

APPENDIX 3
ENVIRONMENTAL
PERFORMANCE

APPENDIX 3A
METEOROLOGICAL
MONITORING DATA

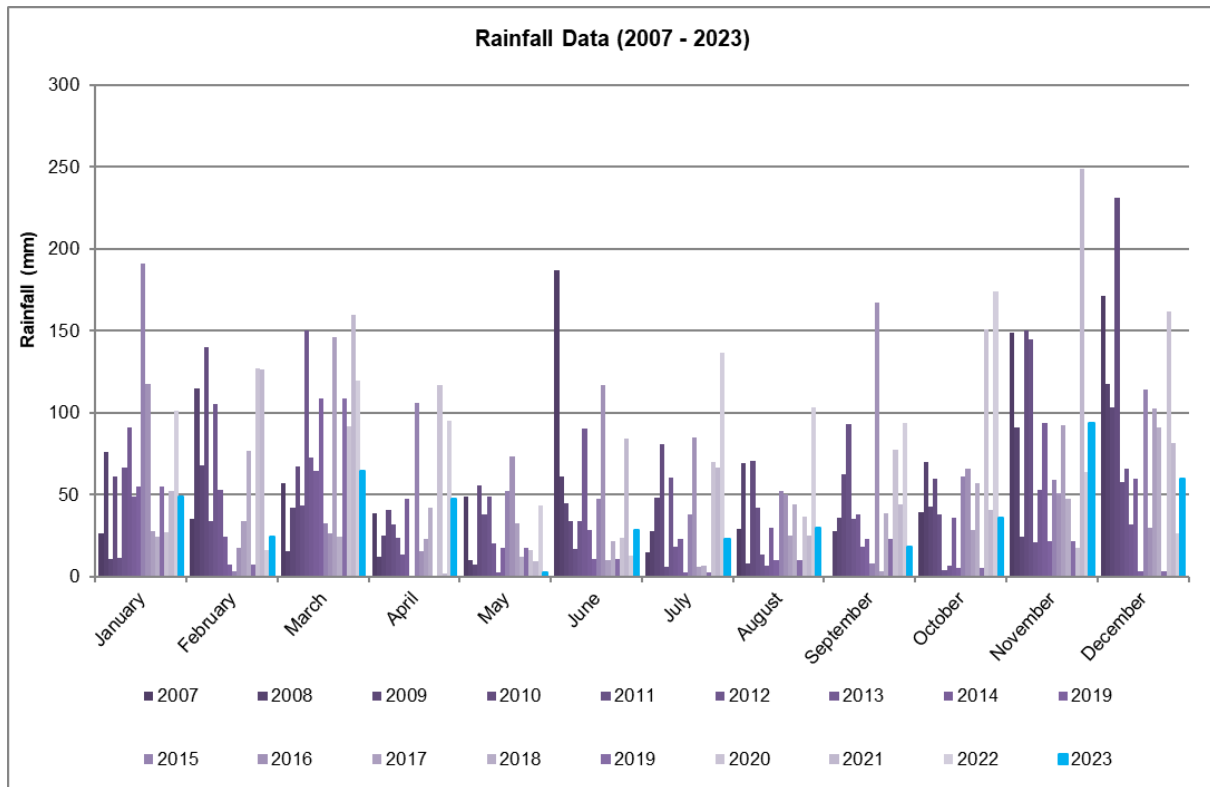
2023 Summary of Rainfall Data

	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	2023	48.6	24.6	64.6	47.8	2.8	28.8	23.2	29.8	18	36.2	94	59.6
Cumulative Rainfall (mm)	2023	48.6	73.2	137.8	185.6	188.4	217.2	240.4	270.2	288.2	324.4	418.4	478

Historical Rainfall

Monthly	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
January	26.2	75.8	10.6	61.4	11.4	66.8	91.2	52.6	190.8	117.4	27.8	24.4	54.8	27.2	52.6	101.4
February	35	115.2	67.8	139.8	33.6	105.6	53	126.6	3.6	17.8	34.2	77	7.4	127	126.6	16.0
March	57.2	15.6	42.2	67.2	43.4	150	73	159.8	32.4	26.4	146	24.6	108.8	92	159.8	119.8
April	38.8	12.4	25.4	40.6	32	23.8	13.8	1.8	106	15.4	23	42.2	0	117	1.8	95.0
May	49.2	10.4	7.4	56	38	48.8	20	9.4	52	73.4	32.4	12.4	17.6	16	9.4	43.6
June	186.8	61	44.8	34	16.6	34.2	90.6	84.4	47.4	116.6	10.4	21.6	10.6	23.4	84.4	13.0
July	14.6	27.8	48	81	6.2	60.6	18.6	66.8	38.2	84.8	5.8	6.8	2.6	70	66.8	136.4
August	29.2	69.4	8.2	70.8	41.8	13.4	6.8	25.4	52	50	25.2	44.4	10.2	36.4	25.4	103.2
September	0.2	27.8	36.2	62.4	92.8	35.4	38	44.2	7.8	167.2	3	39	23	77.2	44.2	93.8
October	39.4	70	43	60	38	4.2	6.6	40.8	60.8	65.8	28.4	56.8	5.6	150.6	40.8	174.4
November	149.2	91	24.2	150	145	20.8	52.8	249.2	59	50.8	92.6	47.4	22	17.4	249.2	64.0
December	171.2	117.4	103.2	231.2	58	65.6	31.8	81.4	114.4	30	102.6	91.2	3	161.6	81.4	26.6
Total	797	693.8	461	1054.4	556.8	629.2	496.2	942.4	764.4	815.6	531.4	487.8	265.6	915.8	942.4	987.2

Rainfall Data 2007-2023



2023 Summary of Temperature Data

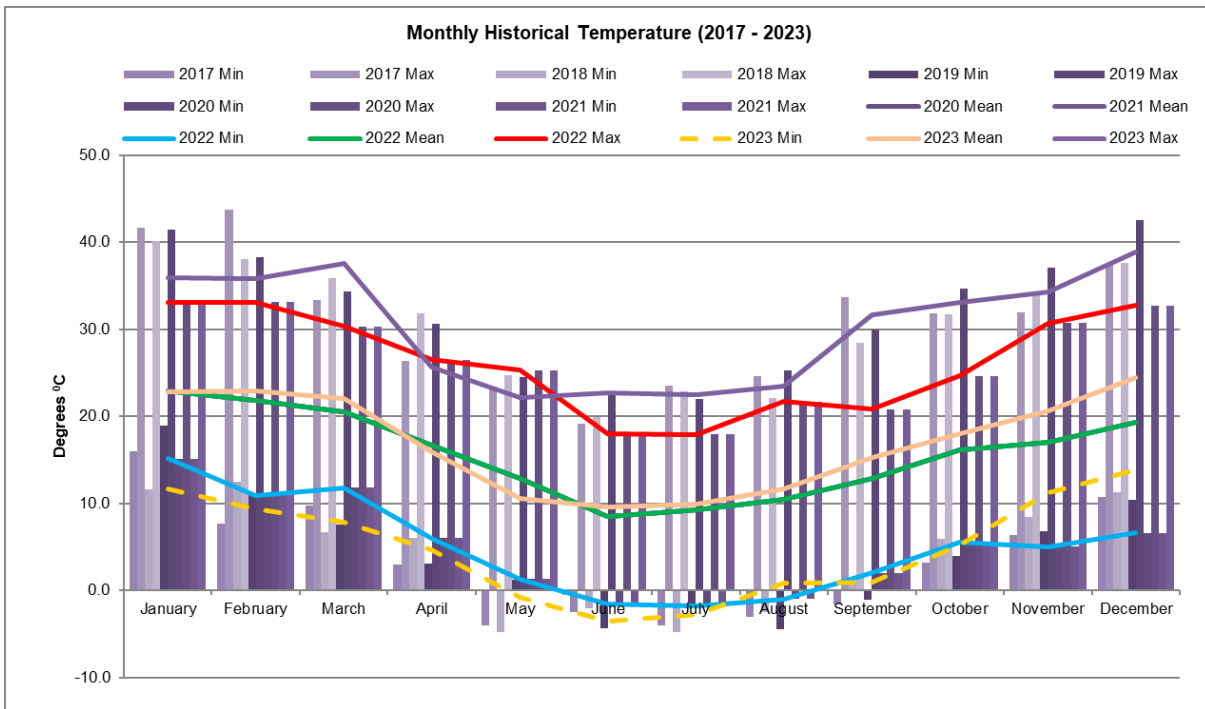
2022	Air Temperature (°C at 2 m)			Air Temperature (°C at 10 m)			Air Temperature (°C at 60 m)		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
January	11.1	37.0	23.0	11.6	35.9	22.7	12.4	35.3	22.3
February	7.7	36.9	23.0	9.4	35.8	22.9	11.2	34.9	22.6
March	7.1	38.7	22.0	7.8	37.6	22.0	8.8	37.0	21.9
April	4.0	26.3	15.7	4.7	25.6	15.9	6.7	24.5	15.9
May	-1.6	22.7	10.2	-0.8	22.1	10.6	1.9	21.2	11.2
June	-4.3	23.5	9.2	-3.5	22.7	9.6	-2.1	21.5	10.1
July	-3.7	23.0	9.6	-2.8	22.5	9.9	-1.4	21.5	10.4
August	-0.4	24.2	11.2	0.8	23.5	11.6	2.7	22.5	12.1
September	-0.1	32.1	14.9	0.9	31.6	15.3	2.1	30.3	15.9
October	4.7	34.0	17.8	5.2	33.1	18.0	6.1	31.5	18.0
November	10.5	34.6	20.7	11.2	34.3	20.7	11.4	33.3	20.2
December	13.0	39.8	24.4	13.8	38.9	24.4	14.5	37.6	24.0

Historical Temperature Data

	2013			2014			2015			2016		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
January	14.3	41.9	25.6	12.5	41.8	24.8	10.0	34.9	22.9	11.8	37.9	22.7
February	10.4	34.2	22.0	19.2	20.9	30.4	12.5	34.6	22.9	11.1	37.8	23.6
March	9.3	31.4	20.5	7.5	29.6	20.1	6.6	35.8	21.6	8.9	35.0	22.2
April	4.0	28.8	16.2	3.6	30.0	16.9	4.0	29.6	16.3	7.6	32.9	18.5
May	0.2	27.1	12.4	1.2	26.3	12.2	1.4	24.3	13.0	-1.4	26.5	13.3
June	-0.2	18.7	10.0	-0.9	19.6	9.9	-1.6	19.0	9.2	-2.1	18.8	10.0
July	-2.2	20.3	9.6	-3.7	21.3	8.0	-2.2	16.5	7.6	-2.4	21.7	10.0
August	1.6	25.0	12.9	-3.1	20.6	9.8	-1.3	23.3	9.9	-0.9	22.1	9.7
September	2.0	30.0	15.2	-0.2	29.7	13.6	0.4	25.5	12.8	1.8	21.7	12.7
October	1.5	33.6	17.7	1.6	35.9	18.8	7.0	33.8	19.4	2.6	29.4	15.0
November	5.9	35.2	19.6	6.9	41.9	22.7	10.3	37.8	21.4	4.4	34.2	19.6
December	5.1	38.5	23.1	11.1	35.0	22.6	12.0	36.1	22.7	8.6	37.4	24.1

	2017			2018			2019			2020		
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
January	16.0	41.6	26.4	11.6	40.1	25.9	18.9	41.4	27.8	16.0	41.5	26.2
February	7.7	43.7	25.9	12.5	38.0	23.9	11.2	38.3	24.1	10.4	40.4	22.3
March	9.7	33.3	21.7	6.7	35.8	21.9	7.5	34.3	22.1	7.5	33.6	19.2
April	3.0	26.4	15.3	6.0	31.8	19.1	3.1	30.6	17.5	5.6	26.6	16.0
May	-4.0	23.4	12.3	-4.8	24.7	12.4	1.2	24.5	12.2	0.0	23.2	11.3
June	-2.5	19.1	9.5	-2.1	19.9	9.2	-4.4	22.9	9.3	0.3	19.6	9.9
July	-4.0	23.5	7.7	-4.8	22.8	8.7	-2.1	22.0	9.9	-0.5	20.4	9.4
August	-3.1	24.6	9.6	-2.5	22.1	9.6	-4.5	25.2	9.8	-1.5	21.1	9.6
September	-1.6	33.7	14.1	1.1	28.4	13.7	-1.1	30.0	14.3	2.5	26.5	14.0
October	3.2	31.8	19.0	5.9	31.7	18.0	4.0	34.6	19.0	4.4	29.9	17.3
November	6.3	31.9	21.2	8.4	34.2	21.2	6.8	37.1	21.9	8.5	38.2	20.9
December	10.7	37.6	23.9	11.3	37.6	24.0	10.4	42.5	25.3	9.6	40.2	20.9
	2021			2022			2023					
	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max	Mean
January	10.9	35.7	22.5	15.1	33.1	22.9	11.6	35.9	22.7			
February	11.6	32.1	21.6	10.9	33.1	21.8	9.4	35.8	22.9			
March	10.0	31.8	19.5	11.8	30.3	20.5	7.8	37.6	22.0			
April	1.3	27.1	14.8	6.0	26.5	16.7	4.7	25.6	15.9			
May	-0.8	23.0	11.9	1.3	25.3	12.8	-0.8	22.1	10.6			
June	0.3	21.2	9.3	-1.6	18.0	8.5	-3.5	22.7	9.6			
July	-3.0	20.6	8.7	-1.8	17.9	9.3	-2.8	22.5	9.9			
August	-0.2	24.9	10.6	-1.0	21.7	10.5	0.8	23.5	11.6			
September	1.3	26.3	13.2	2.0	20.8	12.8	0.9	31.6	15.3			
October	5.1	31.2	15.9	5.5	24.6	16.2	5.2	33.1	18.0			
November	8.0	28.5	17.8	5.0	30.7	17.0	11.2	34.3	20.7			
December	8.3	33.7	21.2	6.6	32.7	19.3	13.8	38.9	24.4			

Historical Temperature 2017-2023



2023 Average Wind Speeds & Directions

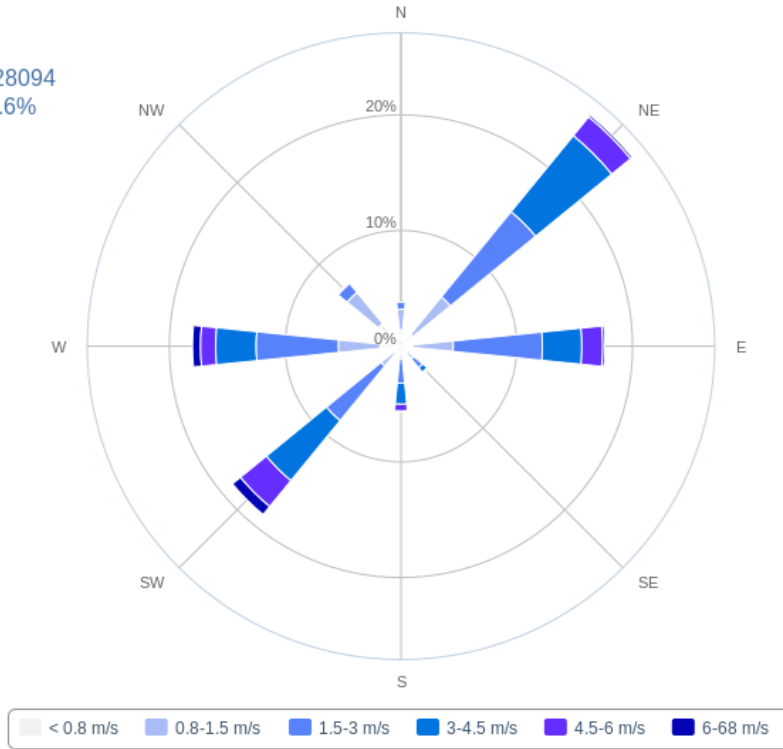
Month	Ave Wind Speed (m/s)	Max Wind Speed (m/s)	Ave Wind Dir.
January	1.9	9.5	100.68
February	2.0	8.8	135.96
March	1.9	8.5	139.40
April	1.6	6.9	134.73
May	1.4	8.5	202.48
June	1.5	7.1	197.33
July	1.5	7.6	191.23
August	1.2	9.9	191.26
September	1.3	9.4	180.97
October	2.0	9.0	178.58
November	1.8	10.7	136.33
December	1.8	9.0	170.81

Annual Wind Rose 2023

Wind Rose Chart

SX34 - Wilpinjong Coal -M4 Period: (2023-01-01 to 2023-12-31) [15mins interval]

Count=28094
Calm=9.6%



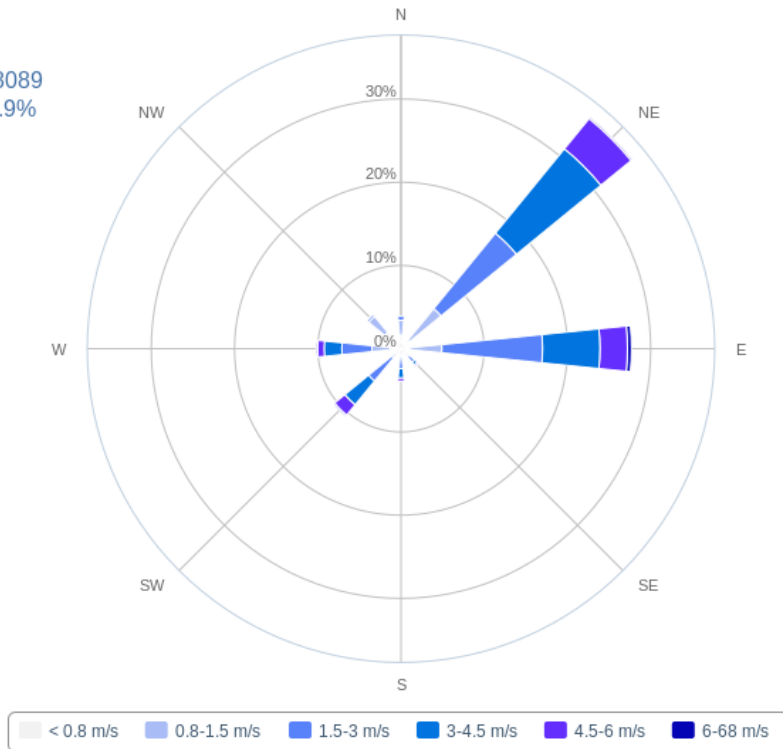
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Summer Wind Rose December 2020 - February 2023

Wind Rose Chart

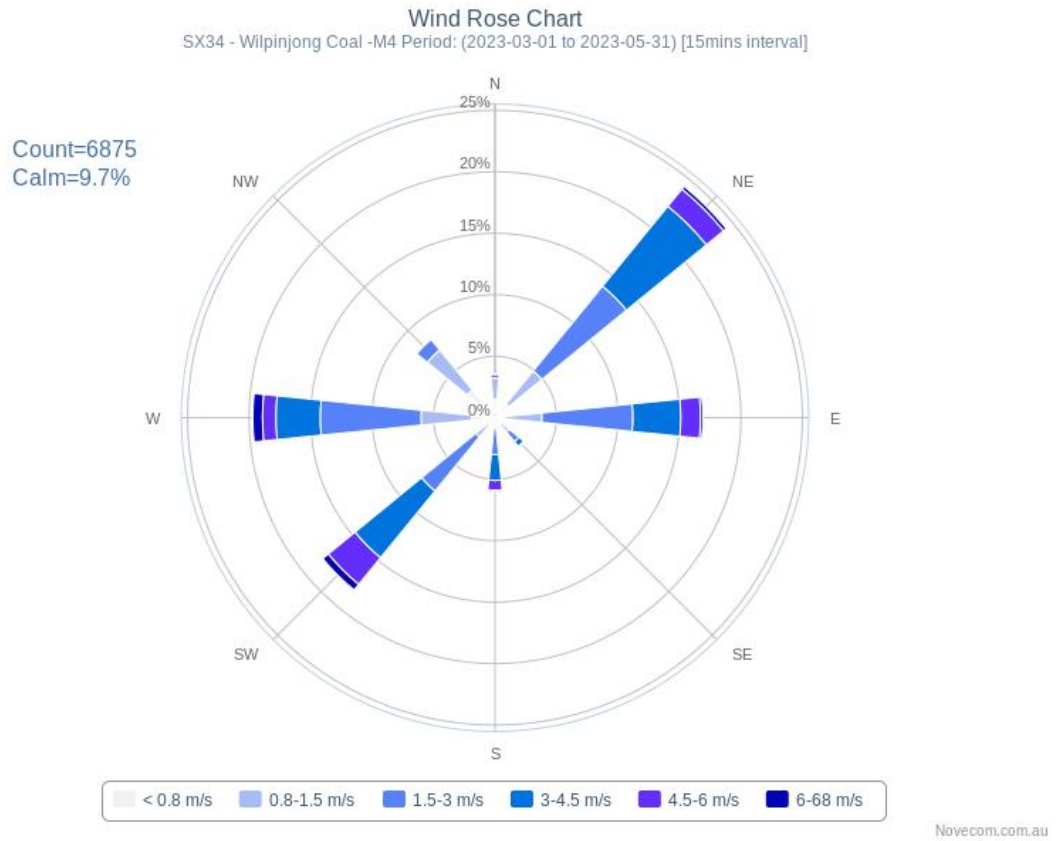
SX34 - Wilpinjong Coal -M4 Period: (2022-12-01 to 2023-02-28) [15mins interval]

Count=8089
Calm=8.9%

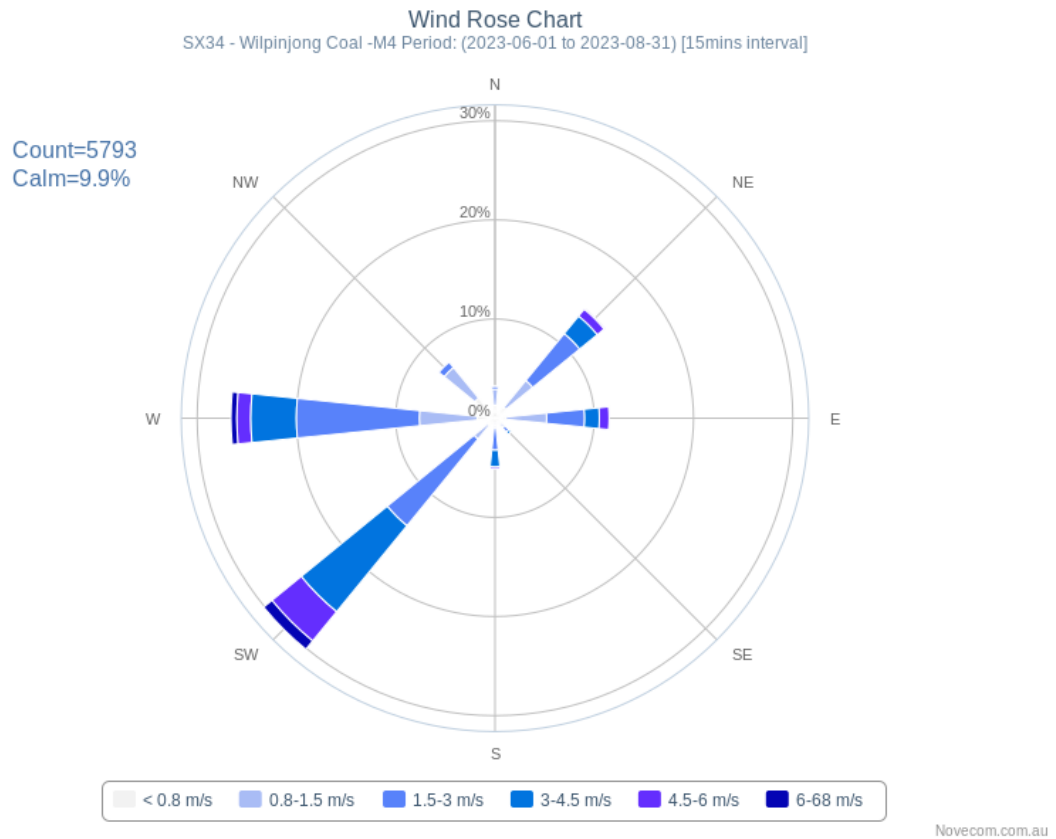


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Autumn Wind Rose 2023



Winter Wind Rose 2023

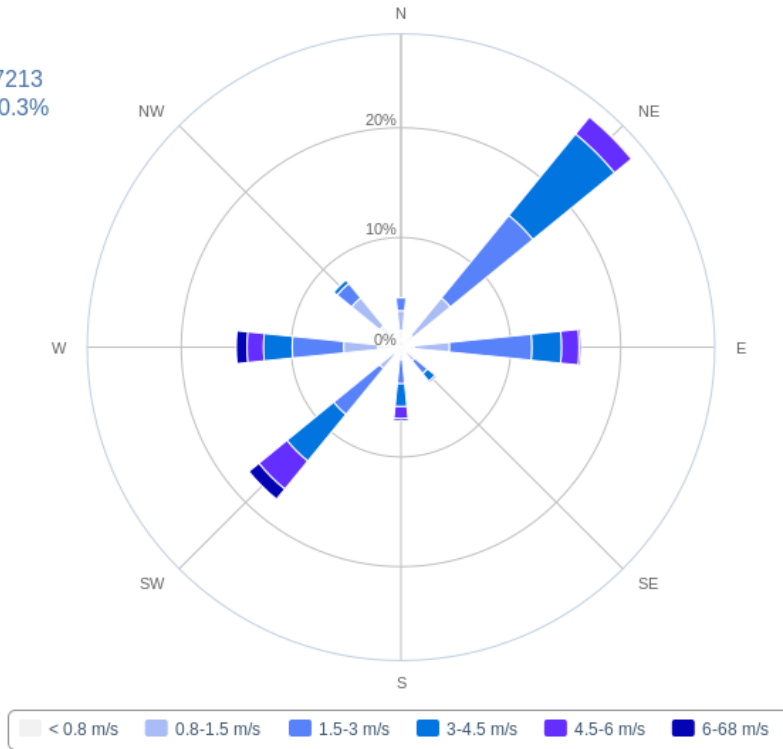


Spring Wind Rose 2023

Wind Rose Chart

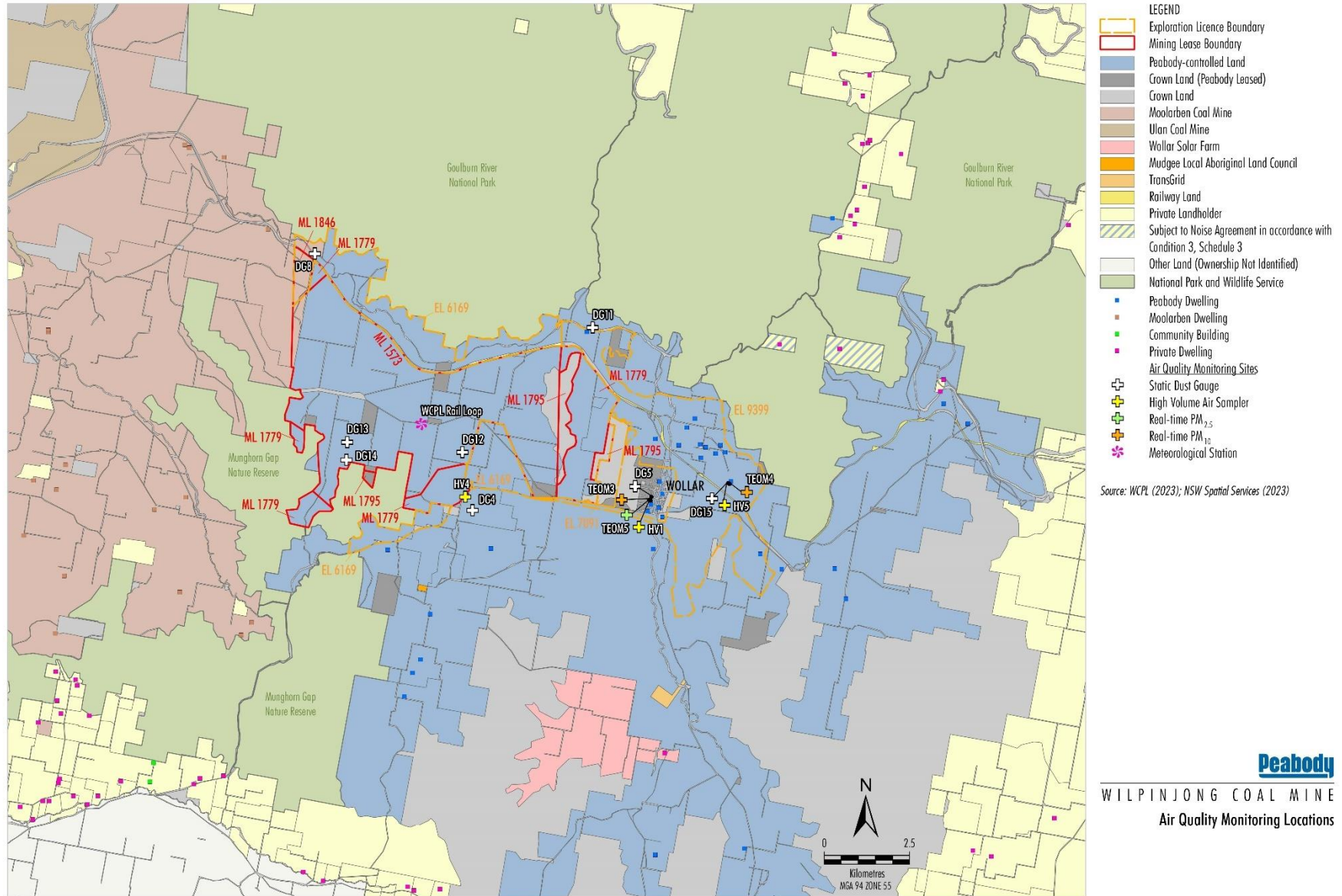
SX34 - Wilpinjong Coal -M4 Period: (2023-09-01 to 2023-11-30) [15mins interval]

Count=7213
Calm=10.3%



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Location of WCPL’s Meteorological Station



WIL-12-11_EMS_2023_2024