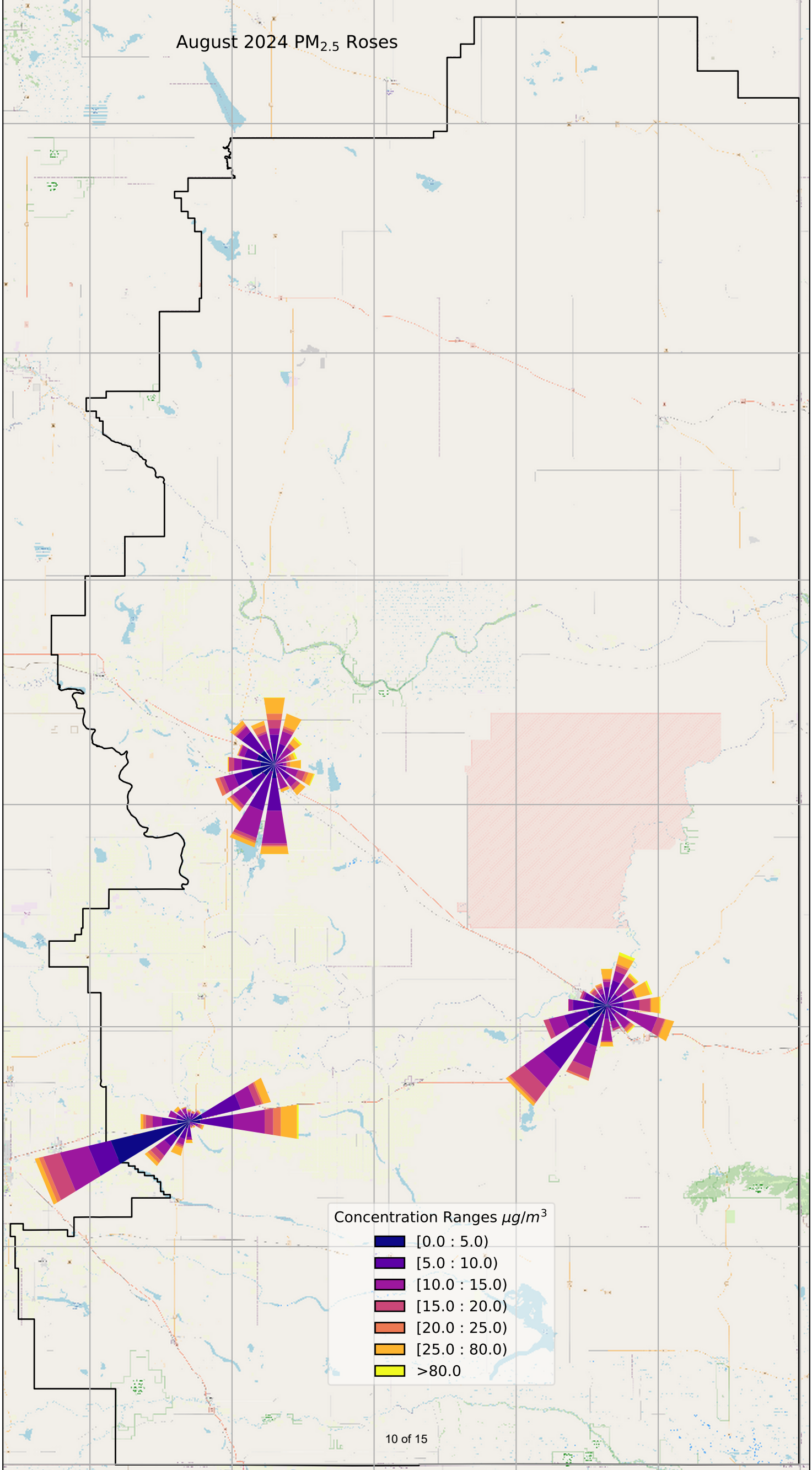
- [0.0 : 10.0)
- [10.0 : 20.0)
- [20.0 : 30.0)
- [30.0 : 40.0)
- [40.0 : 50.0)
- [50.0 : 60.0)
- [60.0 : 70.0)
- [70.0 : 76.0)
- > 76.0

August 2024 PM_{2.5}

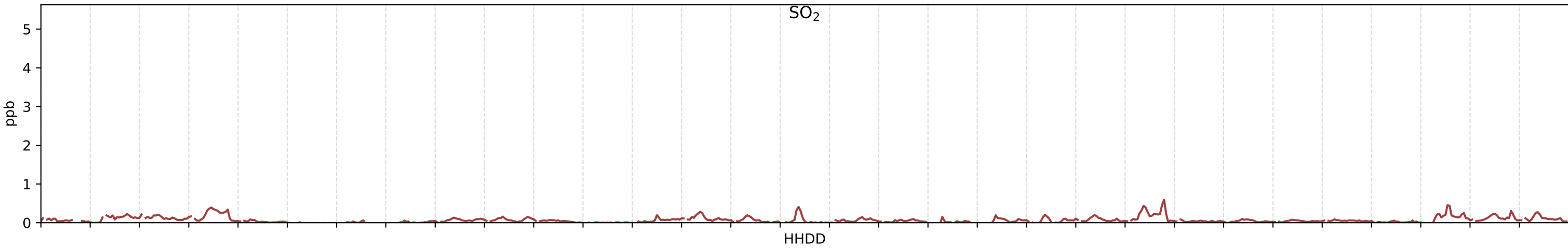
PM_{2.5} AAAQG = 80 µg/m³



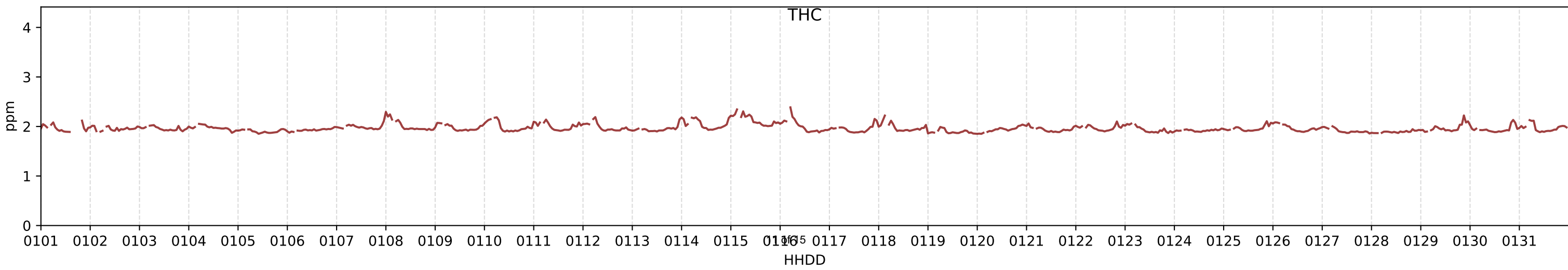
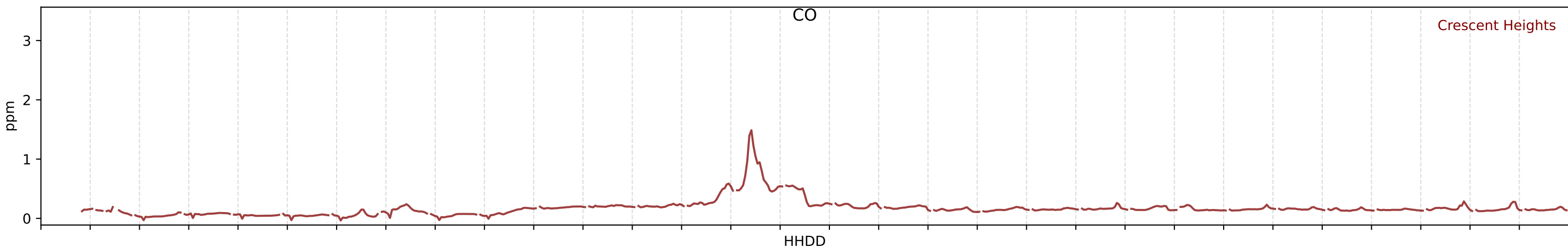
August 2024 PM_{2.5} Roses



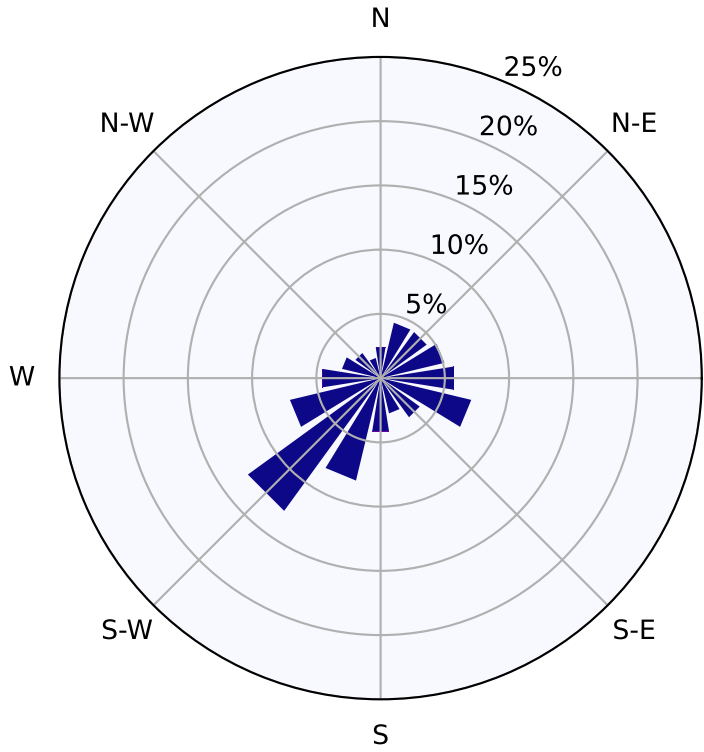
SO₂ AAAQO = 172 ppb



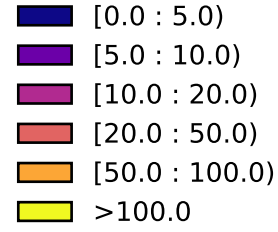
CO AAAQO = 13 ppm



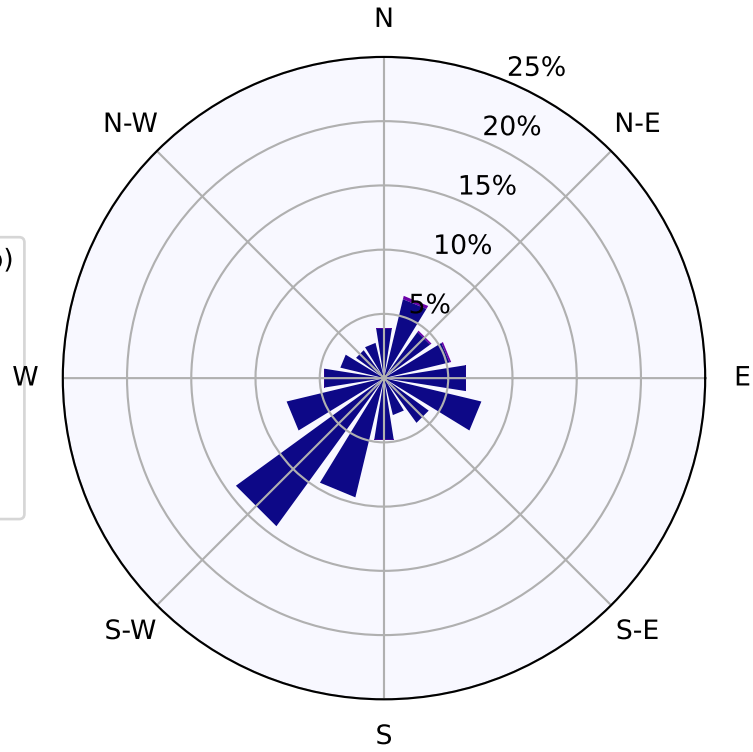
Crescent Heights SO₂



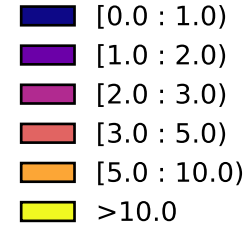
Concentration Ranges (ppb)



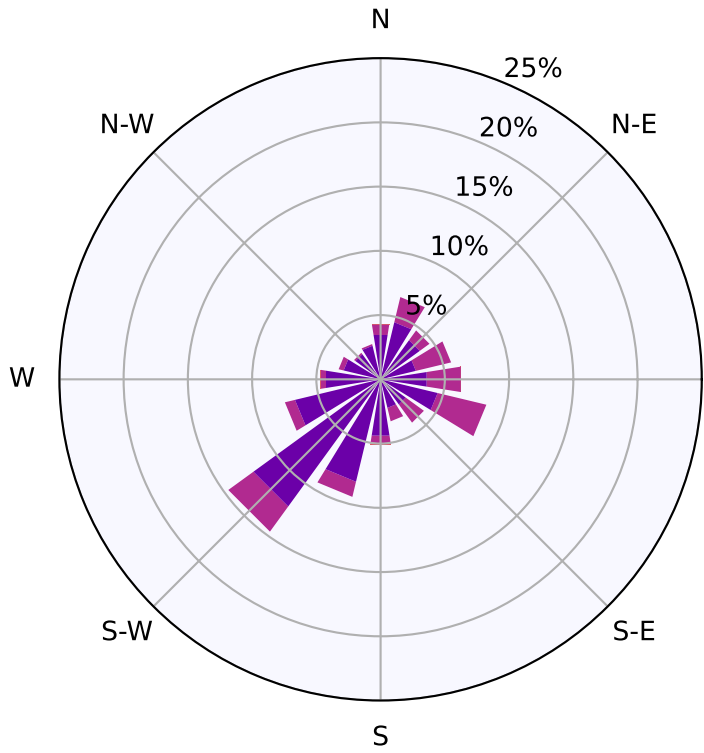
Crescent Heights CO



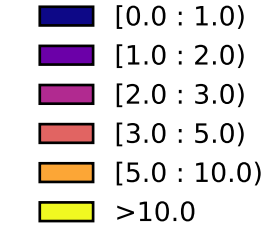
Concentration Ranges (ppm)

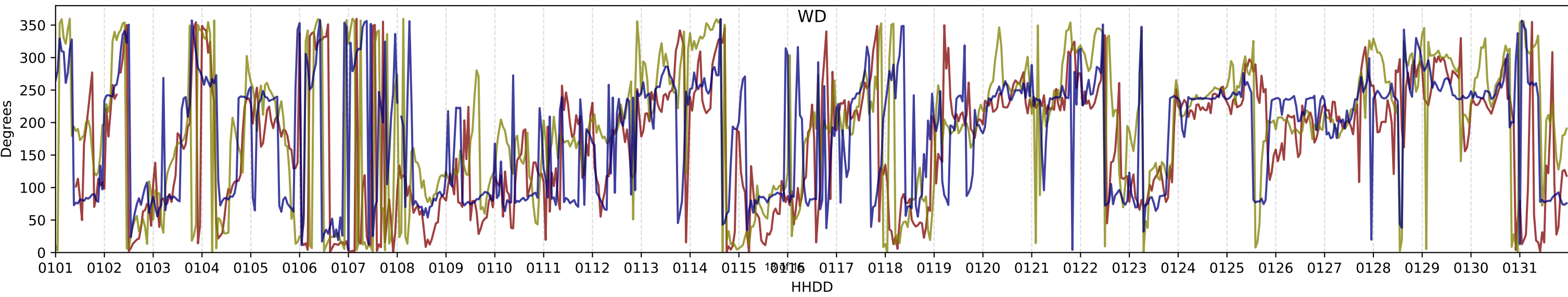
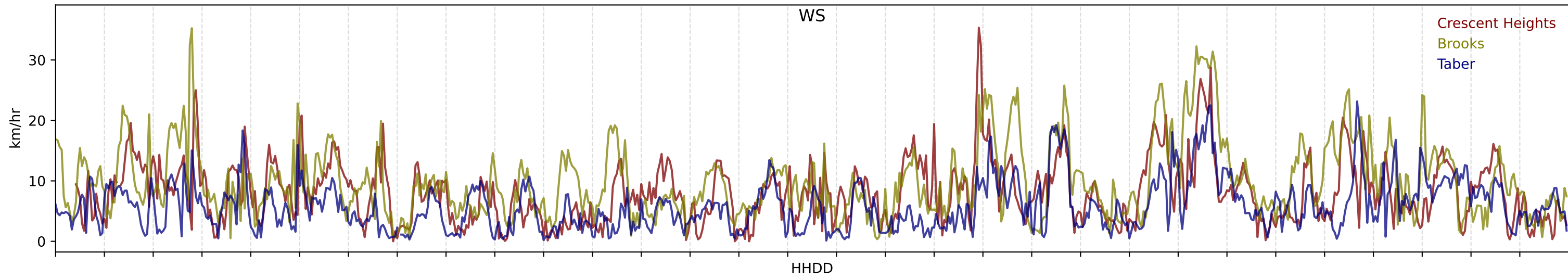
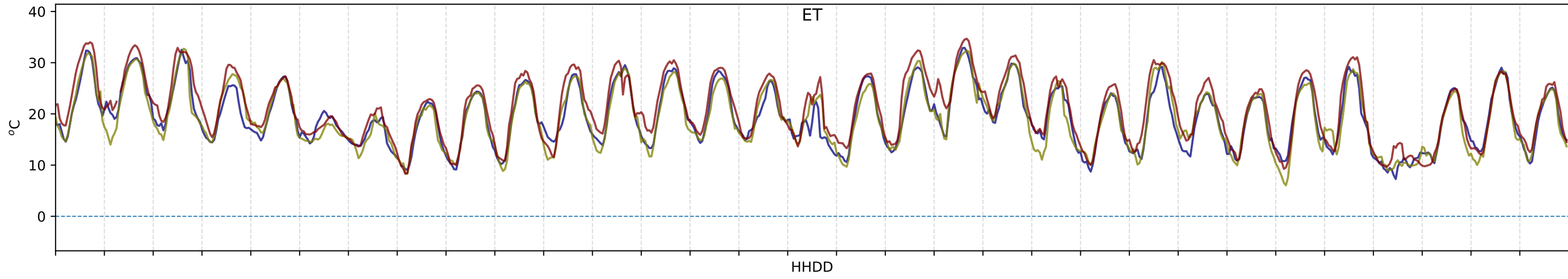


Crescent Heights THC

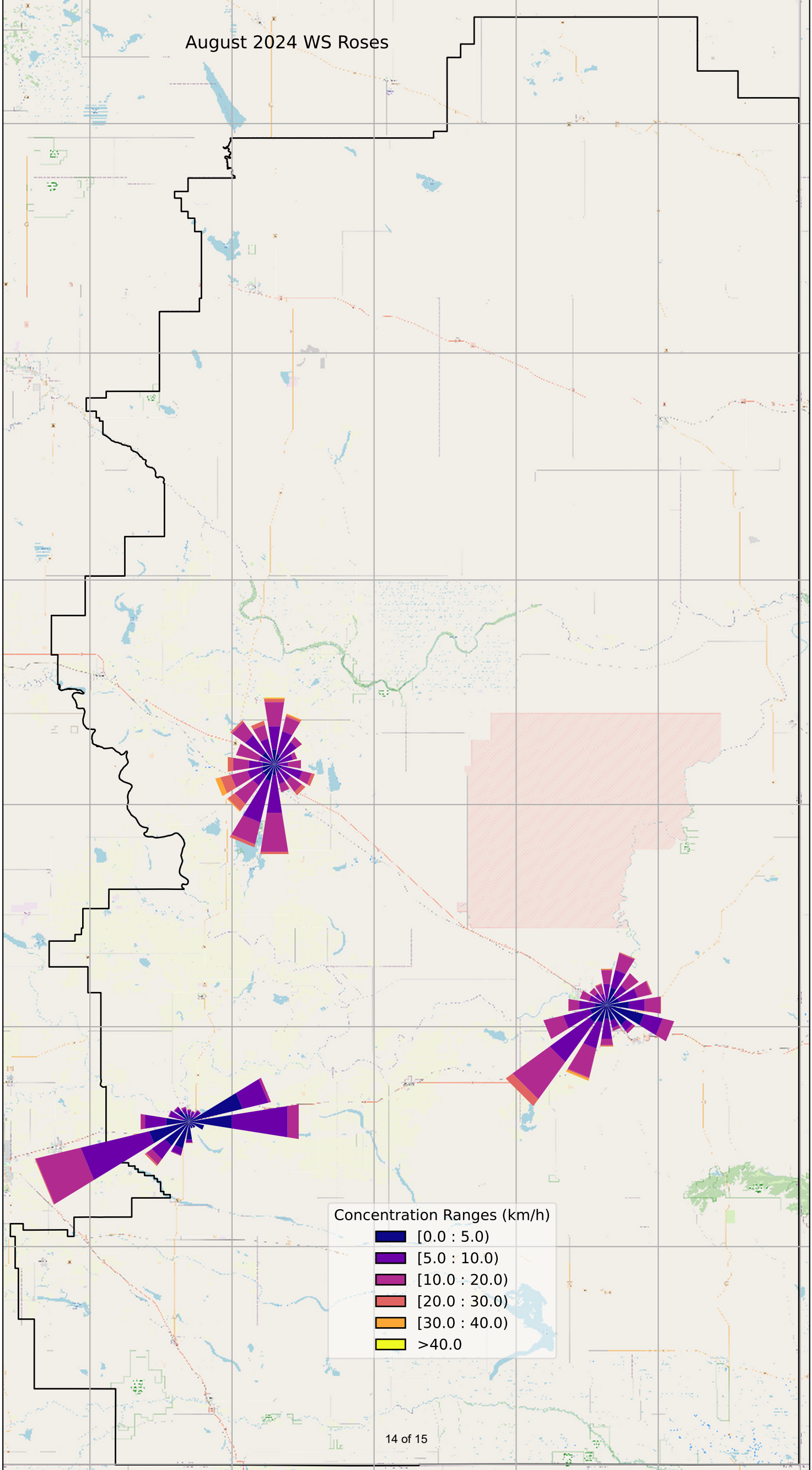


Concentration Ranges (ppm)





August 2024 WS Roses



Concentration Ranges (km/h)

- [0.0 : 5.0)
- [5.0 : 10.0)
- [10.0 : 20.0)
- [20.0 : 30.0)
- [30.0 : 40.0)
- >40.0

