



Air quality bulletin

Southern Queensland

June 2024



Queensland
Government

Prepared by: Air Quality Monitoring, Department of the Environment, Tourism, Science and Innovation

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January 2025

Introduction

Air quality monitoring gathers information on the quality of the air environment. The objectives of the monitoring are to check compliance with ambient air quality guidelines, identify long-term trends in air quality, investigate local air quality concerns and assess the effectiveness of air quality management strategies.

Air quality monitoring was carried out by the Queensland Government at 18 sites in Southern Queensland during June 2024. Data from Ampol Refineries (Qld) Ltd's monitoring sites at Wynnum North, Wynnum West and Lytton along with the Department of Transport and Main Roads' monitoring sites at South Brisbane and at Coomera and Parkwood on the Gold Coast are also included.

Air pollutants monitored include carbon monoxide, ozone, nitrogen oxides, sulfur dioxide, visibility-reducing particles, PM₁₀ (particles less than 10µm in diameter) and PM_{2.5} (particles less than 2.5µm in diameter). Dustfall (dust particles that rapidly settle from the air due to their large size) and total suspended particulate (TSP) matter that can cause nuisance were also monitored.

Air quality summary tables

Tables 3 to 11 present summaries of air quality data for each month of the preceding 12 months. These tables show the month-to-month variation in air quality. A monthly entry is given when at least three-fifths of the maximum possible number of observations during the month are available. When data is not available for the entire month this is indicated by the abbreviation 'n.d.' (no data). A dash is inserted when less than three-fifths of the data are available. Where data is not recorded, the reason for the low data availability is summarised in Table 12 at the end of this bulletin.

Table 1. Air pollutants monitored at Southern Queensland ambient air quality monitoring sites.

	Nitrogen dioxide	Sulfur dioxide	Carbon monoxide	Ozone	PM ₁₀	PM _{2.5}	Visibility-reducing particles	TSP	Dustfall
Maryborough					✓	✓			
Nambour					✓	✓			
Mountain Creek	✓			✓	✓	✓	✓		
Deception Bay	✓			✓	✓	✓			
Deagon	✓			✓	✓	✓	✓		
Wynnum North (industry)	✓	✓			✓	✓			
Wynnum West (industry)		✓			✓	✓			
Lytton (industry)		✓			✓	✓			
Cannon Hill	✓			✓	✓	✓		✓	✓
Brisbane CBD					✓	✓	✓		
South Brisbane	✓		✓		✓	✓			
Woolloongabba	✓		✓		✓	✓			
Sherwood									✓
Rocklea	✓			✓	✓	✓	✓		
Springwood	✓	✓		✓	✓	✓			
North Maclean	✓			✓	✓	✓			
Southport	✓			✓	✓	✓			
Coomera	✓		✓		✓	✓			
Parkwood	✓		✓		✓	✓			
Flinders View	✓	✓		✓	✓	✓	✓		
Mutdapilly	✓			✓	✓	✓			
Toowoomba (Brook St)									✓
Toowoomba (Mort St)									✓
Toowoomba (Tor St)					✓	✓			

Reporting Protocol

Data presented in this bulletin are based on clock hours. Hourly or other averages are constrained to start and finish on a clock hour.

Air quality summary graphs

Figures 1 to 30 summarise available air quality data for each day of June. Only the maximum recorded level for each day is used to show the day-to-day variation in air quality. Figures 31 and 32 show the averaged daily dust deposition rate for June.

Guidelines

Air quality measurements are compared against air quality objectives contained in the Queensland Environmental Protection (Air) Policy 2019 (EPP (Air)) to assess whether pollutants levels could affect health and wellbeing. The EPP (Air) visibility objective is used to assess the impact of visibility-reducing particles on visual air quality. Limit values for TSP and dustfall specified in the former Department of the Environment, Science and Innovation (DESI) guideline document *Application requirements for activities with impacts to air* (Air Impacts Guideline) are used to assess dust nuisance effects. The relevant guidelines are shown in the air quality summary table for each pollutant.

Compliance with air quality guidelines

During June, measured pollutant levels, with the exception of PM_{2.5}, PM₁₀ and visibility-reducing particles, did not exceed the relevant EPP (Air) air quality objectives, or DESI dust nuisance limit values, at Queensland Government and industry air monitoring sites in Southern Queensland.

Smoke from multiple hazard-reduction burns in the Greater Brisbane area, including North and South Stradbroke Islands, D'Aguilar National Park and Belmont Hills Bushland Reserve, led to elevated particle concentrations at a number of Brisbane monitoring sites between 19 and 21 June. Over this period, the EPP (Air) 24-hour PM₁₀ objective was exceeded at South Brisbane on 20 June and at Lytton on 21 June, the EPP (Air) 24-hour PM_{2.5} objective was exceeded at South Brisbane and Cannon Hill on 20 June, and visibility fell below the EPP (Air) objective of 20km for a total of three hours at Rocklea.

Table 2. Number of occasions during June 2024 when measured levels exceeded EPP (Air) objectives for carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, PM₁₀, PM_{2.5}, visibility-reducing particles and TSP, as well as the DESI nuisance dust limit values for TSP and dustfall, at Queensland Government and industry air monitoring sites in Southern Queensland.

Air pollutant	Averaging period	Exceedences
Carbon monoxide	<i>EPP (Air)</i> 8-hour	0
Ozone	<i>EPP (Air)</i> 4-hour	0
	1-hour	0
Nitrogen dioxide	<i>EPP (Air)</i> Annual	0
	1-hour	0
Sulfur dioxide	<i>EPP (Air)</i> Annual	0
	24-hour	0
	1-hour	0
Visibility-reducing particles (refers to protecting aesthetic environment, not health and wellbeing)	<i>EPP (Air)</i> 1-hour	3
PM _{2.5}	<i>EPP (Air)</i> Annual	0
	24-hour	2
PM ₁₀	<i>EPP (Air)</i> Annual	0
	24-hour	2
TSP (24-hour period refers to dust nuisance, not health and wellbeing)	<i>EPP (Air)</i> Annual	0
	<i>DESI limit</i> 24-hour	0
Dustfall (30-day period refers to dust nuisance, not health and wellbeing)	<i>DESI limit</i> 30-day	0

Measured ambient concentrations

Carbon monoxide

Figure 1. Ambient concentrations of carbon monoxide at South Brisbane, Woolloongabba, Coomera and Parkwood sites. Daily maximum 8-hour average concentrations (ppm), June 2024.

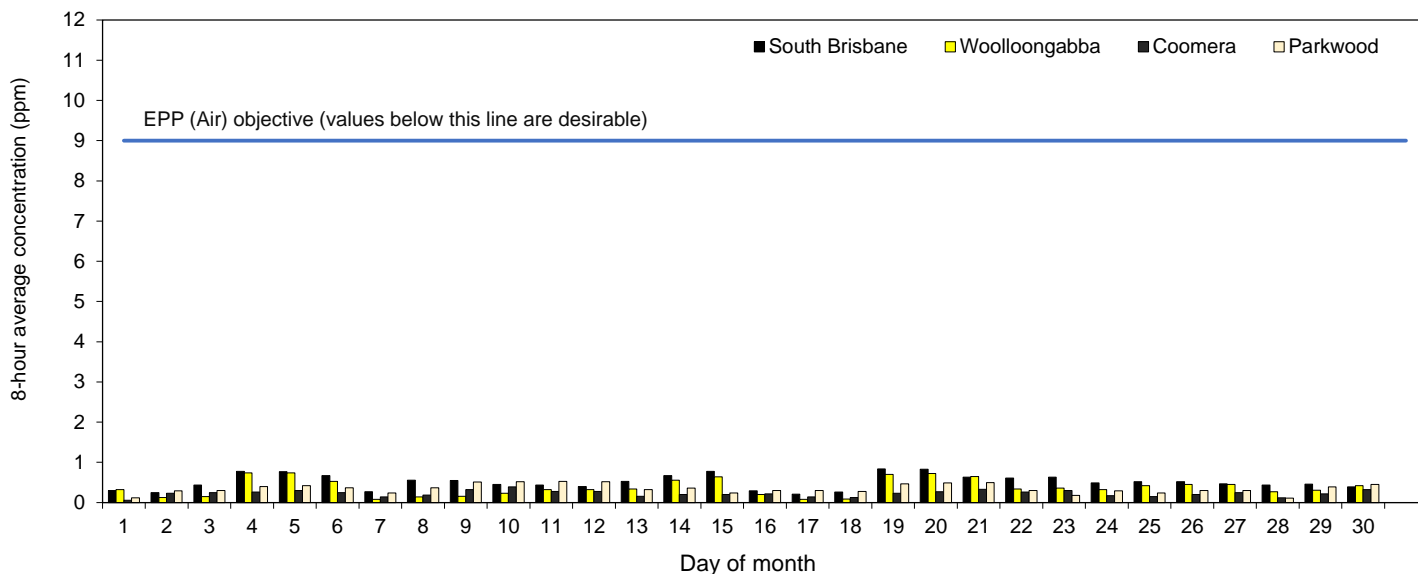


Table 3. Ambient concentrations of carbon monoxide. Monthly maximum 8-hour average concentrations (ppm), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
South Brisbane												
Maximum 8-hour	0.93	0.47	0.29	0.24	0.32	0.37	0.27	0.39	0.38	0.31	0.69	0.84
% I.A.	99	100	100	100	100	94	100	100	100	100	100	100
Woolloongabba												
Maximum 8-hour	0.83	0.43	0.39	0.38	0.30	0.32	0.27	0.22	0.29	0.34	0.30	0.74
% I.A.	100	100	99	100	100	97	100	100	100	99	83	99
Coomera												
Maximum 8-hour	0.34	0.39	0.33	0.51	0.22	0.54	0.14	0.15	0.16	0.23	0.22	0.39
% I.A.	100	100	99	100	100	89	100	100	99	100	93	100
Parkwood												
Maximum 8-hour	0.97	0.29	0.30	0.37	0.46	0.57	0.29	0.18	0.20	0.29	1.55	0.53
% I.A.	100	100	74	100	100	100	100	100	100	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objective for carbon monoxide is an 8-hour average of 9ppm (not to be exceeded on more than one day per year).												

Ozone (photochemical oxidants)

Figure 2. Ambient concentrations of ozone at Mountain Creek, Deception Bay, Deagon and Cannon Hill sites. Daily maximum 4-hour average concentrations (ppm), June 2024.

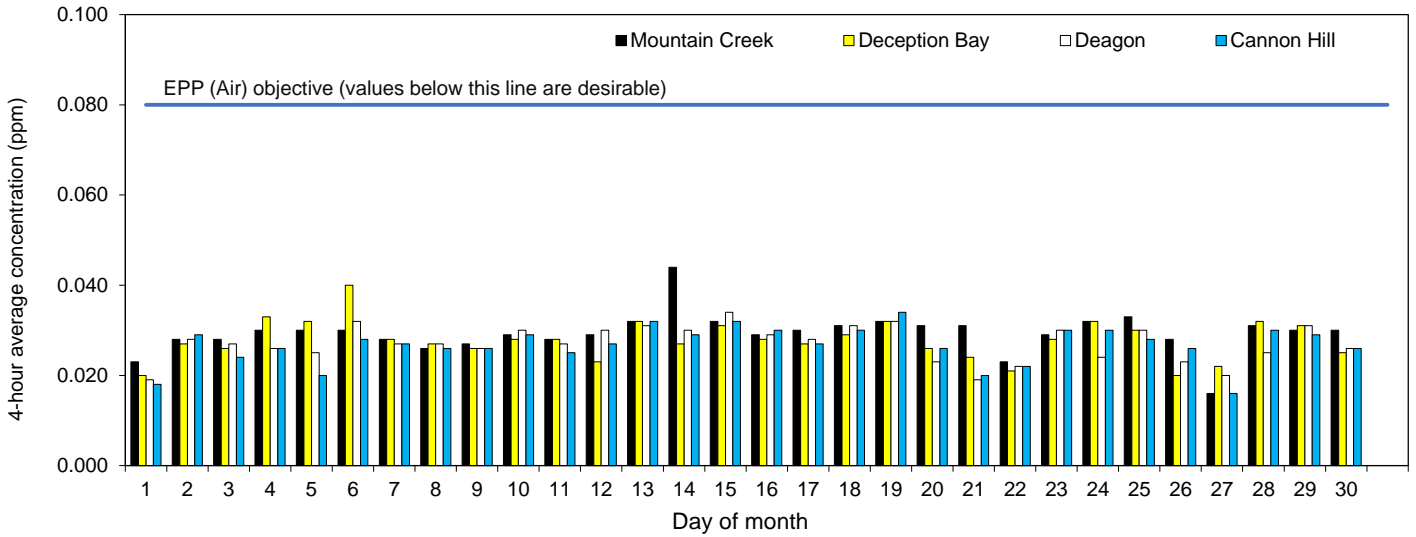


Figure 3. Ambient concentrations of ozone at Rocklea, Springwood and North Maclean sites. Daily maximum 4-hour average concentrations (ppm), June 2024.

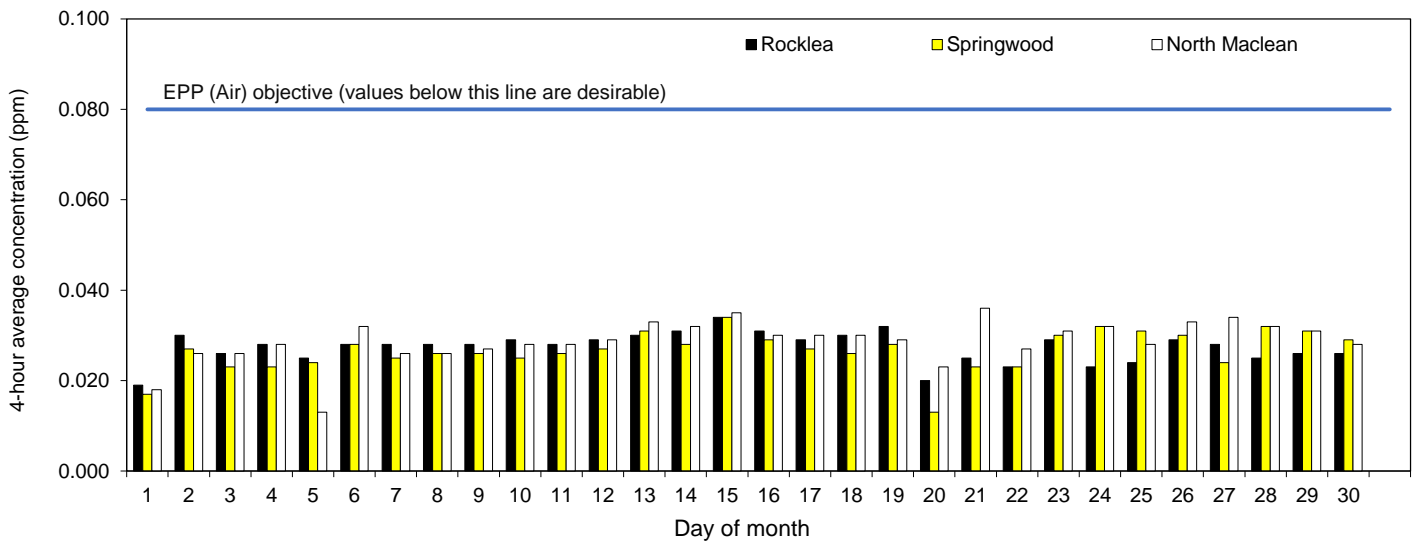


Figure 4. Ambient concentrations of ozone at Southport, Flinders View and Mutdapilly sites. Daily maximum 4-hour average concentrations (ppm), June 2024.

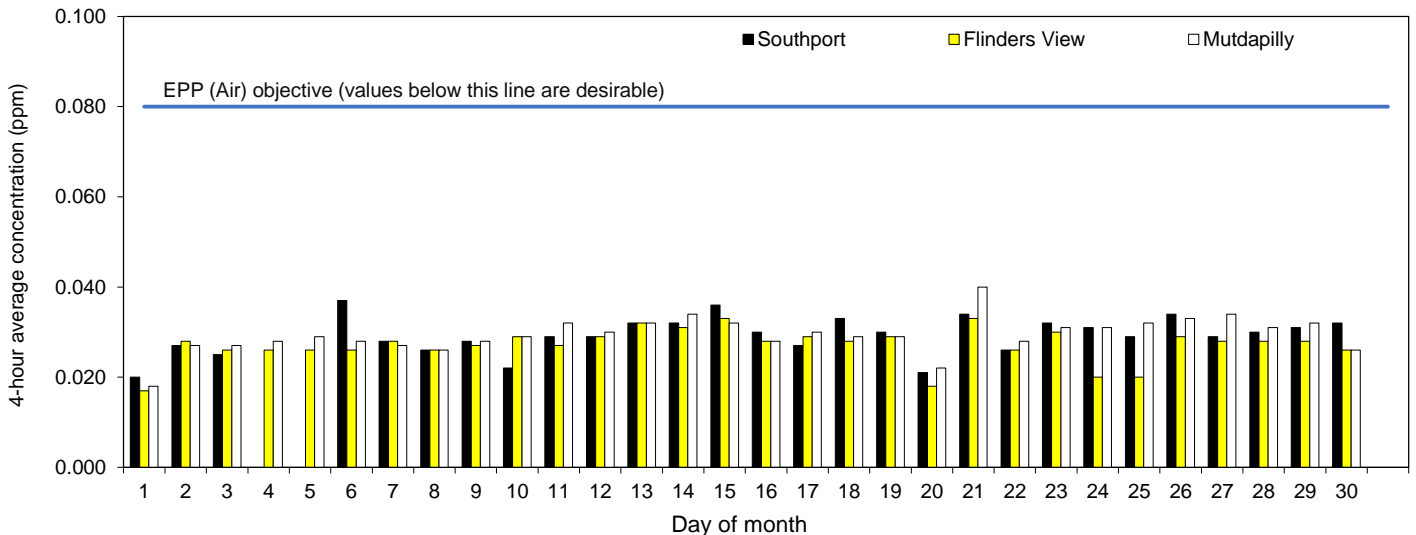


Figure 5. Ambient concentrations of ozone at Mountain Creek, Deception Bay, Deagon and Cannon Hill sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

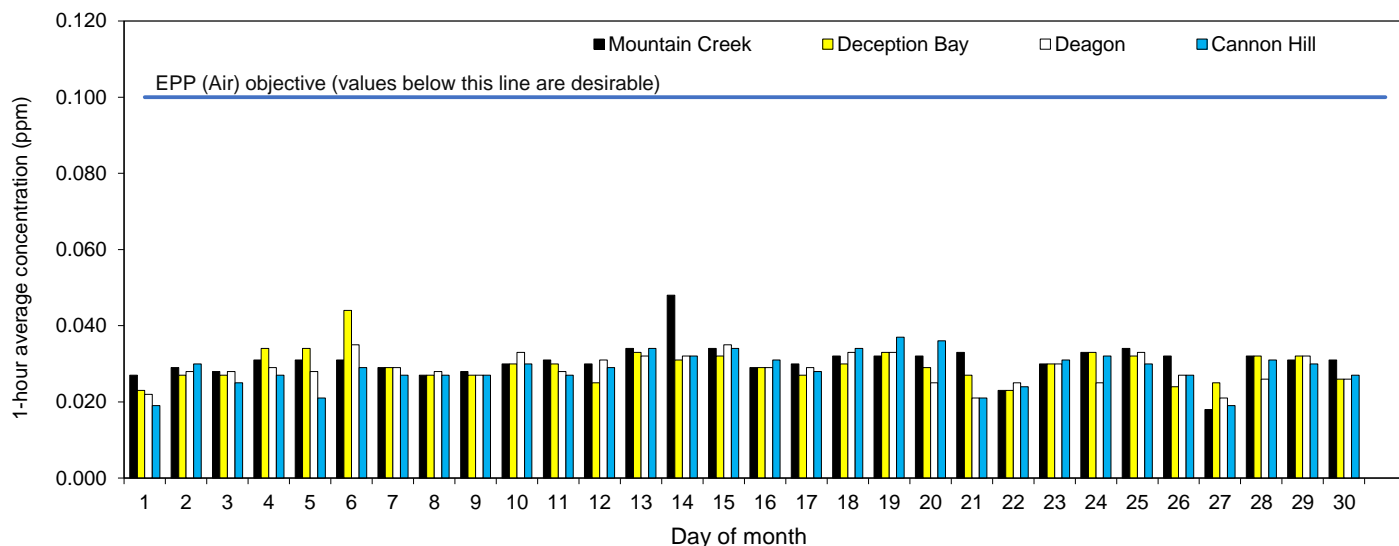


Figure 6. Ambient concentrations of ozone at Rocklea, Springwood and North Maclean sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

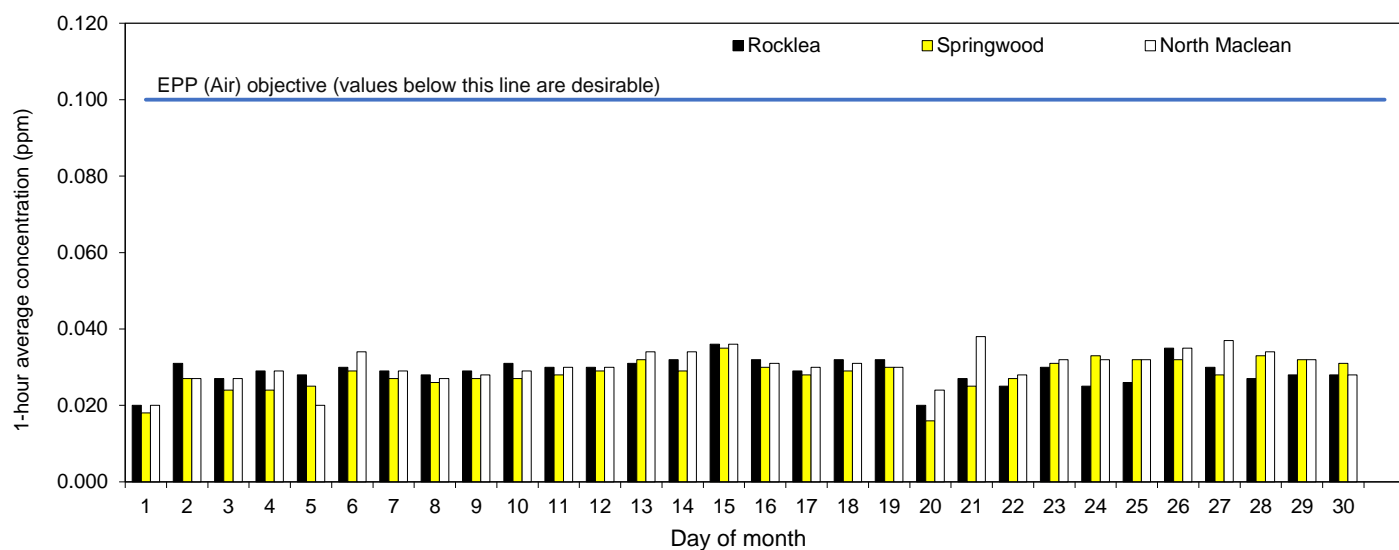


Figure 7. Ambient concentrations of ozone at Southport, Flinders View and Mutdapilly sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

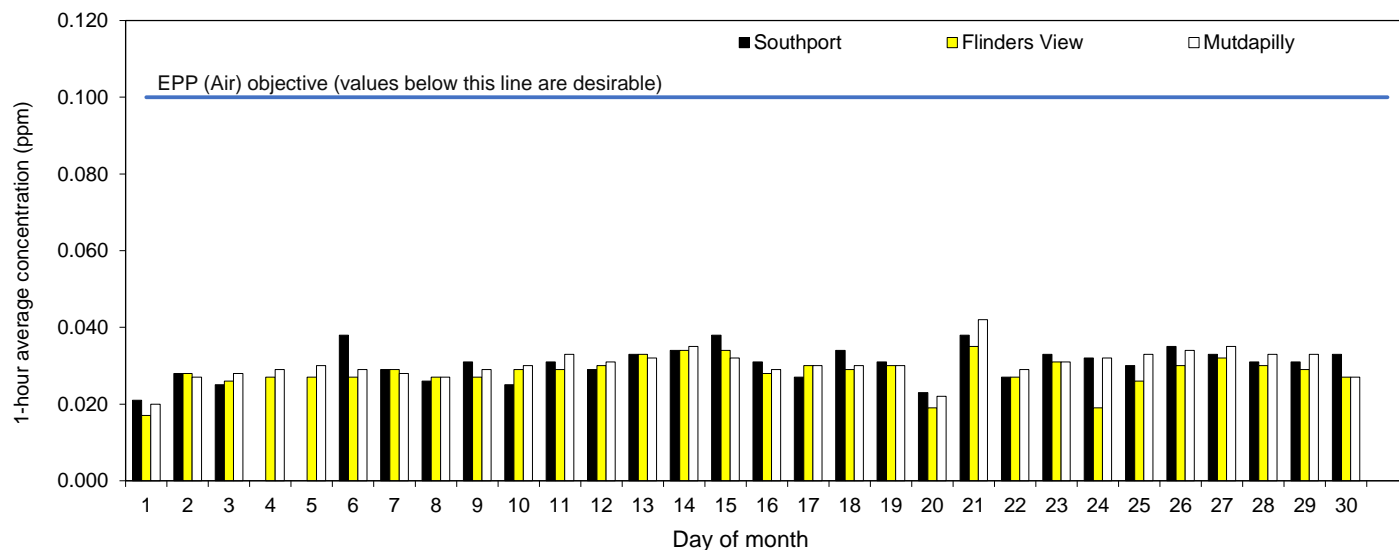


Table 4. Ambient concentrations of ozone. Monthly maximum 4-hour and 1-hour average concentrations (ppm), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Mountain Creek												
Maximum 4-hour	0.036	0.049	0.044	0.036	0.042	0.040	0.031	0.029	0.034	0.035	0.033	0.044
Maximum 1-hour	0.040	0.050	0.046	0.037	0.046	0.045	0.032	0.031	0.038	0.042	0.036	0.048
% I.A.	100	100	100	100	100	100	92	100	100	99	100	100
Deception Bay												
Maximum 4-hour	0.041	0.053	0.054	0.041	0.047	0.069	0.036	0.040	0.047	0.050	0.039	0.040
Maximum 1-hour	0.045	0.061	0.058	0.043	0.049	0.078	0.038	0.043	0.048	0.052	0.043	0.044
% I.A.	100	100	99	100	100	99	99	100	99	100	100	100
Deagon												
Maximum 4-hour	0.039	0.052	0.053	0.045	0.046	0.071	0.036	0.042	0.043	0.049	0.030	0.034
Maximum 1-hour	0.040	0.053	0.057	0.048	0.048	0.077	0.040	0.045	0.045	0.052	0.033	0.035
% I.A.	100	100	99	100	99	100	97	98	100	99	100	99
Cannon Hill												
Maximum 4-hour	0.044	0.042	0.046	0.046	0.048	0.072	0.051	0.050	0.036	0.051	0.033	0.034
Maximum 1-hour	0.046	0.047	0.056	0.048	0.051	0.076	0.059	0.056	0.042	0.054	0.037	0.037
% I.A.	99	100	100	100	99	100	97	99	100	100	100	100
Rocklea												
Maximum 4-hour	0.046	0.042	0.045	0.042	0.048	0.062	0.045	0.050	0.038	0.043	0.031	0.034
Maximum 1-hour	0.050	0.046	0.054	0.048	0.056	0.071	0.052	0.058	0.045	0.048	0.032	0.036
% I.A.	100	100	100	100	99	100	100	100	100	99	100	99
Springwood												
Maximum 4-hour	0.045	0.052	0.054	0.046	0.055	0.068	0.057	0.060	0.037	0.044	0.031	0.034
Maximum 1-hour	0.048	0.056	0.063	0.048	0.061	0.075	0.062	0.066	0.043	0.050	0.034	0.035
% I.A.	96	100	100	100	100	100	100	100	100	99	99	99
North Maclean												
Maximum 4-hour	0.045	0.046	0.065	0.055	0.072	0.066	0.050	0.048	0.049	0.045	0.034	0.036
Maximum 1-hour	0.048	0.049	0.070	0.063	0.078	0.075	0.060	0.059	0.054	0.049	0.037	0.038
% I.A.	99	100	100	99	100	99	98	99	100	97	100	99
Southport												
Maximum 4-hour	0.047	0.053	0.054	0.048	0.044	0.049	0.038	0.030	0.033	0.036	0.033	0.037
Maximum 1-hour	0.048	0.056	0.060	0.051	0.046	0.055	0.043	0.035	0.037	0.038	0.034	0.038
% I.A.	100	90	100	98	100	100	97	97	98	100	100	95
Flinders View												
Maximum 4-hour	0.044	0.044	0.058	0.055	0.050	0.063	0.047	0.058	0.058	0.042	0.030	0.033
Maximum 1-hour	0.046	0.048	0.064	0.058	0.056	0.075	0.054	0.066	0.065	0.047	0.030	0.035
% I.A.	100	99	99	99	100	100	100	100	100	100	100	99
Mutdapilly												
Maximum 4-hour	0.044	0.045	0.049	0.050	0.054	0.070	0.054	0.051	0.056	0.045	0.031	0.040
Maximum 1-hour	0.045	0.046	0.056	0.054	0.060	0.079	0.060	0.067	0.068	0.049	0.032	0.042
% I.A.	99	99	99	98	99	98	94	99	99	99	100	100

% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.

The Environmental Protection (Air) Policy 2019 air quality objectives for ozone are a 4-hour average of 0.080ppm (not to be exceeded on more than one day per year) and a 1-hour average of 0.100ppm (not to be exceeded on more than one day per year).

Nitrogen dioxide

Figure 8. Ambient concentrations of nitrogen dioxide at Mountain Creek, Deception Bay, Deagon and Wynnum North sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

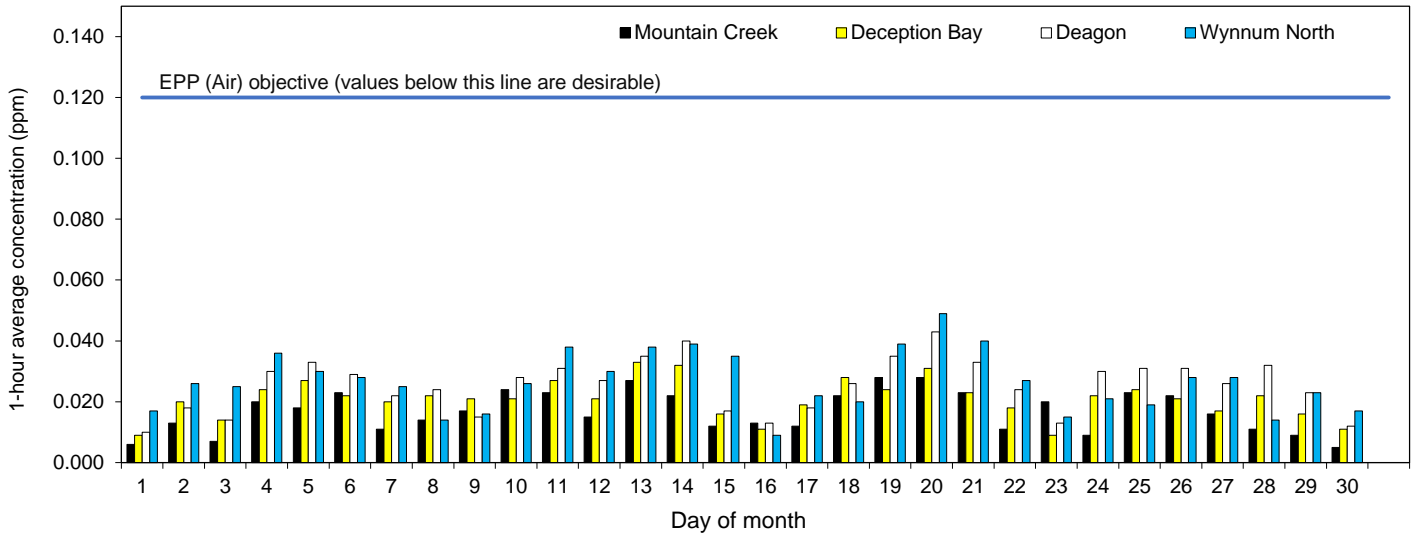


Figure 9. Ambient concentrations of nitrogen dioxide at Cannon Hill, South Brisbane, Woolloongabba and Rocklea sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

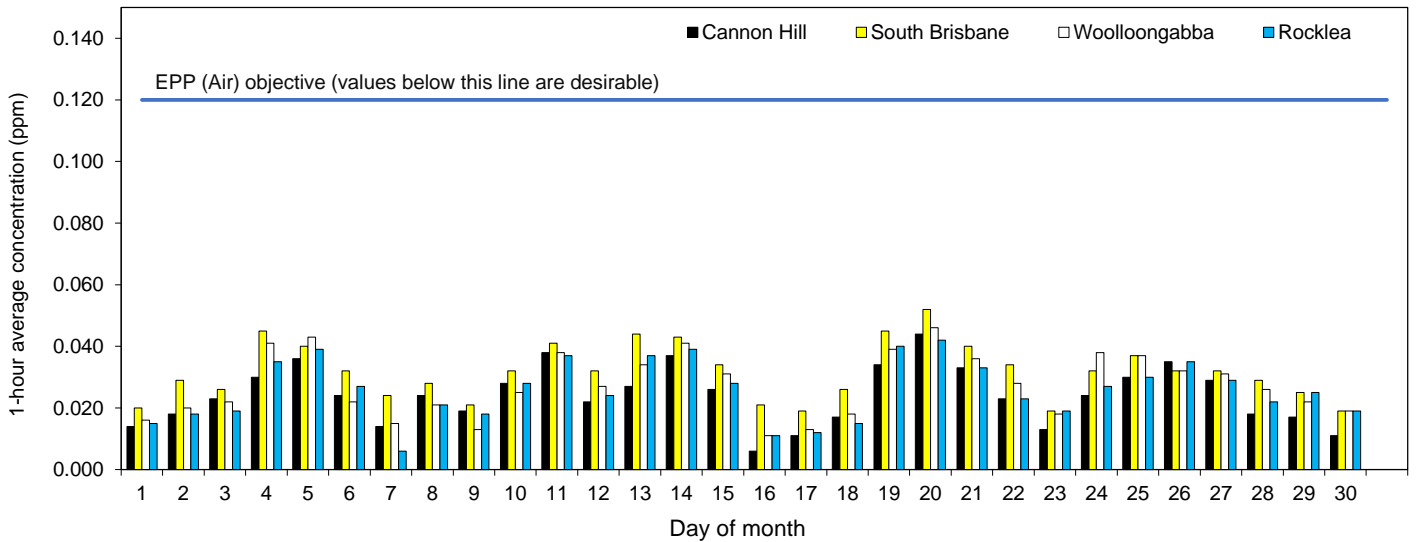


Figure 10. Ambient concentrations of nitrogen dioxide at Springwood, North Maclean, Southport and Coomera sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

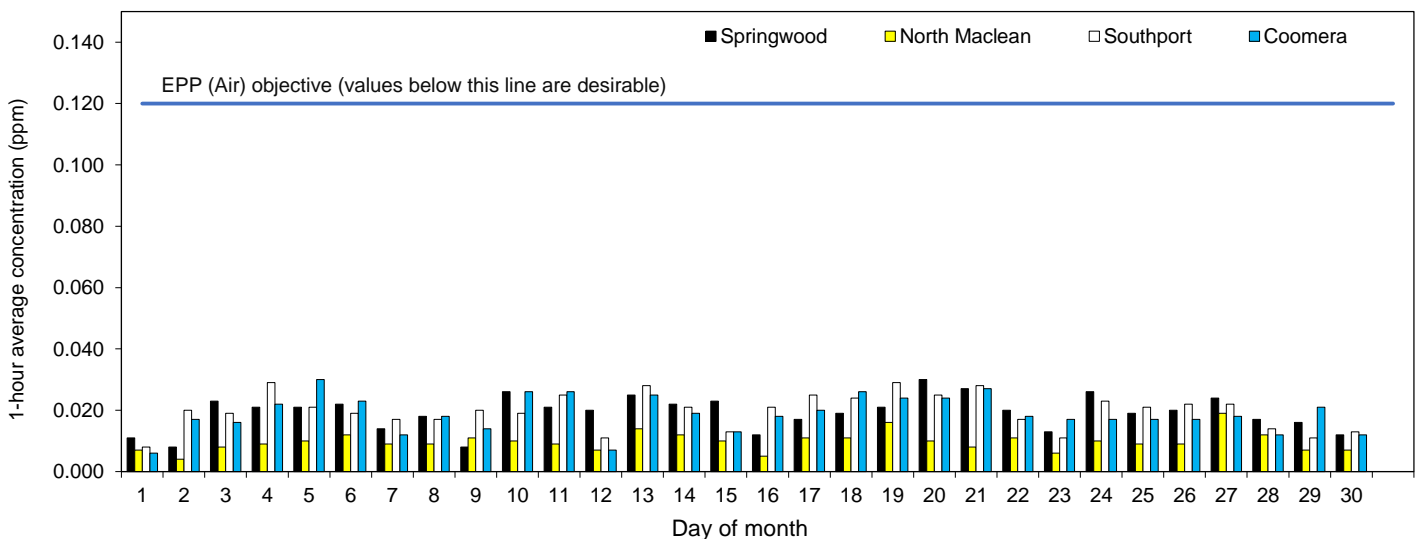


Figure 11. Ambient concentrations of nitrogen dioxide at Parkwood, Flinders View and Mutdapilly sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

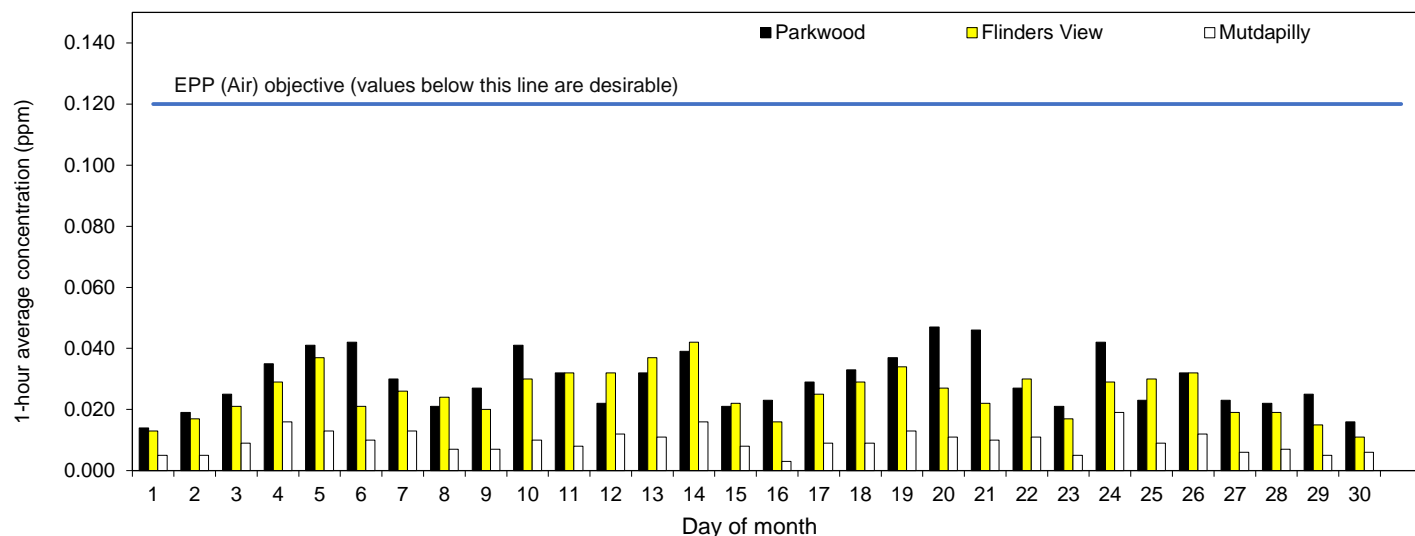


Table 5. Ambient concentrations of nitrogen dioxide. Annual average and monthly maximum 1-hour concentrations (ppm), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Mountain Creek												
Annual average:	0.003											
Maximum 1-hour	0.027	0.029	0.018	0.019	0.012	0.012	0.007	0.009	0.010	0.018	0.019	0.028
% I.A.	100	100	100	100	100	100	99	100	100	99	100	100
Deception Bay												
Annual average:	0.004											
Maximum 1-hour	0.034	0.033	0.024	0.018	0.014	0.020	0.010	0.013	0.016	0.022	0.026	0.033
% I.A.	100	100	99	100	100	99	100	100	100	100	100	100
Deagon												
Annual average:	0.007											
Maximum 1-hour	0.037	0.041	0.032	0.025	0.027	0.024	0.013	0.015	0.021	0.027	0.038	0.043
% I.A.	100	100	97	95	98	100	94	96	100	99	100	99
Wynnum North (industry-operated site)												
Annual average:	0.006											
Maximum 1-hour	0.041	0.028	0.031	0.023	0.019	0.031	0.013	0.018	0.015	0.024	0.031	0.049
% I.A.	94	95	94	93	92	94	95	94	93	94	94	95
Cannon Hill												
Annual average:	0.007											
Maximum 1-hour	0.042	0.030	0.027	0.022	0.020	0.027	0.014	0.013	0.019	0.028	0.034	0.044
% I.A.	99	100	99	100	100	100	99	99	100	100	100	100
South Brisbane												
Annual average:	0.012											
Maximum 1-hour	0.051	0.042	0.032	0.030	0.037	0.031	0.022	0.025	0.024	0.032	0.044	0.052
% I.A.	99	100	100	100	100	100	99	100	100	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for nitrogen dioxide are an annual average of 0.030ppm and a 1-hour average of 0.120ppm.												

Table 5 (contd). Ambient concentrations of nitrogen dioxide. Annual average and monthly maximum 1-hour concentrations (ppm), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Woolloongabba												
Annual average:	0.012											
Maximum 1-hour	0.051	0.038	0.036	0.025	0.035	0.036	0.024	0.029	0.024	0.034	0.034	0.046
% I.A.	100	100	99	100	100	100	100	100	100	99	99	99
Rocklea												
Annual average:	0.009											
Maximum 1-hour	0.043	0.035	0.030	0.030	0.034	0.029	0.013	0.017	0.017	0.026	0.034	0.042
% I.A.	100	100	100	100	99	100	100	100	100	99	100	99
Springwood												
Annual average:	0.005											
Maximum 1-hour	0.028	0.026	0.023	0.023	0.016	0.014	0.011	0.016	0.015	0.019	0.020	0.030
% I.A.	96	100	100	100	100	90	100	100	100	100	99	99
North Maclean												
Annual average:	0.003											
Maximum 1-hour	0.024	0.024	0.015	0.012	0.009	0.011	0.005	0.007	0.008	0.010	0.018	0.019
% I.A.	99	100	100	100	100	99	89	99	100	97	100	99
Southport												
Annual average:	0.004											
Maximum 1-hour	0.038	0.030	0.027	0.022	0.018	0.017	0.011	0.013	0.014	0.022	0.024	0.029
% I.A.	100	99	100	98	100	97	98	97	98	100	100	100
Coomera												
Annual average:	0.004											
Maximum 1-hour	0.034	0.027	0.024	0.019	0.018	0.026	0.016	0.014	0.013	0.018	0.022	0.030
% I.A.	100	100	99	100	100	90	100	100	100	99	99	100
Parkwood												
Annual average:	0.007											
Maximum 1-hour	0.050	0.043	0.037	0.030	0.030	0.029	0.017	0.016	0.020	0.027	0.039	0.047
% I.A.	100	100	100	100	100	100	100	100	100	100	100	99
Flinders View												
Annual average:	0.006											
Maximum 1-hour	0.042	0.032	0.024	0.022	0.019	0.023	0.015	0.013	0.019	0.030	0.034	0.042
% I.A.	100	96	99	96	100	100	100	100	100	100	100	99
Mutdapilly												
Annual average:	0.003											
Maximum 1-hour	0.018	0.021	0.017	0.015	0.014	0.010	0.008	0.011	0.013	0.012	0.013	0.019
% I.A.	99	99	99	98	98	88	86	99	99	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for nitrogen dioxide are an annual average of 0.030ppm and a 1-hour average of 0.120ppm.												

Sulfur dioxide

Figure 12. Ambient concentrations of sulfur dioxide at Wynnum North, Wynnum West and Lytton sites. Daily 24-hour average concentrations (ppm), June 2024.

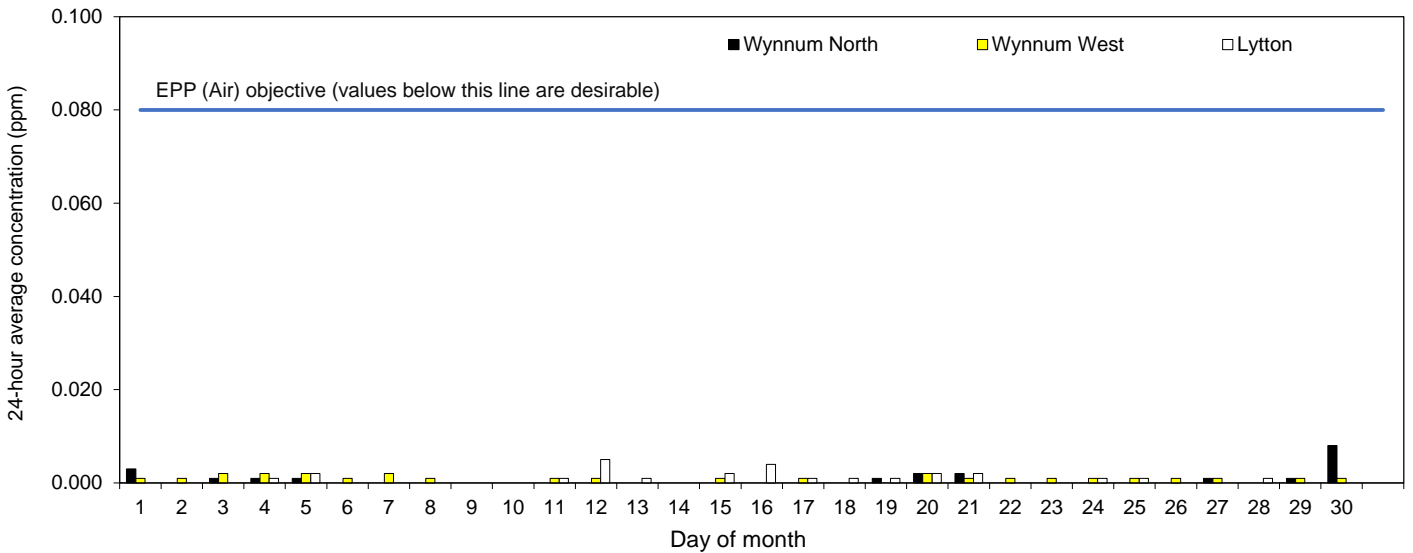


Figure 13. Ambient concentrations of sulfur dioxide at Springwood and Flinders View sites. Daily 24-hour average concentrations (ppm), June 2024.

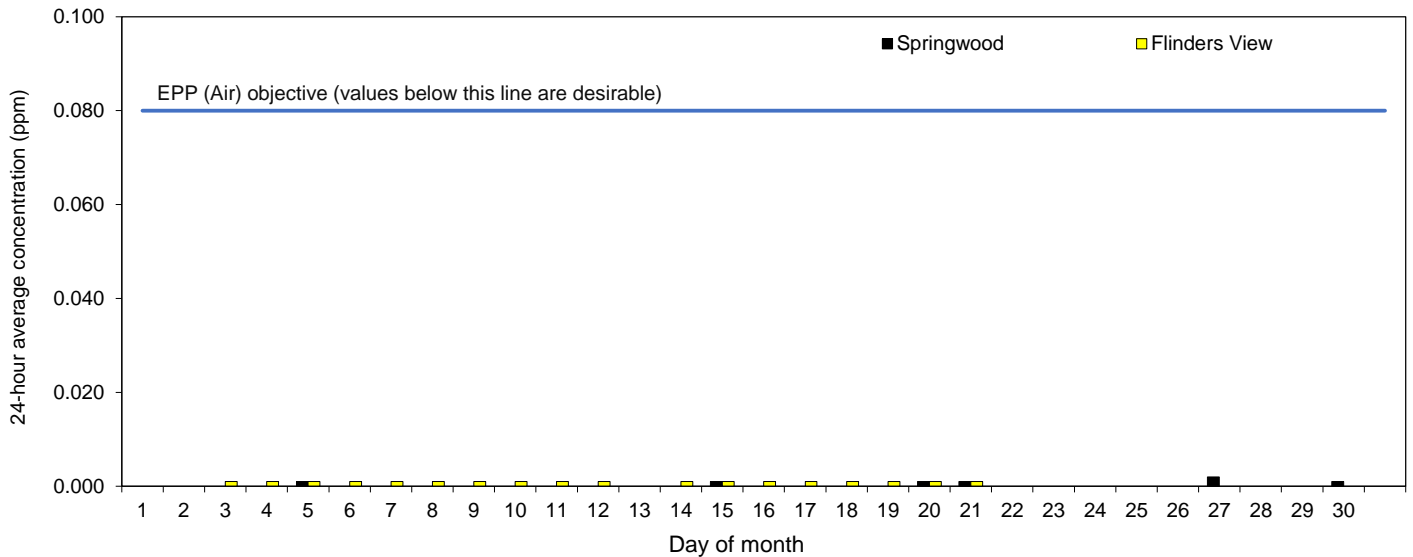


Figure 14. Ambient concentrations of sulfur dioxide at Wynnum North, Wynnum West and Lytton sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

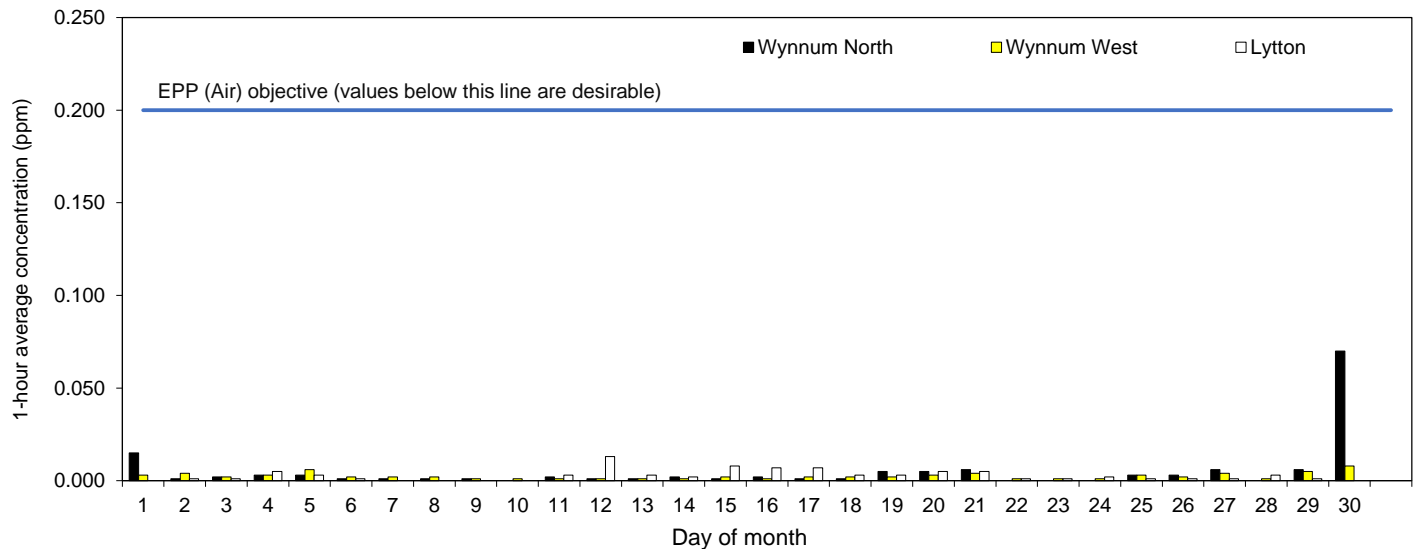


Figure 15. Ambient concentrations of sulfur dioxide at Springwood and Flinders View sites. Daily maximum 1-hour average concentrations (ppm), June 2024.

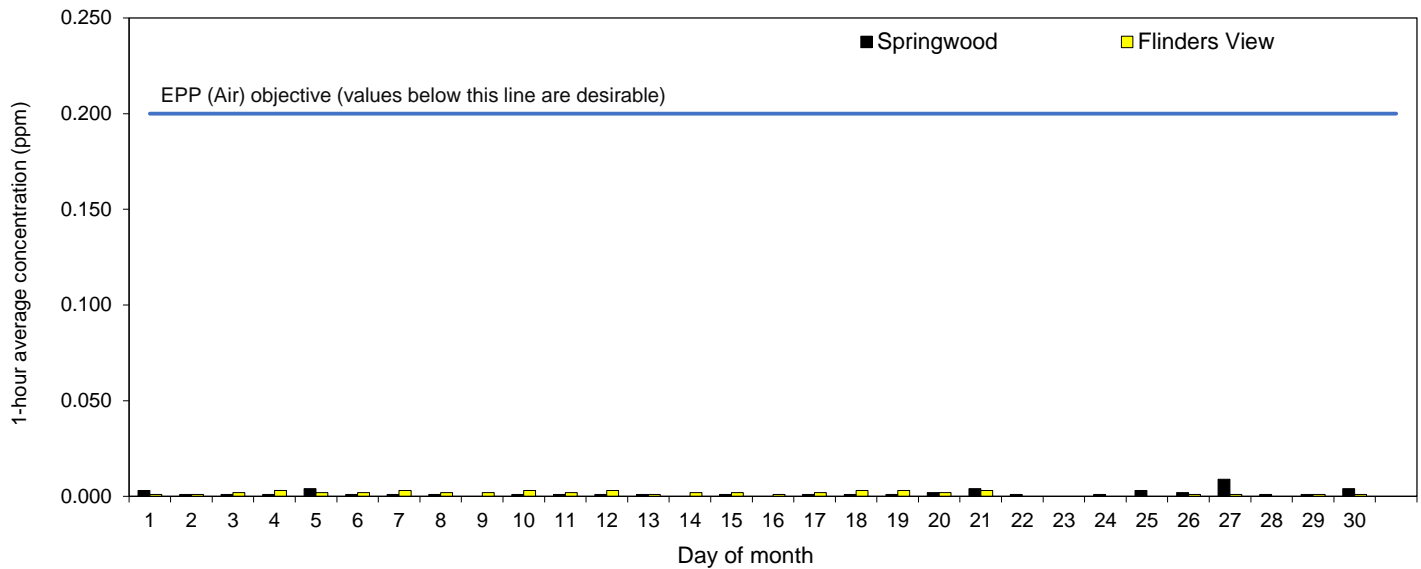


Table 6. Ambient concentrations of sulfur dioxide. Annual average and monthly maximum 24-hour and 1-hour average concentrations (ppm), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Wynnum North (industry-operated site)												
Annual average:	0.001											
Maximum 24-hour	0.004	0.006	0.006	0.008	0.005	0.004	0.001	0.002	0.002	0.001	0.001	0.008
Maximum 1-hour	0.016	0.029	0.031	0.058	0.026	0.036	0.010	0.011	0.012	0.007	0.006	0.070
% I.A.	95	96	96	95	95	95	96	96	95	94	95	96
Wynnum West (industry-operated site)												
Annual average:	0.001											
Maximum 24-hour	0.003	0.005	0.004	0.007	0.004	0.004	0.002	0.001	0.001	0.002	0.003	0.002
Maximum 1-hour	0.008	0.020	0.023	0.027	0.018	0.024	0.014	0.004	0.005	0.008	0.014	0.008
% I.A.	85	86	95	94	94	94	96	95	95	95	96	95
Lytton (industry-operated site)												
Annual average:	0.002											
Maximum 24-hour	0.014	0.008	0.010	0.005	0.003	0.002	0.006	0.004	0.029	0.006	-	0.005
Maximum 1-hour	0.045	0.029	0.032	0.018	0.017	0.005	0.028	0.017	0.072	0.021	-	0.013
% I.A.	91	95	92	95	95	78	81	71	90	80	57	83
Springwood												
Annual average:	<0.001											
Maximum 24-hour	0.001	0.001	0.002	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	<0.001	0.002
Maximum 1-hour	0.004	0.004	0.005	0.004	0.003	0.002	0.002	0.002	0.001	0.004	0.004	0.009
% I.A.	99	100	100	100	100	100	95	100	100	100	99	99
Flinders View												
Annual average:	<0.001											
Maximum 24-hour	0.002	0.001	0.001	0.001	0.001	0.001	<0.001	<0.001	0.001	0.001	0.001	0.001
Maximum 1-hour	0.007	0.005	0.003	0.002	0.004	0.002	0.001	0.001	0.001	0.003	0.002	0.003
% I.A.	100	99	99	99	100	100	100	100	100	100	100	87
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for sulfur dioxide are an annual average of 0.020ppm, a 24-hour average of 0.080ppm (not to be exceeded on more than one day per year) and a 1-hour average of 0.200ppm (not to be exceeded on more than one day per year).												

Visibility-reducing particles

Figure 16. Ambient concentrations of visibility-reducing particle levels at Mountain Creek, Deagon and Brisbane CBD sites. Daily maximum 1-hour average light scattering coefficient (B_{sp}) values (Mm^{-1}), June 2024.

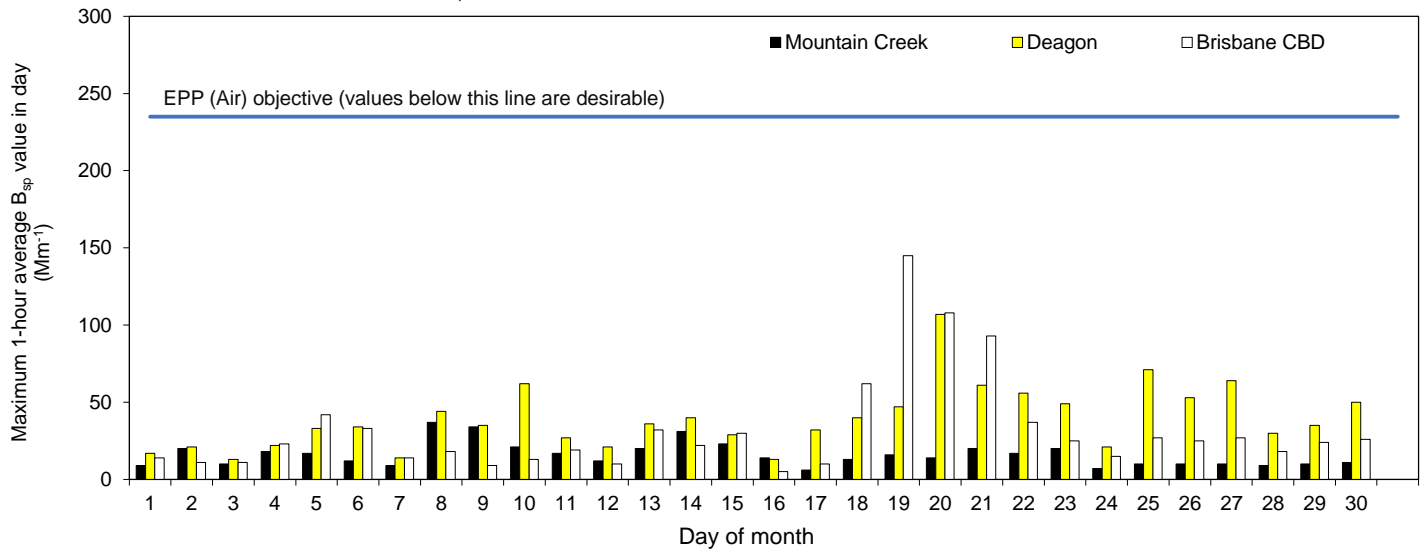


Figure 17. Ambient concentrations of visibility-reducing particle levels at Rocklea and Flinders View sites. Daily maximum 1-hour average light scattering coefficient (B_{sp}) values (Mm^{-1}), June 2024.

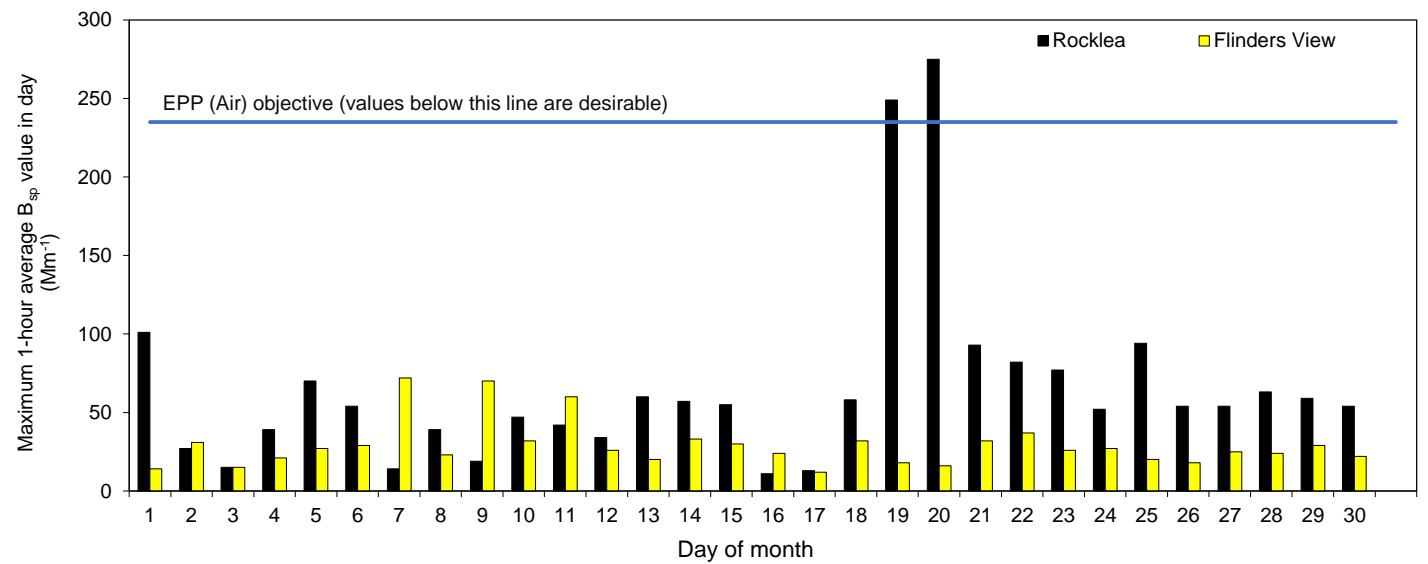


Table 7. Ambient visibility-reducing particle levels. Monthly maximum 1-hour light scattering coefficient (B_{sp}) values (Mm^{-1}), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Mountain Creek												
Maximum 1-hour	108	68	50	294	245	92	30	21	29	29	25	37
% I.A.	100	100	100	100	100	100	99	100	100	99	100	100
Deagon												
Maximum 1-hour	81	131	95	261	76	161	58	31	35	39	58	107
% I.A.	100	100	99	100	99	100	97	98	100	99	100	99
Brisbane CBD												
Maximum 1-hour	97	109	171	182	52	117	168	33	47	64	32	145
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Rocklea												
Maximum 1-hour	108	133	394	158	150	161	74	48	87	65	137	275
% I.A.	100	100	100	100	99	100	100	100	100	99	100	99
Flinders View												
Maximum 1-hour	91	65	549	155	36	140	43	41	27	18	94	72
% I.A.	100	99	99	99	100	100	100	100	100	100	100	99
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objective for visibility-reducing particles is 20km visibility. This equates to light scattering coefficient values of $235Mm^{-1}$ or less.												

PM₁₀

Figure 18. Ambient concentrations of PM₁₀ at Maryborough, Nambour, Mountain Creek and Deception Bay sites. Daily 24-hour average concentrations (µg/m³), June 2024.

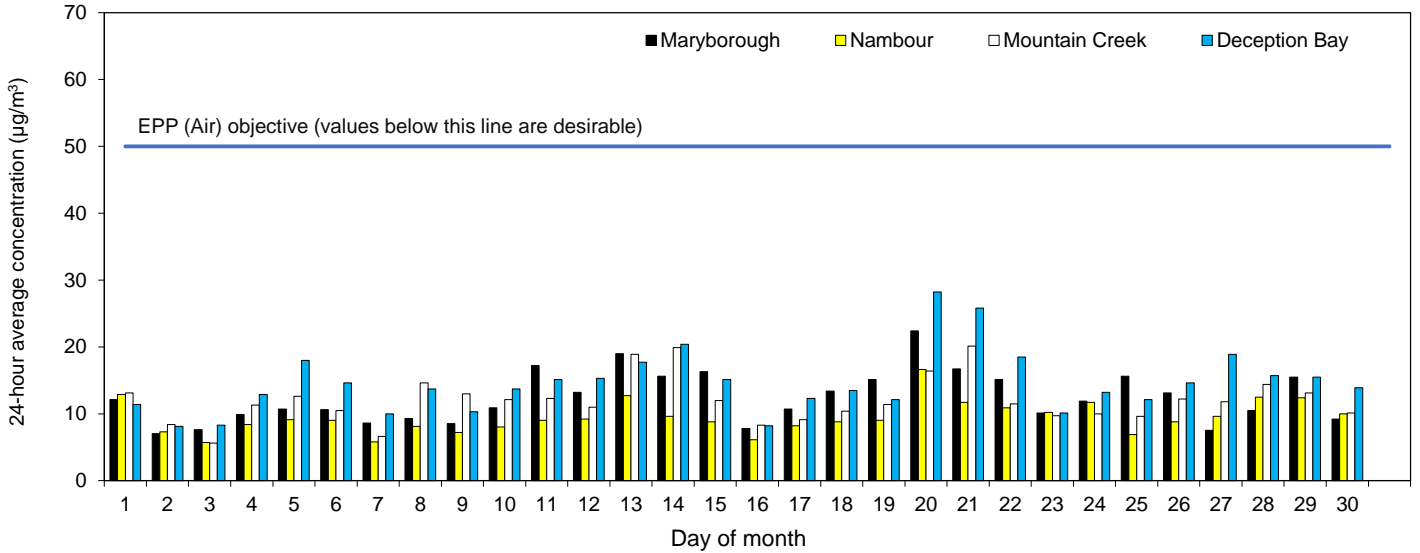


Figure 19. Ambient concentrations of PM₁₀ at Deagon, Brisbane CBD, South Brisbane and Woolloongabba sites. Daily 24-hour average concentrations (µg/m³), June 2024.

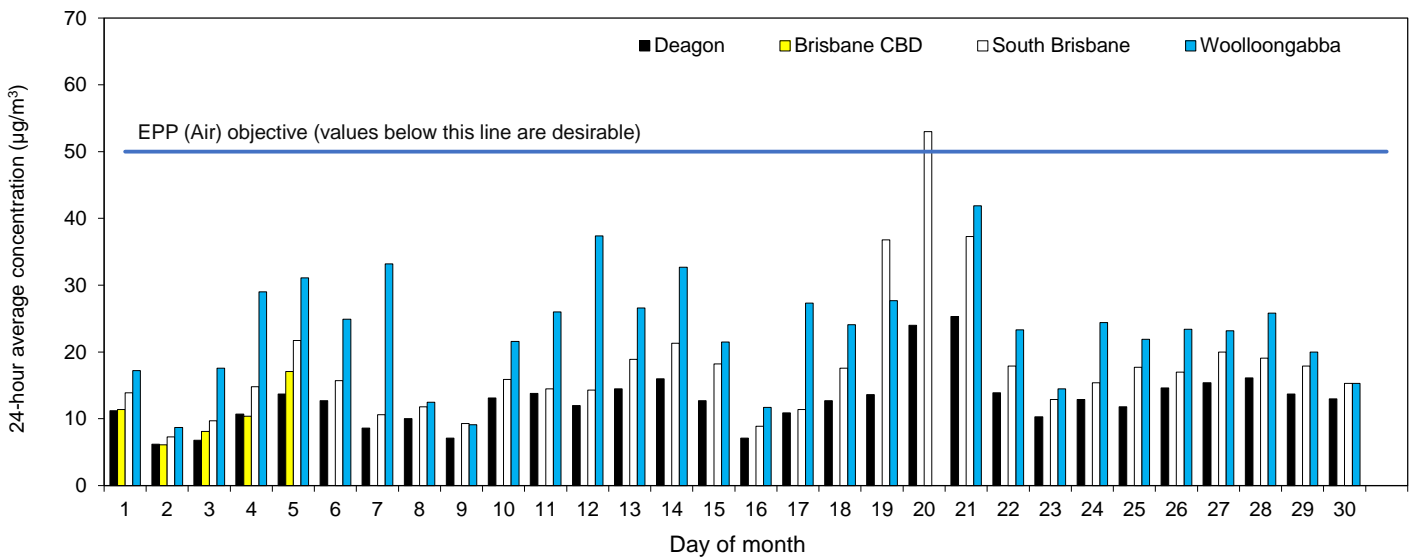


Figure 20. Ambient concentrations of PM₁₀ at Cannon Hill, Wynnum North, Wynnum West and Lytton sites. Daily 24-hour average concentrations (µg/m³), June 2024.

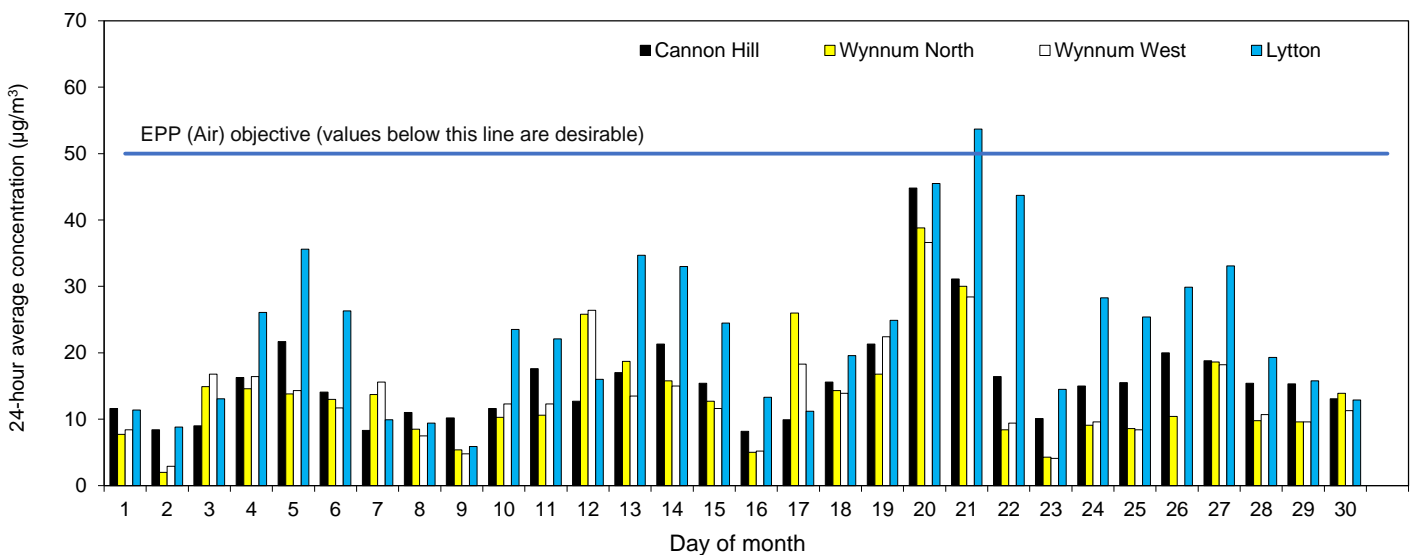


Figure 21. Ambient concentrations of PM₁₀ at Rocklea, North Maclean and Springwood sites. Daily 24-hour average concentrations (µg/m³), June 2024.

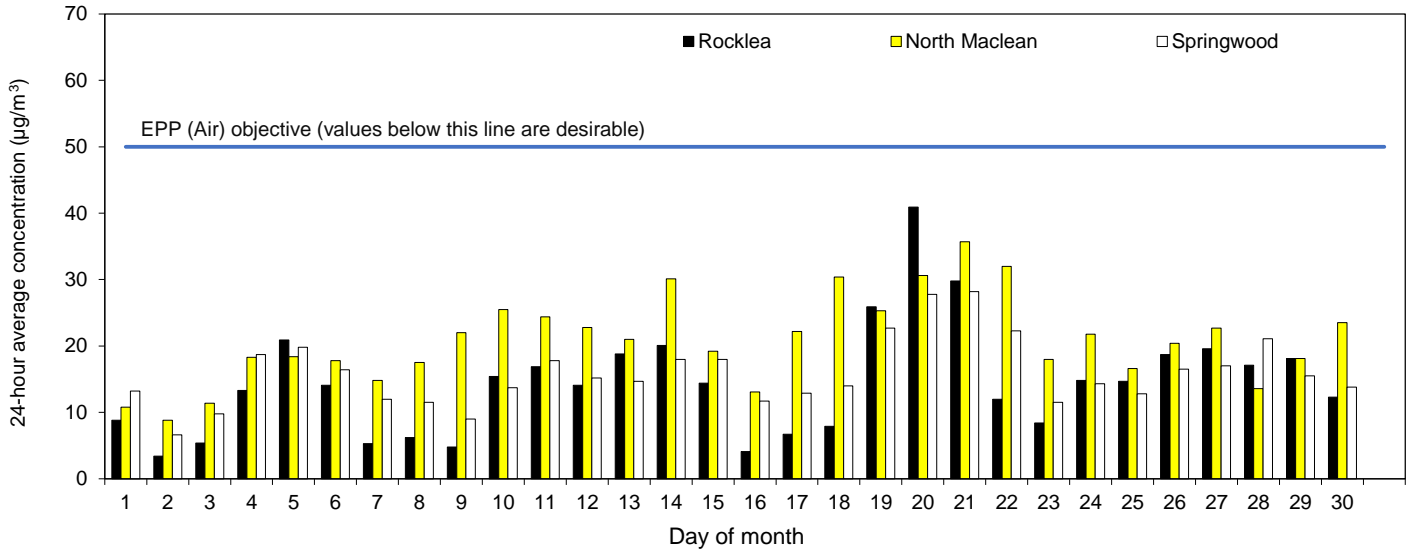


Figure 22. Ambient concentrations of PM₁₀ at Southport, Coomera and Parkwood sites. Daily 24-hour average concentrations (µg/m³), June 2024.

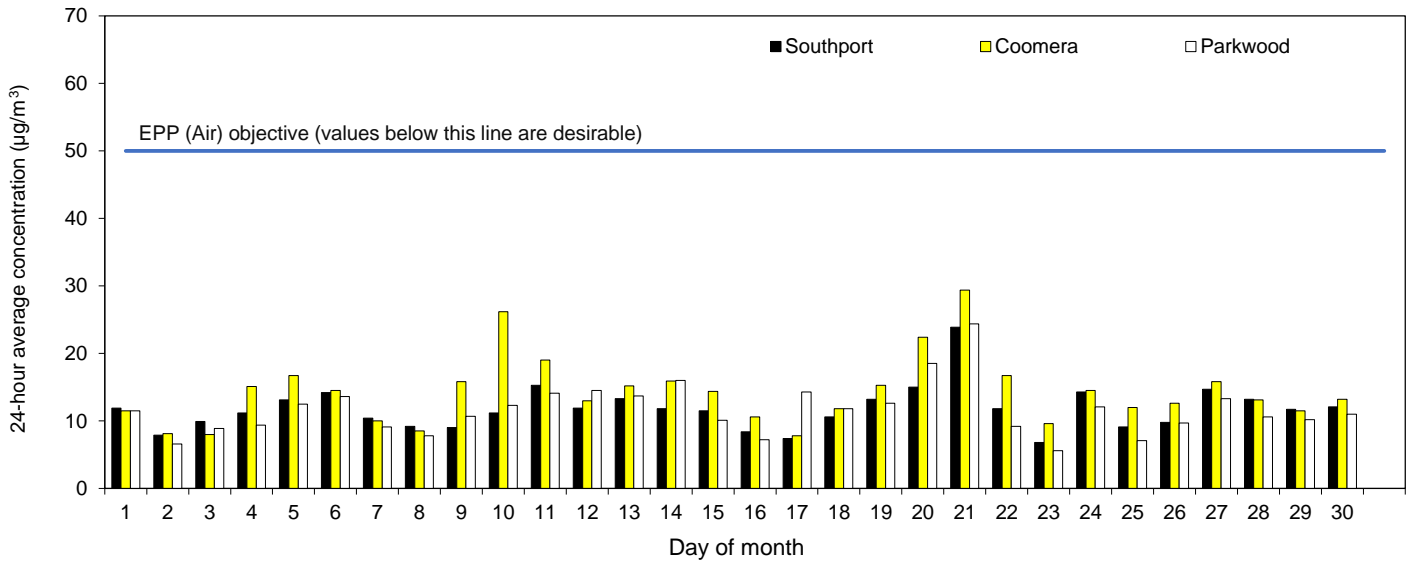


Figure 23. Ambient concentrations of PM₁₀ at Flinders View, Mutdapilly and Toowoomba (Tor St) sites. Daily 24-hour average concentrations (µg/m³), June 2024.

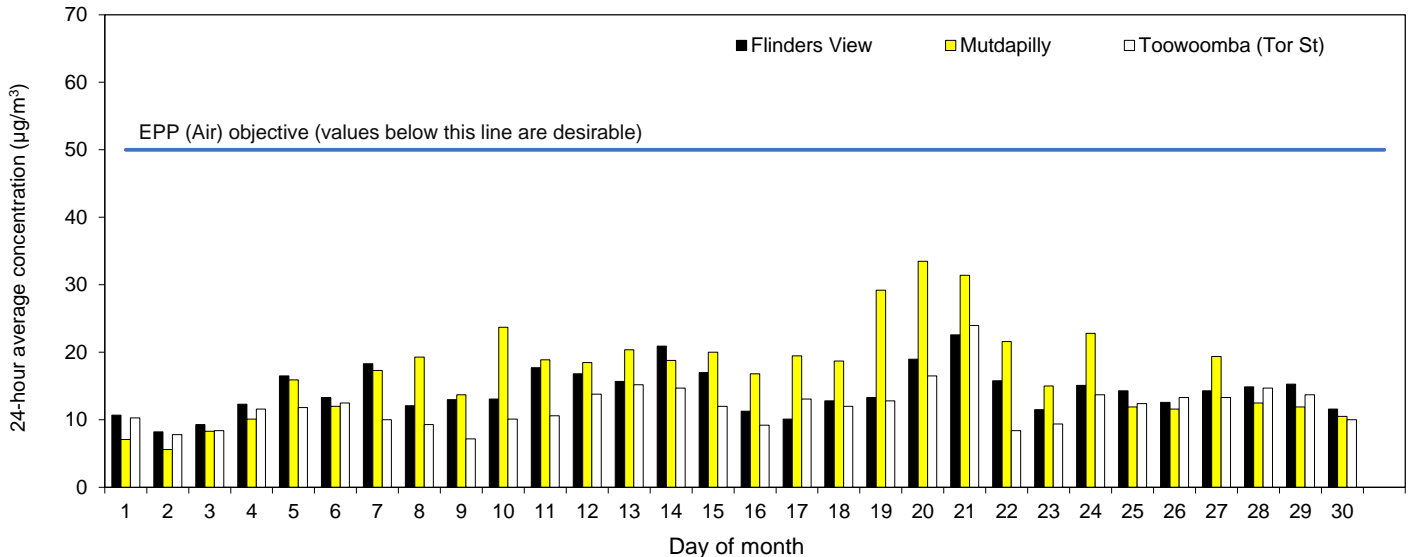


Table 8. Ambient concentrations of PM₁₀. Annual average and monthly maximum 24-hour concentrations (µg/m³), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Maryborough												
Annual average:	14.4											
Maximum 24-hour	25.7	22.8	31.2	33.9	36.4	30.5	27.9	20.4	24.1	20.7	20.1	22.4
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Nambour												
Annual average:	12.9											
Maximum 24-hour	16.8	25.9	23.0	30.8	36.2	26.1	24.1	25.4	23.3	17.5	24.4	16.6
% I.A.	100	100	100	100	100	99	100	100	100	100	99	100
Mountain Creek												
Annual average:	14.6											
Maximum 24-hour	23.5	29.0	29.2	41.0	45.0	27.4	32.4	23.6	28.6	20.9	14.9	20.1
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Deception Bay												
Annual average:	14.9											
Maximum 24-hour	28.5	28.1	26.4	46.9	37.0	37.6	26.2	21.8	22.3	16.1	14.8	28.2
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Deagon												
Annual average:	14.4											
Maximum 24-hour	20.4	26.7	24.0	46.1	35.8	38.7	26.1	24.7	21.2	15.6	15.7	25.3
% I.A.	100	100	100	100	99	100	98	100	100	100	100	99
Brisbane CBD												
Annual average:	15.7											
Maximum 24-hour	26.5	33.3	26.9	43.1	38.1	41.4	27.6	24.6	21.9	16.8	16.3	-
% I.A.	100	100	100	100	100	100	100	100	100	100	100	19
South Brisbane												
Annual average:	17.1											
Maximum 24-hour	28.6	36.0	28.3	47.2	38.7	43.9	27.2	24.6	23.2	19.7	19.8	53.0
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Woolloongabba												
Annual average:	18.6											
Maximum 24-hour	42.0	36.6	26.4	41.3	34.3	45.1	25.5	22.3	25.0	23.0	22.8	41.9
% I.A.	100	100	88	100	100	100	100	100	100	99	99	98
Cannon Hill												
Annual average:	16.0											
Maximum 24-hour	27.8	33.3	24.7	48.6	36.7	43.3	26.6	25.7	20.9	20.7	16.5	44.8
% I.A.	100	100	100	100	100	100	100	96	100	100	100	100
Wynnum North (industry-operated site)												
Annual average:	11.2											
Maximum 24-hour	20.9	24.7	22.9	31.4	26.9	35.3	24.2	20.3	15.0	18.0	13.1	38.8
% I.A.	98	100	99	96	99	86	66	77	95	98	100	100
Wynnum West (industry-operated site)												
Annual average:	12.0											
Maximum 24-hour	22.5	28.3	25.5	35.1	31.4	35.6	19.9	17.1	16.4	16.5	21.0	36.6
% I.A.	92	100	98	95	96	89	79	90	89	96	100	99
Lytton (industry-operated site)												
Annual average:	16.6											
Maximum 24-hour	36.4	37.0	32.8	37.2	32.9	33.8	-	22.9	21.5	27.2	28.6	53.7
% I.A.	98	98	90	98	96	77	57	74	97	97	99	99
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for PM ₁₀ are an annual average of 25µg/m ³ and a 24-hour average of 50µg/m ³ .												

Table 8 (contd). Ambient concentrations of PM₁₀. Annual average and monthly maximum 24-hour concentrations (µg/m³), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Rocklea												
Annual average:	14.4											
Maximum 24-hour	27.2	29.0	25.7	32.2	33.4	31.7	20.6	20.5	19.2	17.0	19.2	40.9
% I.A.	100	100	100	100	99	100	100	100	99	86	100	100
North Maclean												
Annual average:	17.3											
Maximum 24-hour	35.8	49.1	57.6	38.9	35.2	38.9	16.0	16.0	16.0	17.0	23.2	35.7
% I.A.	100	100	100	100	100	99	100	100	100	100	100	100
Springwood												
Annual average:	15.9											
Maximum 24-hour	25.1	32.3	30.3	47.6	34.7	40.4	32.8	24.2	25.3	23.0	15.8	28.2
% I.A.	97	100	100	100	100	100	100	100	100	100	100	99
Southport												
Annual average:	15.4											
Maximum 24-hour	20.5	29.6	26.9	45.5	34.6	32.2	28.4	25.1	27.1	17.4	16.7	23.9
% I.A.	97	100	100	98	97	100	99	100	100	100	100	100
Coomera												
Annual average:	15.4											
Maximum 24-hour	22.8	33.0	34.7	54.0	40.8	33.4	26.8	22.1	23.7	16.9	15.5	29.4
% I.A.	100	100	100	100	100	90	100	100	100	100	100	100
Parkwood												
Annual average:	14.2											
Maximum 24-hour	20.6	25.5	27.4	38.0	34.5	31.2	29.0	25.4	25.7	15.7	15.5	24.4
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Flinders View												
Annual average:	15.1											
Maximum 24-hour	31.1	28.7	84.9	35.0	35.5	35.1	18.8	23.6	20.2	15.9	18.2	22.6
% I.A.	100	100	100	100	100	100	100	100	100	100	100	99
Mutdapilly												
Annual average:	19.4											
Maximum 24-hour	43.4	38.8	55	65.6	41	41.8	25.9	64	40	32.3	33.1	33.5
% I.A.	100	100	99	100	100	99	97	99	100	100	100	100
Toowoomba (Tor St)												
Annual average:	13.3											
Maximum 24-hour	22.3	21.1	28.3	33.6	40.6	34.5	19.0	21.3	22.3	13.8	15.4	24.0
% I.A.	100	100	99	100	97	73	92	100	100	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for PM ₁₀ are an annual average of 25µg/m ³ and a 24-hour average of 50µg/m ³ .												

PM_{2.5}

Figure 24. Ambient concentrations of PM_{2.5} at Maryborough, Nambour, Mountain Creek and Deception Bay sites. Daily 24-hour average concentrations (µg/m³), June 2024.

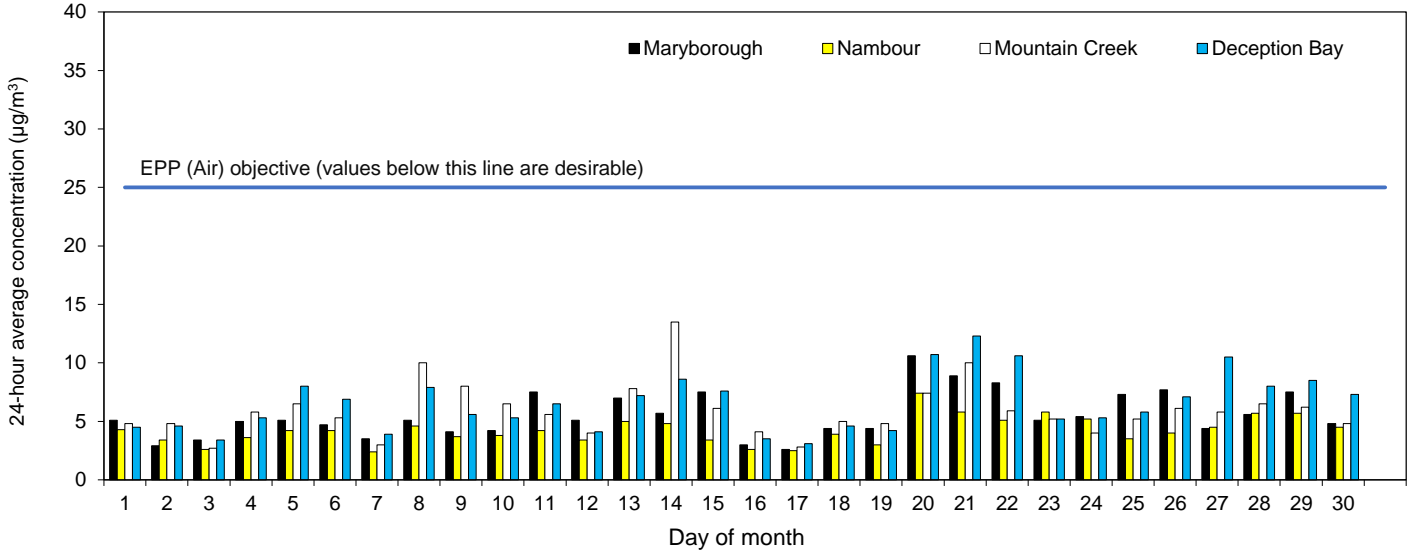


Figure 25. Ambient concentrations of PM_{2.5} at Deagon, Brisbane CBD, South Brisbane and Woolloongabba sites. Daily 24-hour average concentrations (µg/m³), June 2024.

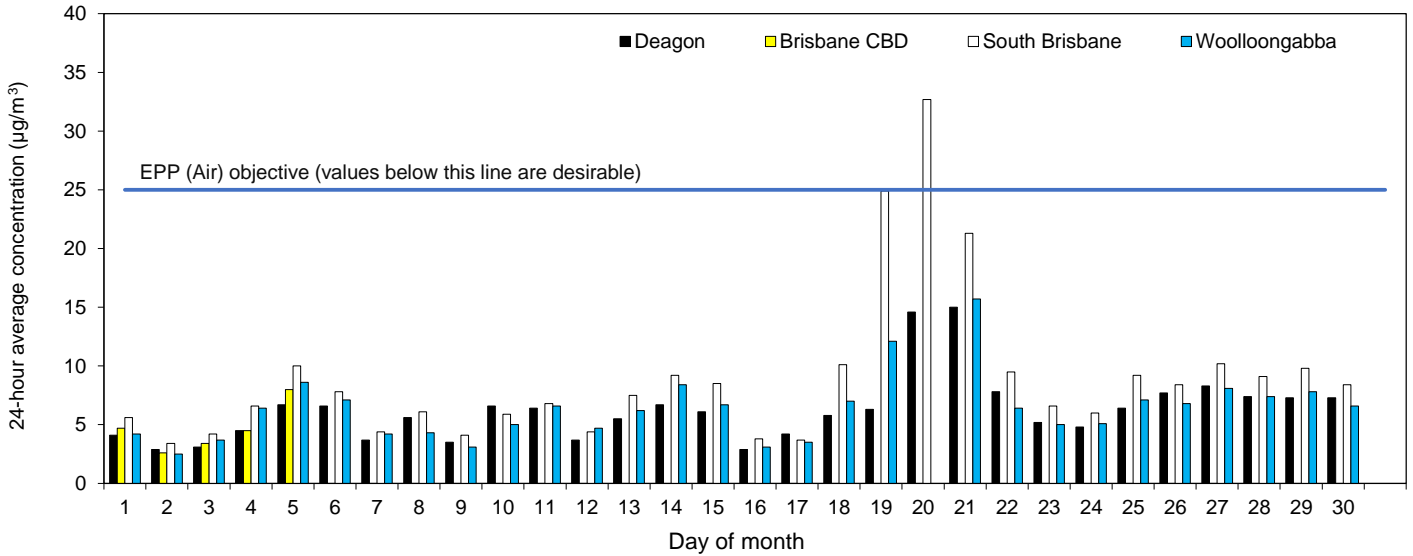


Figure 26. Ambient concentrations of PM_{2.5} at Cannon Hill, Wynnum North, Wynnum West and Lytton sites. Daily 24-hour average concentrations (µg/m³), June 2024.

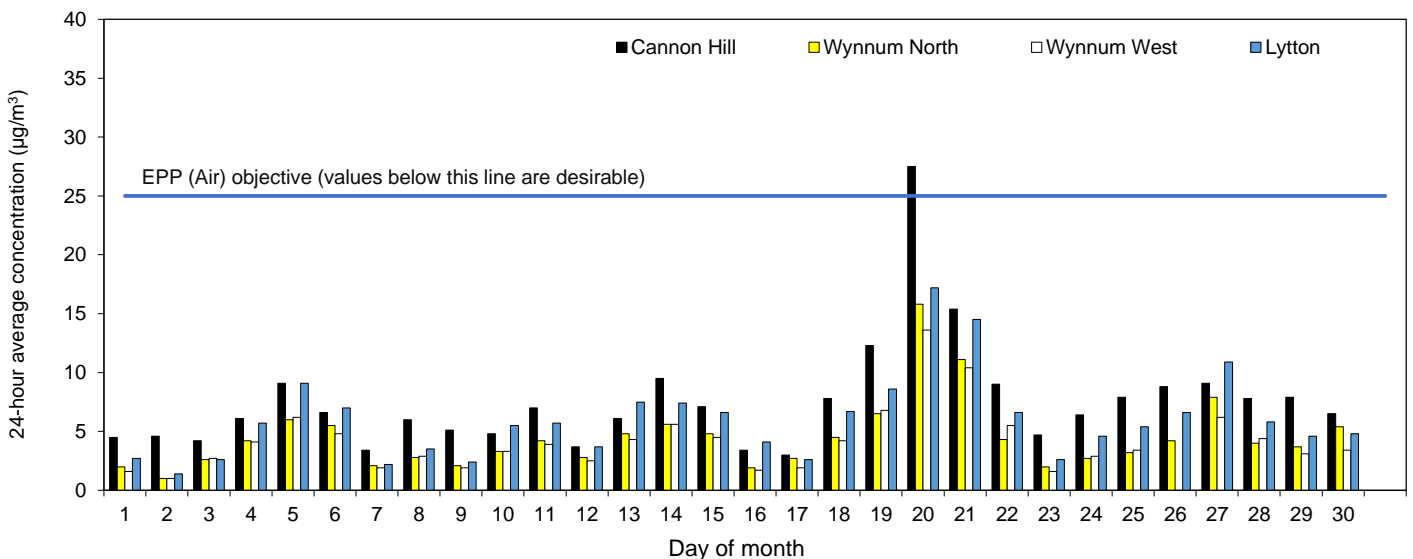


Figure 27. Ambient concentrations of PM_{2.5} at Rocklea, North Maclean and Springwood sites. Daily 24-hour average concentrations (µg/m³), June 2024.

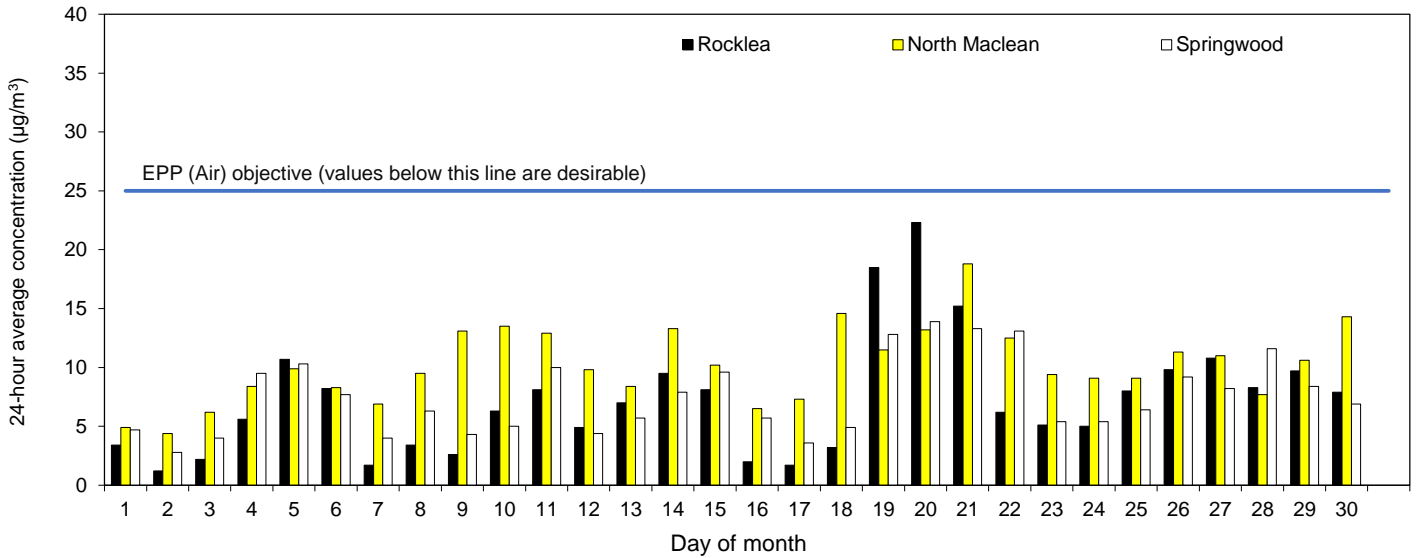


Figure 28. Ambient concentrations of PM_{2.5} at Southport, Coomera and Parkwood sites. Daily 24-hour average concentrations (µg/m³), June 2024.

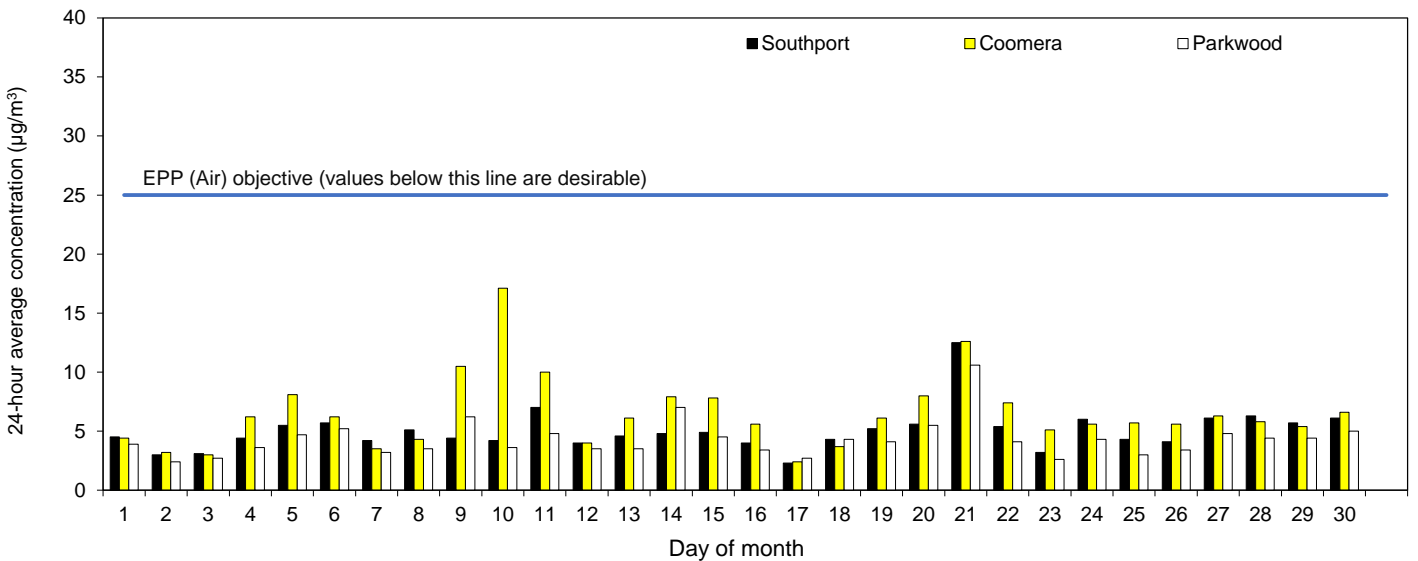


Figure 29. Ambient concentrations of PM_{2.5} at Flinders View, Mutdapilly and Toowoomba (Tor St) sites. Daily 24-hour average concentrations (µg/m³), June 2024.

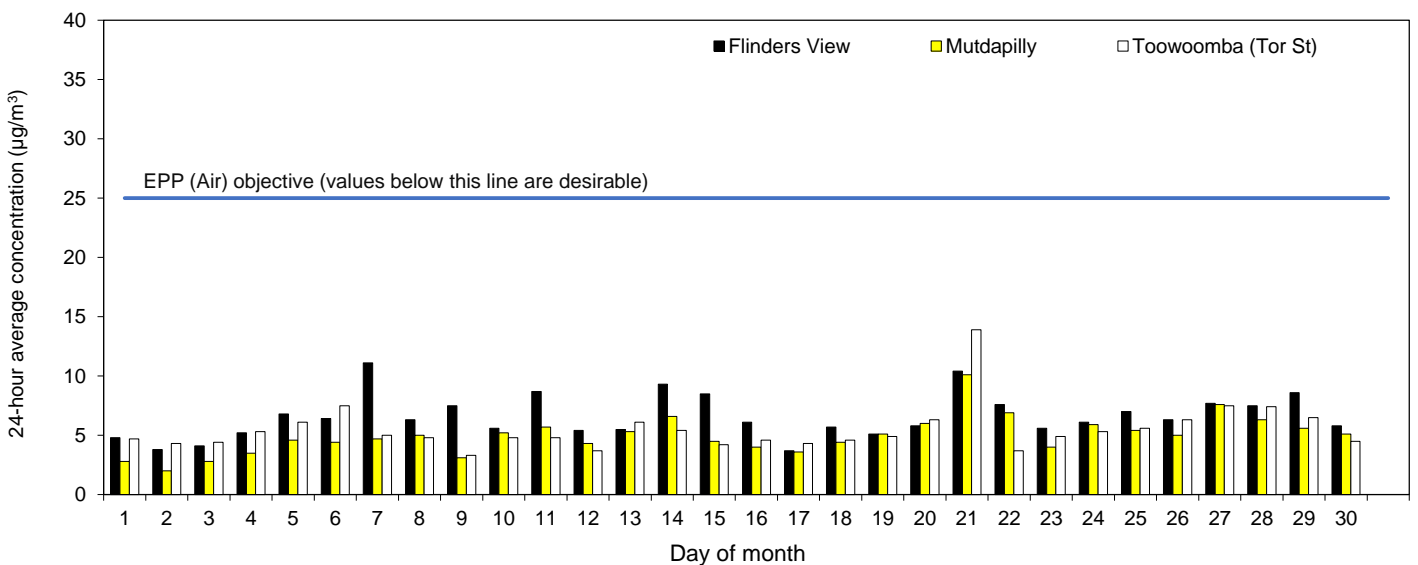


Table 9. Ambient concentrations of PM_{2.5}. Annual average and monthly maximum 24-hour concentrations (µg/m³), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Maryborough												
Annual average:	5.9											
Maximum 24-hour	17.0	12.1	11.2	12.2	18.8	20.0	10.3	7.1	8.5	8.8	13.9	10.6
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Nambour												
Annual average:	5.1											
Maximum 24-hour	10.7	15.8	8.7	22.1	20.1	14.2	9.2	7.3	8.2	6.2	16.2	7.4
% I.A.	100	100	100	100	100	99	100	100	100	100	99	100
Mountain Creek												
Annual average:	5.8											
Maximum 24-hour	13.1	18.5	10.0	20.6	22.6	16.7	11.3	7.8	9.9	7.3	6.9	13.5
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Deception Bay												
Annual average:	6.1											
Maximum 24-hour	16.7	16.1	10.0	24.0	14.4	21.3	9.4	8.0	8.8	7.3	6.8	12.3
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Deagon												
Annual average:	5.8											
Maximum 24-hour	11.8	16.3	10.1	26.7	14.4	23.5	8.8	8.0	7.6	7.3	7.0	15.0
% I.A.	100	100	100	100	99	100	98	100	100	100	100	99
Brisbane CBD												
Annual average:	6.4											
Maximum 24-hour	14.2	20.8	14.3	21.5	13.8	25.7	9.1	8.3	7.7	8.3	7.4	-
% I.A.	100	100	100	100	100	100	100	100	100	100	100	19
South Brisbane												
Annual average:	7.1											
Maximum 24-hour	15.2	22.0	14.4	22.0	14.1	27.3	9.2	8.5	8.0	9.9	9.0	32.7
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Woolloongabba												
Annual average:	6.2											
Maximum 24-hour	14.5	20.2	11.5	18.2	11.9	22.1	8.0	7.5	7.0	8.1	8.0	15.7
% I.A.	100	100	88	100	100	100	100	100	100	99	99	98
Cannon Hill												
Annual average:	6.4											
Maximum 24-hour	16.3	19.3	10.0	24.9	13.2	24.9	9.0	8.5	7.6	7.8	8.1	27.5
% I.A.	100	100	100	100	100	100	100	96	100	100	100	100
Wynnum North (industry-operated site)												
Annual average:	2.9											
Maximum 24-hour	9.3	12.6	6.7	13.8	7.7	16.4	4.1	5.0	4.7	5.1	4.9	15.8
% I.A.	99	100	99	97	100	99	99	99	96	98	100	100
Wynnum West (industry-operated site)												
Annual average:	2.8											
Maximum 24-hour	9.7	11.5	5.8	12.8	7.4	16.2	4.5	5.6	4.1	4.8	4.9	13.6
% I.A.	93	100	99	98	98	96	99	97	94	96	100	99
Lytton (industry-operated site)												
Annual average:	4.0											
Maximum 24-hour	12.2	13.9	7.1	16.8	8.7	16.3	5.3	5.2	7.3	6.0	7.6	17.2
% I.A.	98	100	94	99	99	97	97	99	99	99	99	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for PM _{2.5} are an annual average of 8µg/m ³ and a 24-hour average of 25µg/m ³ .												

Table 9 (contd). Ambient concentrations of PM_{2.5}. Annual average and monthly maximum 24-hour concentrations (µg/m³), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Rocklea												
Annual average:	7.0											
Maximum 24-hour	16.6	17.9	15.7	14.8	14.0	20.7	10.1	8.9	8.7	8.1	9.3	22.3
% I.A.	100	100	100	100	99	100	100	100	99	86	100	100
North Maclean												
Annual average:	7.1											
Maximum 24-hour	19.7	25.7	35.5	22.4	14.0	22.3	6.7	6.3	6.6	8.0	11.7	18.8
% I.A.	100	100	100	100	100	99	100	100	100	100	100	100
Springwood												
Annual average:	6.3											
Maximum 24-hour	14.1	20.2	8.6	21.6	12.0	24.1	9.1	7.7	8.0	8.7	7.3	13.9
% I.A.	97	100	100	100	100	100	100	100	100	100	100	99
Southport												
Annual average:	6.0											
Maximum 24-hour	11.9	18.2	13.8	23.1	11.8	19.0	10.1	8.2	9.5	6.6	6.8	12.5
% I.A.	97	100	100	98	97	100	99	100	100	100	100	100
Coomera												
Annual average:	6.0											
Maximum 24-hour	14.2	21.8	23.8	21.1	12.5	18.5	9.8	7.9	8.4	6.5	6.5	17.1
% I.A.	100	100	100	100	100	90	100	100	100	100	100	100
Parkwood												
Annual average:	5.1											
Maximum 24-hour	12.4	16.0	16.1	16.2	11.1	17.7	9.3	8.0	7.9	5.2	5.5	10.6
% I.A.	100	100	100	100	100	100	100	100	100	100	100	100
Flinders View												
Annual average:	6.6											
Maximum 24-hour	14.6	17.5	70.2	25.7	15.6	20.9	8.6	8.4	7.1	7.3	8.5	11.1
% I.A.	100	100	100	100	100	100	100	100	100	100	100	99
Mutdapilly												
Annual average:	6.5											
Maximum 24-hour	19.5	18.2	35.0	22.9	17.3	19.5	8.6	10.2	8.6	7.5	9.1	10.1
% I.A.	100	100	99	100	100	99	97	99	100	100	100	100
Toowoomba (Tor St)												
Annual average:	5.7											
Maximum 24-hour	14.2	12.5	15.9	21.6	19.8	24.0	8.3	8.3	10.3	7.0	6.6	13.9
% I.A.	100	100	99	100	97	73	92	100	100	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available.												
The Environmental Protection (Air) Policy 2019 air quality objectives for PM _{2.5} are an annual average of 8µg/m ³ and a 24-hour average of 25µg/m ³ .												

TSP

Figure 30. Ambient concentrations of TSP at Cannon Hill site. Daily 24-hour average concentrations ($\mu\text{g}/\text{m}^3$), June 2024.

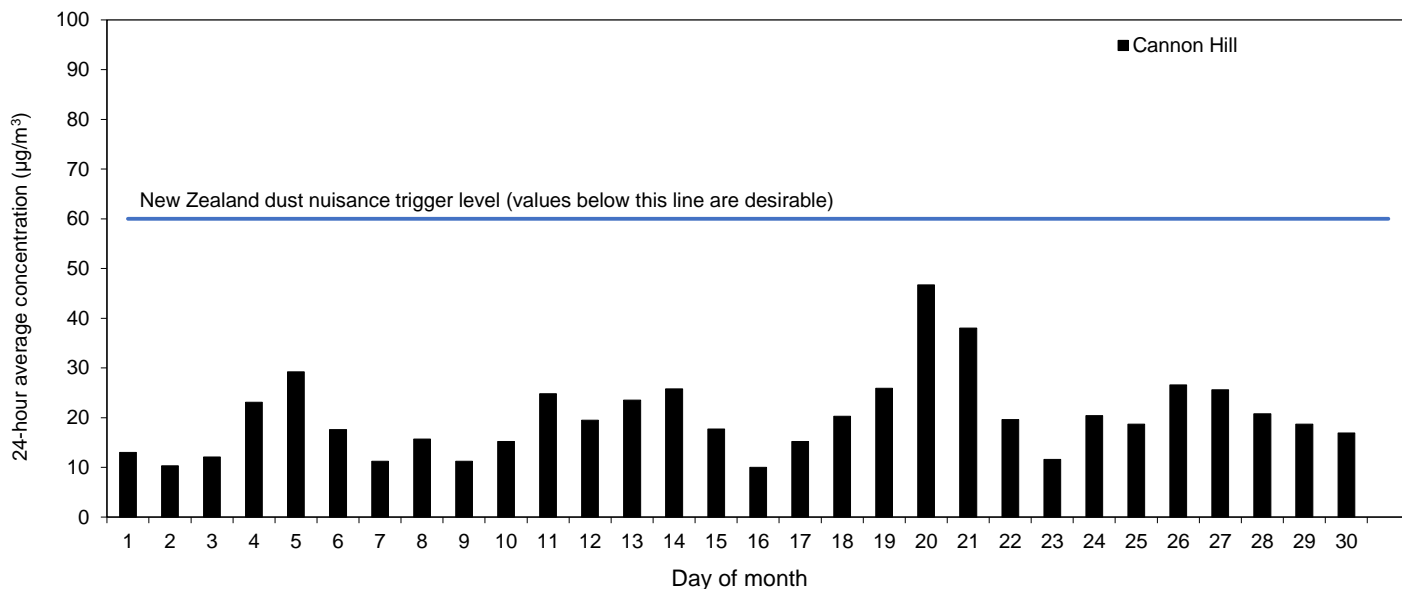


Table 10. Ambient concentrations of TSP. Annual average and monthly maximum 24-hour concentrations ($\mu\text{g}/\text{m}^3$), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Cannon Hill												
Annual average:	21.4											
Maximum 24-hour	31.4	44.0	42.6	64.7	53.7	58.0	32.4	31.6	32.7	43.9	25.7	46.7
% I.A.	99	100	99	100	99	95	99	98	100	100	100	100
% I.A. indicates instrument availability. - indicates less than three-fifths of the data are available. n.d. indicates no data are available. The Environmental Protection (Air) Policy 2019 air quality objective for TSP is an annual average of $90\mu\text{g}/\text{m}^3$. The former Department of Environment, Science and Innovation Air Impacts Guideline recommends that short-term (24-hour) TSP concentrations be compared against the trigger levels provided in the New Zealand Ministry for the Environment's <i>Good Practice Guide for Assessing and Managing Dust</i> (2016) to assess dust nuisance impacts. The New Zealand dust nuisance trigger level for high sensitivity areas is a 24-hour average of $60\mu\text{g}/\text{m}^3$.												

Dustfall

Figure 31. Dust deposition rates at Cannon Hill (north), Cannon Hill (south) and Sherwood sites. Daily dust (insoluble solids fraction) deposition rate ($\text{mg}/\text{m}^2/\text{day}$), for month of June 2024.

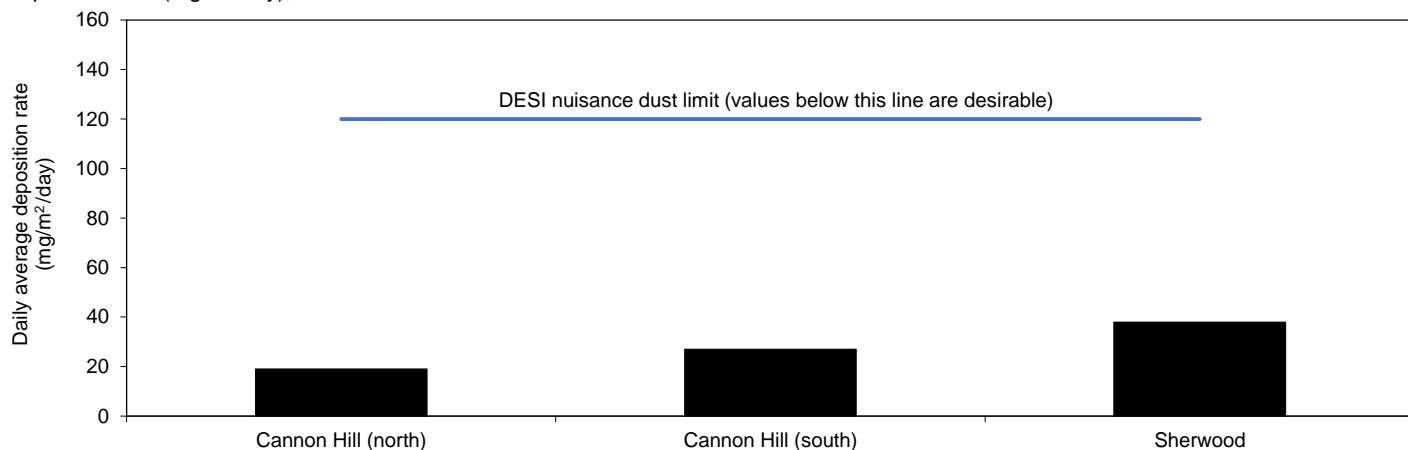


Figure 32. Dust deposition rates at Toowoomba (Brook St) and Toowoomba (Mort St) sites. Daily dust (insoluble solids fraction) deposition rate ($\text{mg}/\text{m}^2/\text{day}$), for month of June 2024.

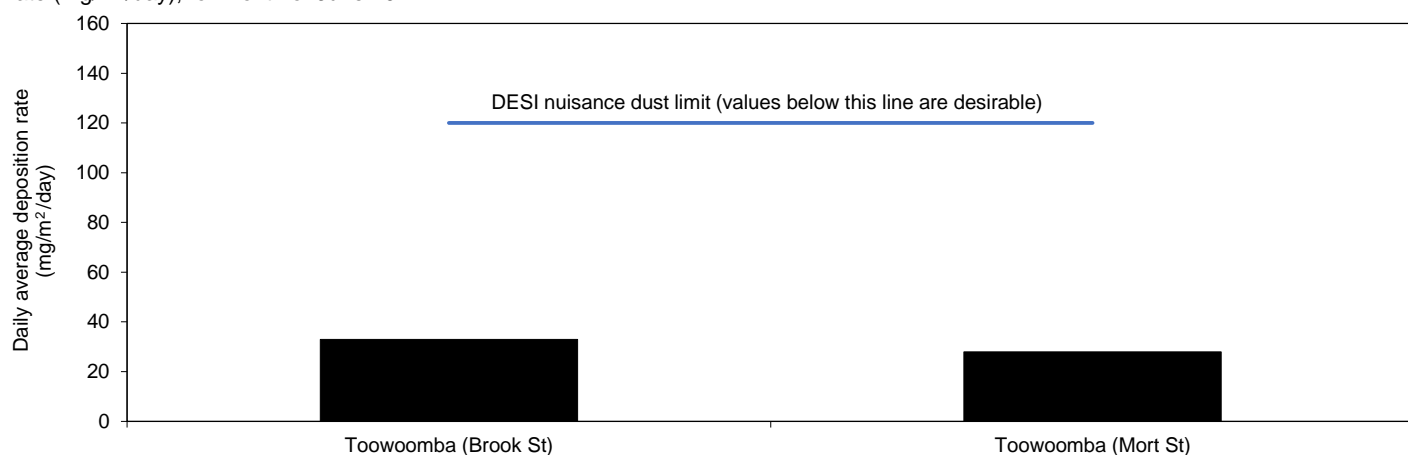


Table 11. Monthly average dust (insoluble fraction) deposition rate ($\text{mg}/\text{m}^2/\text{day}$), July 2023 to June 2024.

Site	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Cannon Hill (north)[†]												
Daily average	25	4	19	32	30	37	20	20	18	21	26	19
Cannon Hill (south)[†]												
Daily average	25	6	35	35	59	30	5	17	20	40	23	27
Sherwood												
Daily average	53	5	51	66	66	53	22	29	37	33	31	38
Toowoomba (Brook St)												
Daily average	7	1	14	242	9	55	32	10	13	330	25	33
Toowoomba (Mort St)												
Daily average	5	3	64	42	54	59	31	26	71	48	96	28

n.d. indicates no data are available.

[†] At Cannon Hill dustfall monitoring is carried out on both sides of the rail corridor.

The former Department of the Environment, Science and Innovation Air Impacts Guideline recommends a dust deposition limit of $120\text{mg}/\text{m}^2/\text{day}$, averaged over one month, be used to assess dust nuisance.

There is a minimum dust deposition rate that can be determined with the sampling equipment and laboratory method used. Dust deposition rates below this minimum reporting value are preceded by a "<" sign in this table.

Data availability

When required, Table 12 summarises the reasons for data availability below the minimum criteria for reporting at Southern Queensland monitoring sites.

Table 12. Reasons for low data availability at Southern Queensland ambient air monitoring sites during June 2024.

Station	Air Pollutant	Cause
Brisbane CBD	PM ₁₀ , PM _{2.5}	Instrument offline during commissioning of new site

Related air quality information

Current hourly air quality data is available online at <https://apps.des.qld.gov.au/air-quality/>.

Additional information on air quality monitoring and related issues is also available from the above website.

Further information

For further information about the data presented in this bulletin or related publications, contact:

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Figure 31. Southern Queensland ambient air quality monitoring site locations.

