



Wood Buffalo Environmental Association  
**Ambient Air Monitoring Station  
Site Documentation**

# Mannix

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LAST UPDATED: MARCH 27, 2024



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## General Site Information

Revision Date: March 27, 2024

### Station

Station ID	AMS 05
Station name	Mannix
Date station established	1975

### Location

Station street address	On the west side of Range Road 101, approximately 700 meters south of the Base Plant Road intersection
Legal land description	
Airshed Zone	Wood Buffalo Environmental Association
Latitude	56.967964
Longitude	-111.482100
UTM East	470688
UTM North	6313923
Nearest community	Fort McMurray
Community population	76006
Census Year	2021

### Owner/Operator/Approval Holder

Operating Agency	Wood Buffalo Environmental Association
Address of Operating Agency	Unit 3-805 Memorial Drive, Fort McMurray, Alberta T9K 0K4
Name of Approval Holder	Suncor Energy Inc.
Approval number	094-03-00
Contact Name	Natasha Bouliane
Address	Base Plant Rd, Wood Buffalo, AB
Phone number	780-743-7780 (business hours); 780-762-4200 (non-business hours)
Email address	nabouliane@suncor.com

### Site Description

Land use by sector	0 – 90 degrees	Gravel parking lot, Suncor base plant road.
	91 – 180 degrees	Gravel parking lot, Suncor base plant road.
	181 – 270 degrees	Wooded area.
	271 – 360 degrees	150m met tower, electronics stations.



Site elevation (m) (above sea level)	332	
Angle of elevation to nearby buildings	Greatest angle	N/A
	Building direction	N/A
Airflow restrictions	North	No
	East	No
	South	Trees
	West	Trees
Distance to nearest trees (m)	North	N/A
	East	N/A
	West	45
	South	55
Sample manifold	Type	All glass
	Inlet height above roof	1m
Wind Sensors	Type	Ultrasonic
	Height above ground (m)	20
	Distance from station (m)	10

## Site Influences

### Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
None	N/A	N/A

### Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Range road 101 (Asphalt)	Medium	100	Paved road frequented by heavy equipment, tractor trailers, and pickup trucks.
Highway 63	High	400	Provincial highway frequented by all types of traffic.

### Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Suncor Base Plant	Oil Sands Plant	< 5	North
Enbridge	Storage tank complex	0.2	East

## Station Equipment

Equipment Owner: Suncor Energy Inc.

### Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
SO <sub>2</sub>	Thermo	43i	1008841399	2012	January, 1999
H <sub>2</sub> S	Thermo	43IQTL	1200326169	2023	January, 1999
H <sub>2</sub> S	Global Analyzer Systems	G150	3033-225	2023	
THC/CH <sub>4</sub> /NMHC	Thermo	55i	1152430011	2021	January, 1999

### Meteorological Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH-2m	Vaisala	HMP155	NA	4	2022	January, 1999
AT/RH-20m	Vaisala	HMP155	G4340067	4	2022	January, 1999
AT/RH-45m	Vaisala	HMP155	NA	4	2022	January, 1999
AT/RH-75m	Vaisala	HMP155	SS3550310	4	2022	January, 1999
AT/RH-90m	Vaisala	HMP155	NA	4	2022	September, 2012
WS-WD-VWS-20m	UVW Ultrasonic	81000	4000	4	2022	January, 1999
WS-WD-VWS-20m	UVW Ultrasonic	81000	3960	4	2022	January, 1999
WS-WD-VWS-20m	UVW Ultrasonic	81000	3998	4	2022	January, 1999
WS-WD-VWS-20m	UVW Ultrasonic	81000	3999	4	2022	September, 2012

### Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	2580
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	621
Zero air generator	Zero Air Generator	Teledyne/API	701	5613
HVAC	Heating and air conditioning system	BARD	W12A2-A05EPXXXJ	330C132993376-01
Shelter / Building	Air monitoring shelter	C&V	8 x 16 wood	SAA81407



Figure 1 – Area topographic map showing AMS 05



Figure 2 – Aerial photo showing AMS 05



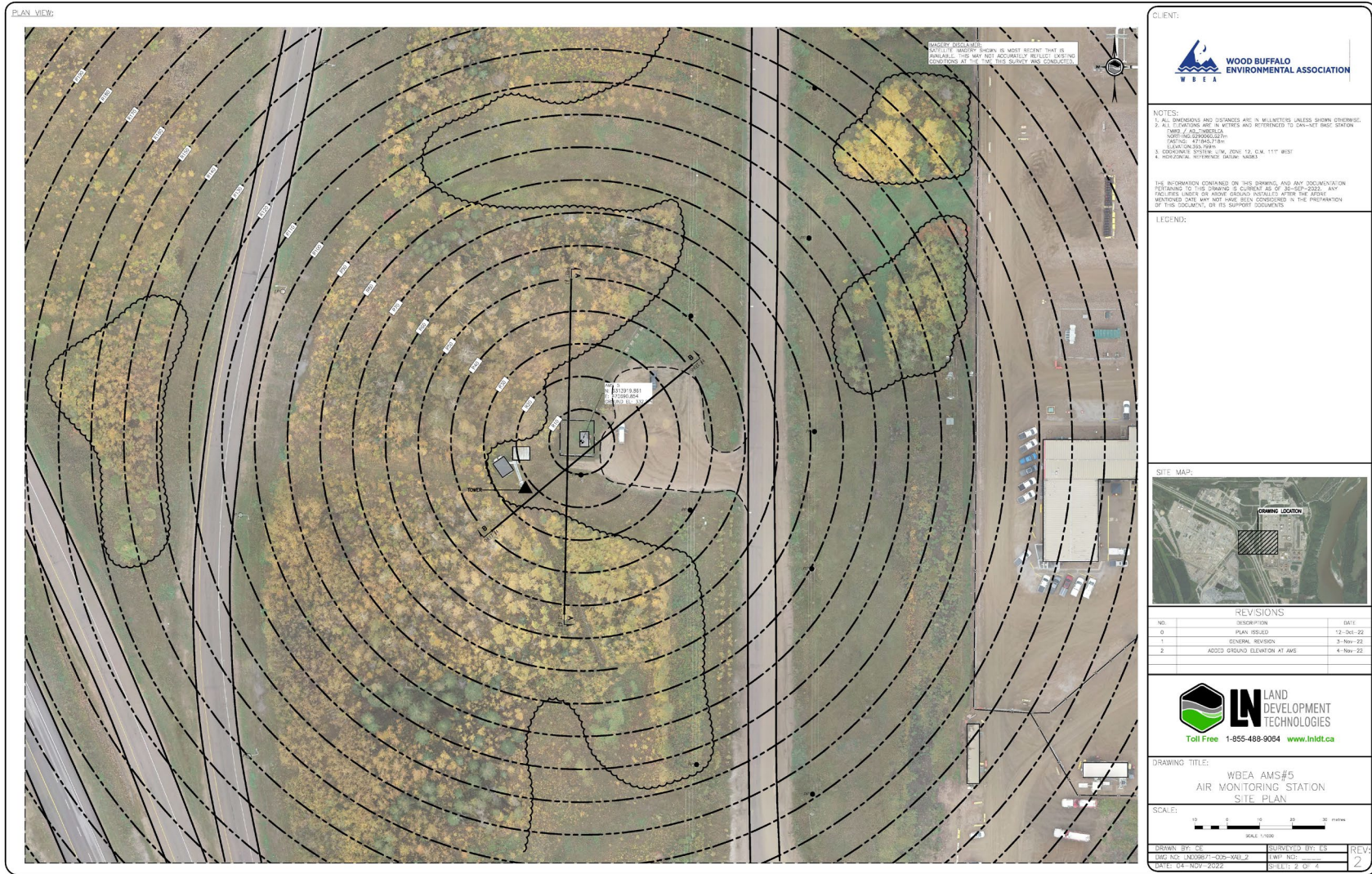


Figure 3 – Plan view sketch for AMS 05 site

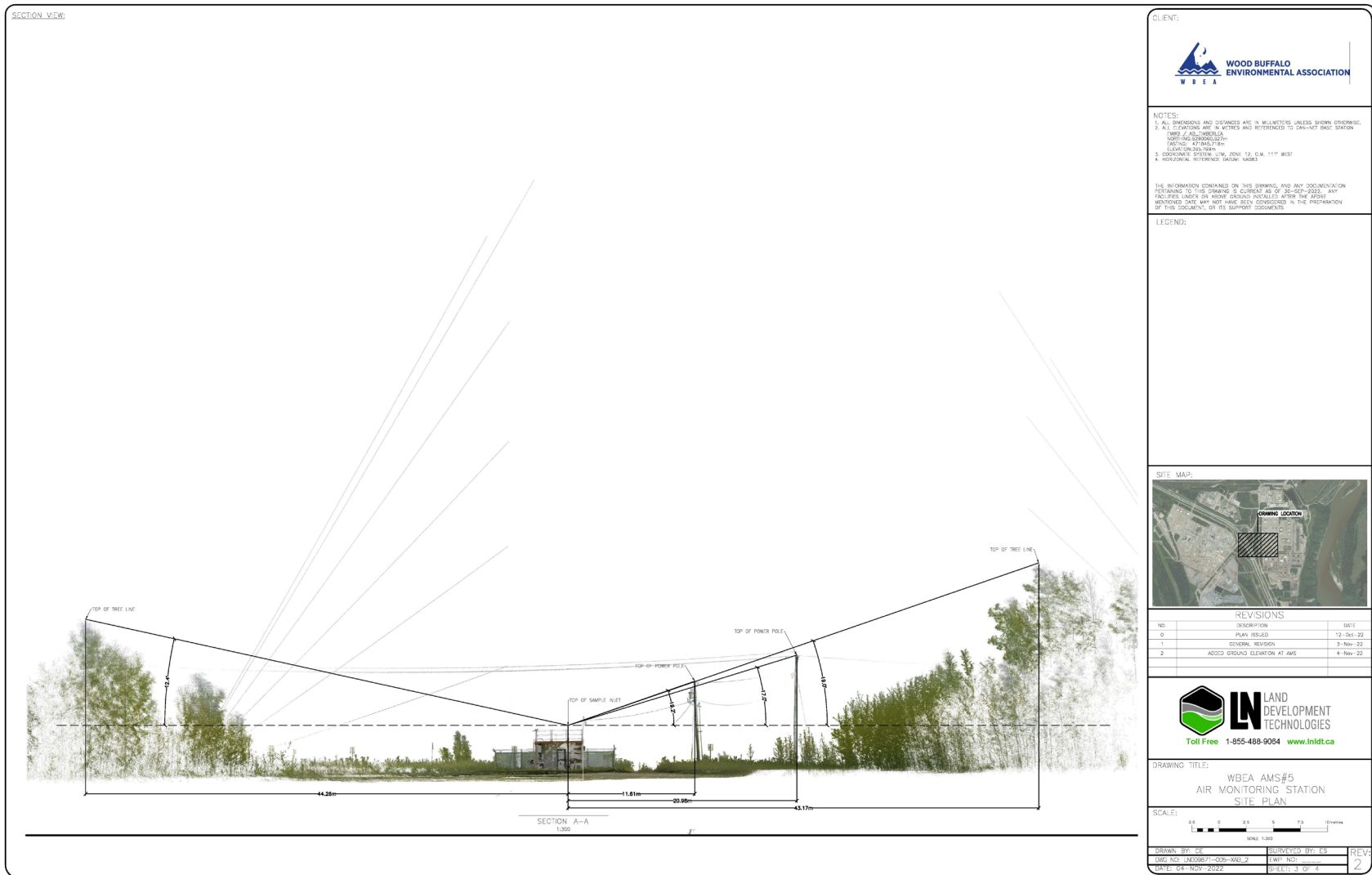


Figure 4 – Elevation view sketch for AMS 05 site



Site photos

The following photos show the environment surrounding the monitoring station.



Figure 5 – Environment looking North



Figure 6 – Environment looking East





Figure 7 – Environment looking South



Figure 8 – Environment looking West





Figure 9 – Meteorological Tower

## Station Photos

The following photos show the monitoring station and instrumentation.



Figure 10 – Photo showing the inlet and sample manifold



Figure 11 – Curb shot of the monitoring station





Figure 12 –Photo of the front and the back of instrument rack



Wood Buffalo Environmental Association  
Wind Rose 2019 - 2024

Wind Speed 20 m (WS20m) - km/h  
Mannix

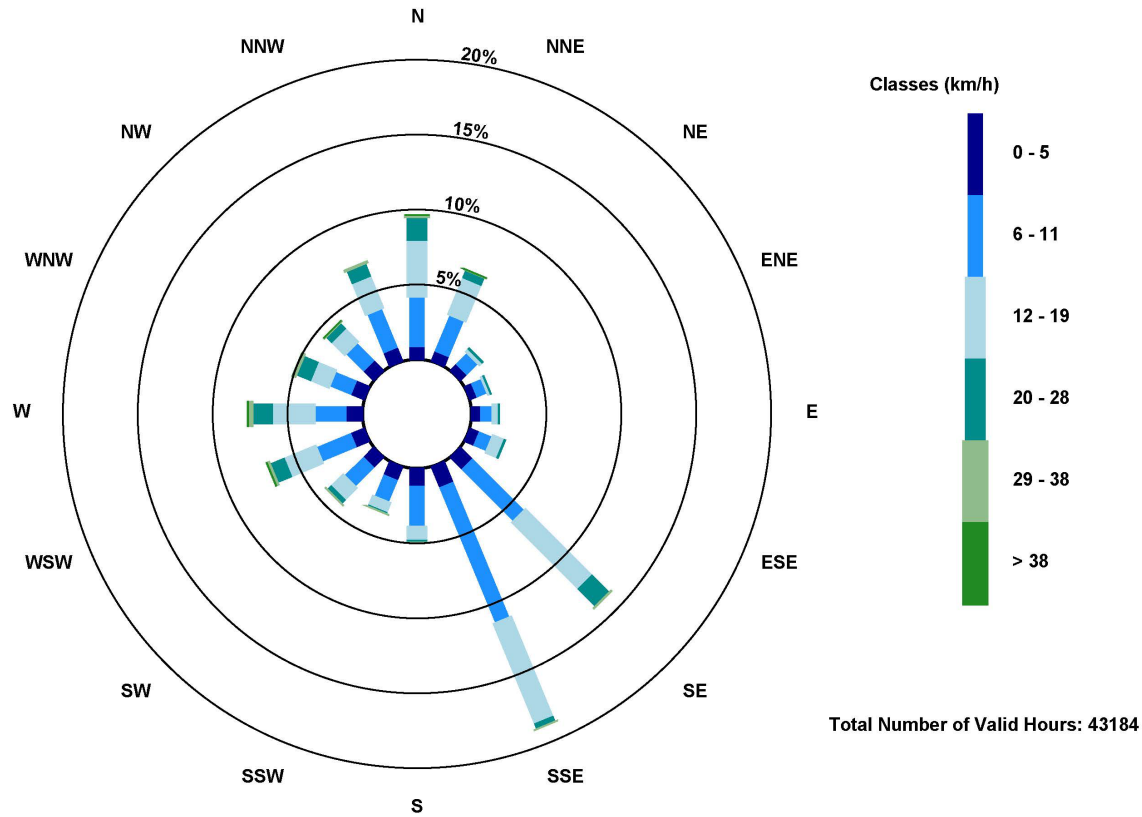


Figure 13 – Windrose 20 metres (2019-2024)



Wood Buffalo Environmental Association  
Wind Rose 2019 - 2024

Wind Speed 45 m (WS45m) - km/h  
Mannix

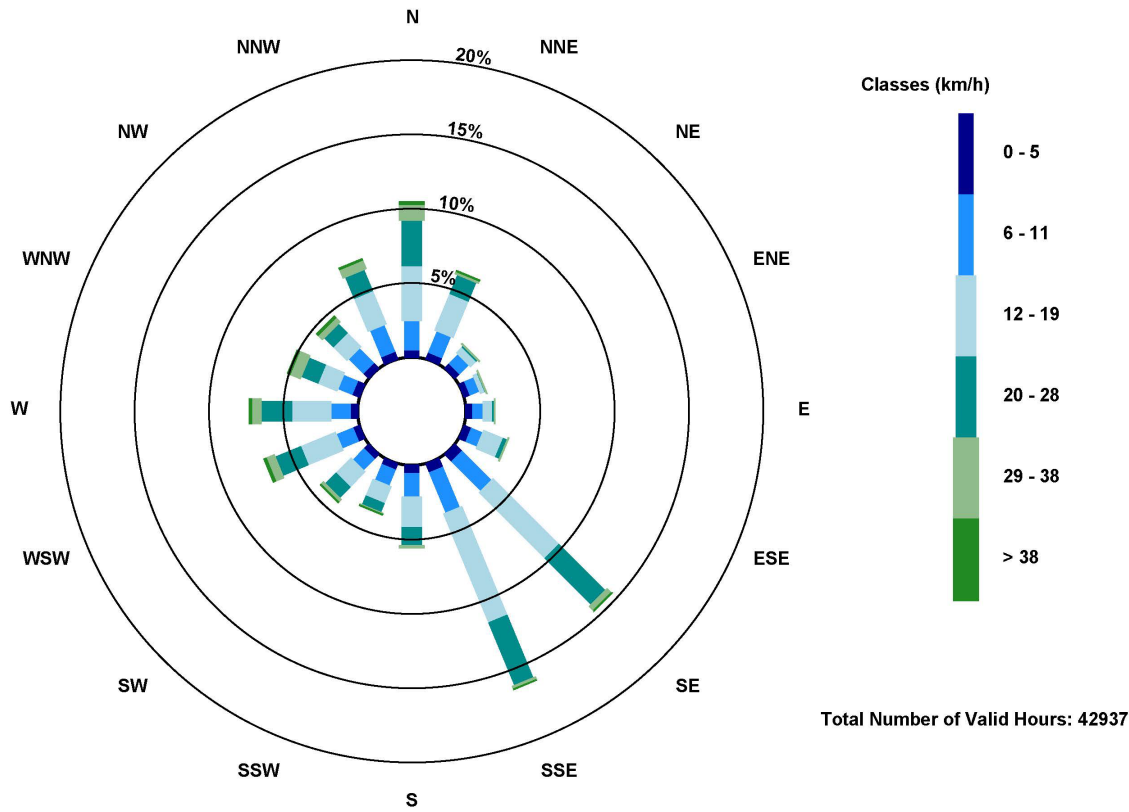


Figure 14 – Windrose 45 metres (2019-2024)





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Wind Rose 2019 - 2024

Wind Speed 75 m (WS75m) - km/h  
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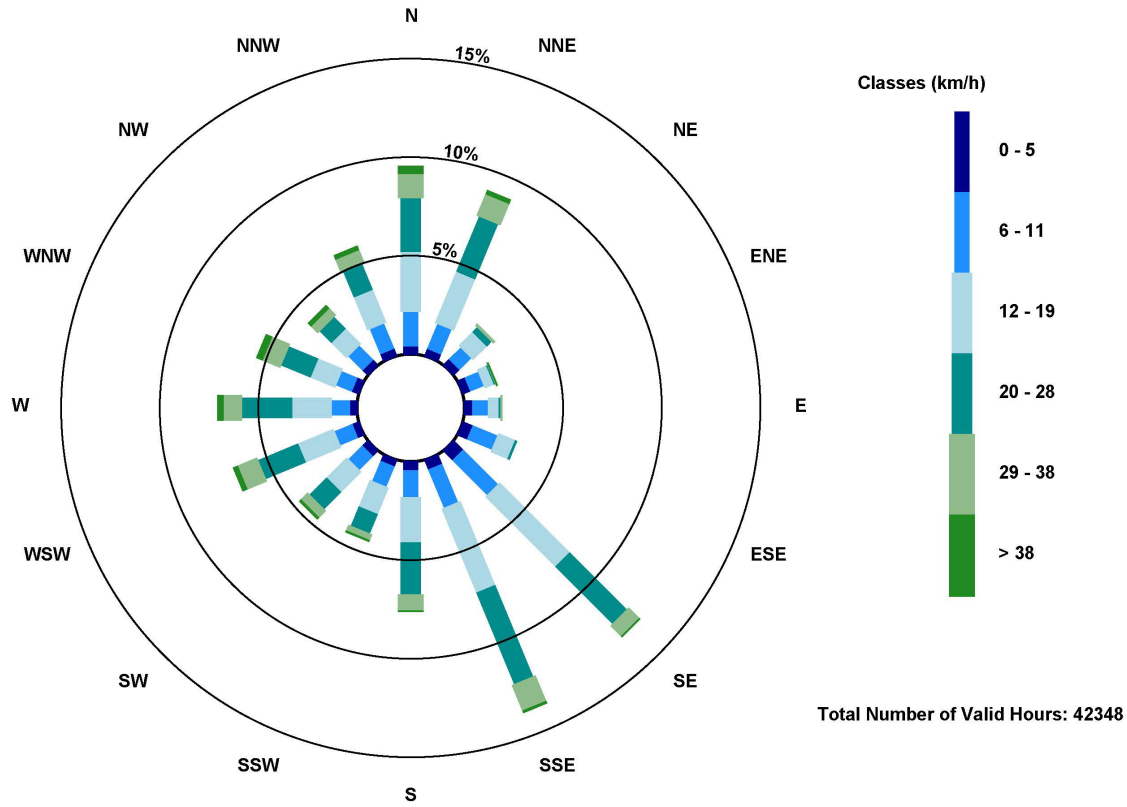


Figure 15 – Windrose 75 metres (2019-2024)



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Wind Rose 2019 - 2024

Wind Speed 90 m (WS90m) - km/h  
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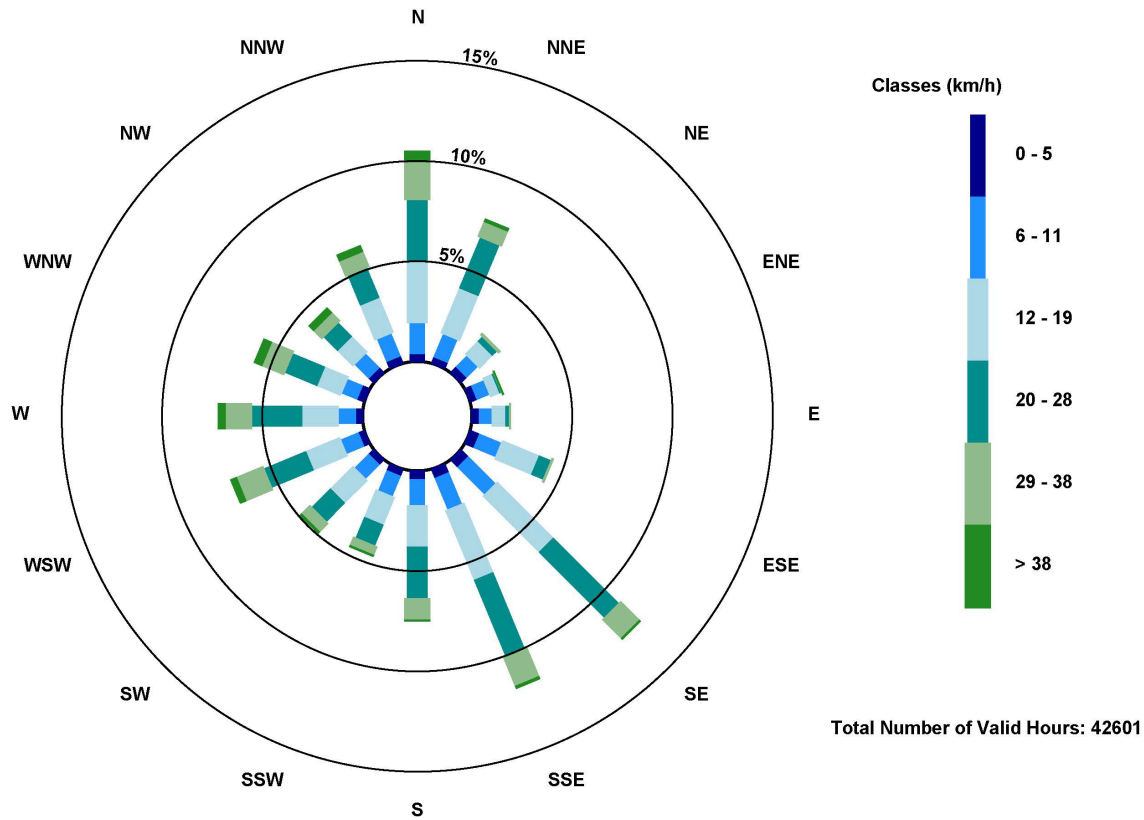


Figure 16 – Windrose 90 metres (2019-2024)