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Adelaide Brighton Cement Ltd

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QUARTERLY GROUND LEVEL PARTICULATE MONITORING REPORT FOR BIRKENHEAD WORKS

COMPLIANCE DATE: 30/04/19 – Quarter 1, 2019
EPA Licence 1126: Ground Level Particulate Monitoring and Reporting plan (U-729)

Licensed site: **Adelaide Brighton Cement, Birkenhead Works**

62 Elder Road, Birkenhead, SA 5015

Date of Submission: **30 April 2019**

Version Number: **1**

Report Submitted by: Environmental Engineer

Certified by: Compliance Manager

I certify that I have reviewed this report and to the best of my knowledge and ability that all the information provided in this report is a true and accurate reflection of the regulatory monitoring.

Glossary

Term	Definition
µg/m^3	micrograms per cubic metre
µm	micrometre
°C	degrees Celsius
m	metre
m^3	cubic metre
m^3/s	cubic metres per second
Nomenclature	**Definition**
PM_{10}	Particulate matter with a diameter less than 10 micrometres
$PM_{2.5}$	Particulate matter with a diameter less than 2.5 micrometres
24 hour average	Calendar day (midnight to midnight)
Abbreviations	**Definition**
ABC	Adelaide Brighton Cement
Air EPP	South Australian Environment Protection (Air Quality) Policy 2016
GLPMRP	ABC's Ground Level Particulate Monitoring and Reporting Plan
EPA	Environment Protection Authority

Sampling Locations

- *Map showing sampling locations, major infrastructure, sensitive environmental receptors, and north arrow*

Sampling locations are indicated by colour-coded dots on the above map.

NB: Four sampling points are located on the Birkenhead Works site; the other sampling points are in the community (corner of Gunn/ Well streets and Community Park).

Monitoring Objective	To provide monitoring and reporting of ground level particulate concentrations (PM_{10} and $PM_{2.5}$), from a network of monitors located within and external to the site premises.
	• Monitoring data for each monitor (on site and off site) shall include:
	  ○ Monthly wind rose showing the distribution of wind directions
	  ○ Monthly dust rose showing the distribution of PM_{10} concentration
	  ○ Monthly dust rose showing the distribution of $PM_{2.5}$ concentration
	  ○ Particulate monitoring data for each ABC monitor (on site and off site) including EPA monitor (Le Fevre 1) for comparison as follows;
	  ○ Monthly time series graph of 24-hour average PM_{10} concentration reported against the Air EPP for PM_{10} of 50 micrograms per cubic metre (24-hour average).
	  ○ Monthly time series graph of 24-hour average $PM_{2.5}$ concentration reported against the Air EPP for $PM_{2.5}$ of 25 micrograms per cubic metre (24-hour average).

Monitoring Plan	This monitoring report has been prepared in compliance with the Ground Level Particulate Monitoring and Reporting Plan, approved 18 June 2018 by the South Australian EPA. The Plan is available on the ABC Birkenhead Community Website: http://www.birkenheadcommunity.com.au/

Monitoring data for each ABC monitor	Appendix 1- January, Febraury & March 2019
	  ○ $PM_{2.5}$, PM_{10} 24 hour Averages
	  ○ $PM_{2.5}$, PM_{10} monthly Wind & Dust Rose

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Public Monitors 1

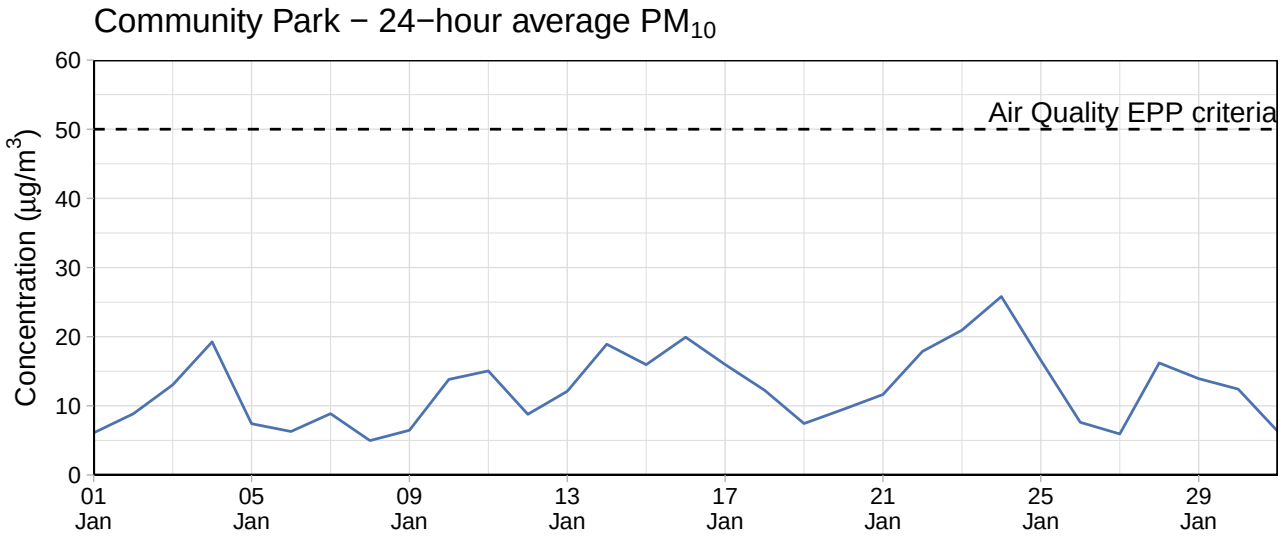
Internal Monitors 5

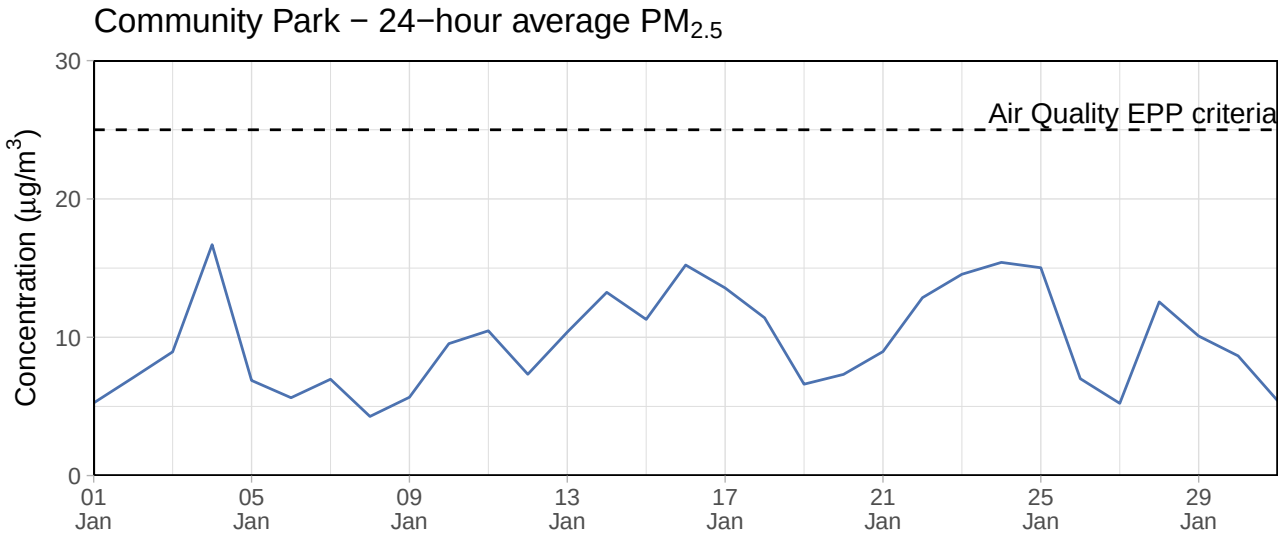
EPA Monitoring 13

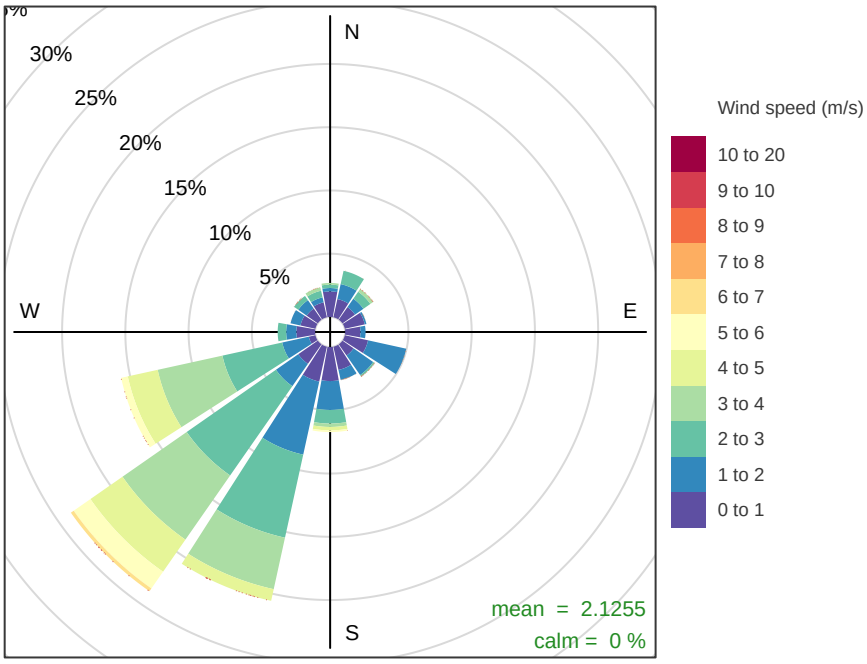
Monitoring Summary (01 Jan, 2019 - 31 Jan, 2019)

Public Monitors

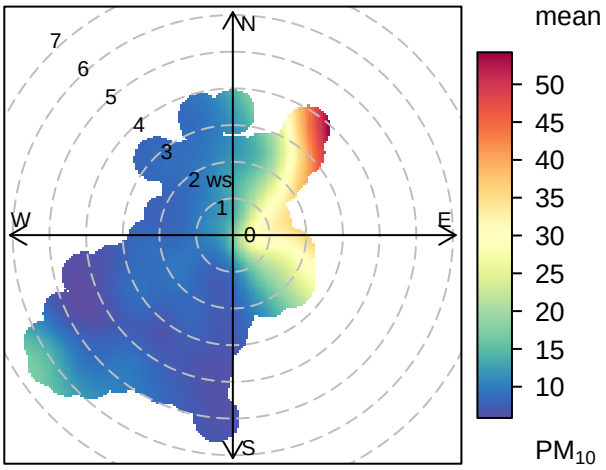
Community Park

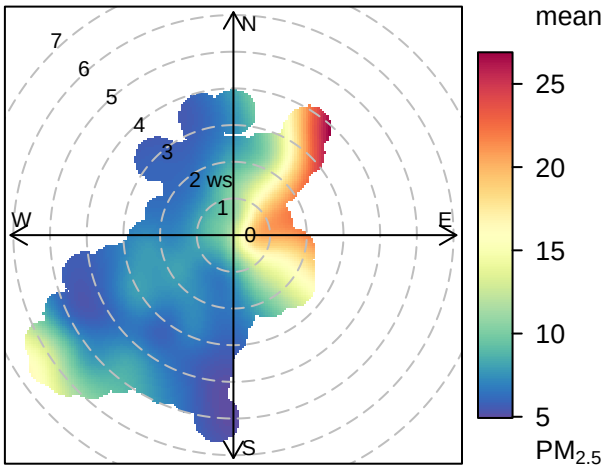




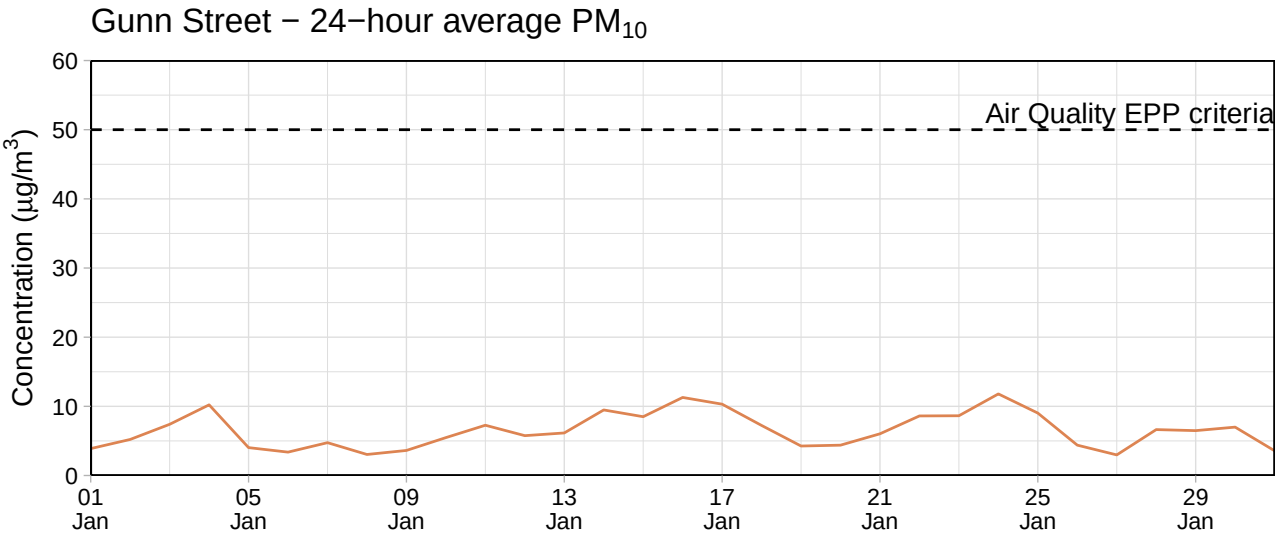


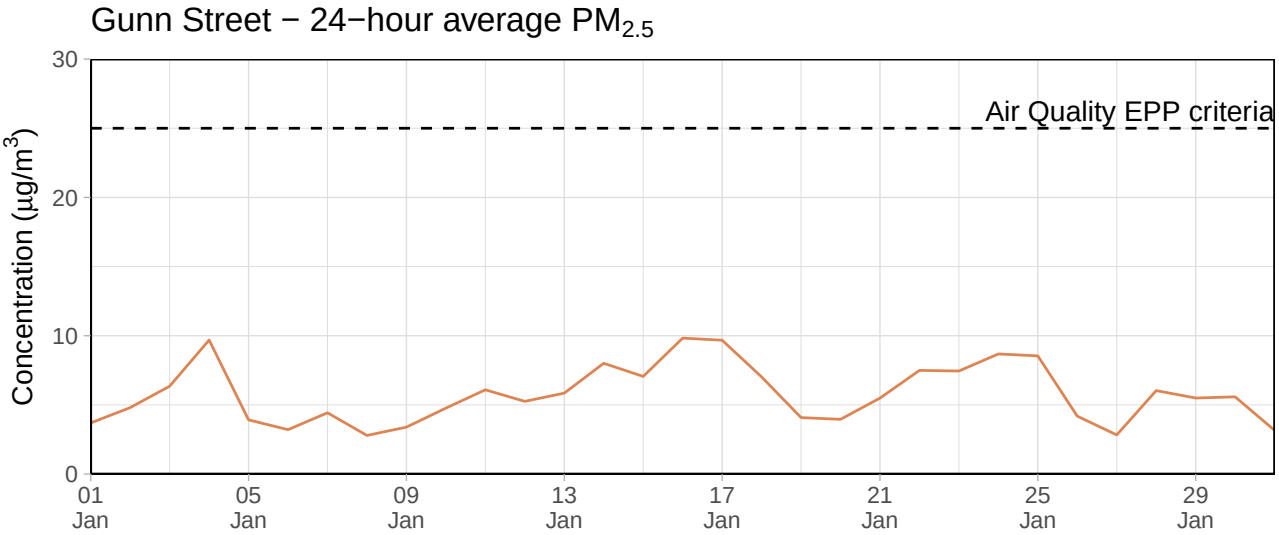
Frequency of counts by wind direction (%)

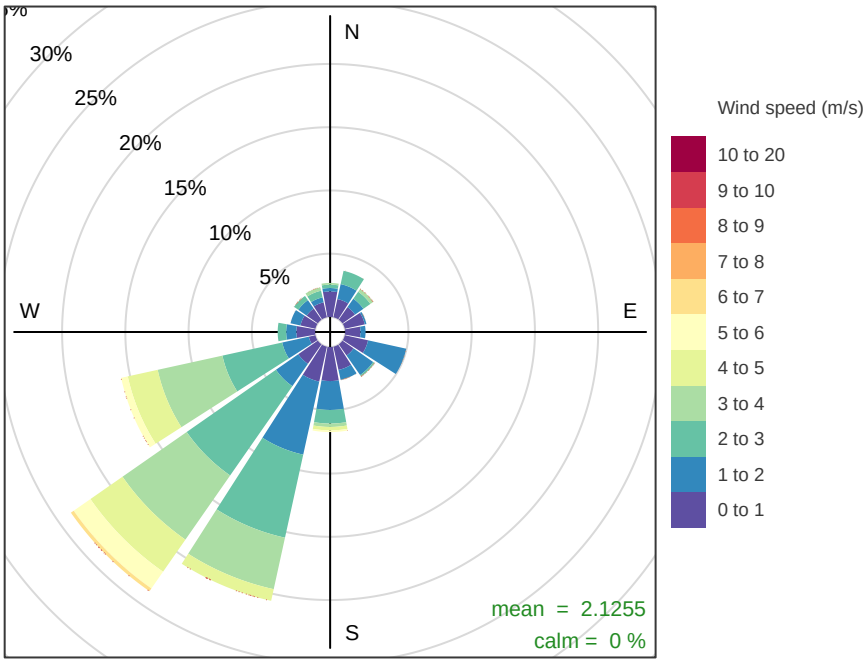




Gunn Street


Gunn Street − 24−hour average PM10
Concentration (µg/m3)
60
50
40
30
20
10
0
Air Quality EPP criteria
01 Jan
05 Jan
09 Jan
13 Jan
17 Jan
21 Jan
25 Jan
29 Jan


Gunn Street − 24−hour average PM2.5
Concentration (µg/m3)
30
20
10
0
Air Quality EPP criteria
01 Jan
05 Jan
09 Jan
13 Jan
17 Jan
21 Jan
25 Jan
29 Jan



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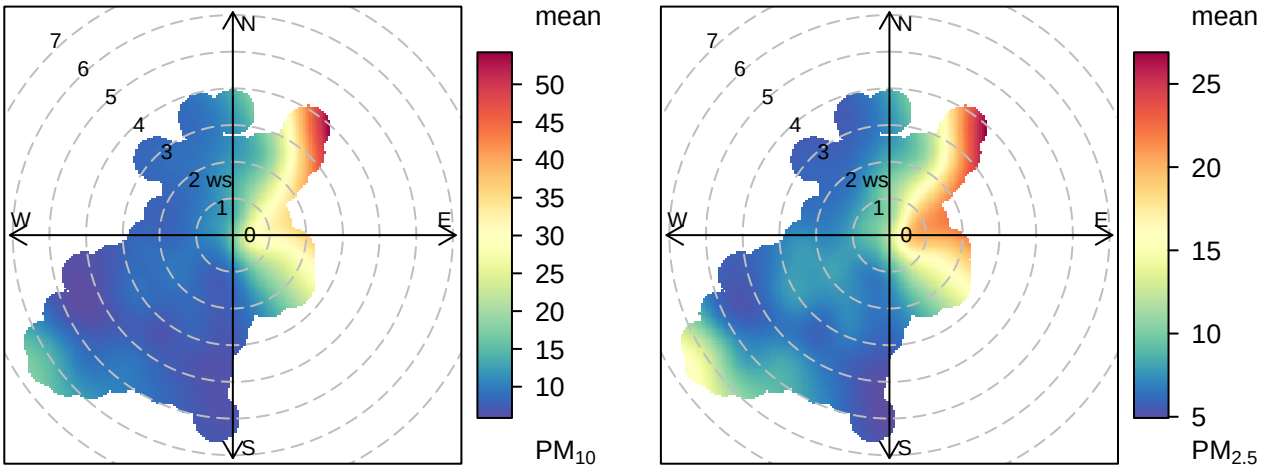
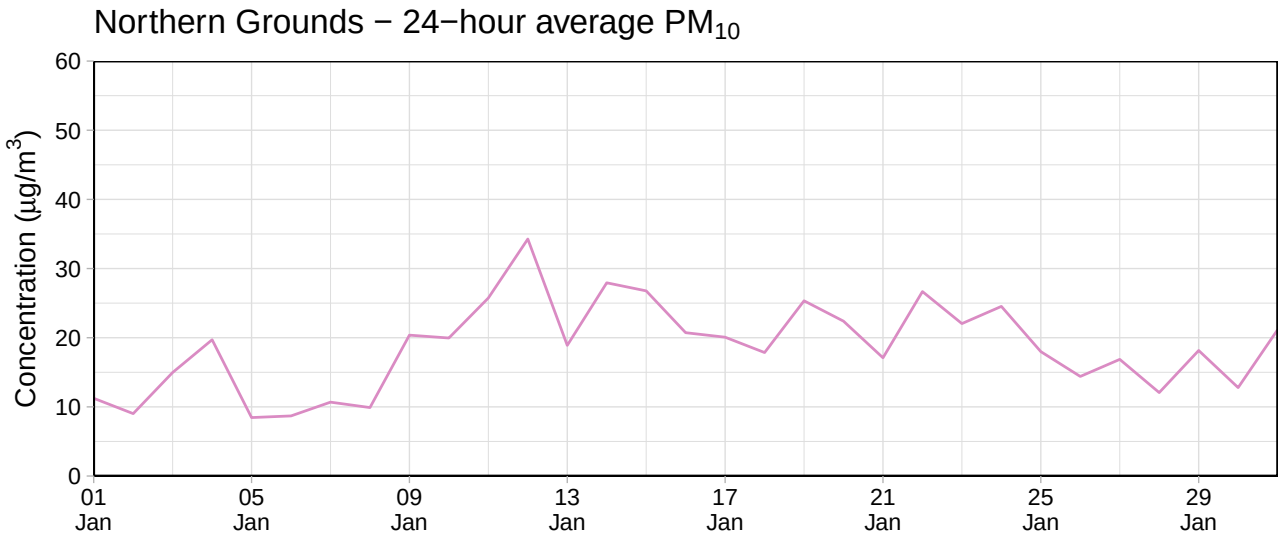
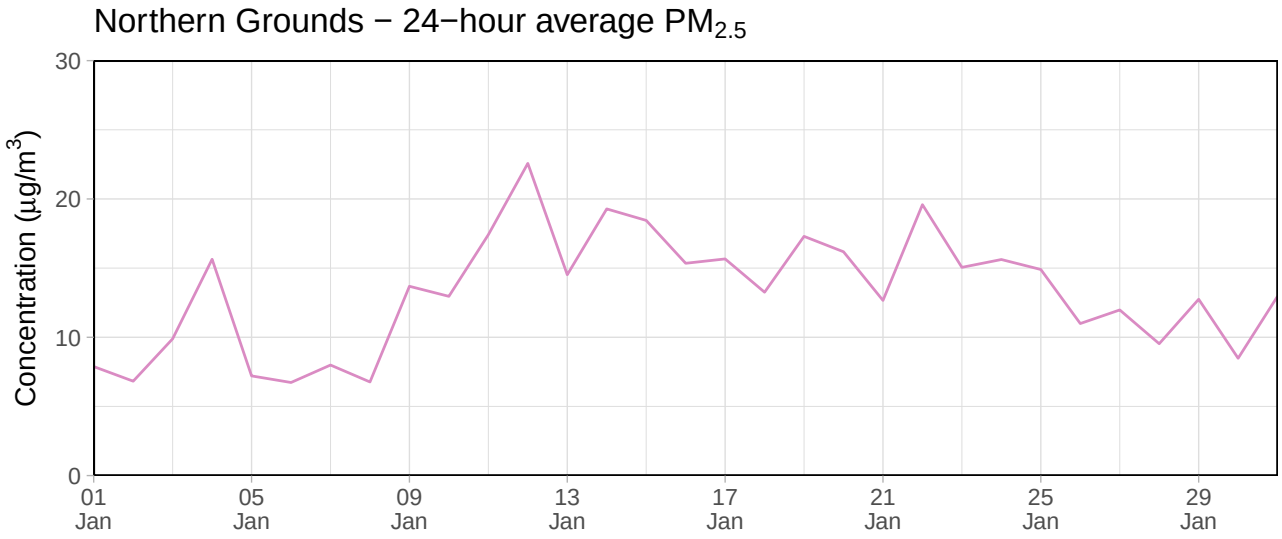
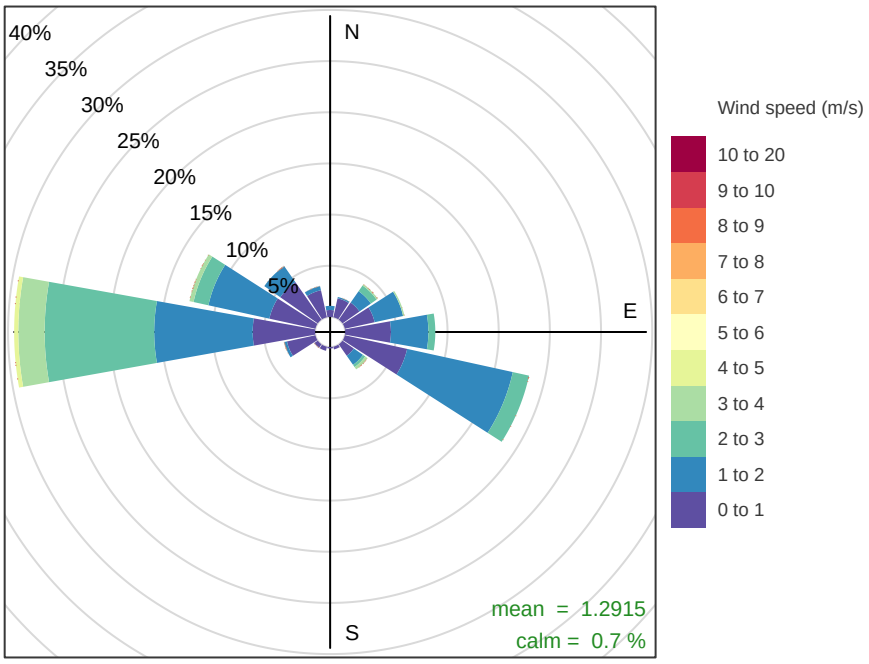


Internal Monitors

Northern Grounds







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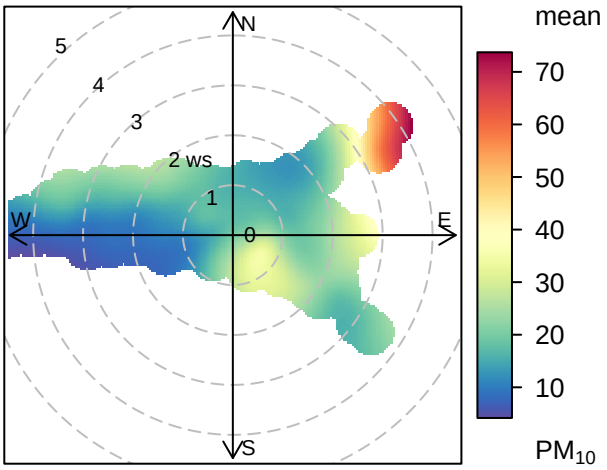
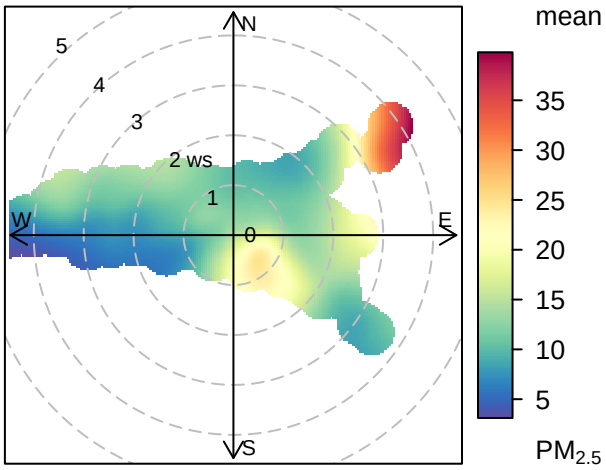
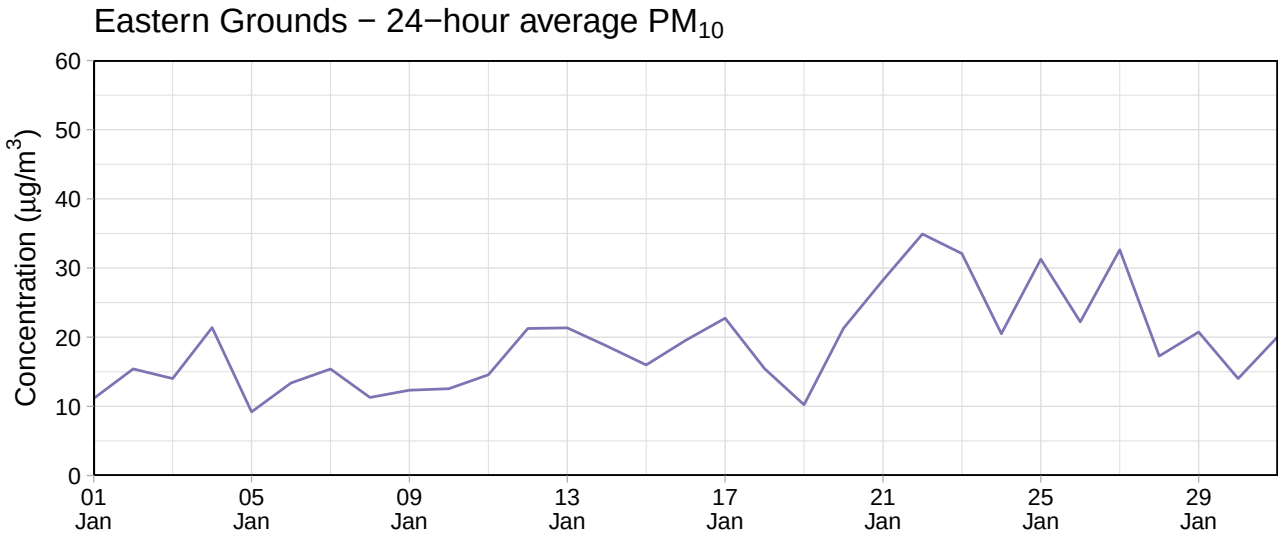
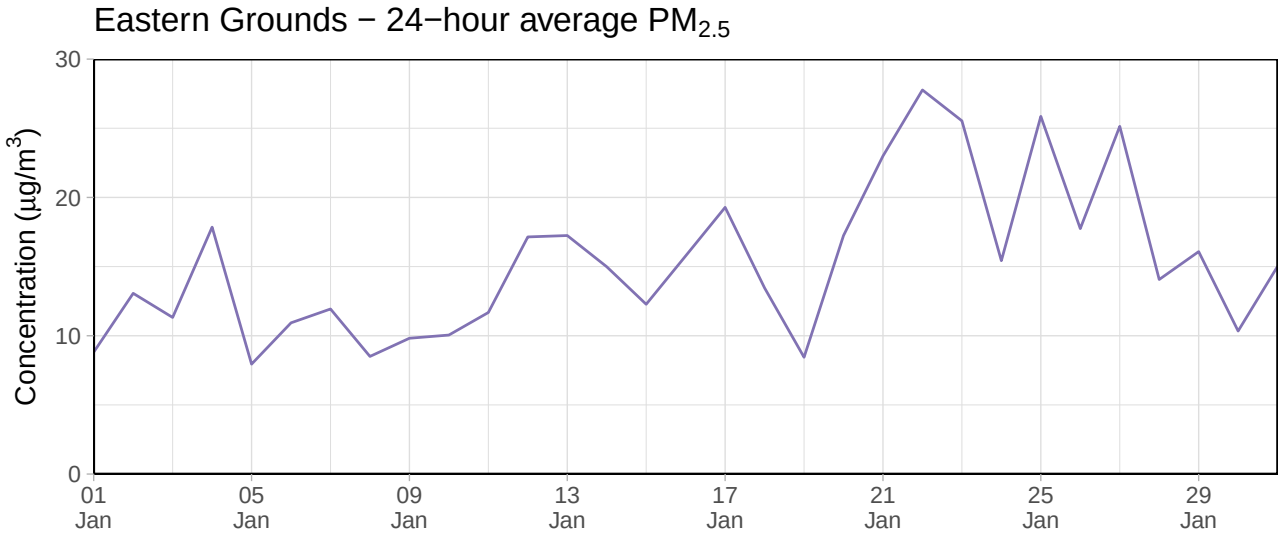
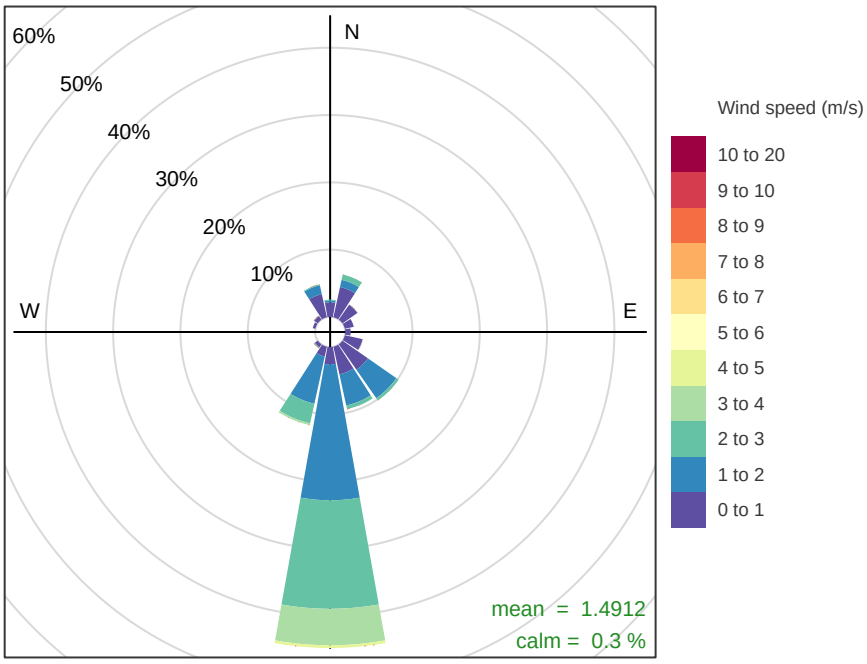




Eastern Grounds







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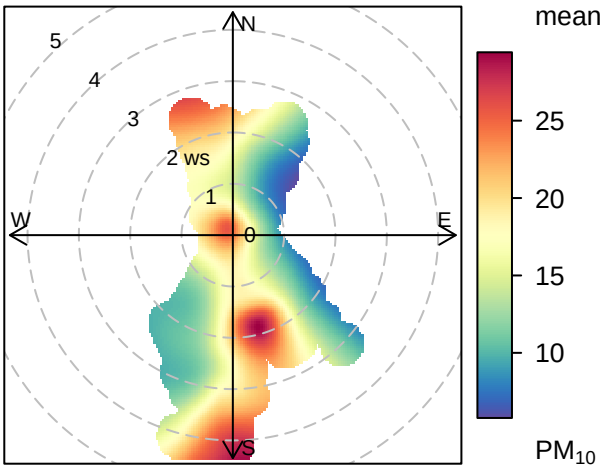
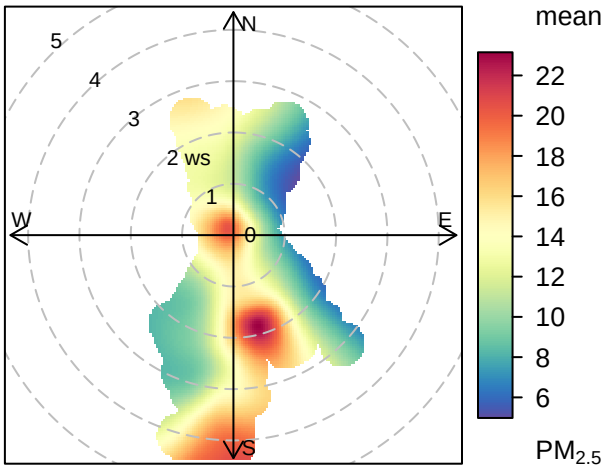
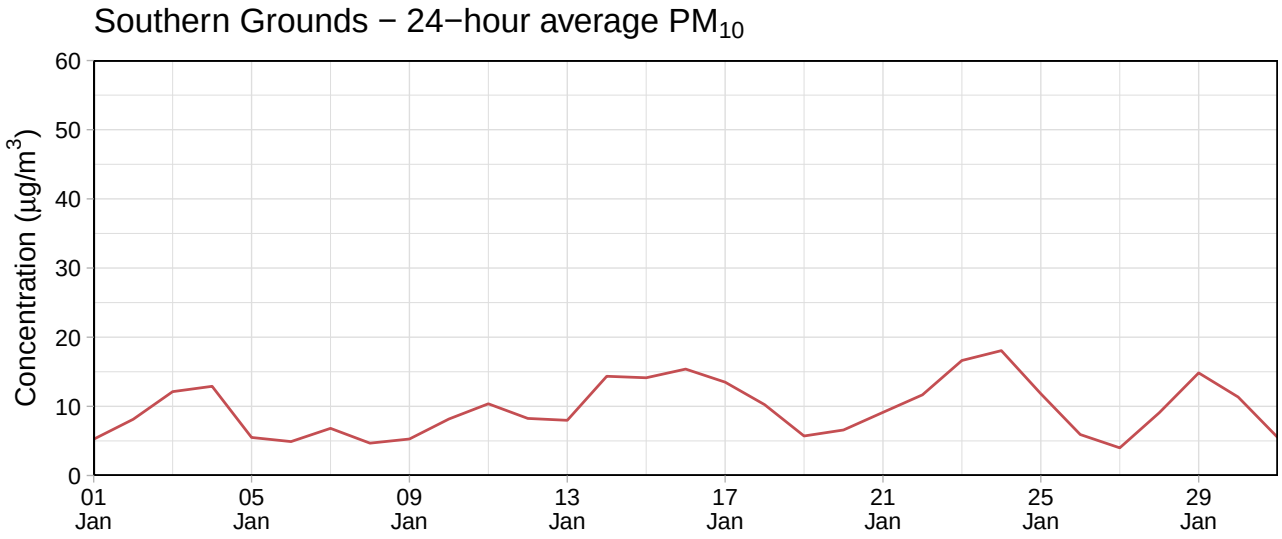
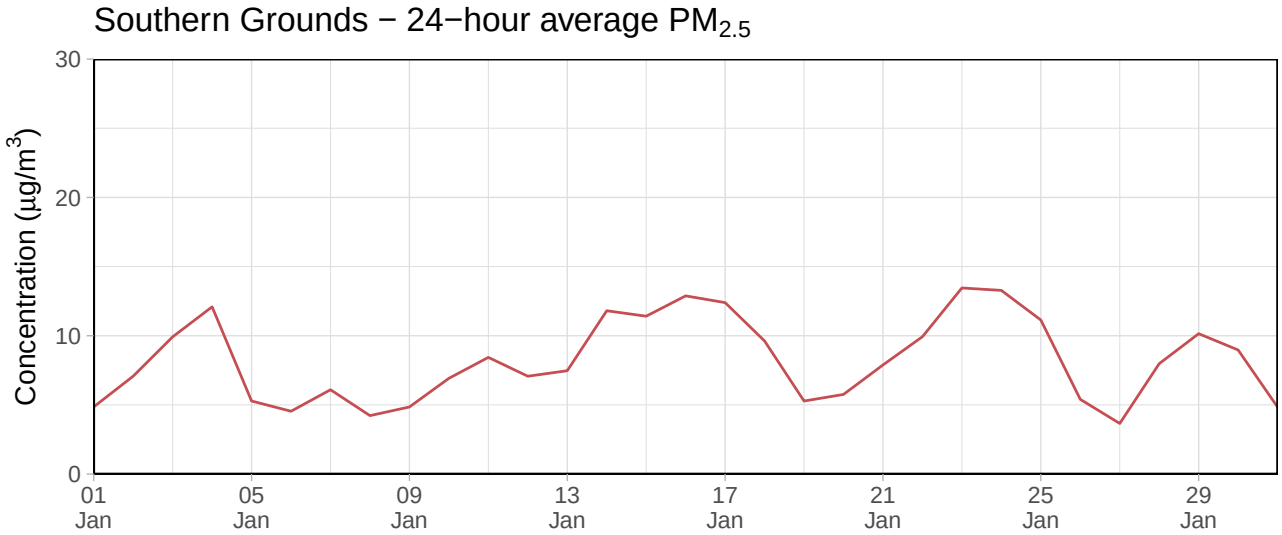
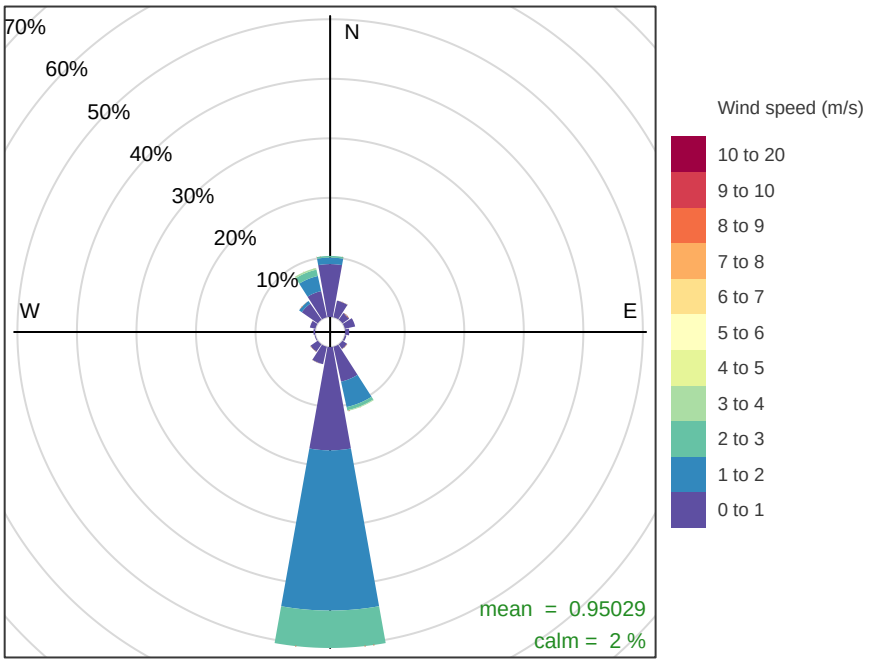




Southern Grounds







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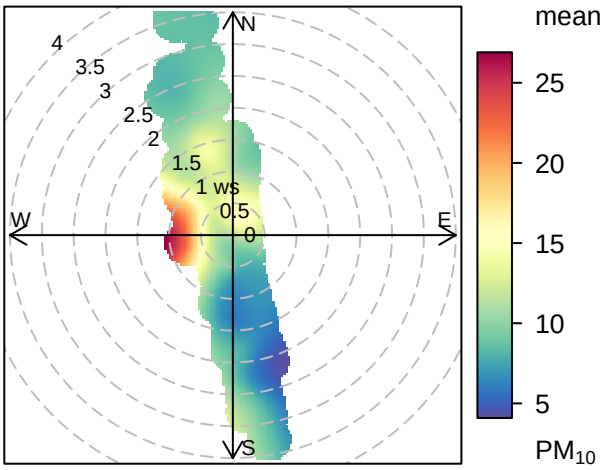
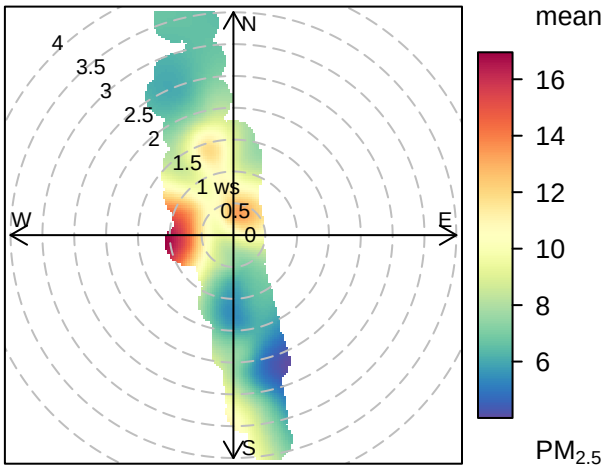
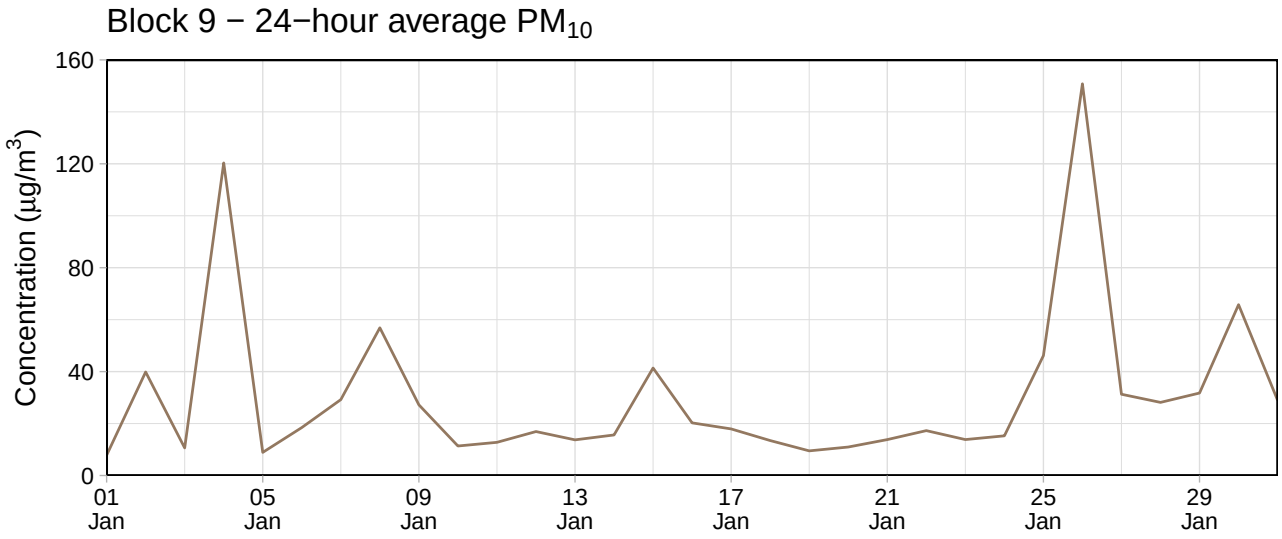
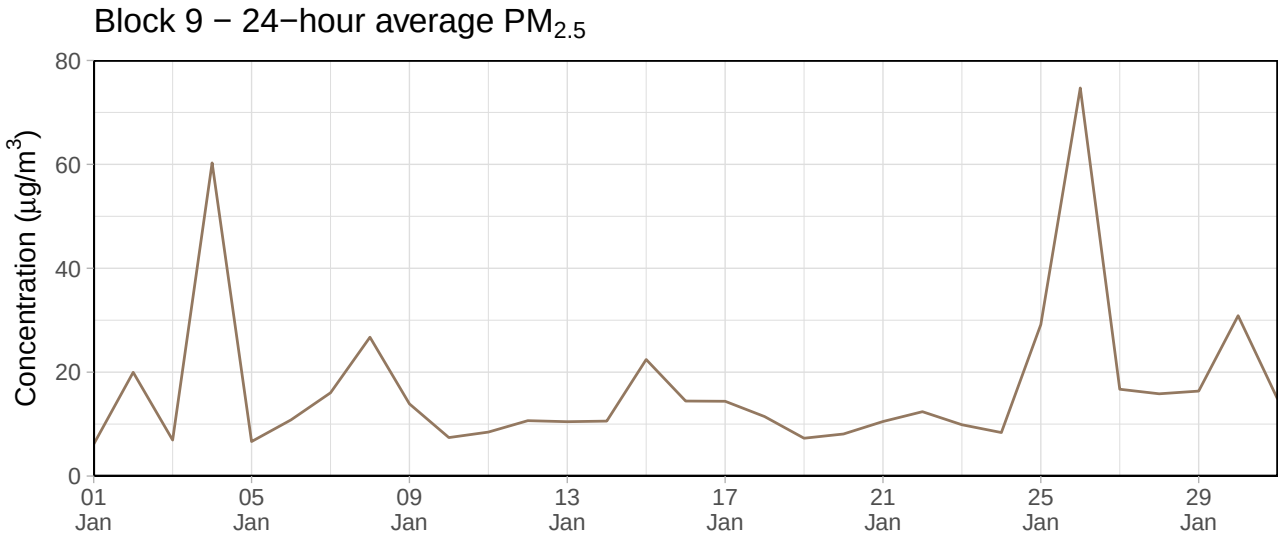
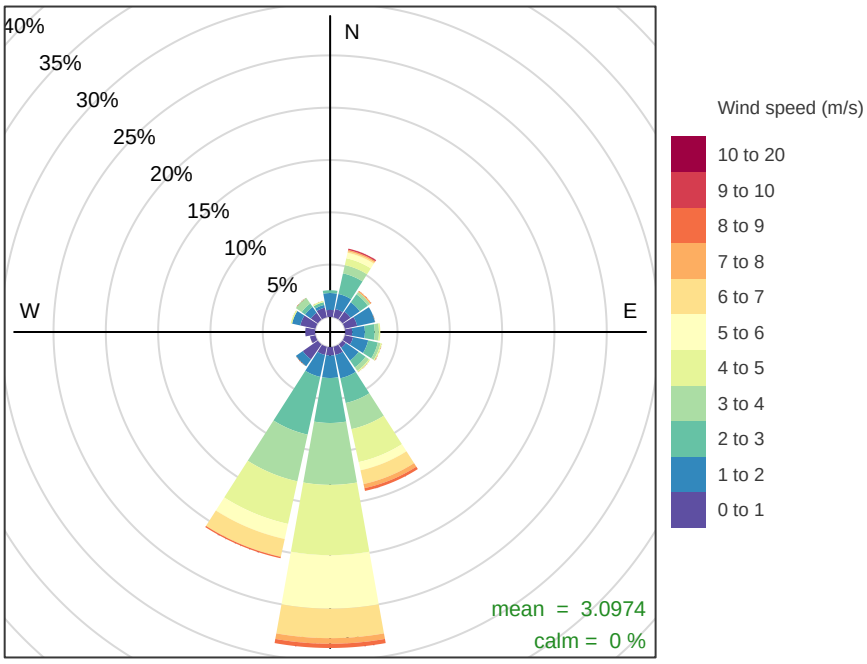




Block 9


Block 9 − 24−hour average PM10
Concentration (µg/m3)
160
120
80
40
0
01 Jan
05 Jan
09 Jan
13 Jan
17 Jan
21 Jan
25 Jan
29 Jan


Block 9 − 24−hour average PM2.5
Concentration (µg/m3)
80
60
40
20
0
01 Jan
05 Jan
09 Jan
13 Jan
17 Jan
21 Jan
25 Jan
29 Jan



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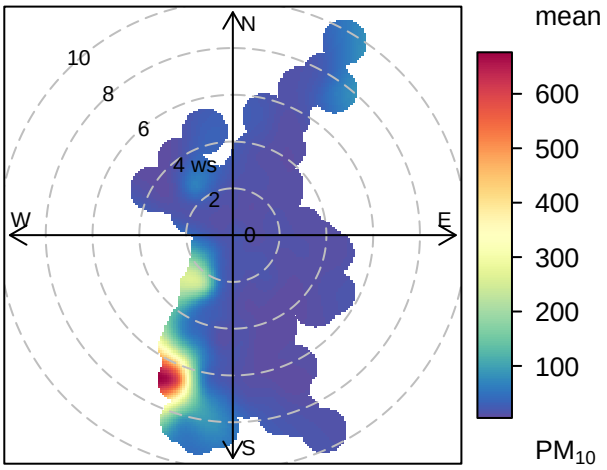
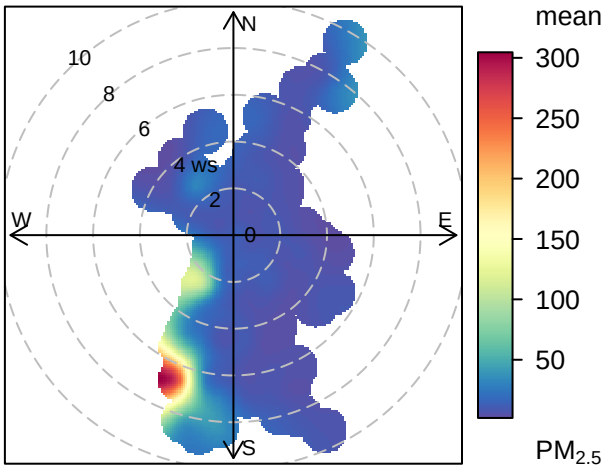
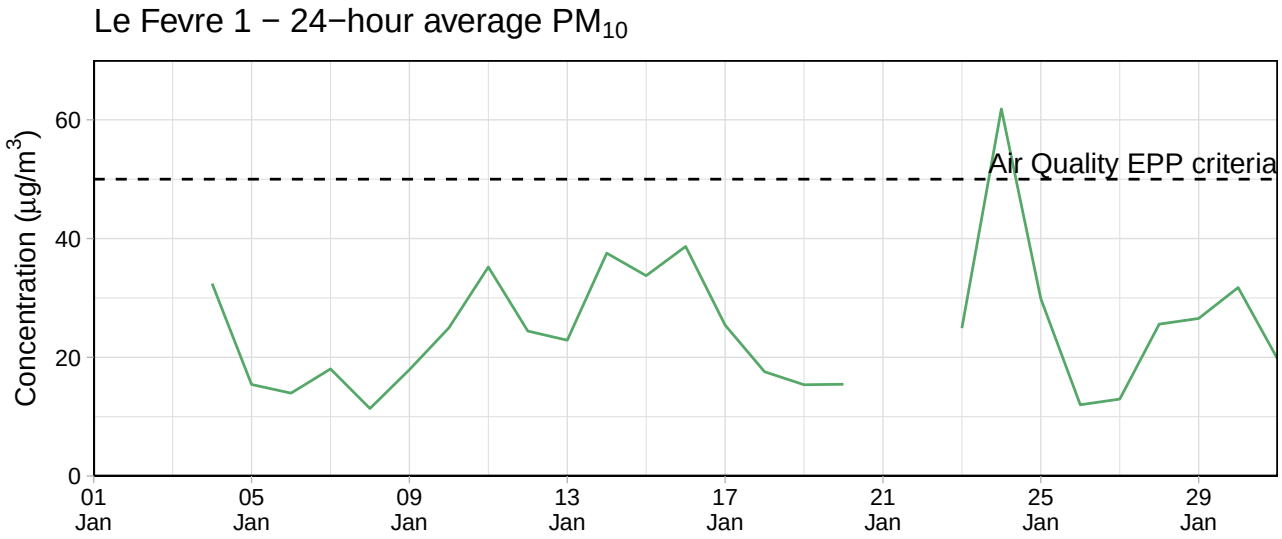
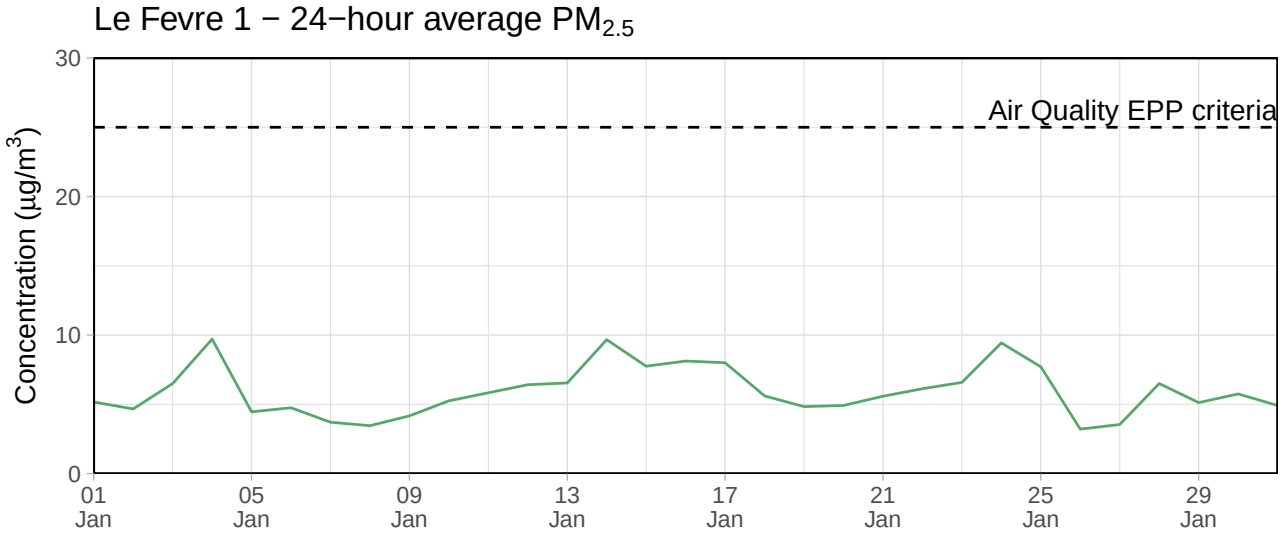




EPA Monitoring

Le Fevre 1





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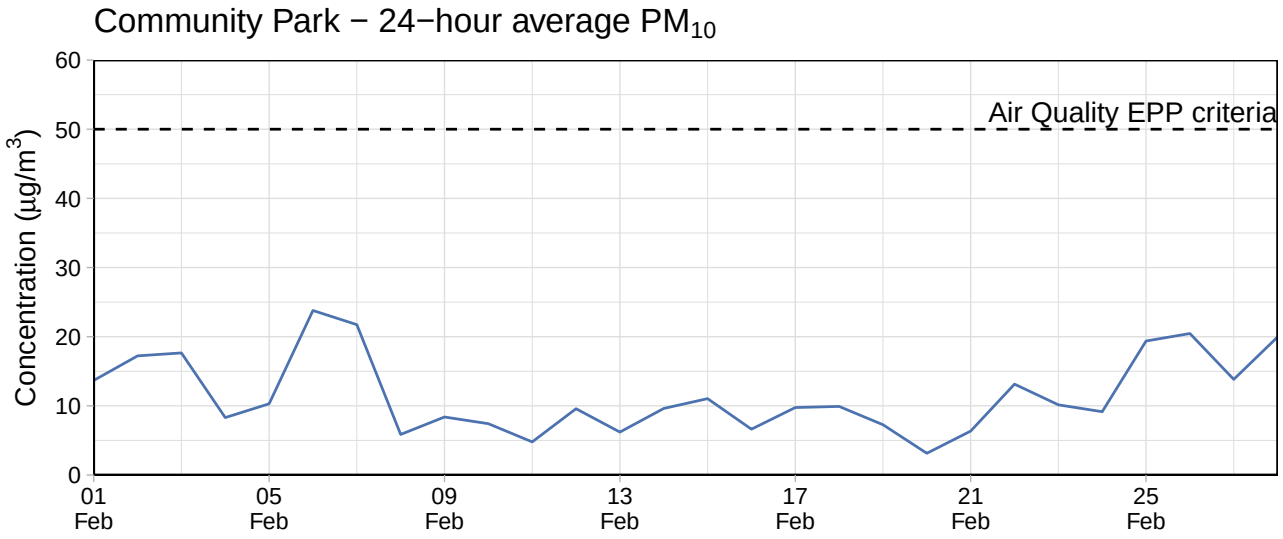
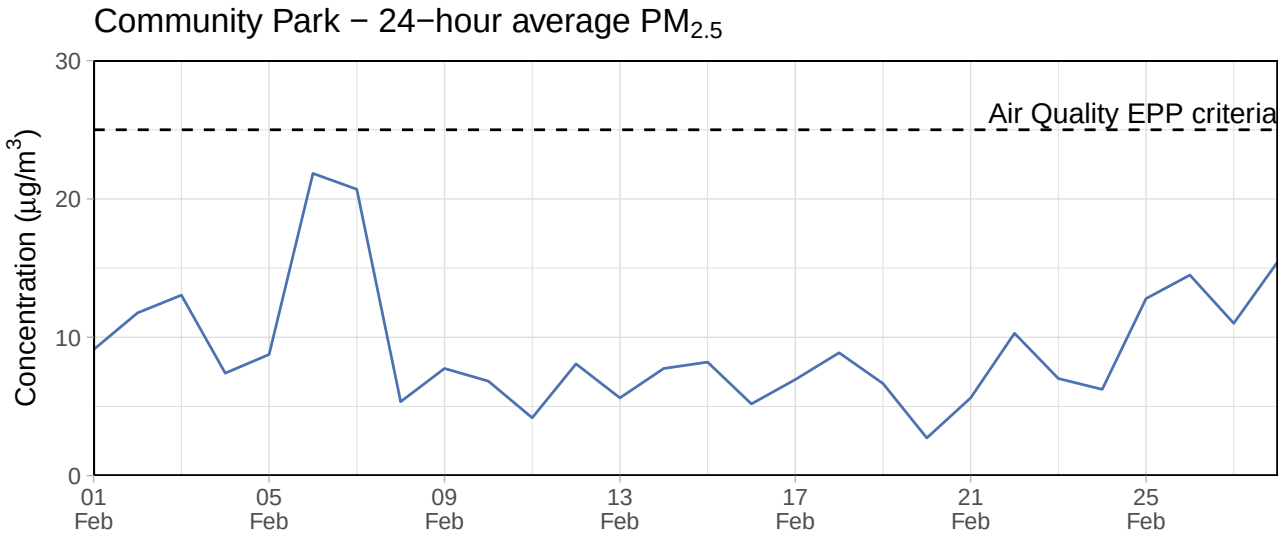
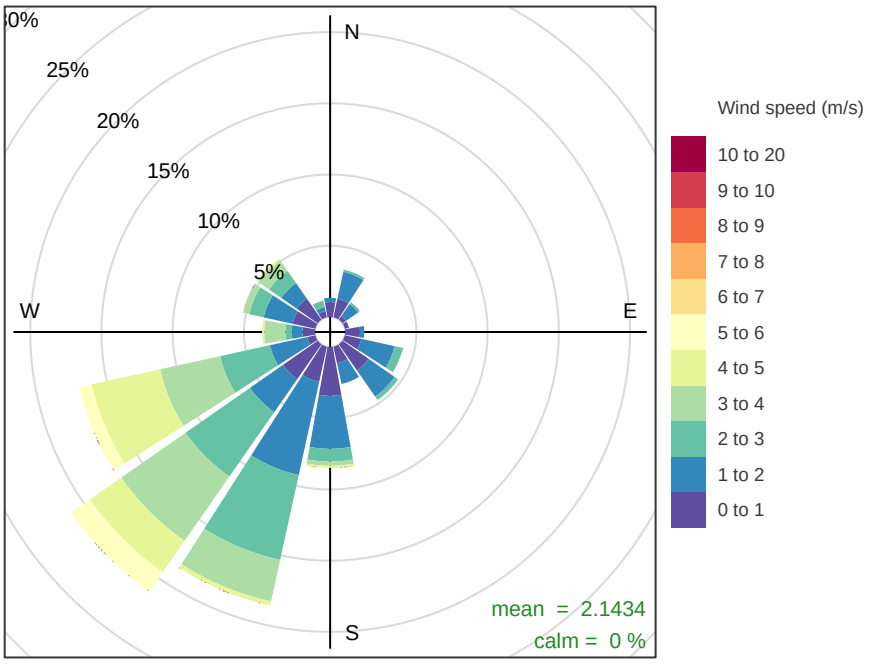
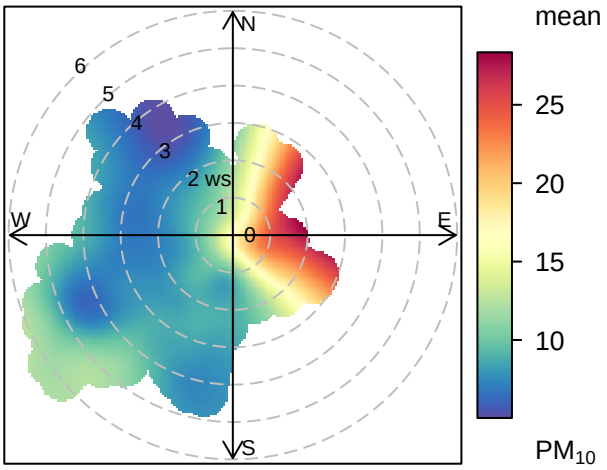
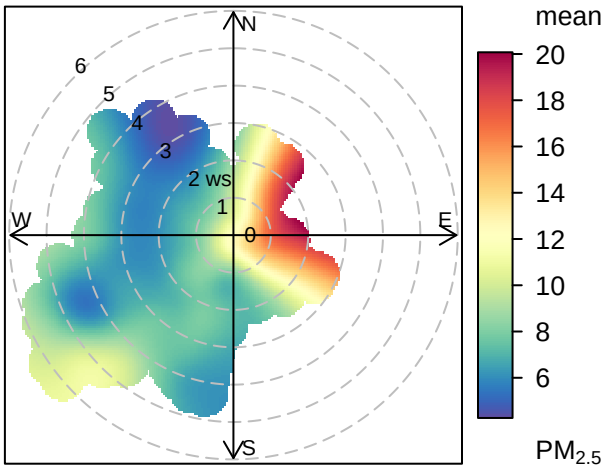




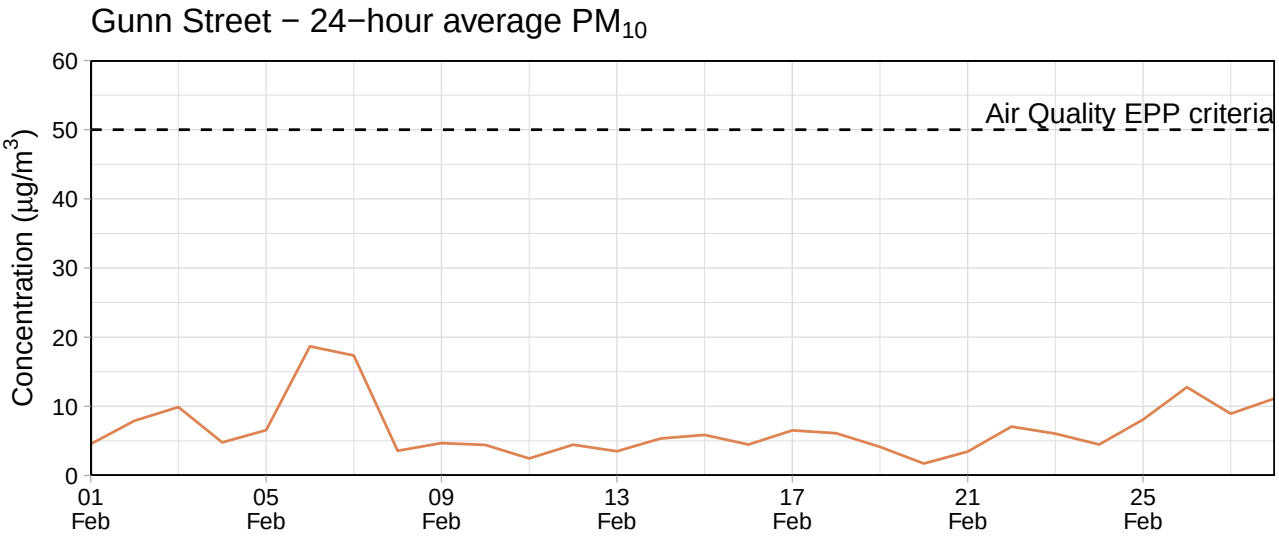


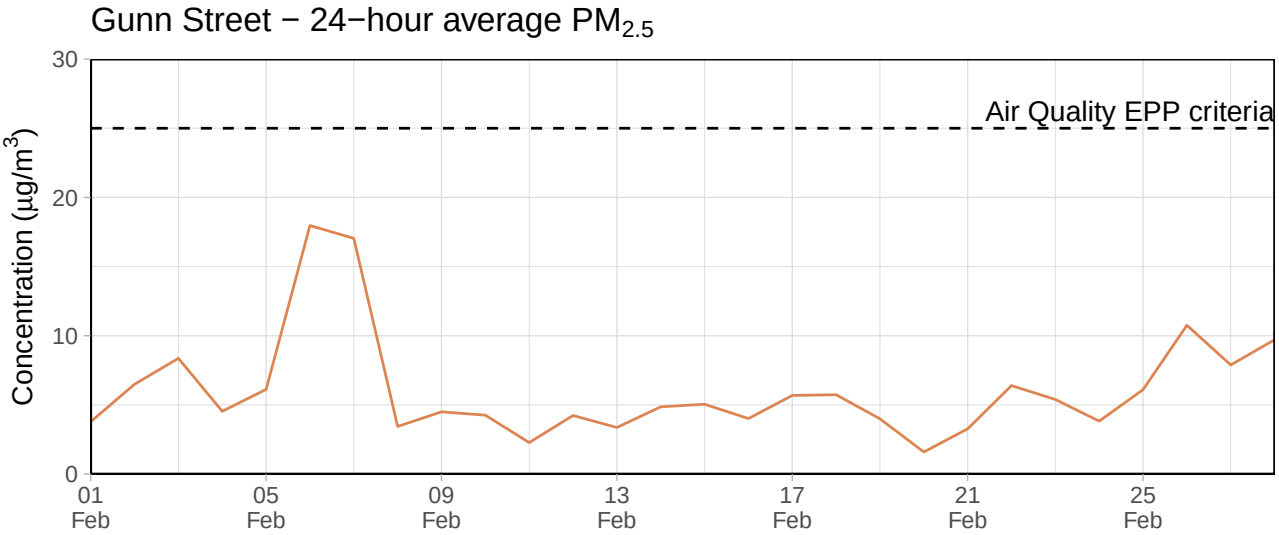
Frequency of counts by wind direction (%)

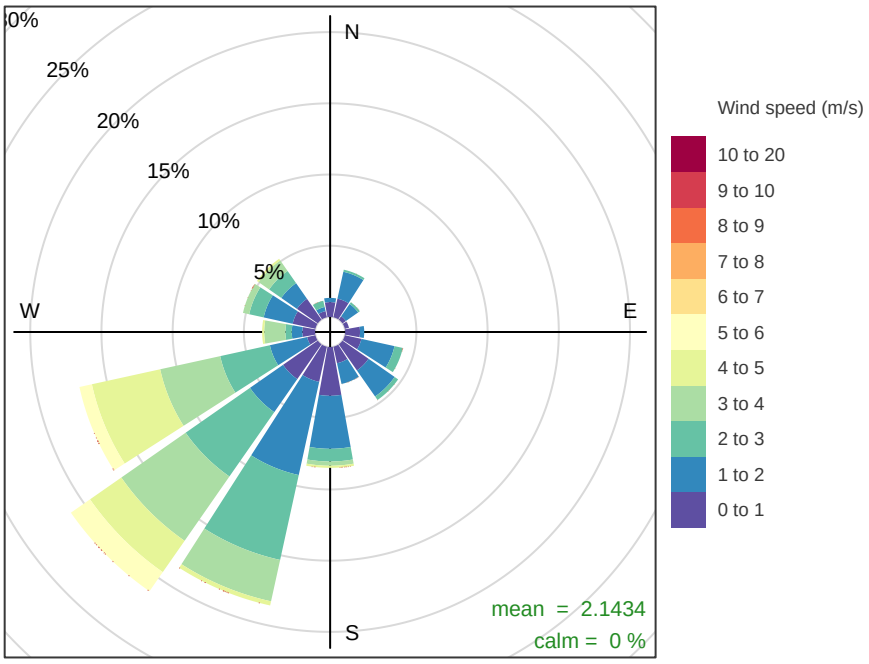




Gunn Street


Gunn Street − 24−hour average PM10
Concentration (µg/m3)
60
50
40
30
20
10
0
Air Quality EPP criteria
01 Feb
05 Feb
09 Feb
13 Feb
17 Feb
21 Feb
25 Feb


Gunn Street − 24−hour average PM2.5
Concentration (µg/m3)
30
20
10
0
Air Quality EPP criteria
01 Feb
05 Feb
09 Feb
13 Feb
17 Feb
21 Feb
25 Feb



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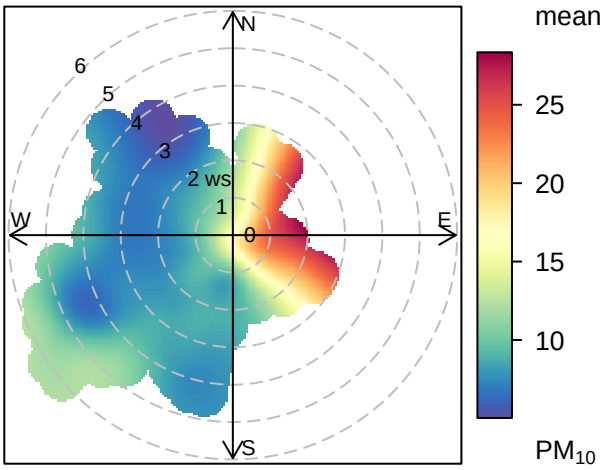
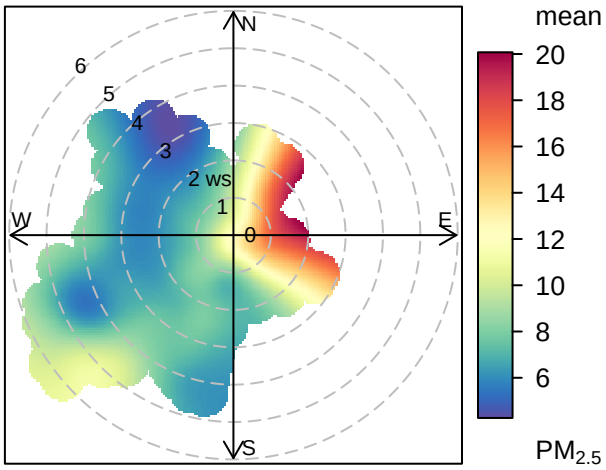
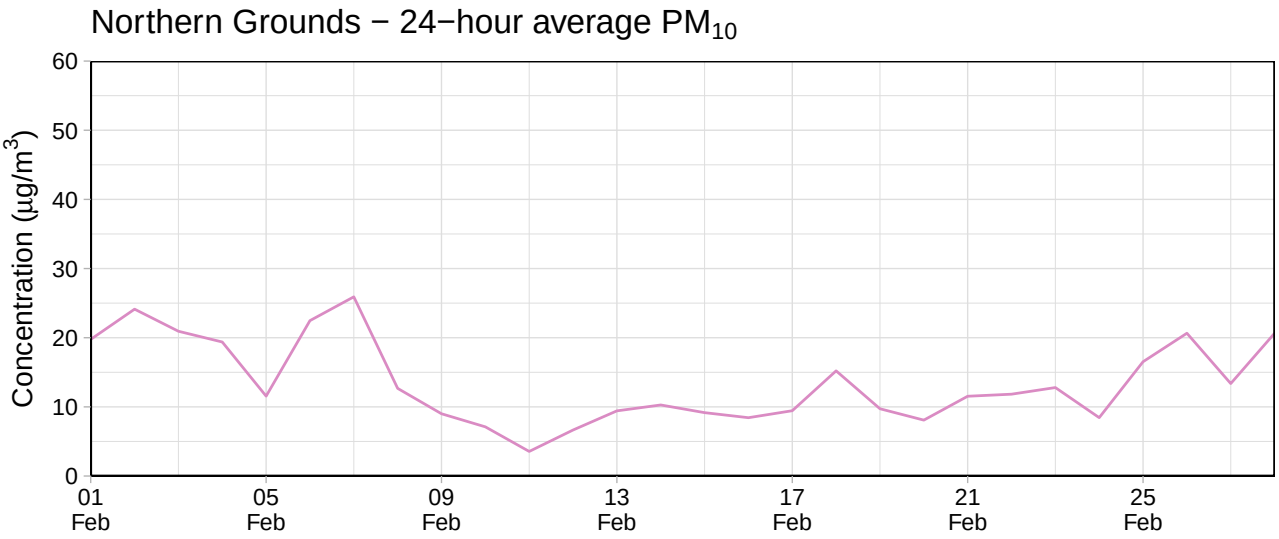
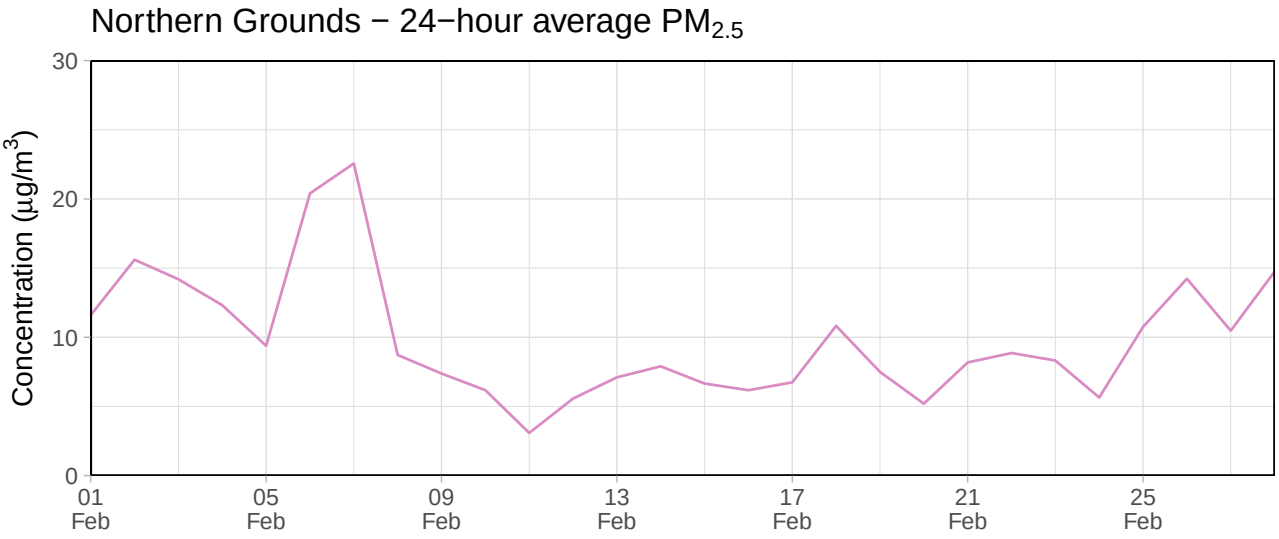


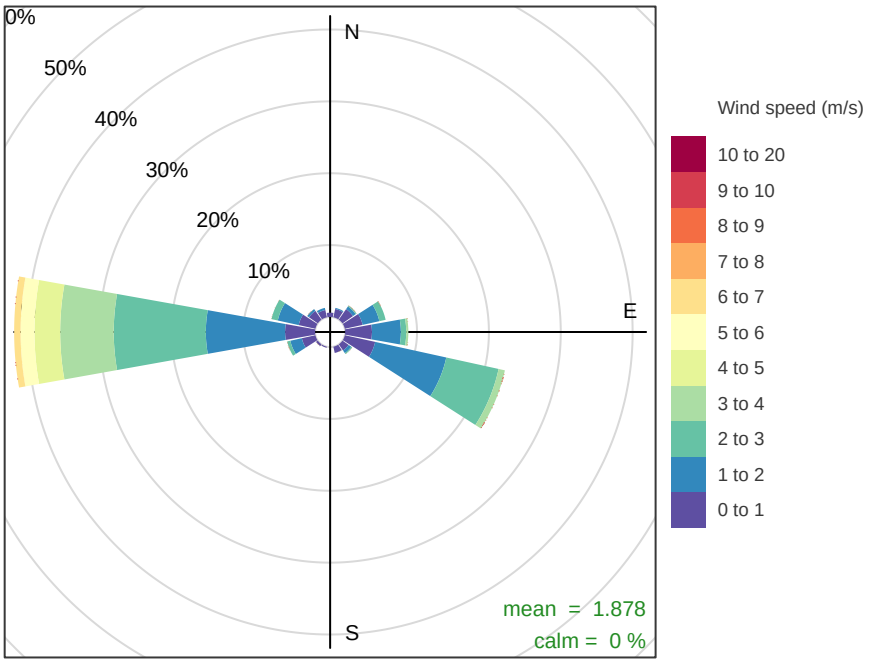


Internal Monitors

Northern Grounds







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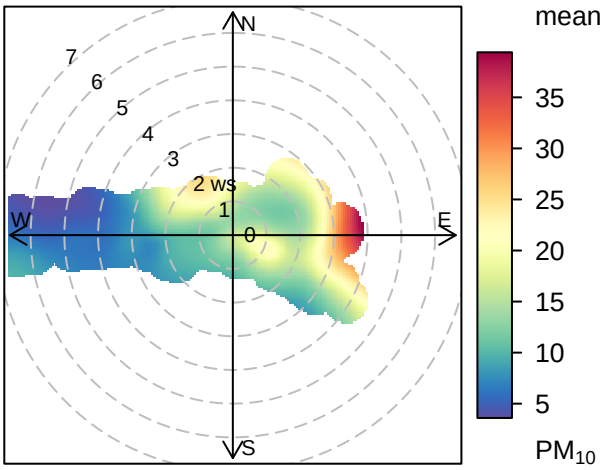
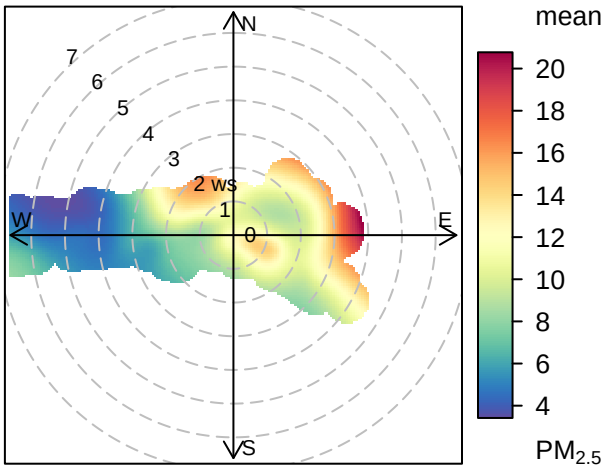
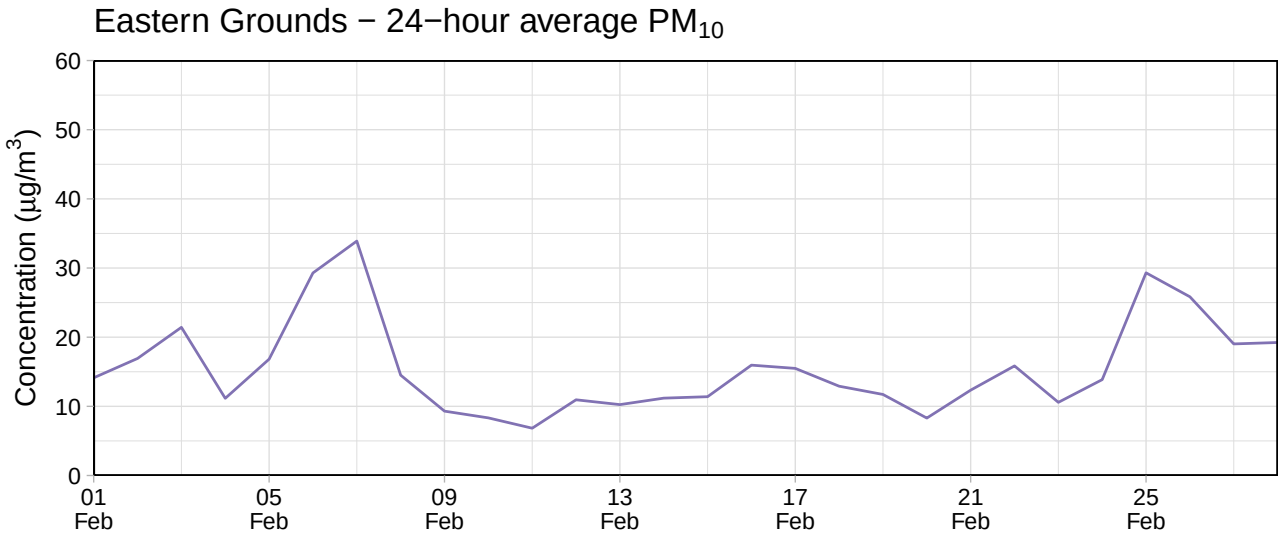
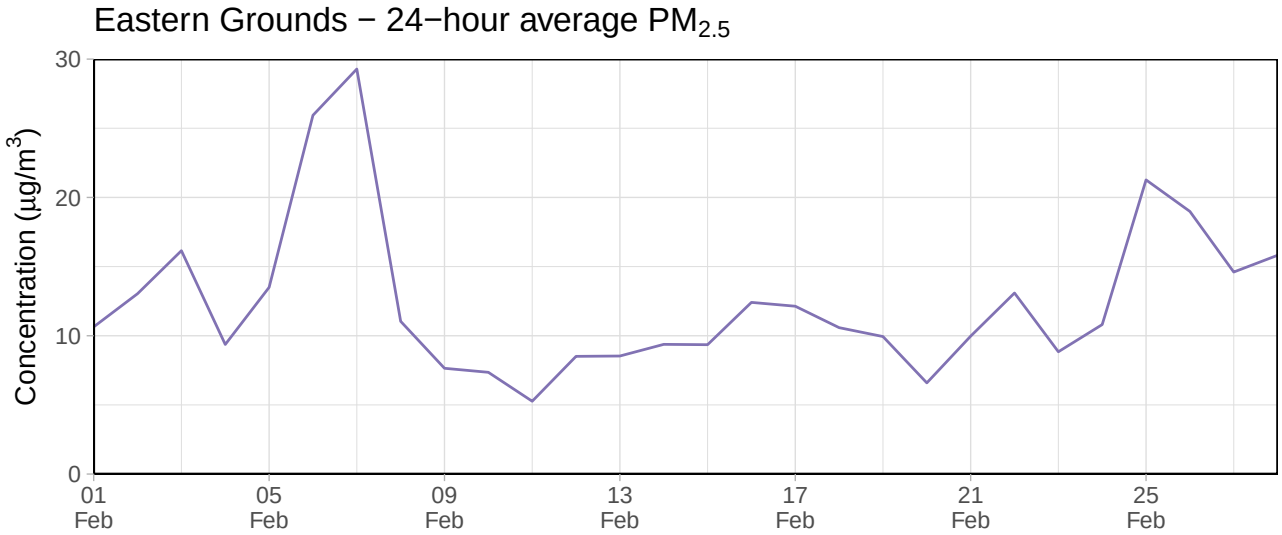
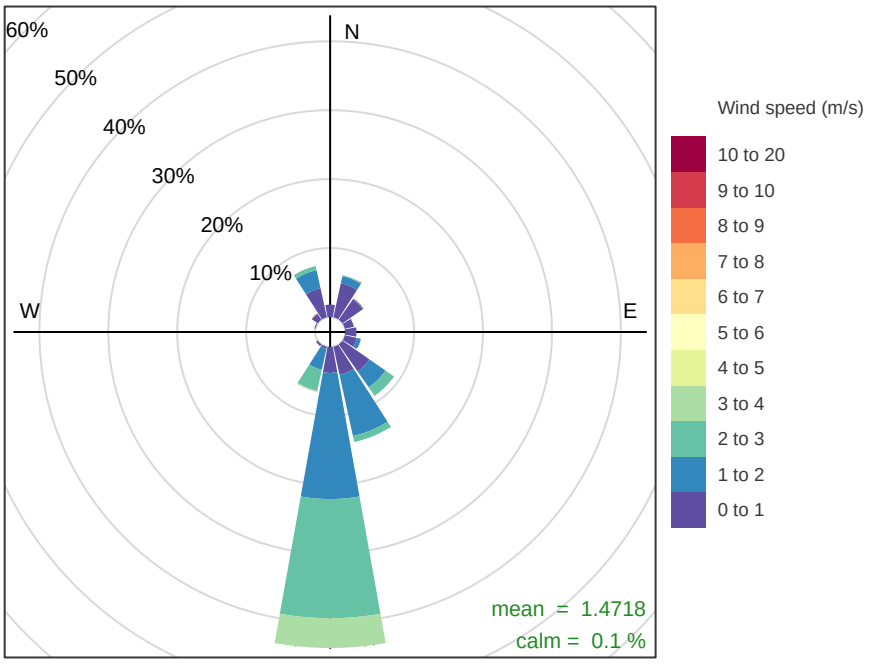




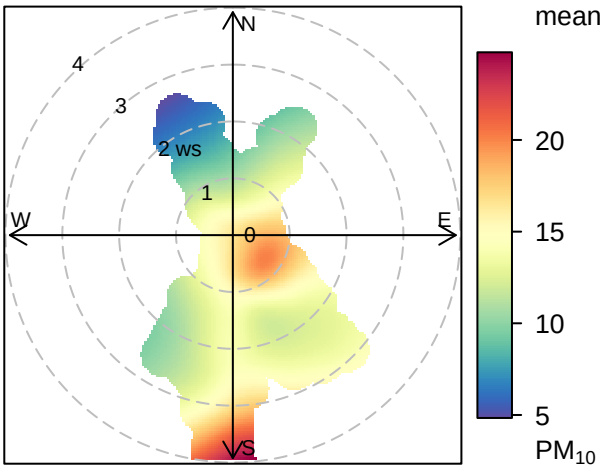
Eastern Grounds

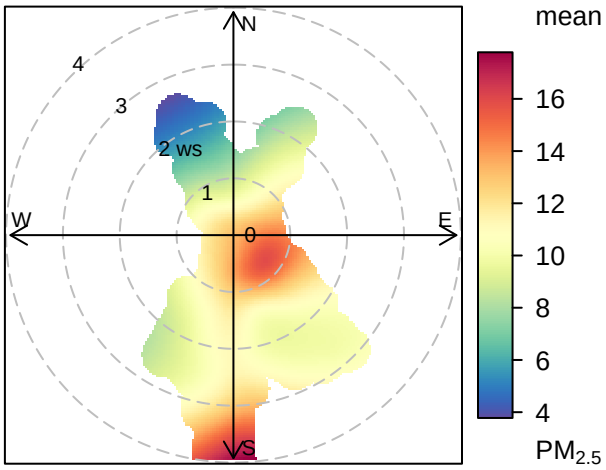




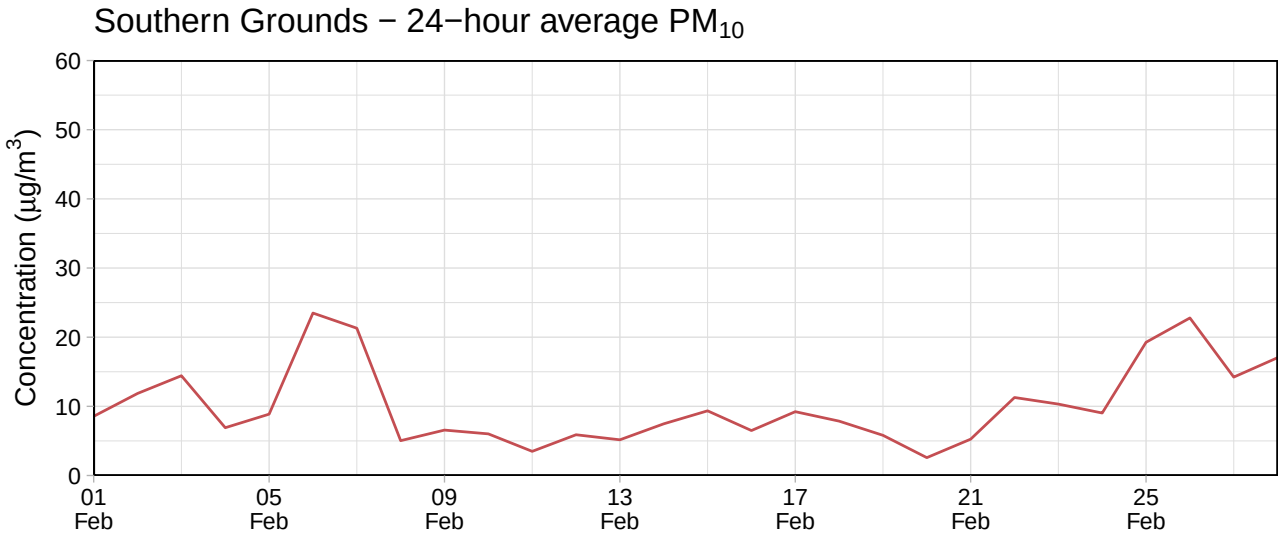


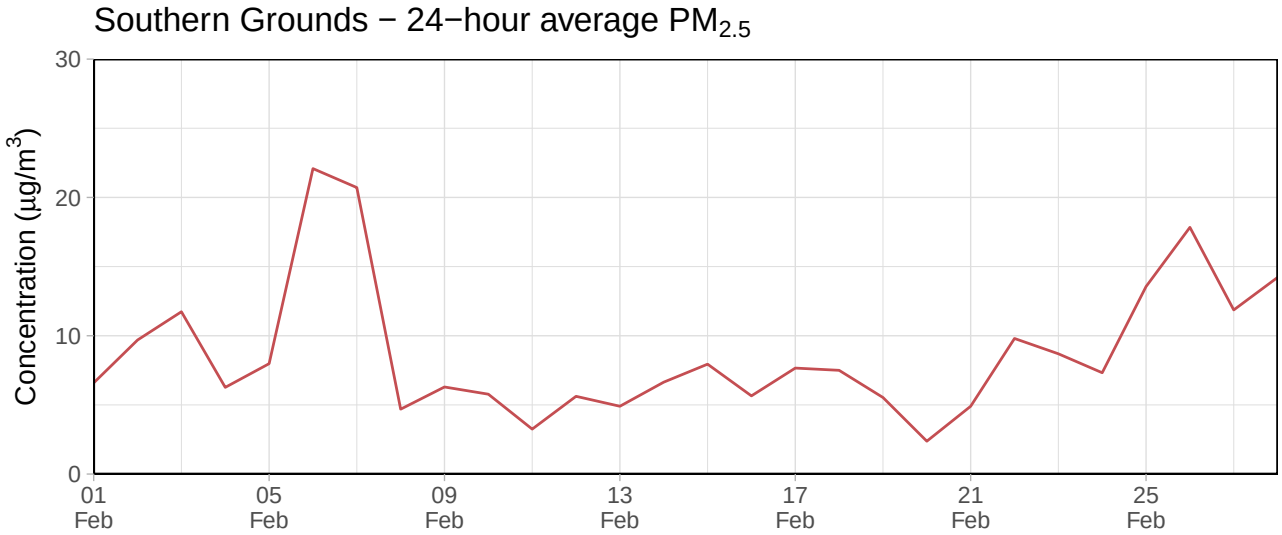
Frequency of counts by wind direction (%)

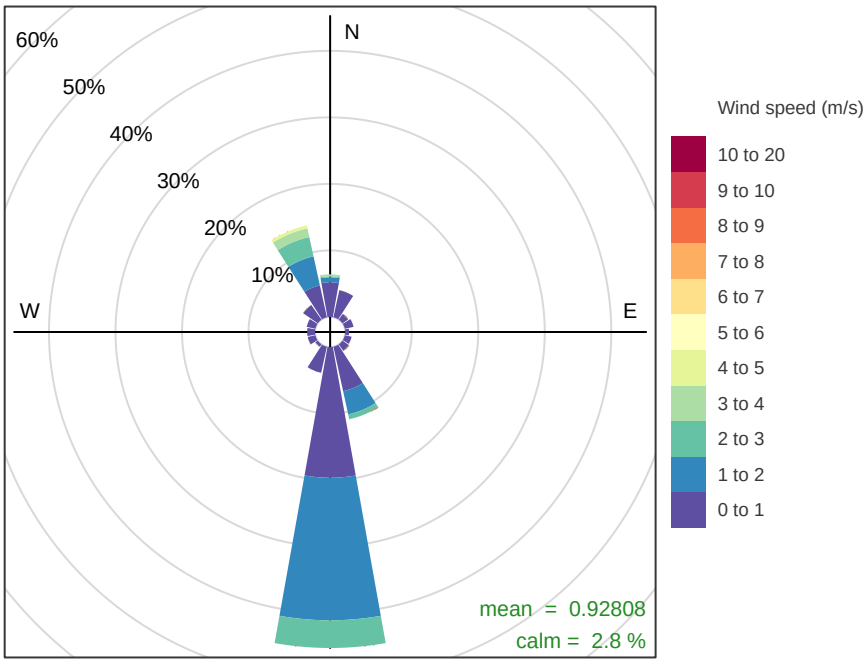




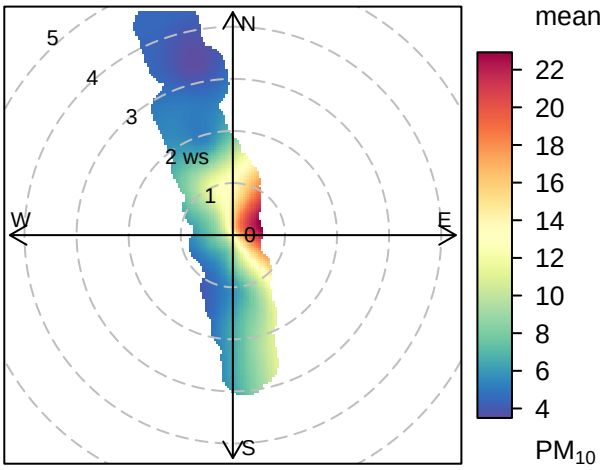
Southern Grounds

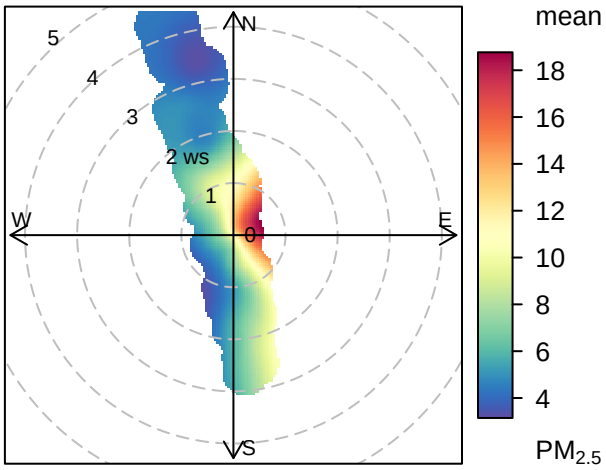




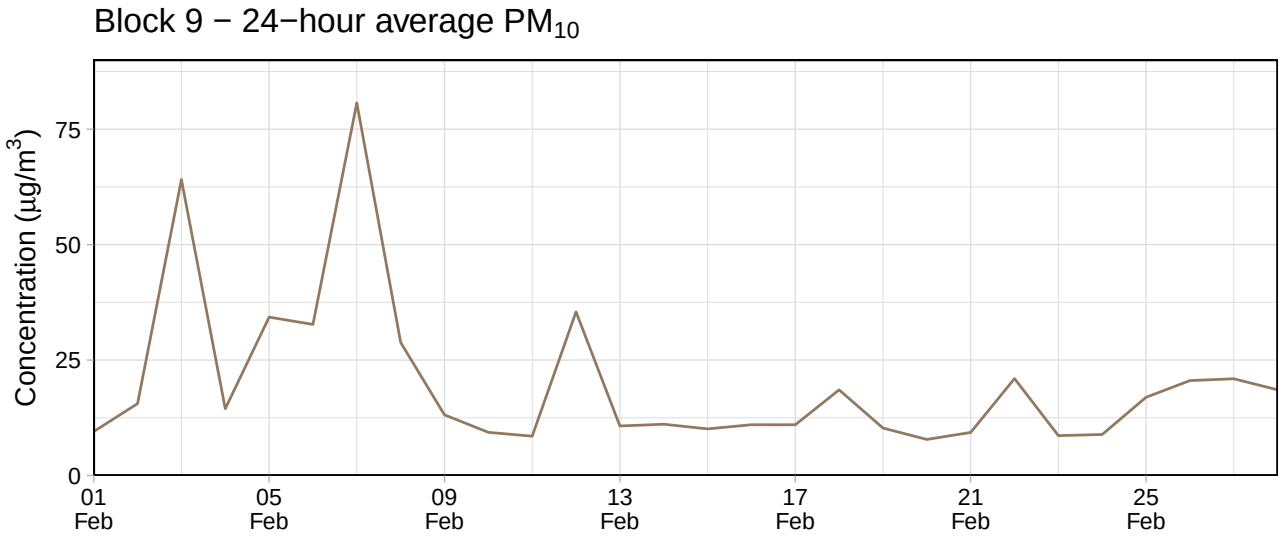


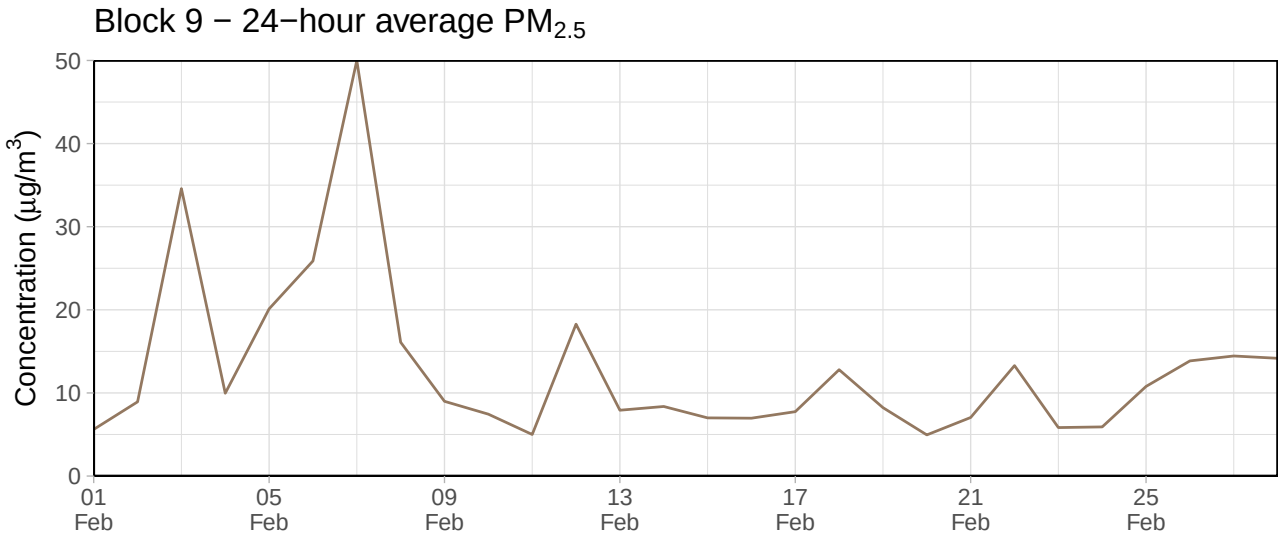
Frequency of counts by wind direction (%)

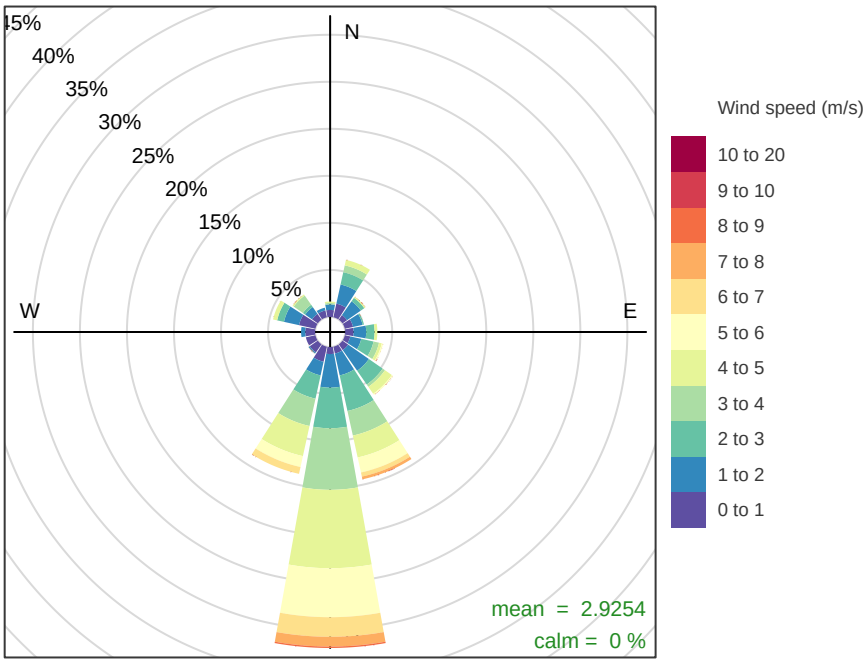




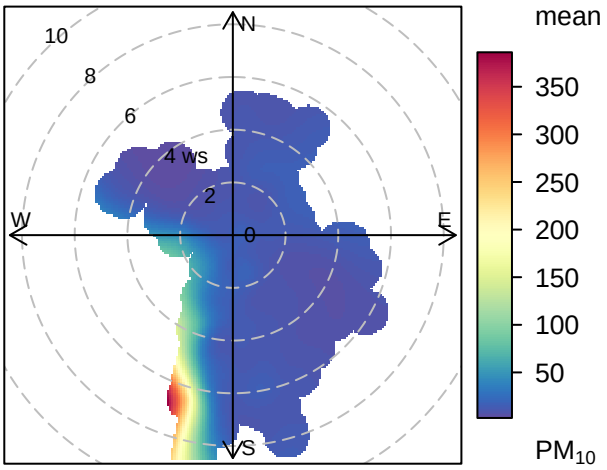
Block 9

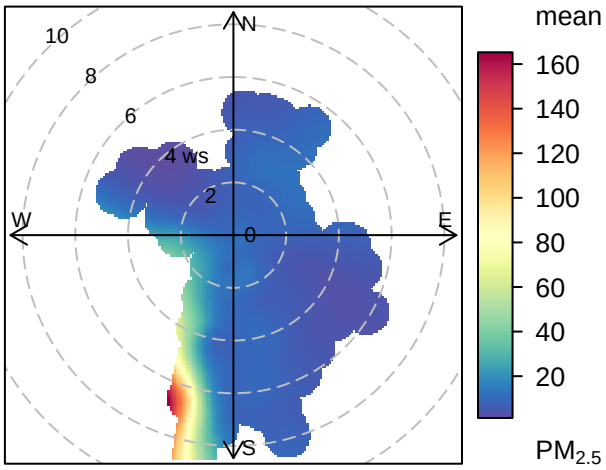

Block 9 − 24−hour average PM10
Concentration (µg/m3)
0
25
50
75
01 Feb
05 Feb
09 Feb
13 Feb
17 Feb
21 Feb
25 Feb


Block 9 − 24−hour average PM2.5
Concentration (µg/m3)
0
10
20
30
40
50
01 Feb
05 Feb
09 Feb
13 Feb
17 Feb
21 Feb
25 Feb



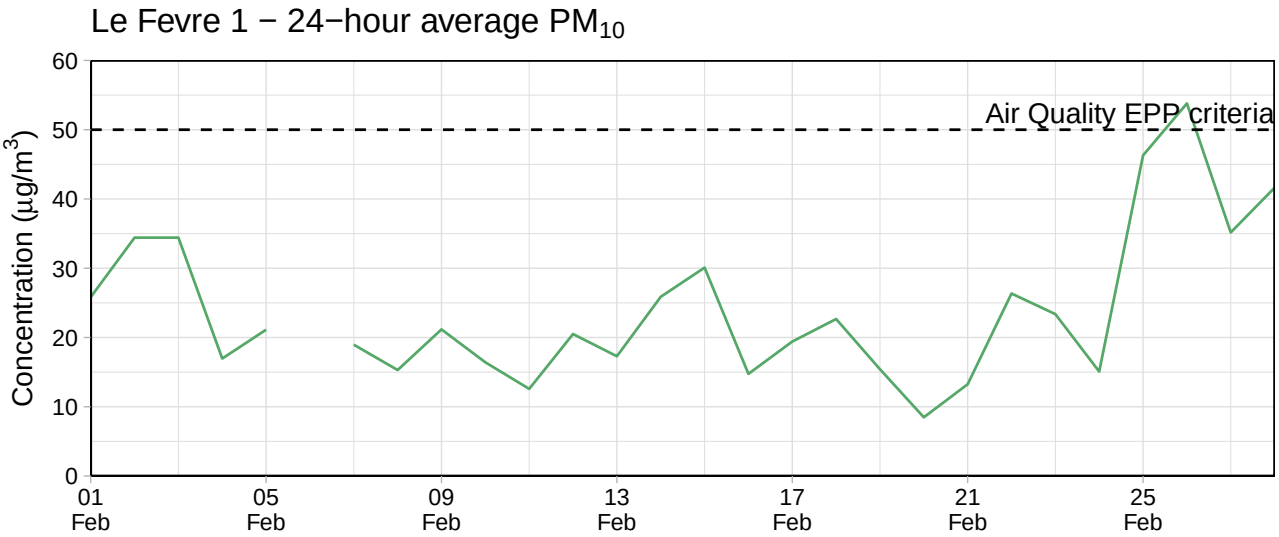
Frequency of counts by wind direction (%)

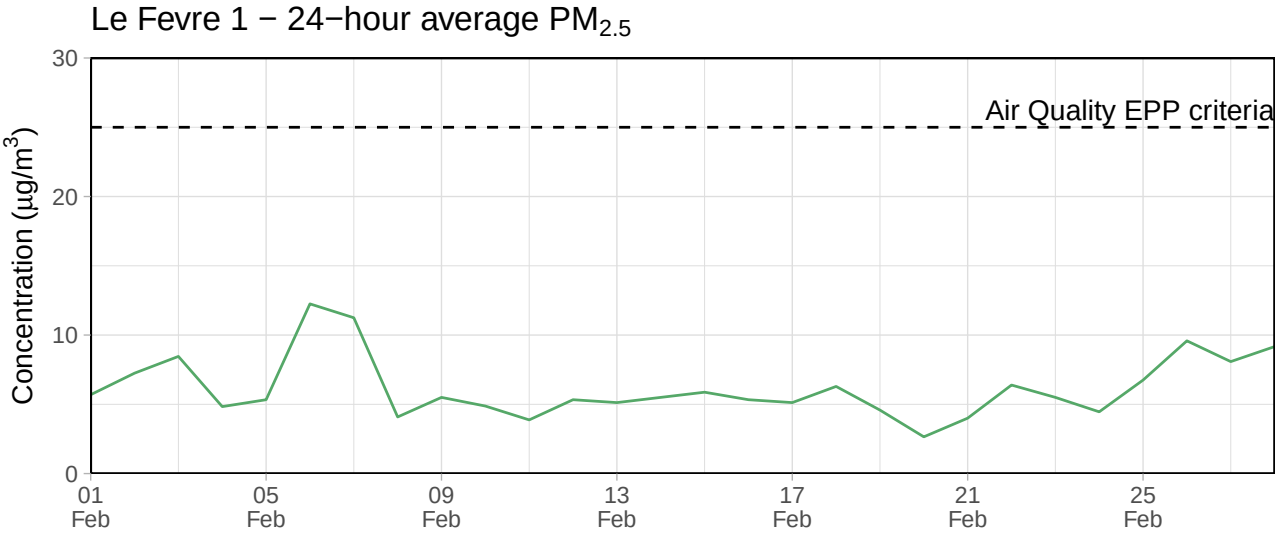




EPA Monitoring

Le Fevre 1





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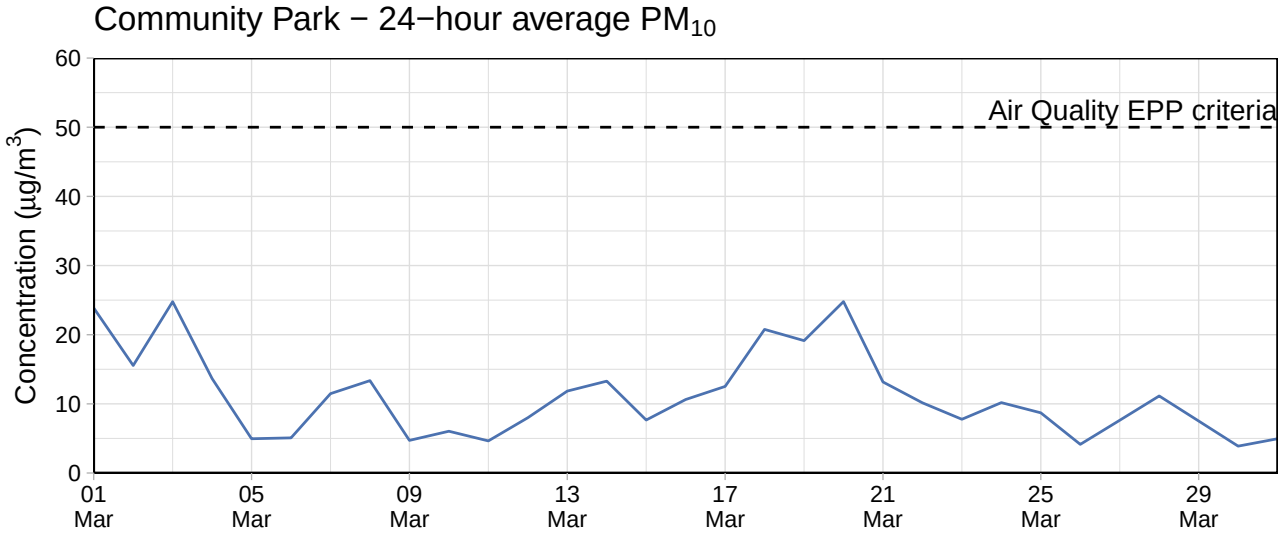
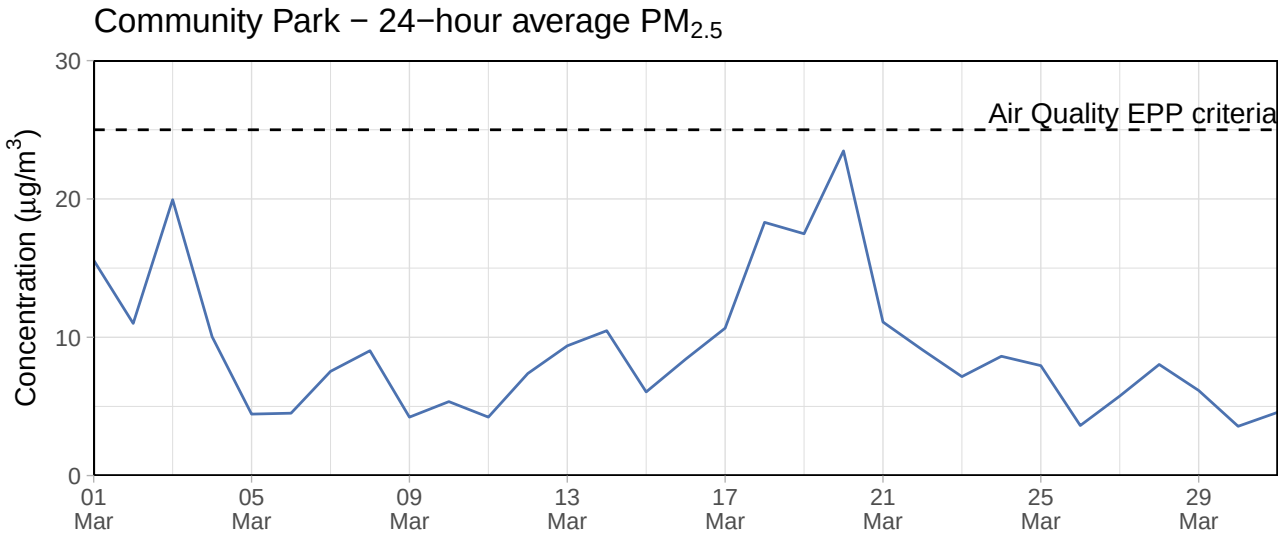
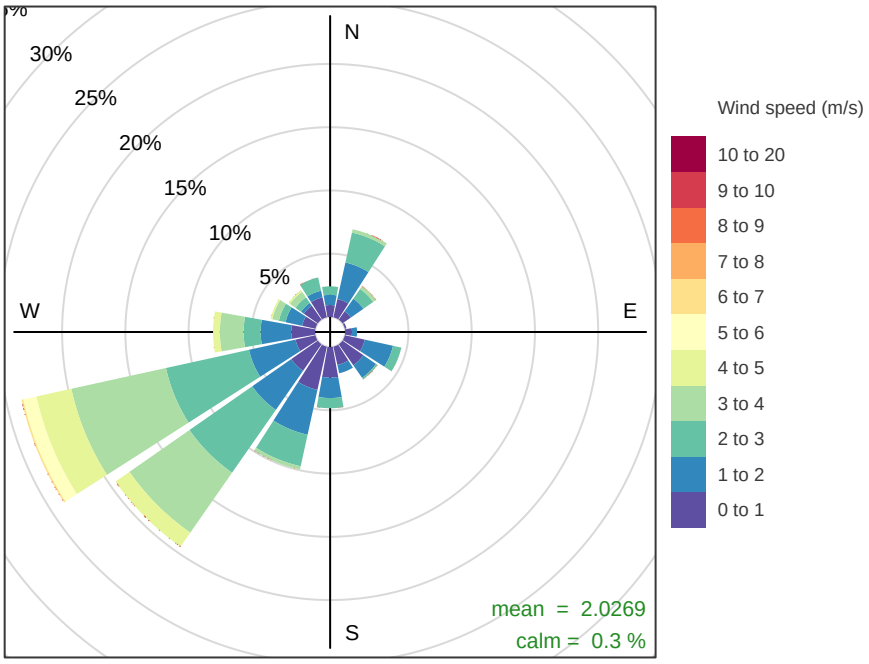
Monitoring Summary (01 Mar, 2019 - 31 Mar, 2019)

Public Monitors

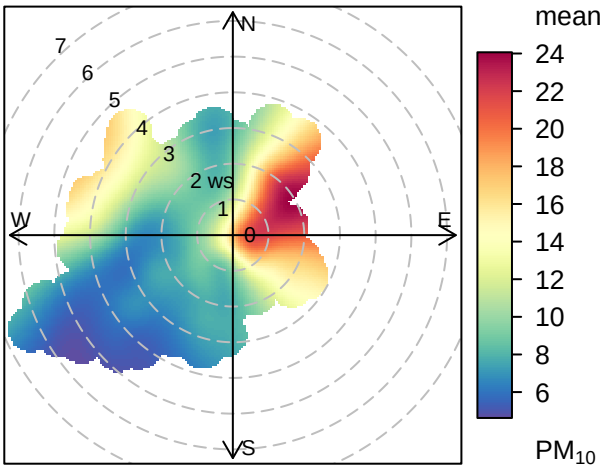
Community Park

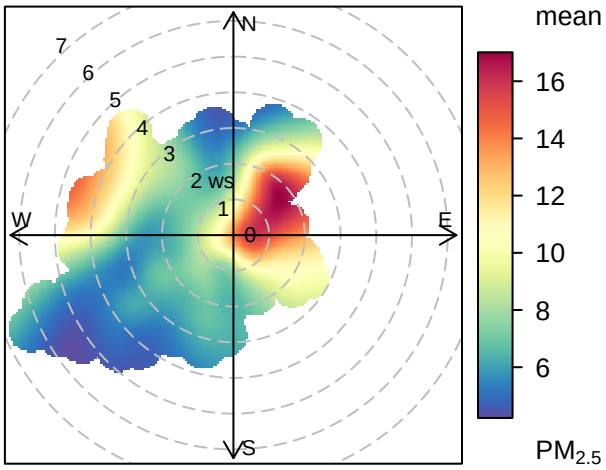




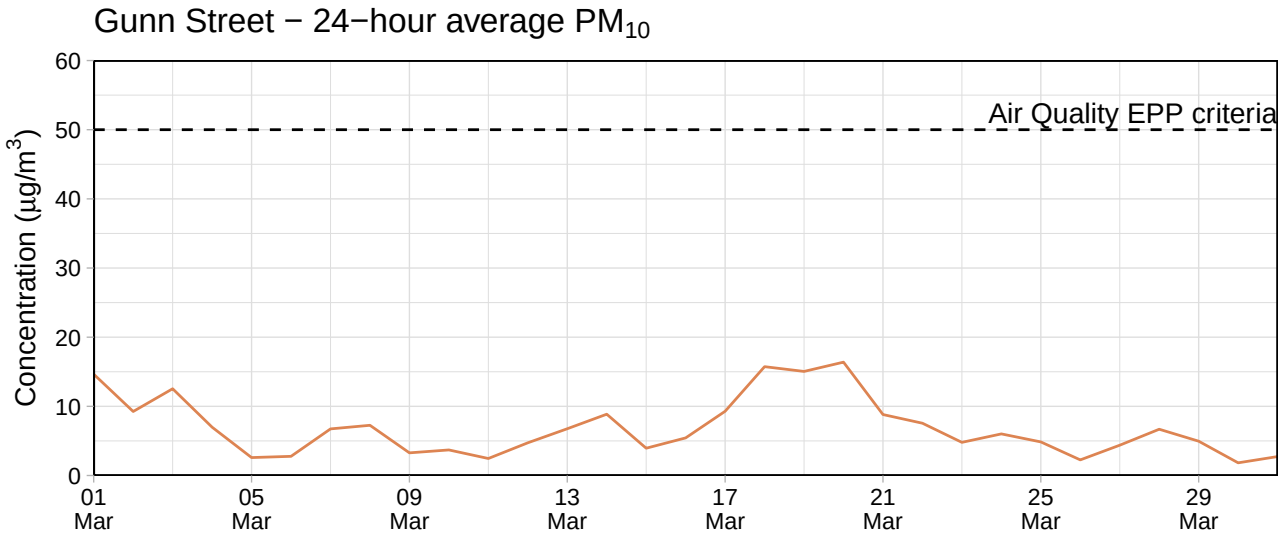


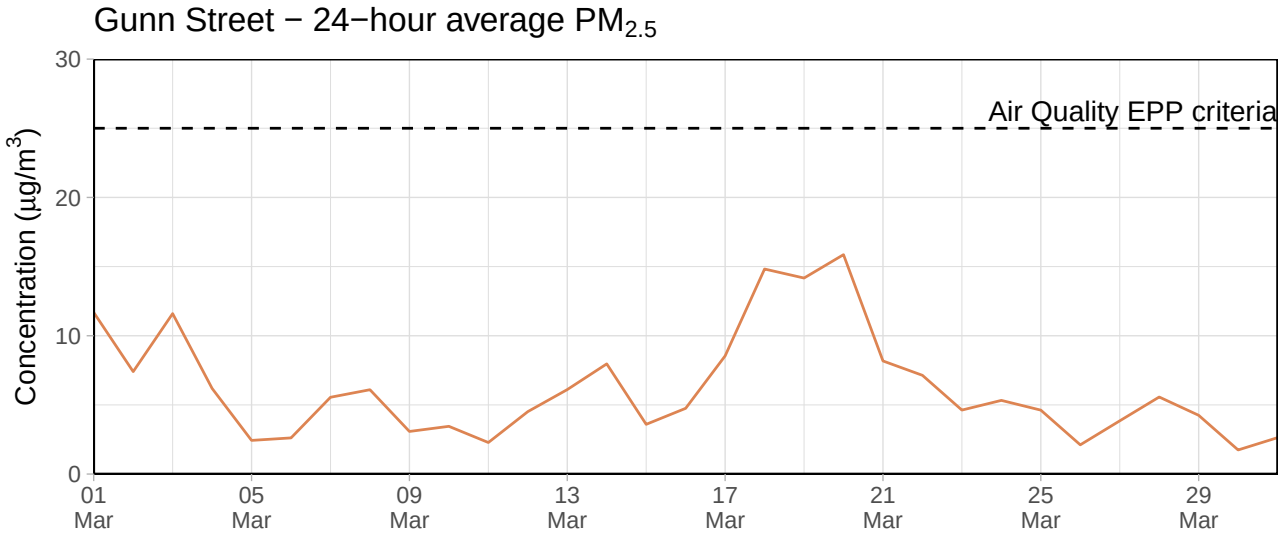
Frequency of counts by wind direction (%)

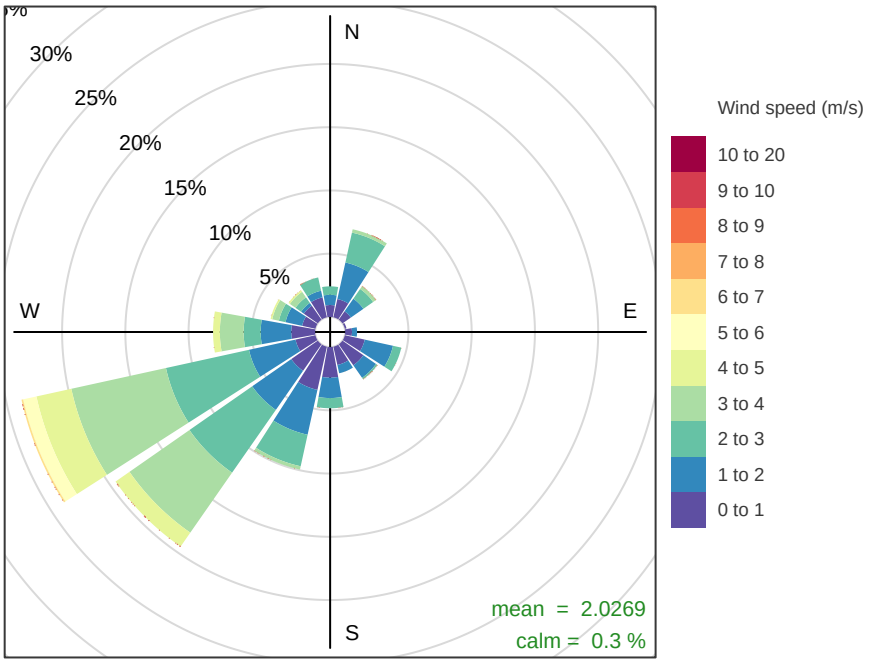




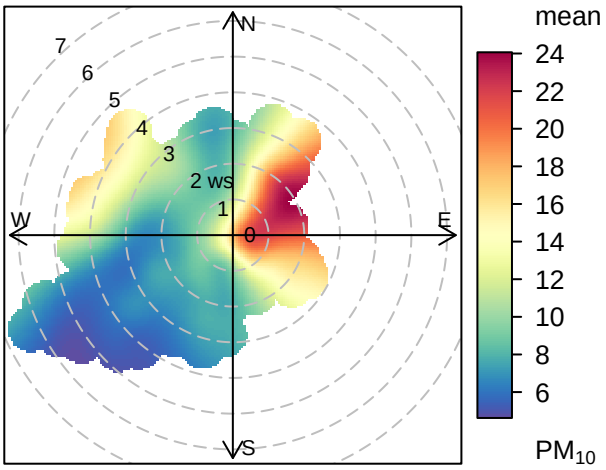
Gunn Street

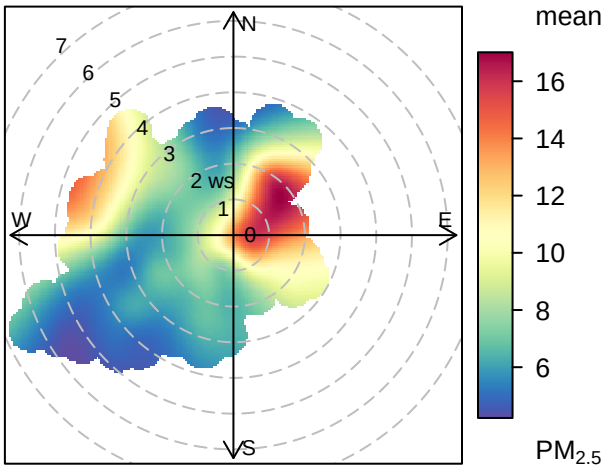

Gunn Street − 24−hour average PM10
Concentration (µg/m3)
60
50
40
30
20
10
0
Air Quality EPP criteria
01 Mar
05 Mar
09 Mar
13 Mar
17 Mar
21 Mar
25 Mar
29 Mar


Gunn Street − 24−hour average PM2.5
Concentration (µg/m3)
30
20
10
0
Air Quality EPP criteria
01 Mar
05 Mar
09 Mar
13 Mar
17 Mar
21 Mar
25 Mar
29 Mar



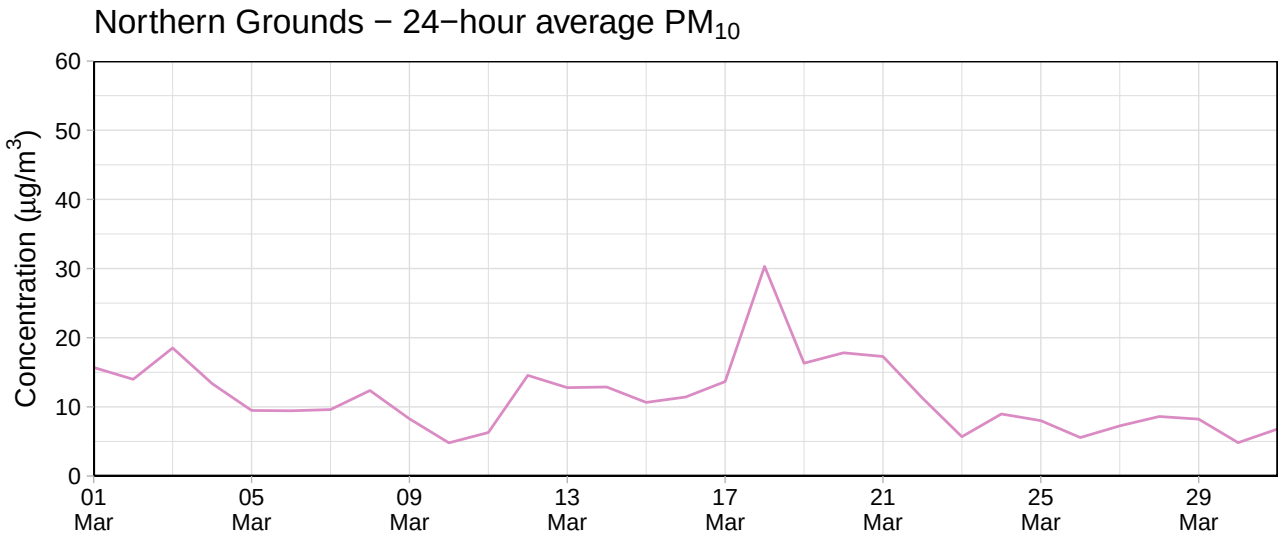
Frequency of counts by wind direction (%)

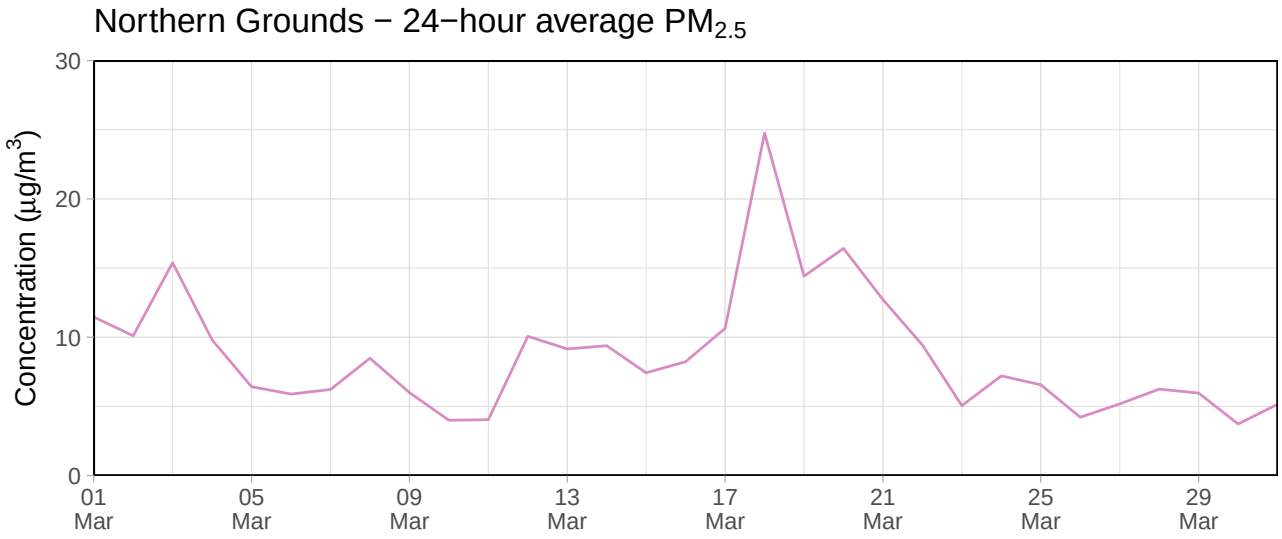


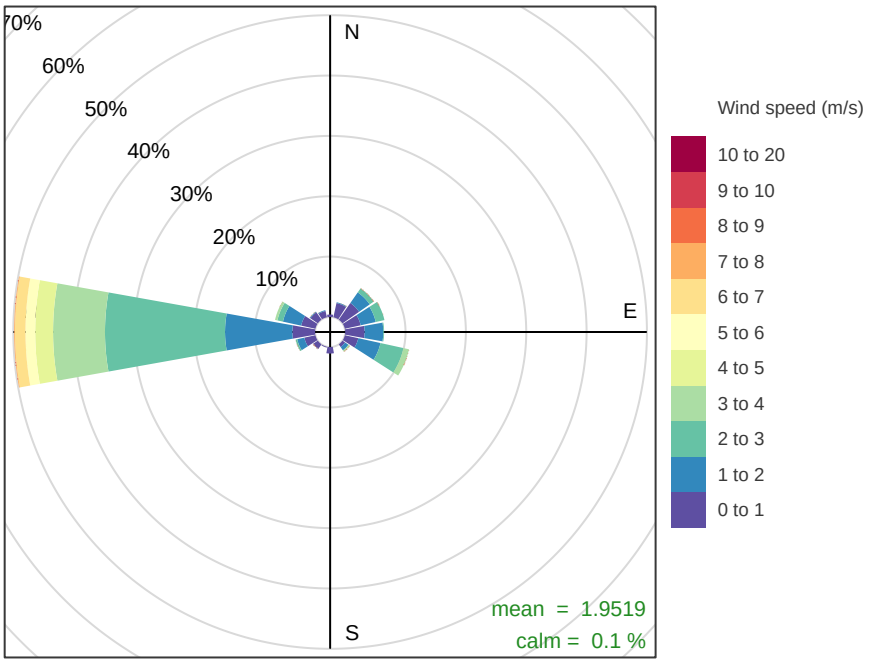


Internal Monitors

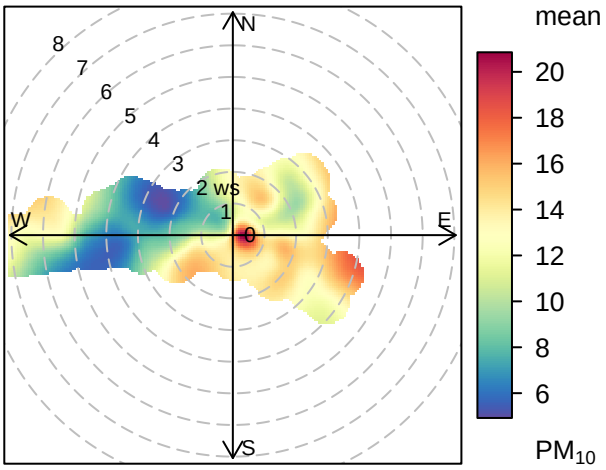
Northern Grounds

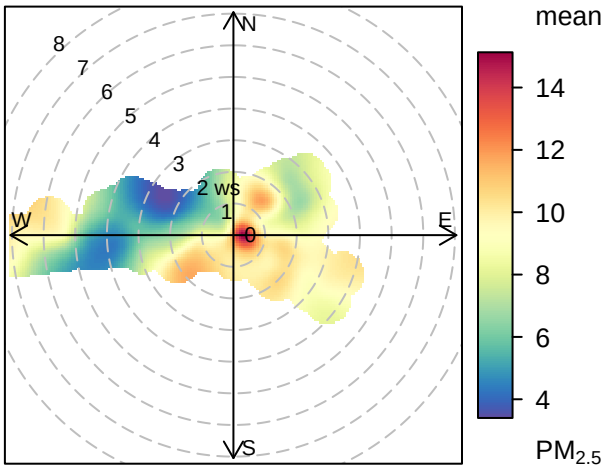




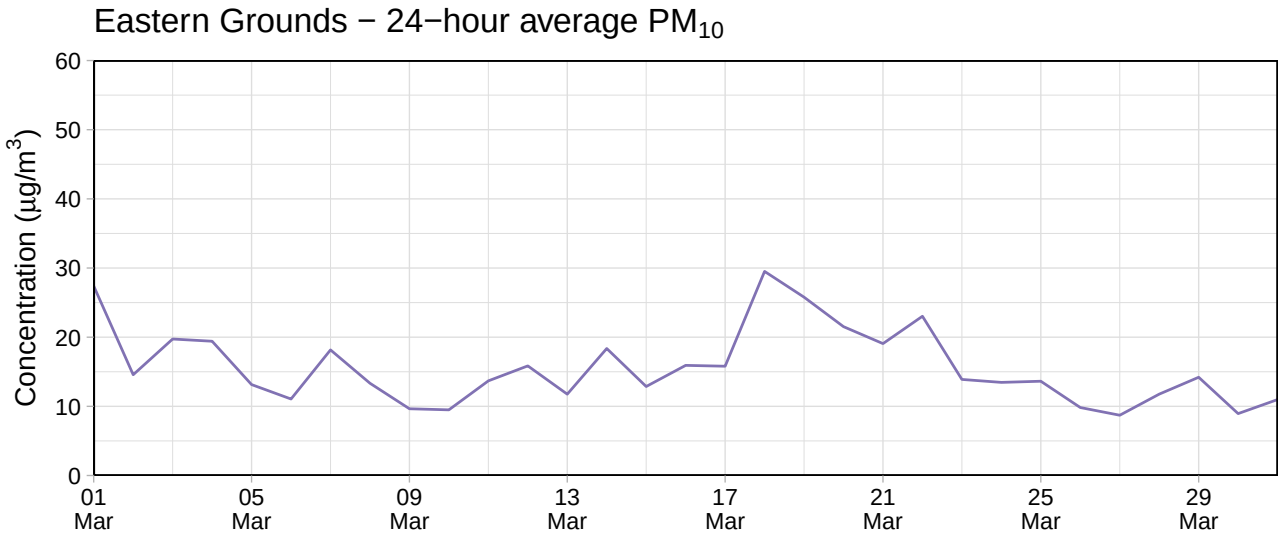


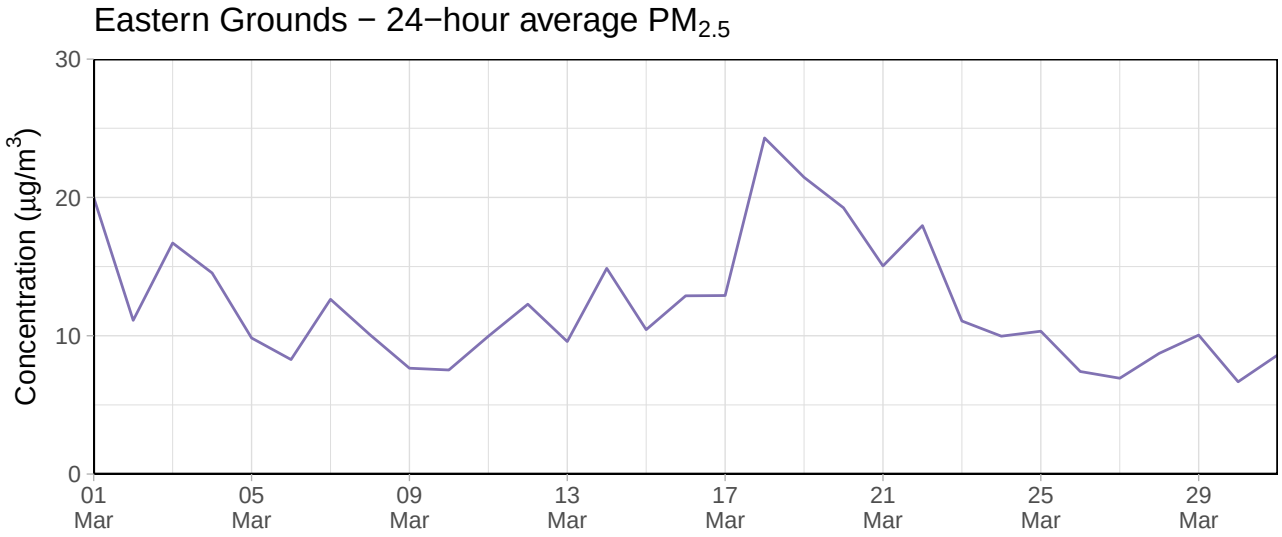
Frequency of counts by wind direction (%)

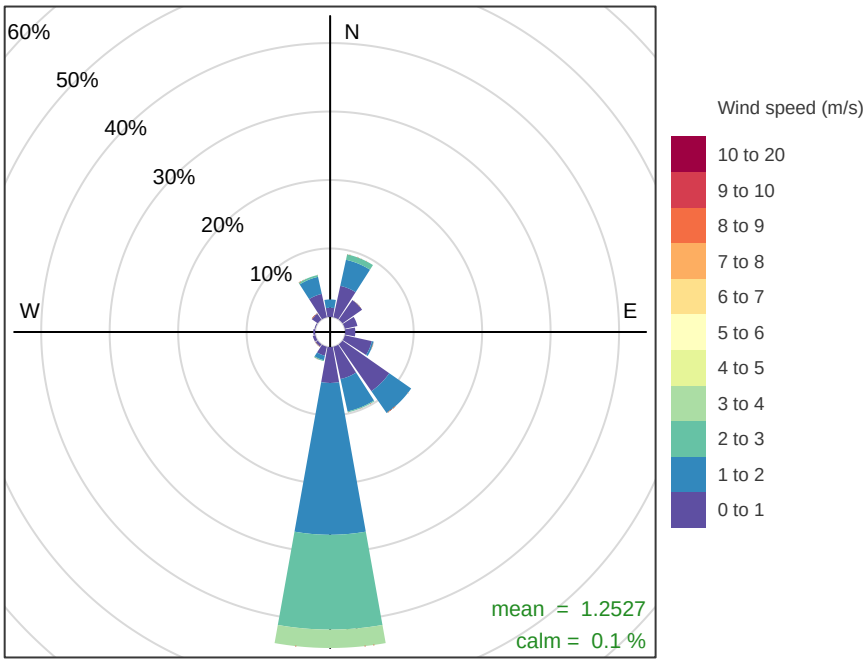




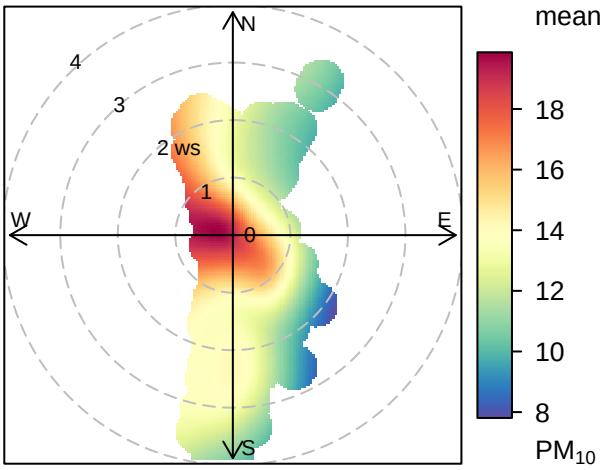
Eastern Grounds

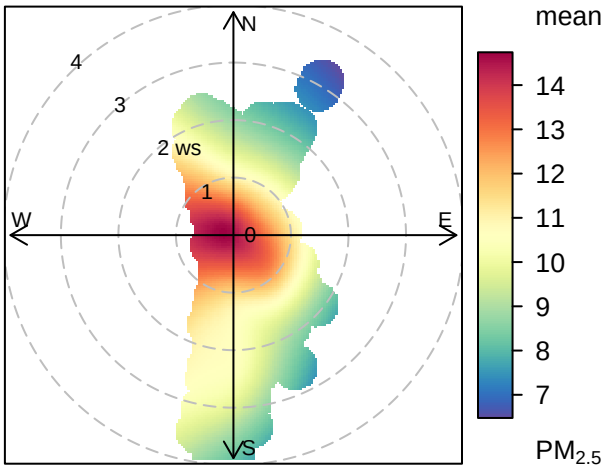




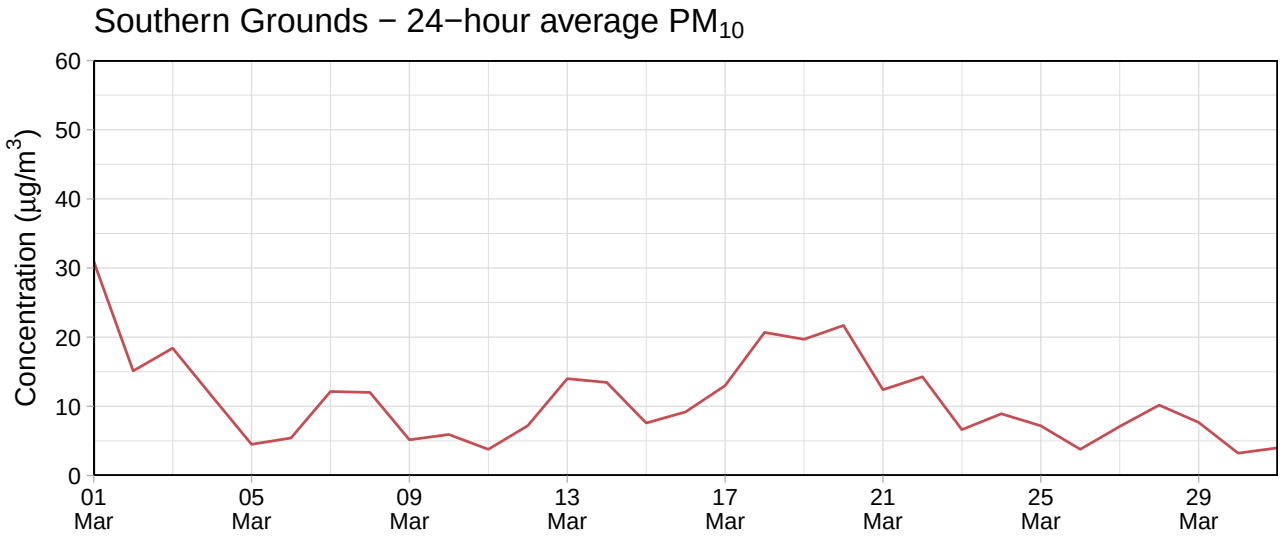


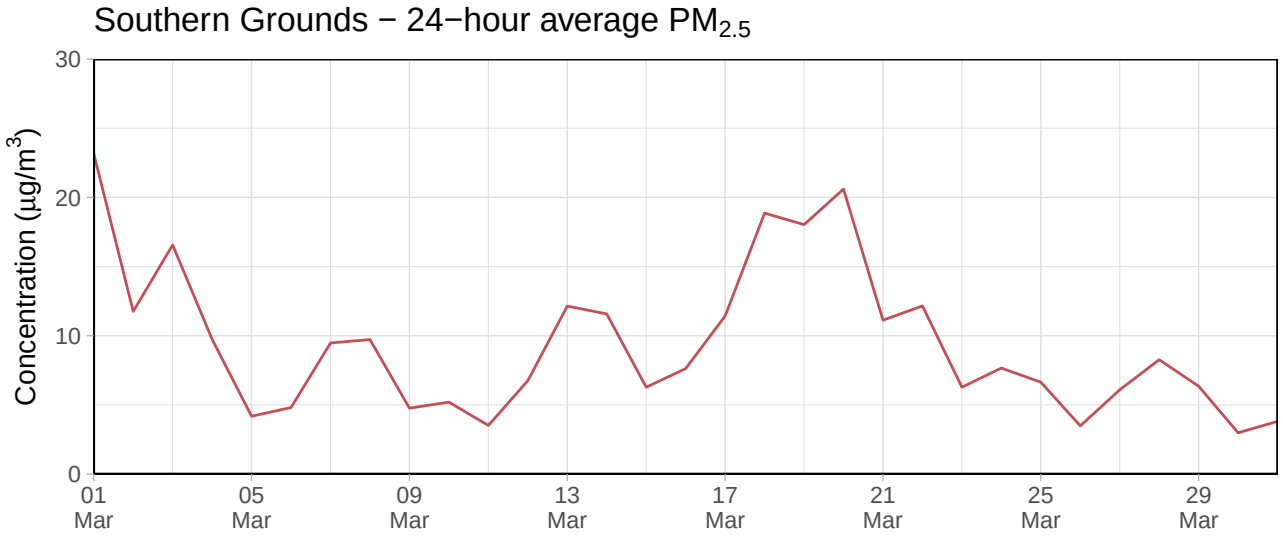
Frequency of counts by wind direction (%)

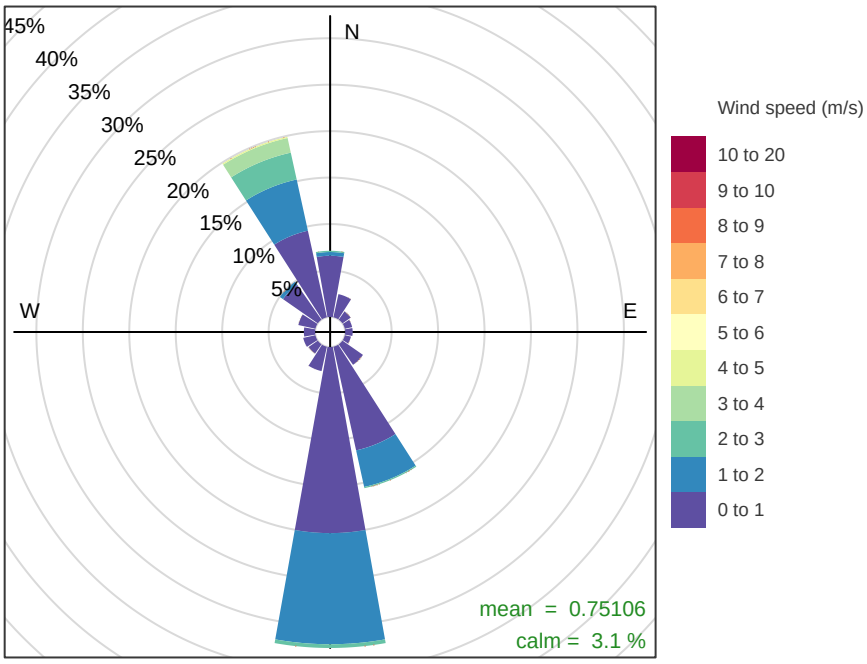




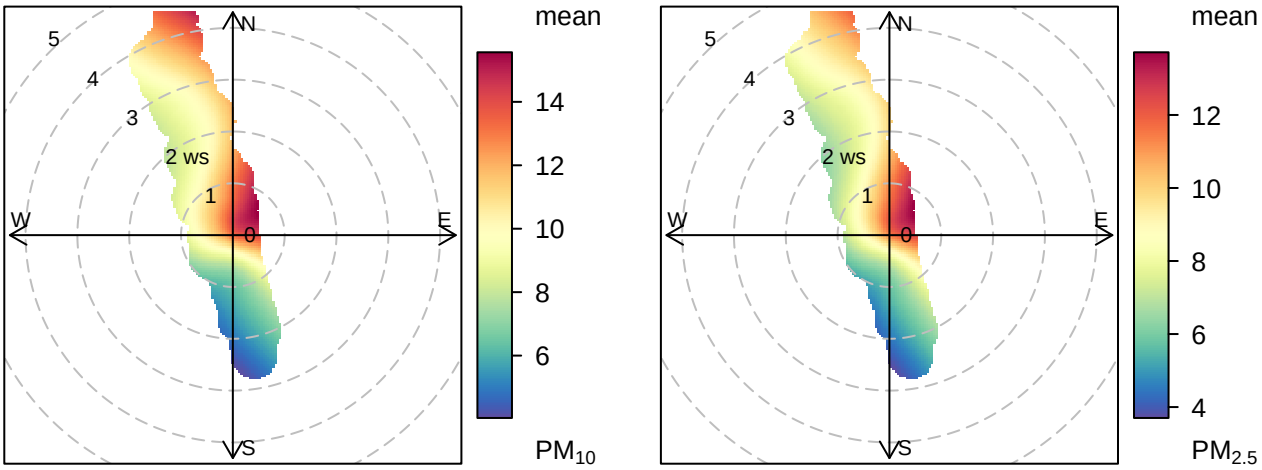
Southern Grounds



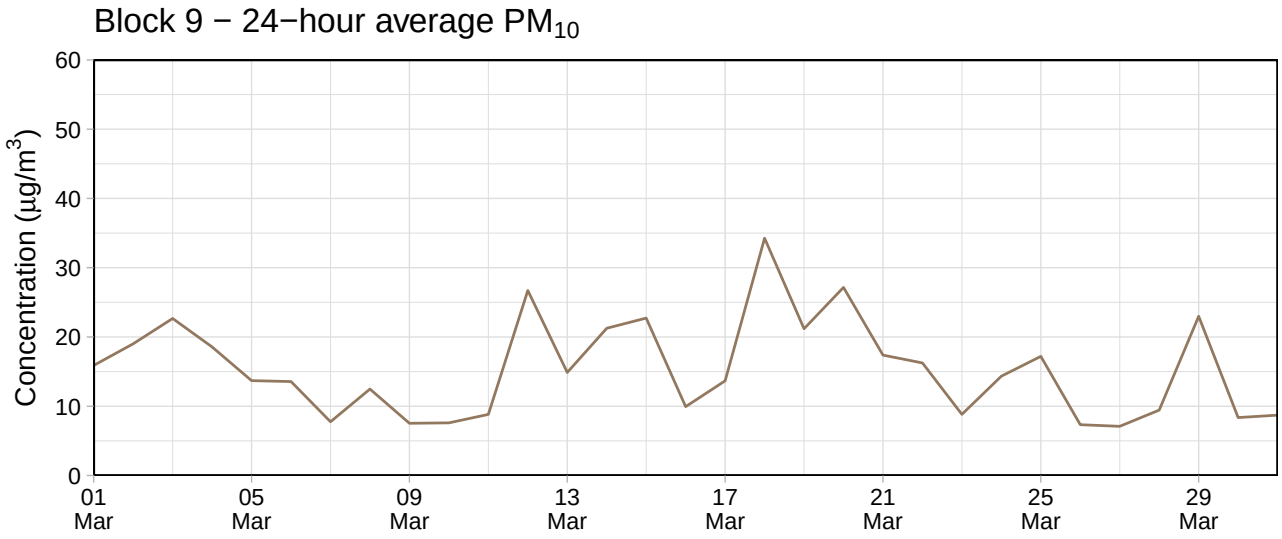


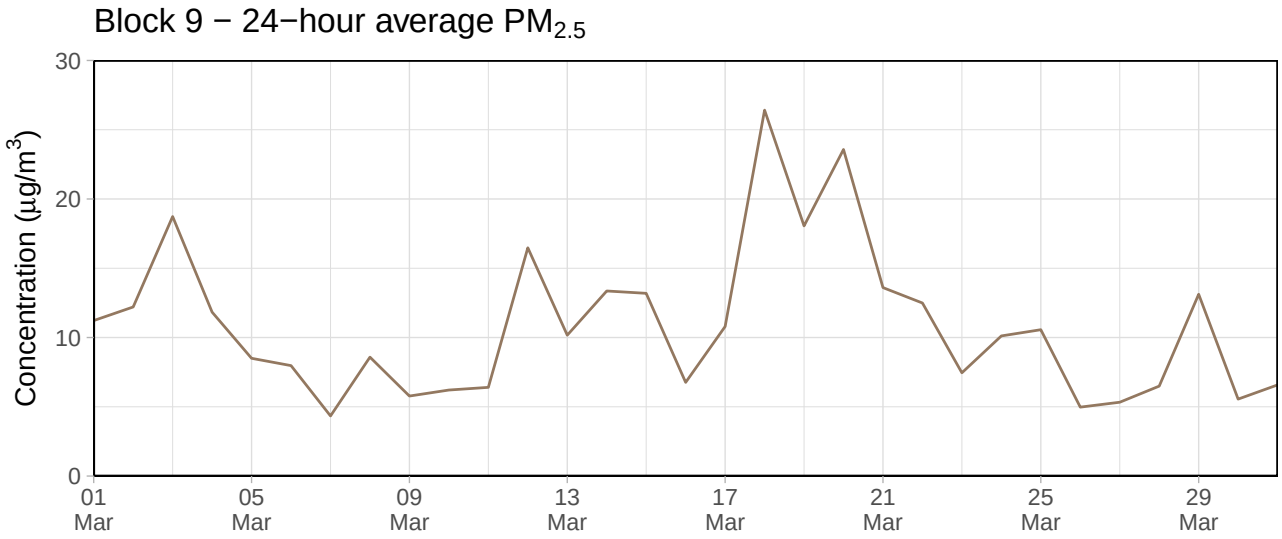


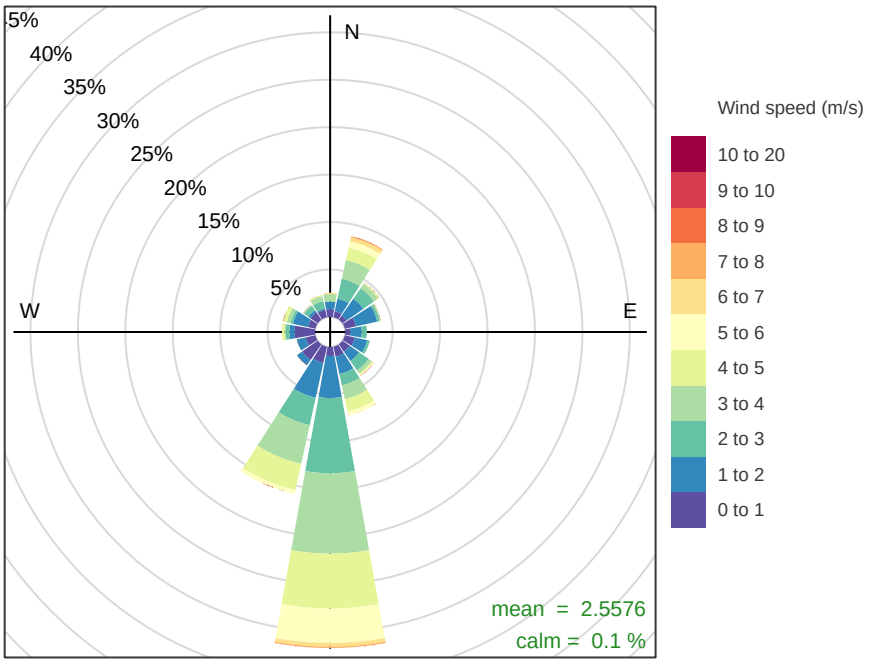
Frequency of counts by wind direction (%)



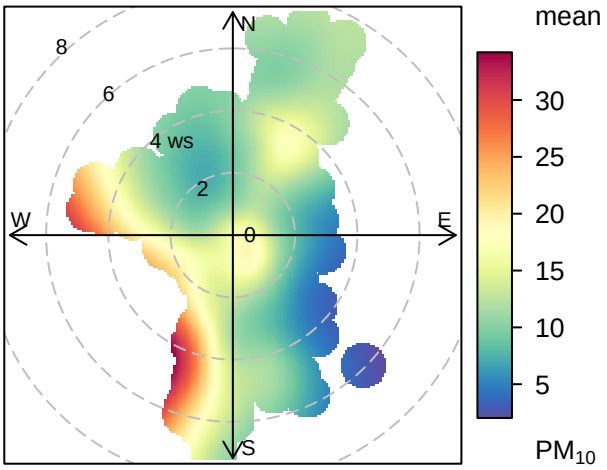
Block 9

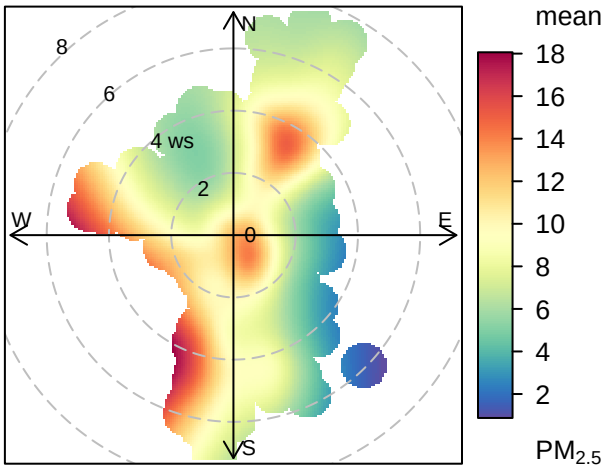

Block 9 − 24−hour average PM10
Concentration (µg/m3)
60
50
40
30
20
10
0
01 Mar
05 Mar
09 Mar
13 Mar
17 Mar
21 Mar
25 Mar
29 Mar

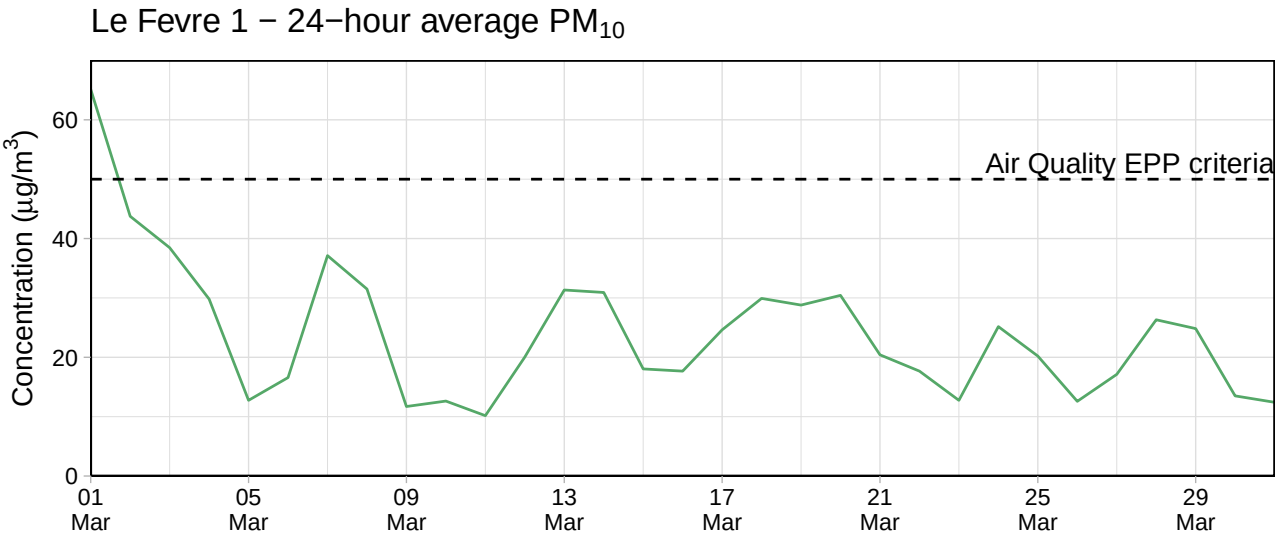
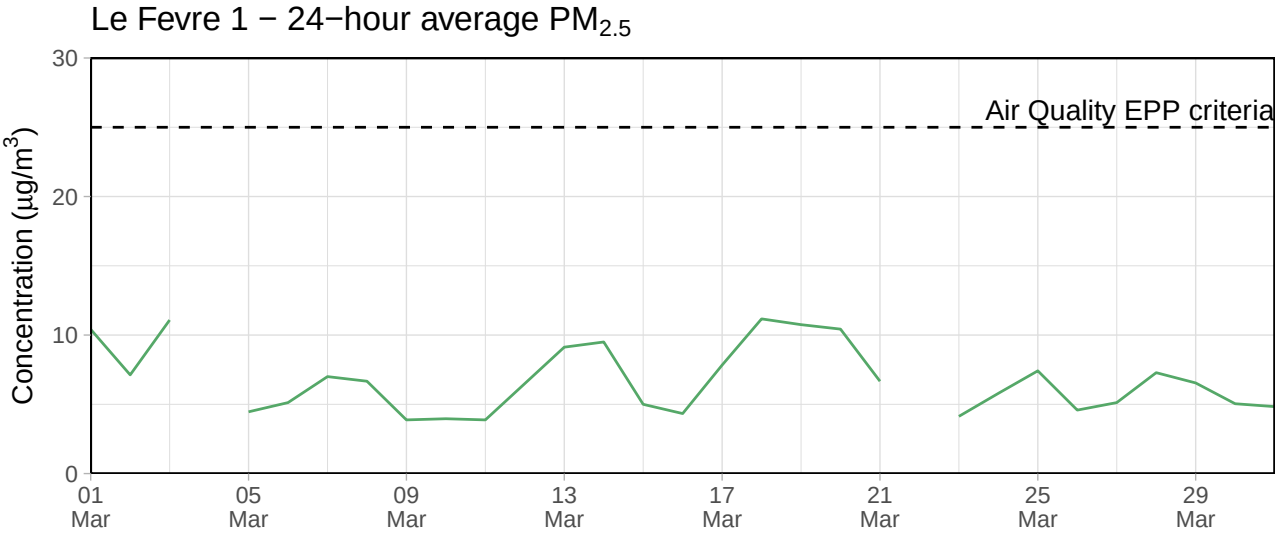

Block 9 − 24−hour average PM2.5
Concentration (µg/m3)
30
20
10
0
01 Mar
05 Mar
09 Mar
13 Mar
17 Mar
21 Mar
25 Mar
29 Mar



Frequency of counts by wind direction (%)





EPA Monitoring

Le Fevre 1