

RBCAA Technical Feedback – July 2025

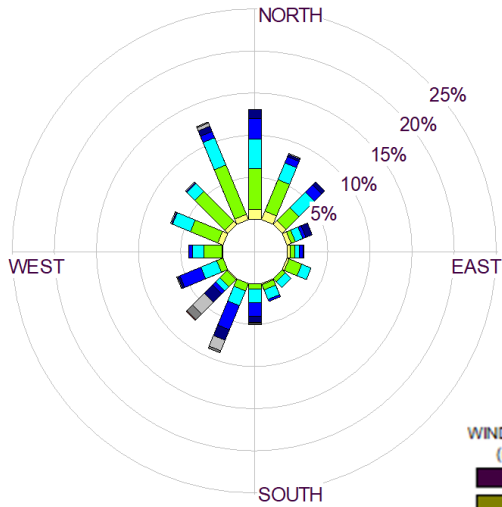


Meteorology

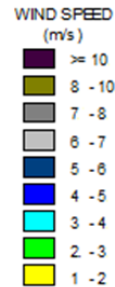
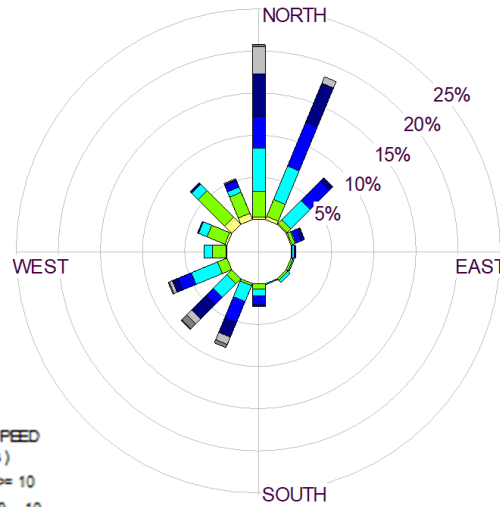
WIND



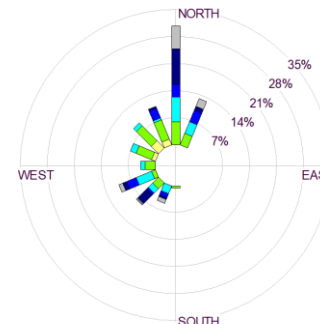
July 2024 Wind Rose



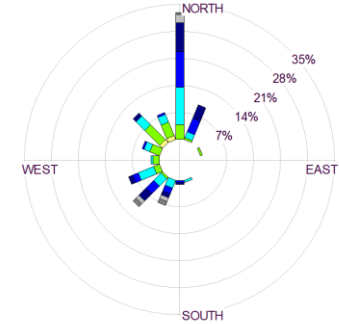
July 2025 Wind Rose



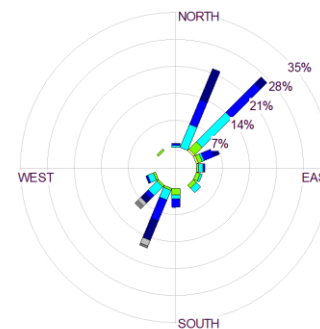
00:00 – 05:59



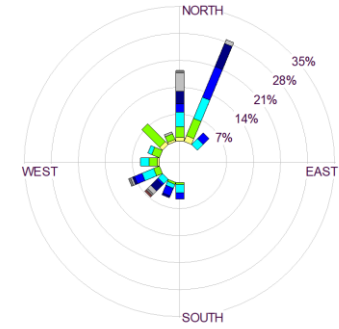
06:00 – 11:59



12:00 – 17:59



18:00 – 23:59

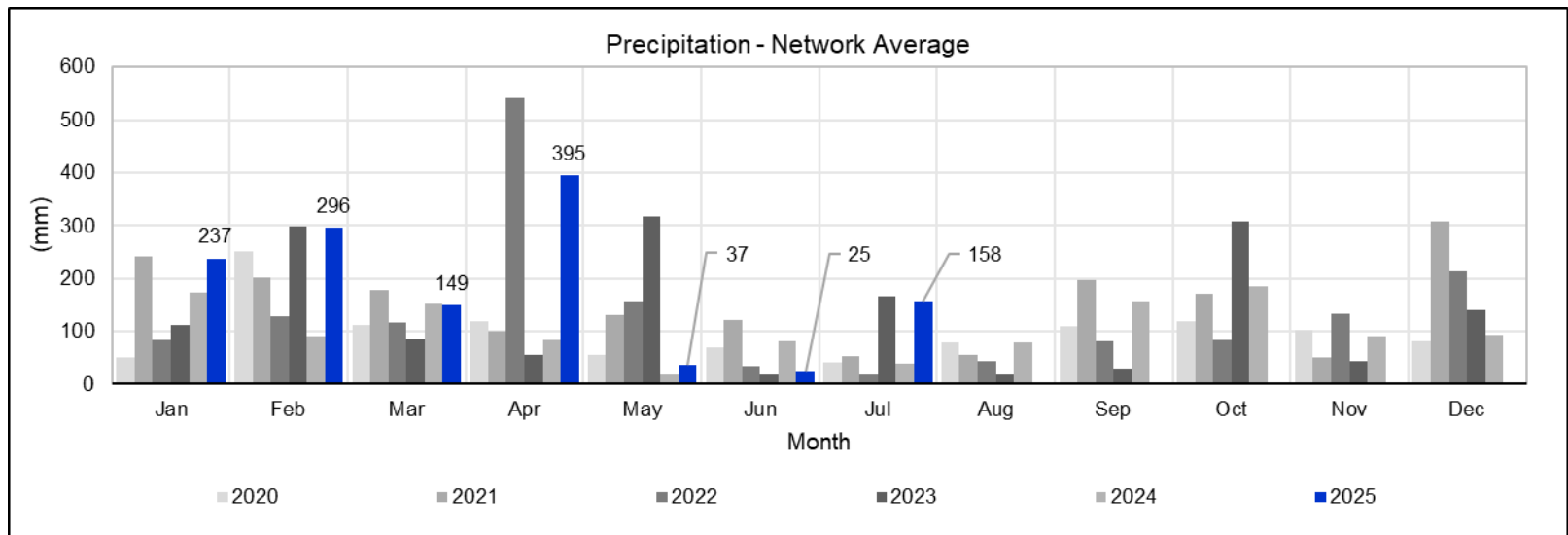
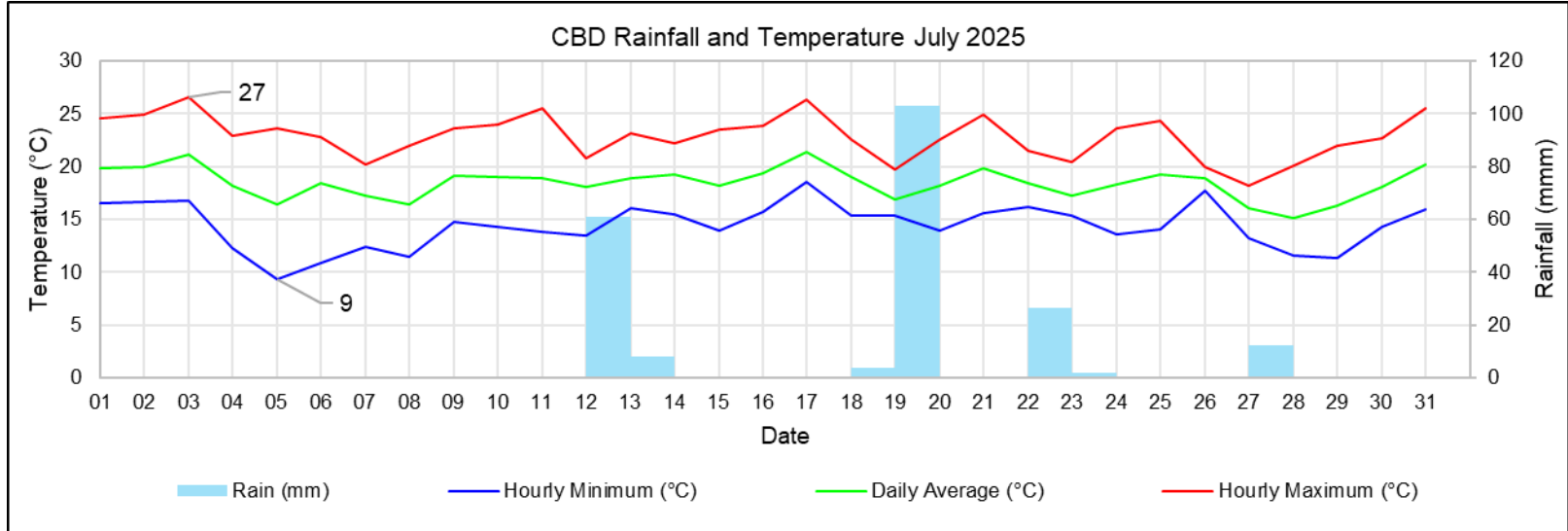


Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
July 2024	3.0 m/s	WNW-NE	56%	SSW-SW	16%	0%	98%
July 2025	3.6 m/s	N-NE & NW	56%	SSW-WSW	25%	0%	96%
00:00-05:59	3.4 m/s	WNW-NNE	72%	SW-WSW	19%	0%	98%
06:00-11:59	3.6 m/s	NW-NNE	63%	SSW-WSW	27%	0%	96%
12:00-17:59	3.8 m/s	NNE-ENE	58%	SSW-SW	26%	0%	96%
18:00-23:59	3.5 m/s	N-NNE & NW	58%	SW-WSW	16%	0%	93%

Meteorology

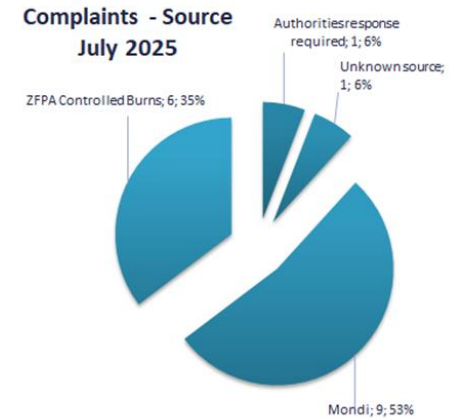
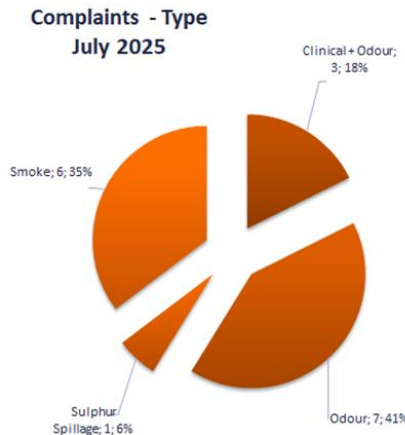
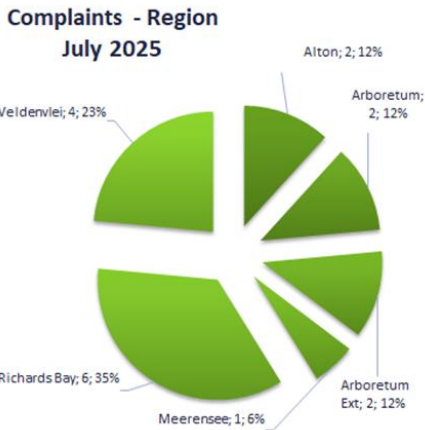
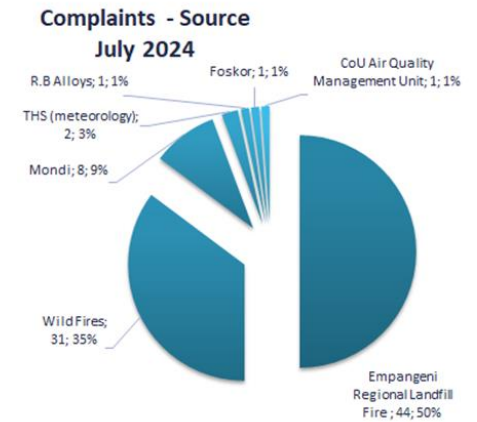
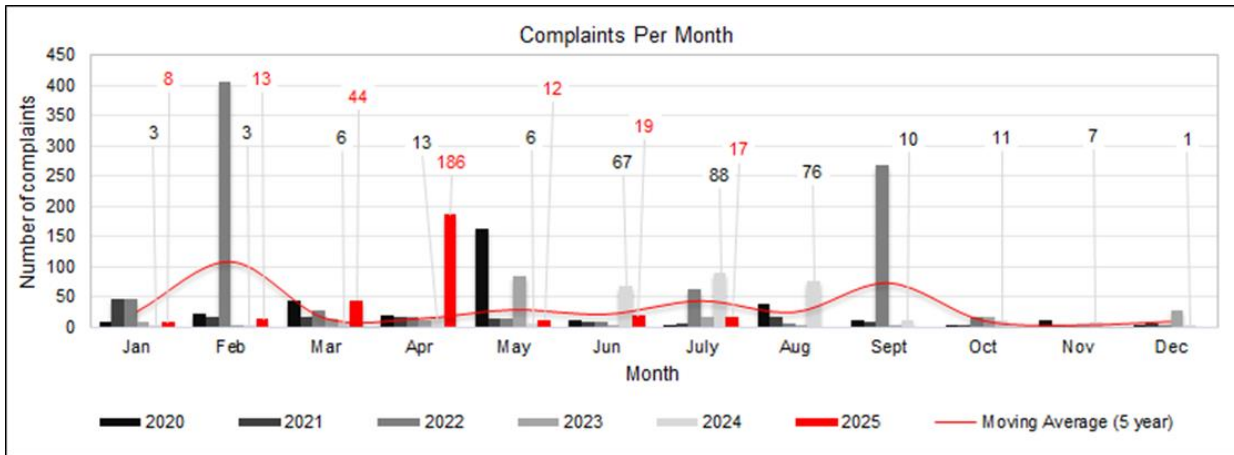
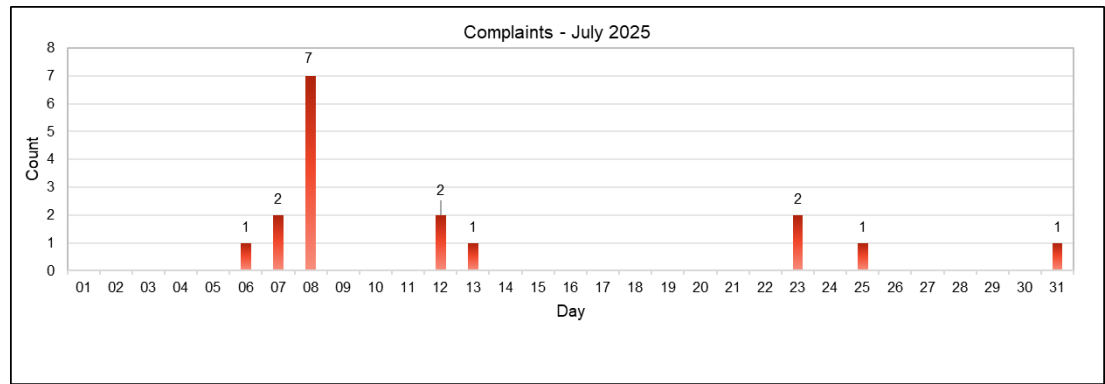
Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)	Average (mm)
July 2025	220	157	155	98	158

RAINFALL AND TEMPERATURE



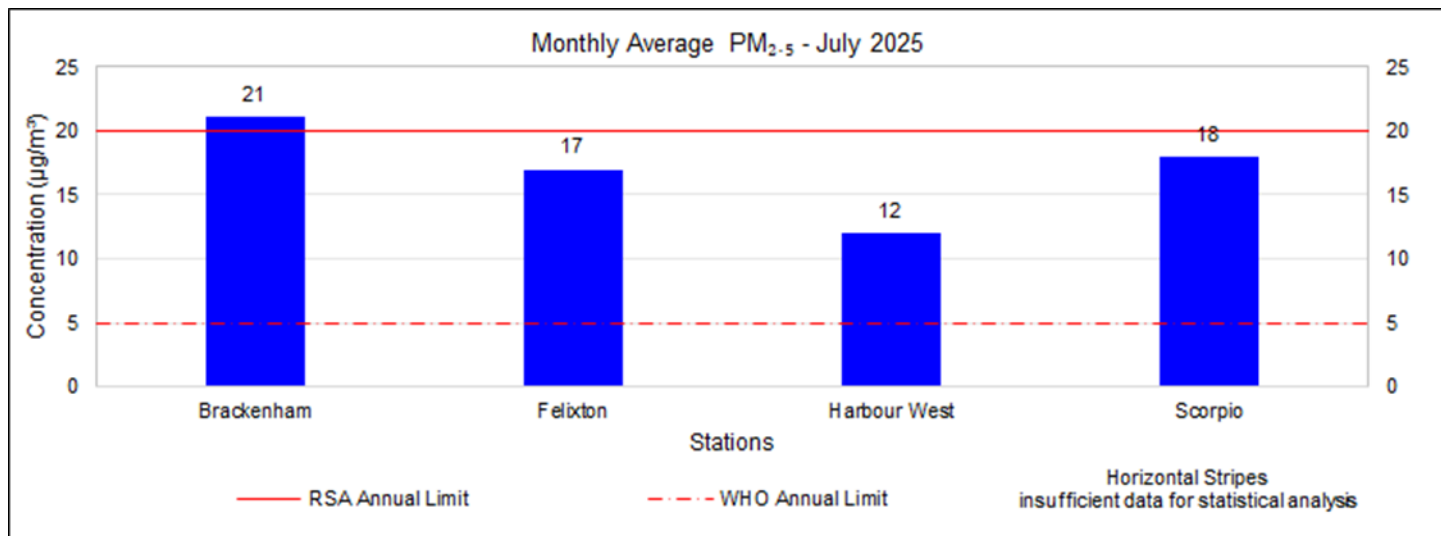
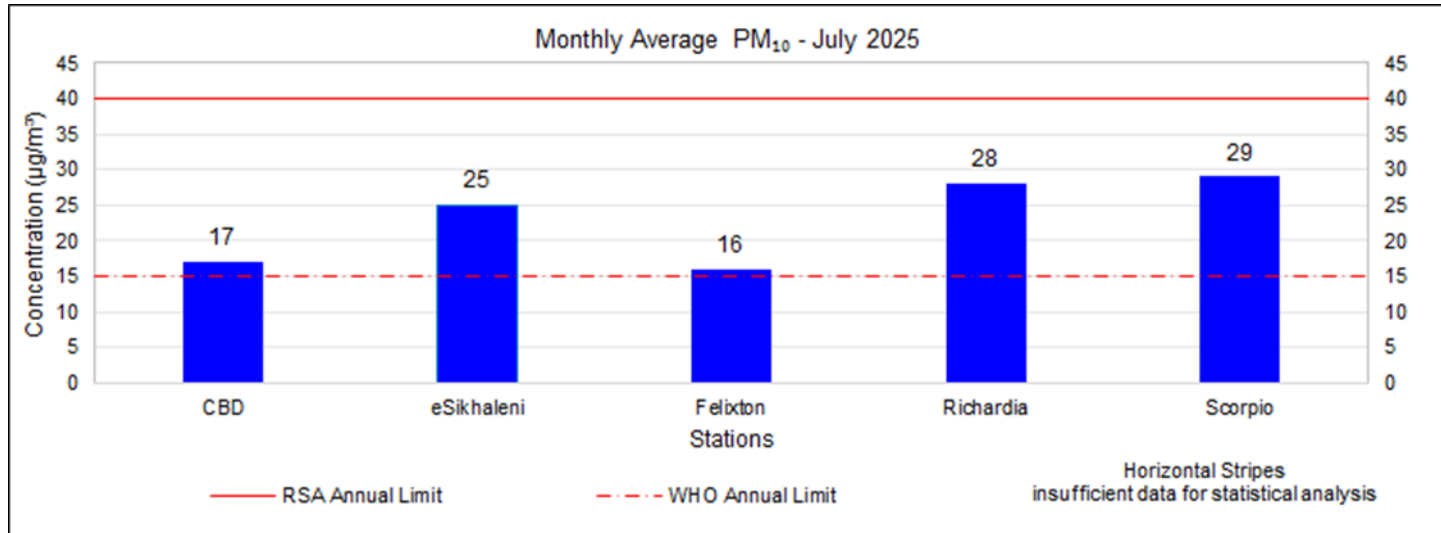
Complaints

DISTRIBUTION



PM

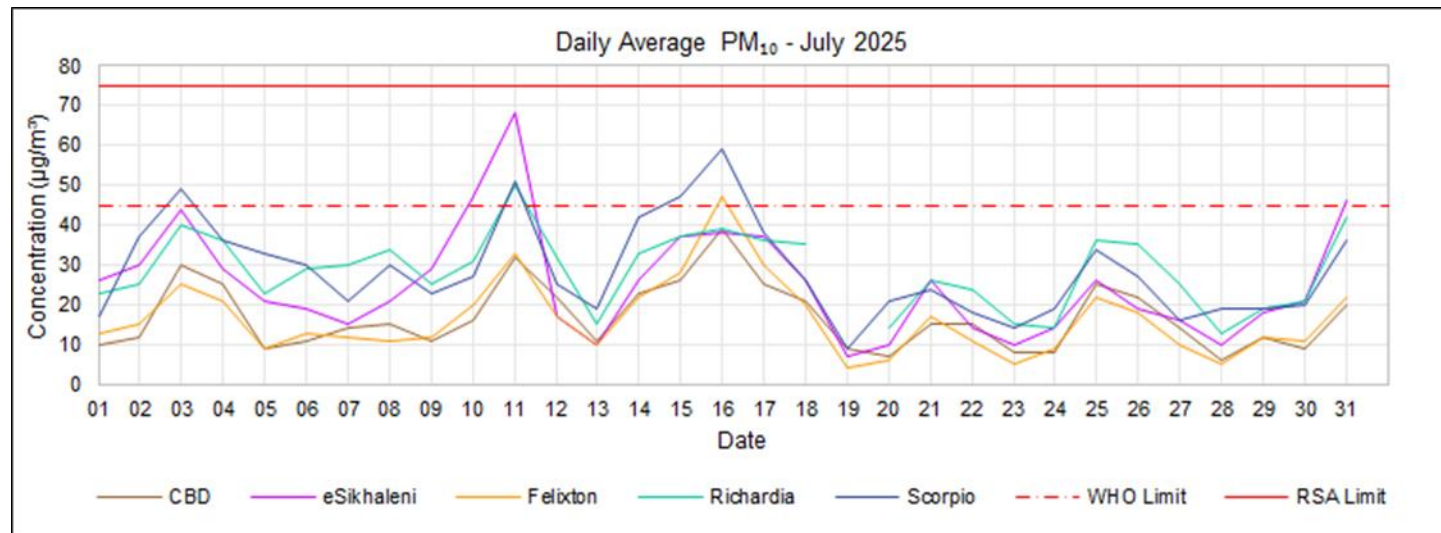
MONTHLY



PM₁₀

24-HOUR

PM ₁₀ Daily WHO Limit (45 µg/m ³)		9
No response required		9
eSikhaleni		3
None		3
Felixton		1
None		1
Richardia		1
None		1
Scorpio		4
None		4



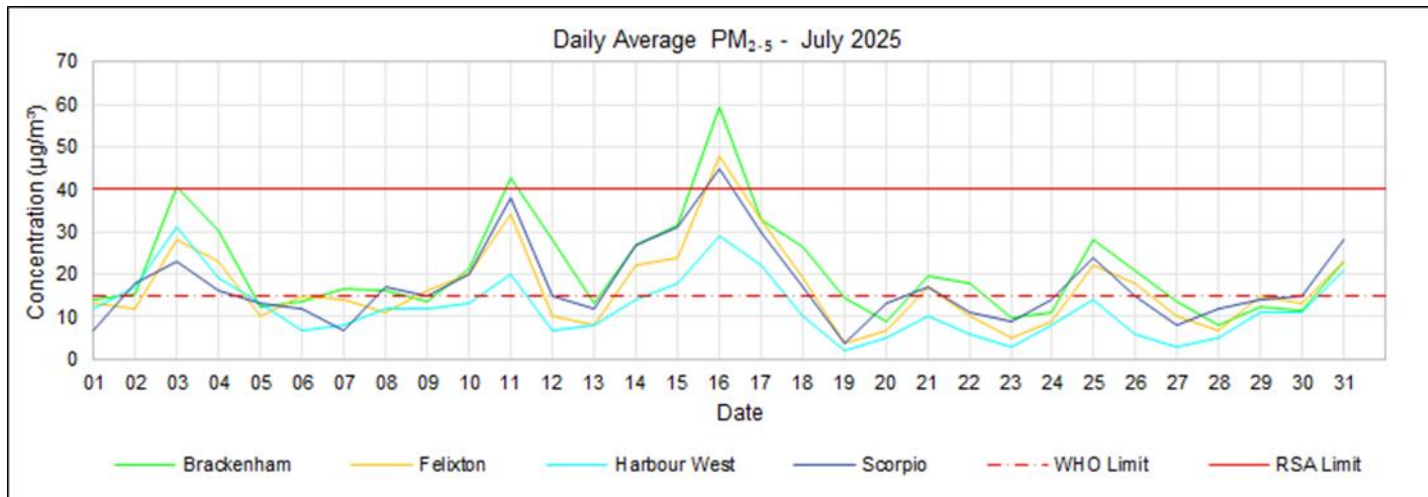
Missing Data (PM₁₀)

- Richardia (Station) – Power failures, data invalidation (1 day/s with <80% data capture, 19 July 2025).

PM_{2.5}

24-HOUR

PM _{2.5} Daily RSA Limit (40 µg/m ³)		5
Industry response required		1
Brackenham		1
Responded: Mondi		1
ZFPA		1
Brackenham		1
Controlled burns		1
Cane fires		3
Brackenham		1
Cane fires		1
Felixton		1
Cane fires		1
Scorpio		1
Cane fires		1
PM_{2.5} Daily WHO Limit (15 µg/m³)		54
No response required		54
Brackenham		18
None		18
Felixton		14
None		14
Scorpio		14
None		14
Harbour West		8
None		8



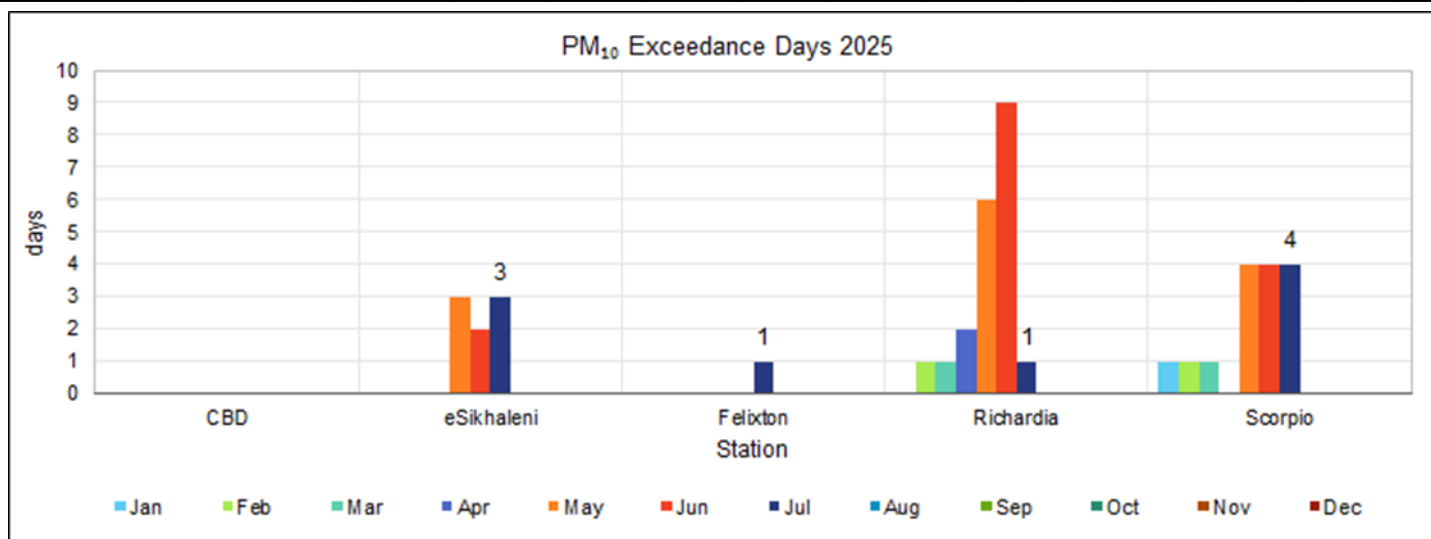
Missing Data (PM_{2.5}):

- None.

PM₁₀

EXCEEDANCE SUMMARY

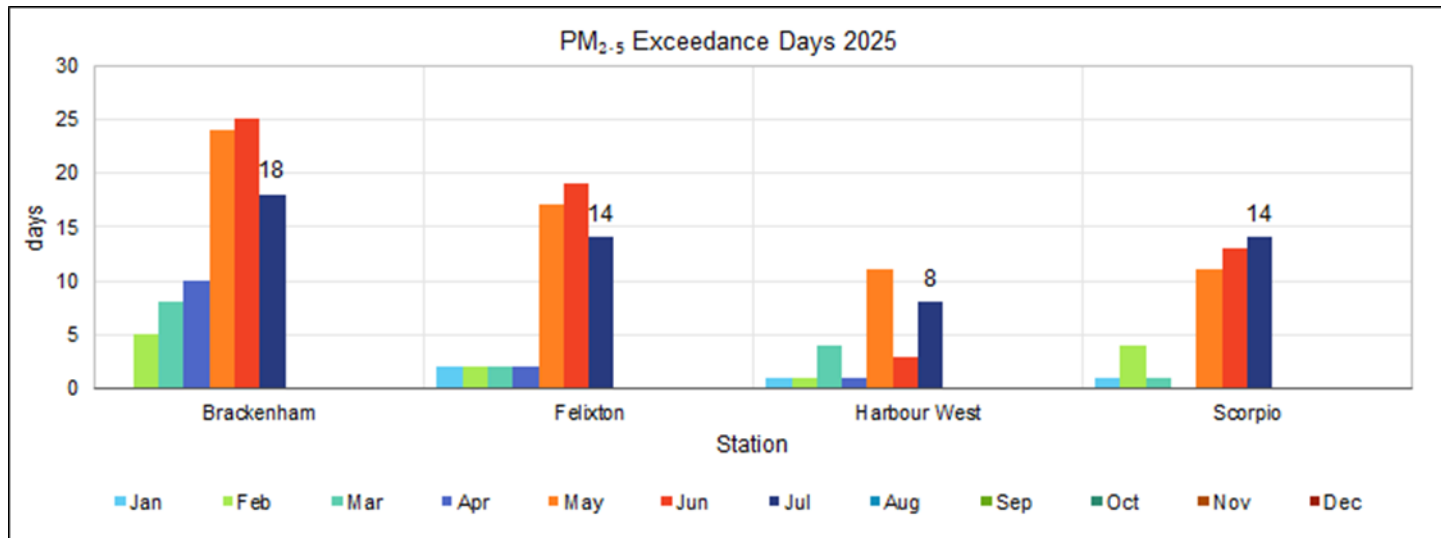
2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM₁₀ Daily RSA Limit (75 µg/m³)													
Brackenhams	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	1	-	-	-	-	-	-	1
Scorpio	-	-	-	-	-	-	-	-	-	-	-	-	0
PM₁₀ Daily WHO Limit (45 µg/m³)													
Brackenhams	-	-	-	-	-	-	-	-	-	-	-	-	0
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	3	2	3	-	-	-	-	-	8
Felixton	-	-	-	-	-	-	1	-	-	-	-	-	1
Richardia	-	1	1	2	6	9	1	-	-	-	-	-	20
Scorpio	1	1	1	-	4	4	4	-	-	-	-	-	15



PM_{2.5}

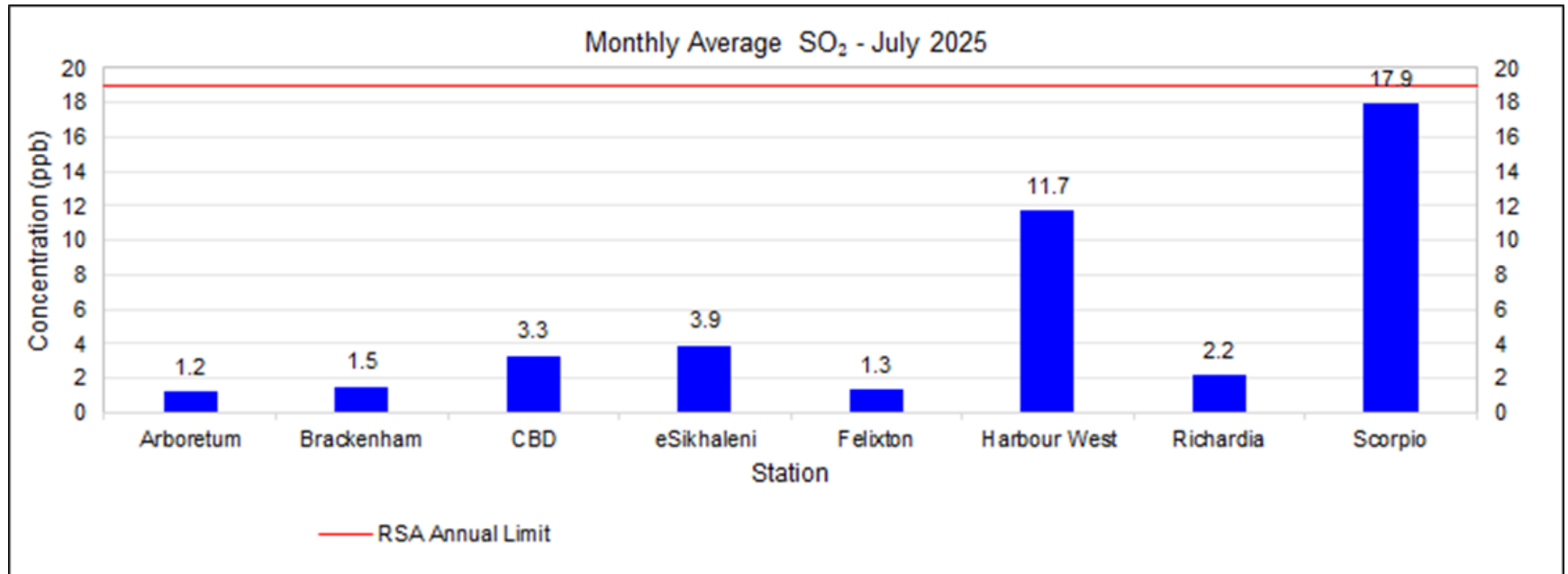
EXCEEDANCE SUMMARY

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM_{2.5} Daily RSA Limit (40 µg/m³)													
Brackenhams	-	-	-	-	2	-	3	-	-	-	-	-	5
Felixton	-	-	-	-	-	-	1	-	-	-	-	-	1
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	-	-	-	-	-	-	1	-	-	-	-	-	1
PM_{2.5} Daily WHO Limit (15 µg/m³)													
Brackenhams	-	5	8	10	24	25	18	-	-	-	-	-	90
Felixton	2	2	2	2	17	19	14	-	-	-	-	-	58
Harbour West	1	1	4	1	11	3	7	-	-	-	-	-	28
Scorpio	1	4	1	-	11	14	14	-	-	-	-	-	45



SO₂

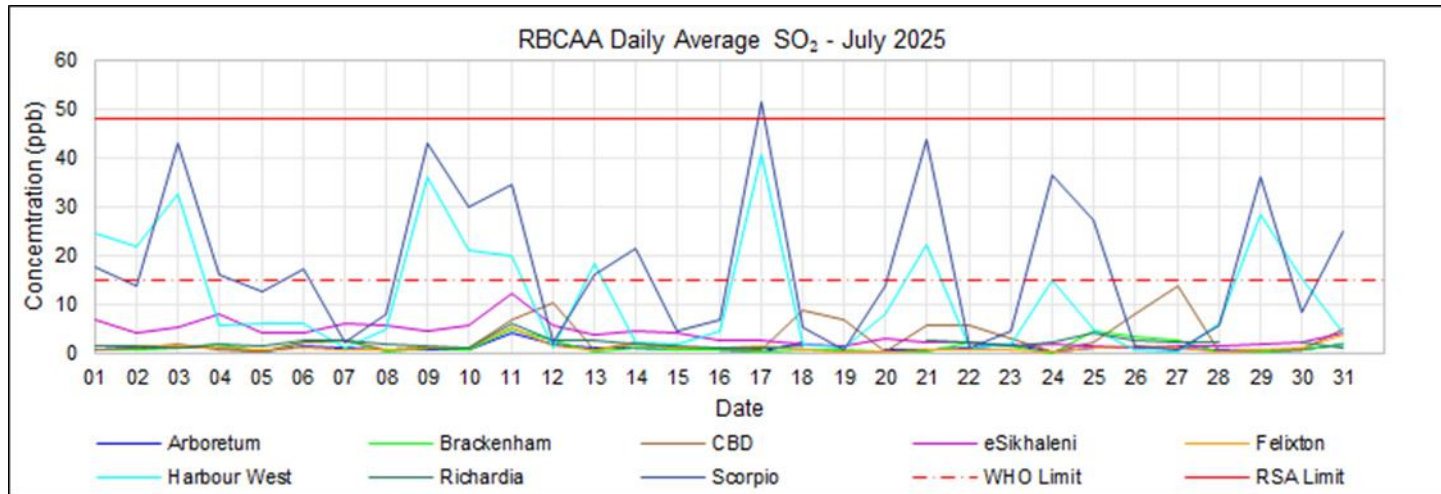
MONTHLY



SO₂

24-HOUR

SO ₂ Daily RSA Limit (48 ppb)		1
South32 - meteorology		1
Scorpio		1
RBCAA allocation		1
SO ₂ Daily WHO Limit (15 ppb)		26
No response required		26
Harbour West		11
None		11
Scorpio		15
None		15



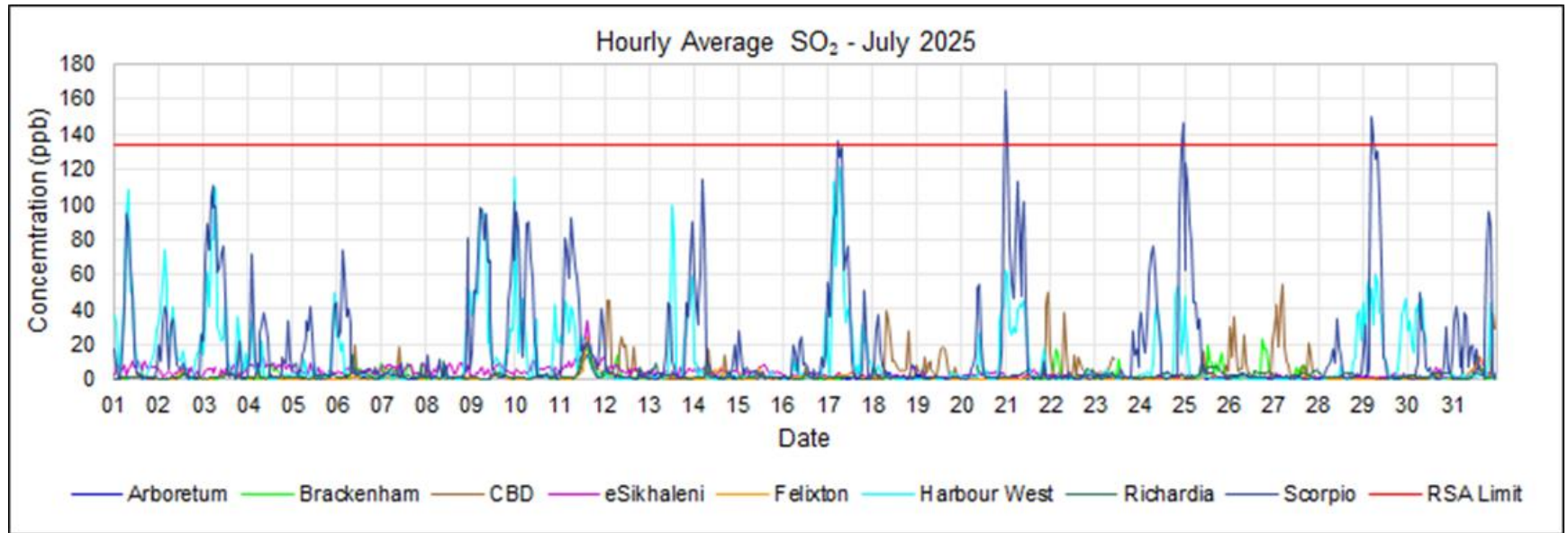
Missing Data (SO₂):

- Arboretum (Station) – Power failures, data invalidation (1 day/s with <80% data capture, 19 July 2025).
- Richardia (Station) – Power failures, instrument failure, data invalidation (3 day/s with <80% data capture, 18-19, 29 July 2025).

SO₂

1-HOUR

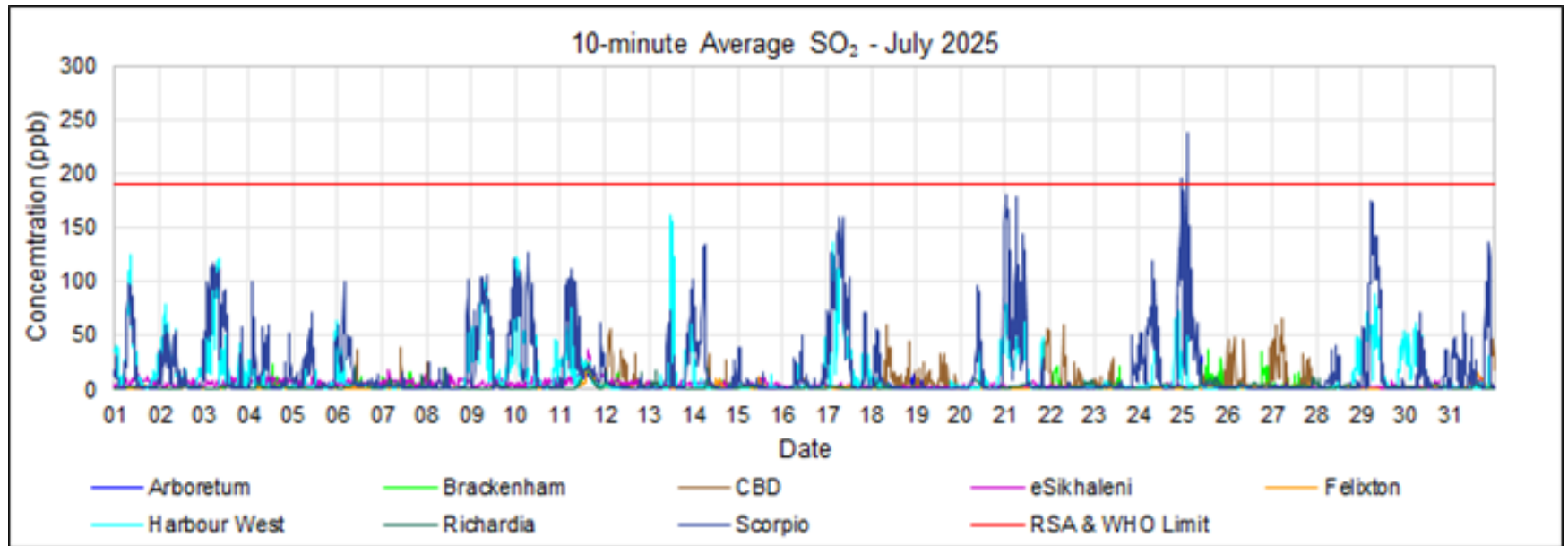
SO ₂ Hourly RSA Limit (134 ppb)		6
South32 - meteorology		6
Scorpio		6
RBCAA allocation		6



SO₂

10-MINUTE

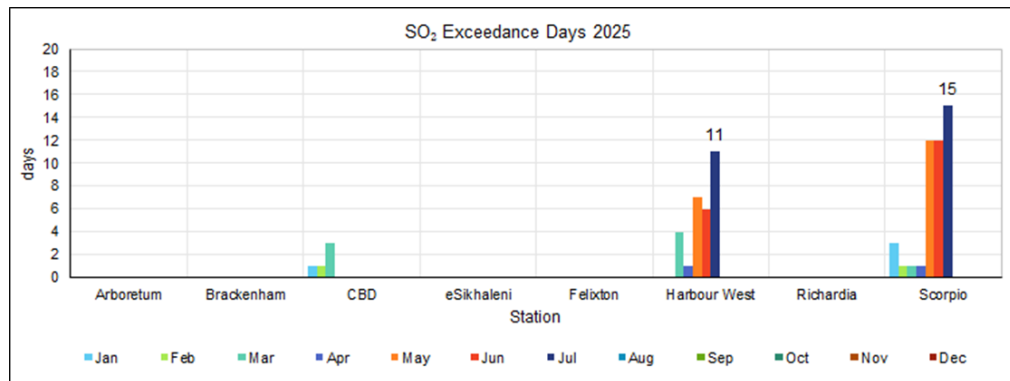
SO ₂ 10-minute RSA & WHO Limit (191 ppb)		3
South32 - meteorology		3
Scorpio		3
RBCAA allocation		3



SO₂

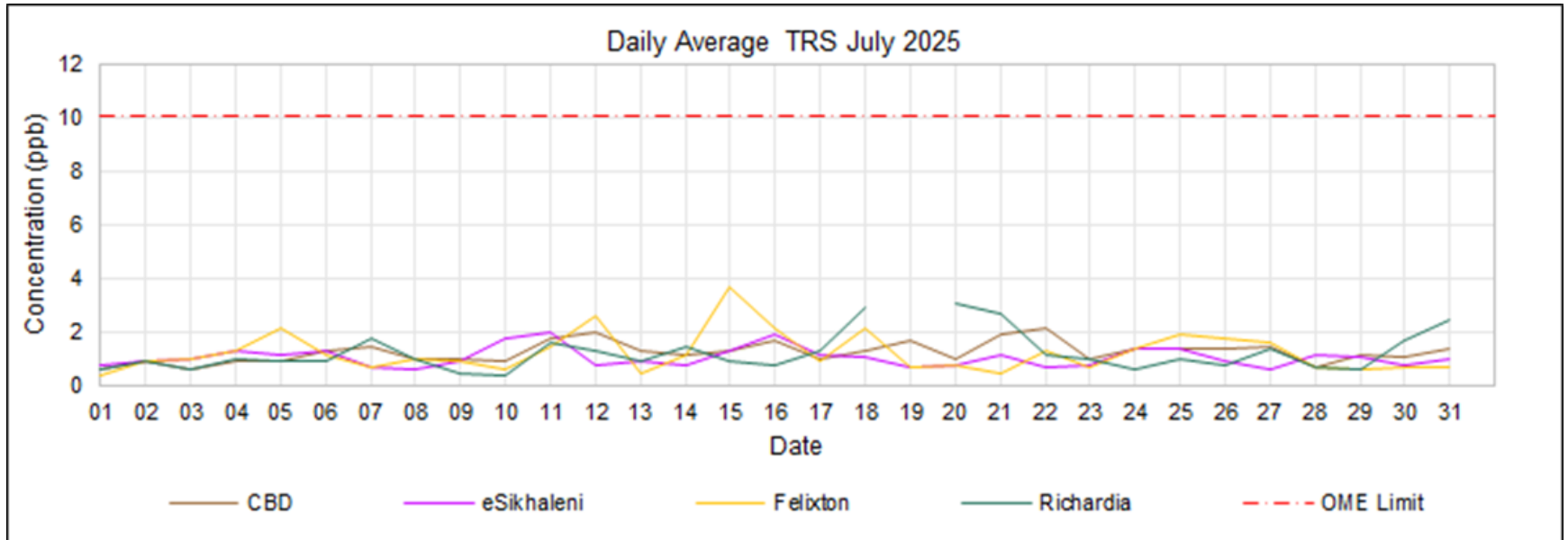
EXCEEDANCE SUMMARY

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO₂ Daily RSA Limit (48 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	1	-	-	-	2	2	1	-	-	-	-	-	6
SO₂ Daily WHO Limit (15 ppb)													
CBD	1	1	3	-	-	-	-	-	-	-	-	-	5
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	4	1	7	6	11	-	-	-	-	-	29
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	3	-	1	1	12	11	15	-	-	-	-	-	43
SO₂ Hourly RSA Limit (134 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	1	-	-	-	-	-	-	-	-	-	-	-	1
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	4	-	3	-	1	-	2	-	-	-	-	-	10



TRS

24-HOUR



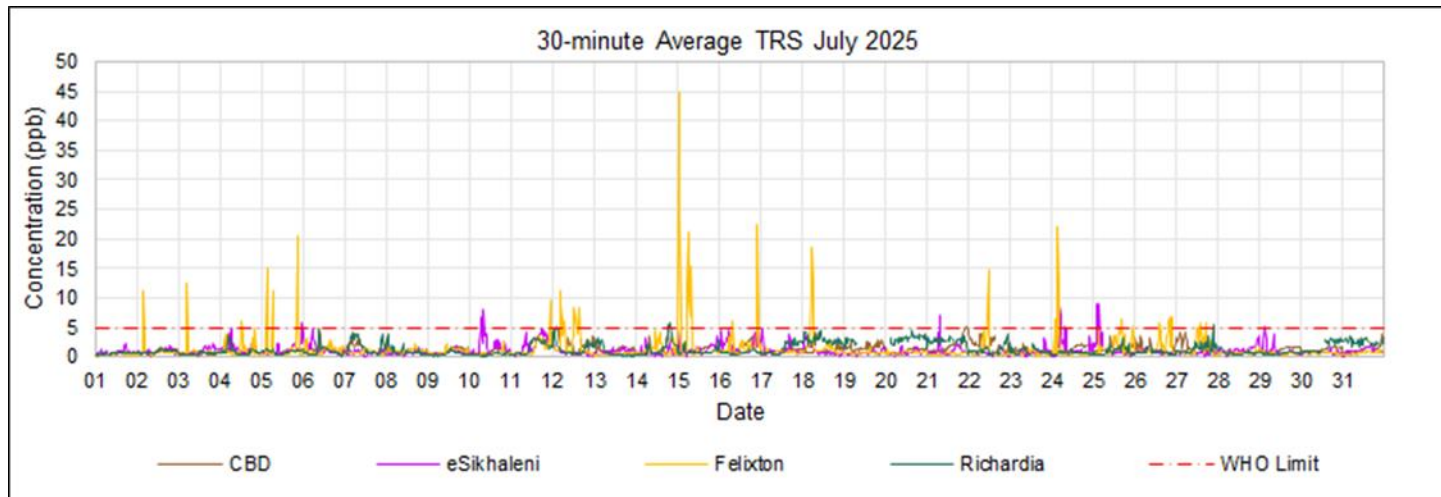
Missing Data (TRS):

- Richardia (Station) – Power failures, data invalidation (1 day/s with <80% data capture, 19 July 2025).

TRS

30-MINUTE

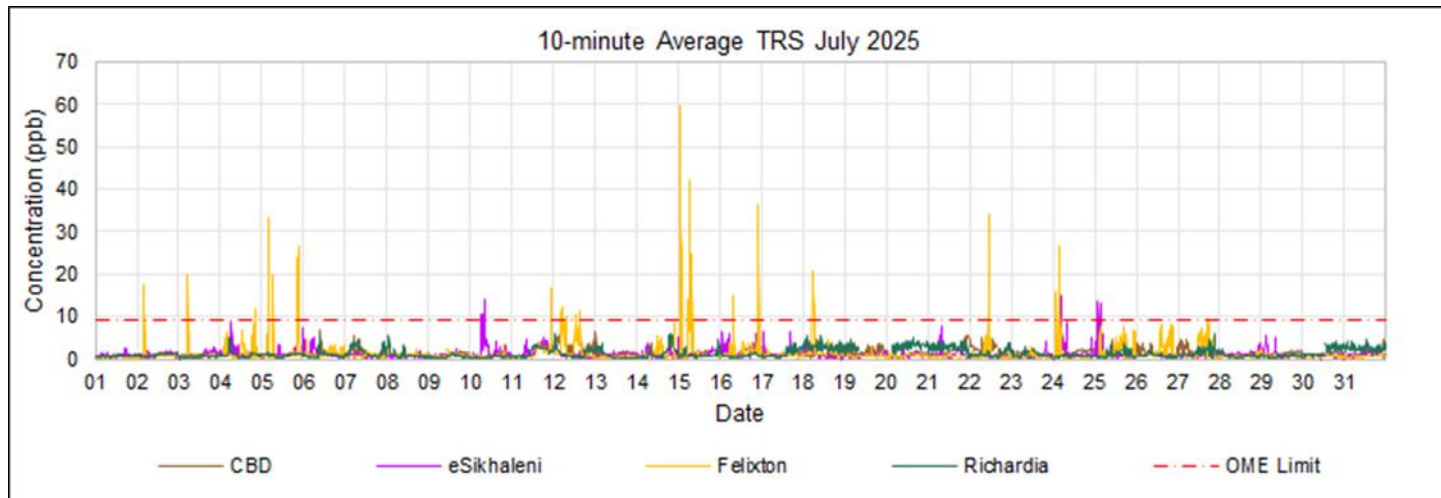
TRS 30-minute WHO H ₂ S Limit (5.0 ppb)		68
Mondi		23
CBD		3
Source of TRS unknown		1
Meteorology - Source not identified		2
eSikhaleni		8
H ₂ S released from the effluent plant		1
Methanol system		6
Meteorology - Source not identified		1
Felixton		9
White liquor (WWL) tank overflow		9
Richardia		3
Secondary Effluent Treatment Plant		2
Methanol system (possible cause)		1



TRS

10-MINUTE

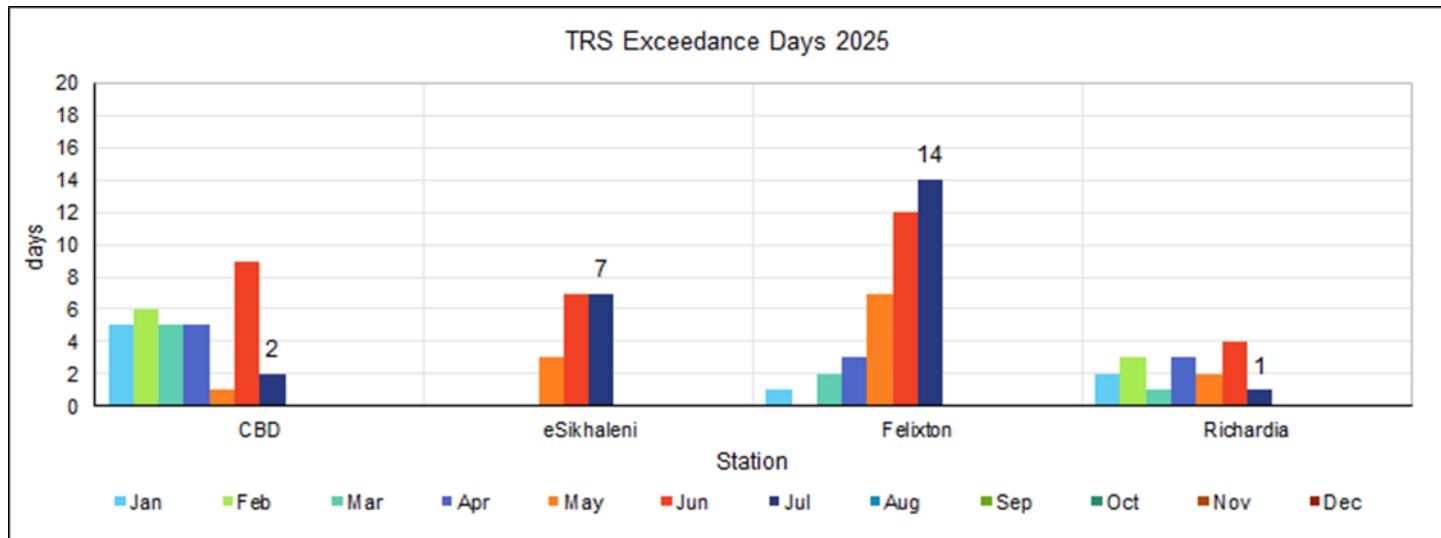
TRS 10-minute OME Limit (9.3 ppb)		74
Mondi		23
eSikhaleni		5
Methanol system		5
Felixton		18
White liquor (WWL) tank overflow		18
THS		38
Felixton		38
smuts clarifiers		3
Desludging		14
High sulphite in the clarifier water		5
Desludging process		16
THS + Mondi (Meteorology)		13
eSikhaleni		3
Desludging		3
Felixton		10
Desludging		10



TRS

EXCEEDANCE SUMMARY

2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
TRS 24-hr-OME Limit (10.1 ppb)													
CBD	1	-	-	-	-	-	-	-	-	-	-	-	1
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
TRS 30-minute WHO H₂S Limit (5.0 ppb)													
CBD	34	25	15	10	2	41	3	-	-	-	-	-	130
eSikhaleni	-	-	-	-	4	19	11	-	-	-	-	-	34
Felixton	1	-	8	7	11	31	51	-	-	-	-	-	109
Richardia	5	7	3	7	3	16	3	-	-	-	-	-	44
TRS 10-minute OME Limit (9.3 ppb)													
CBD	53	10	8	7	-	27	-	-	-	-	-	-	105
eSikhaleni	-	-	-	-	4	11	8	-	-	-	-	-	23
Felixton	2	-	4	10	10	43	66	-	-	-	-	-	135
Richardia	3	1	-	9	-	13	-	-	-	-	-	-	26



Air Quality

SUMMARY

Determining air quality concerning pollutants measured and impacts simulated is based on comparison to and exceedances of short-term (10-minute, 30-minute, 1-hour and 24-hour averages) and long-term (monthly and annual averages) targets, guidelines, and standards.

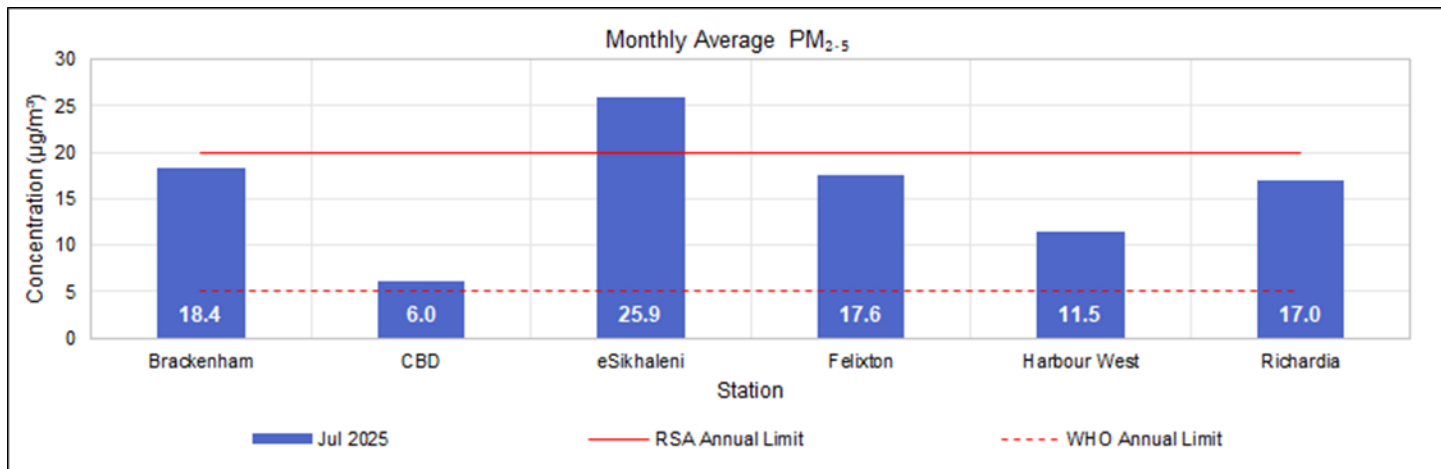
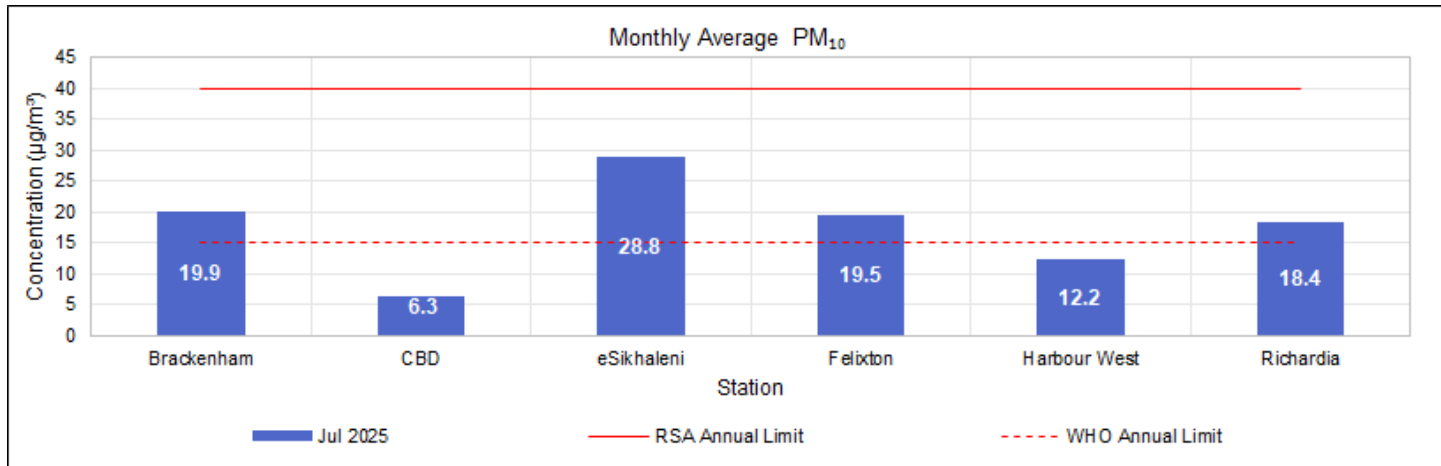
AIMS concludes that during July 2025, based on the following:

- ▶ Measured long-term average concentrations (chronic exposure) and WHO health guidelines of concern are:
 - PM₁₀ at CBD, eSikhaleni, Felixton, Richardia and Scorpio - all points monitored.
 - PM_{2.5} at Brackenham, Felixton, Harbour West and Scorpio - all points monitored.

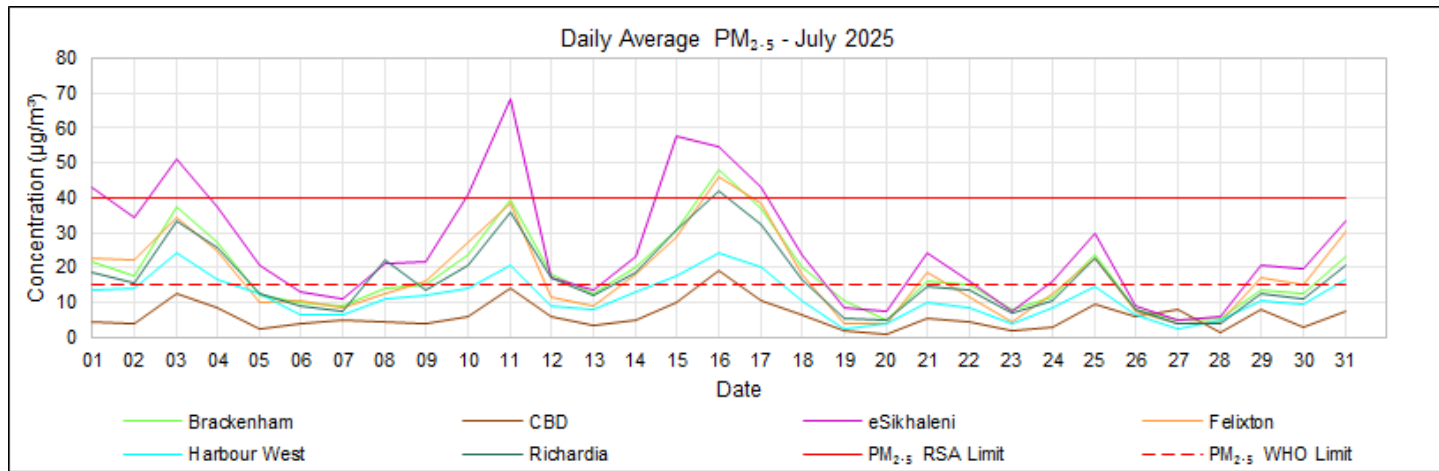
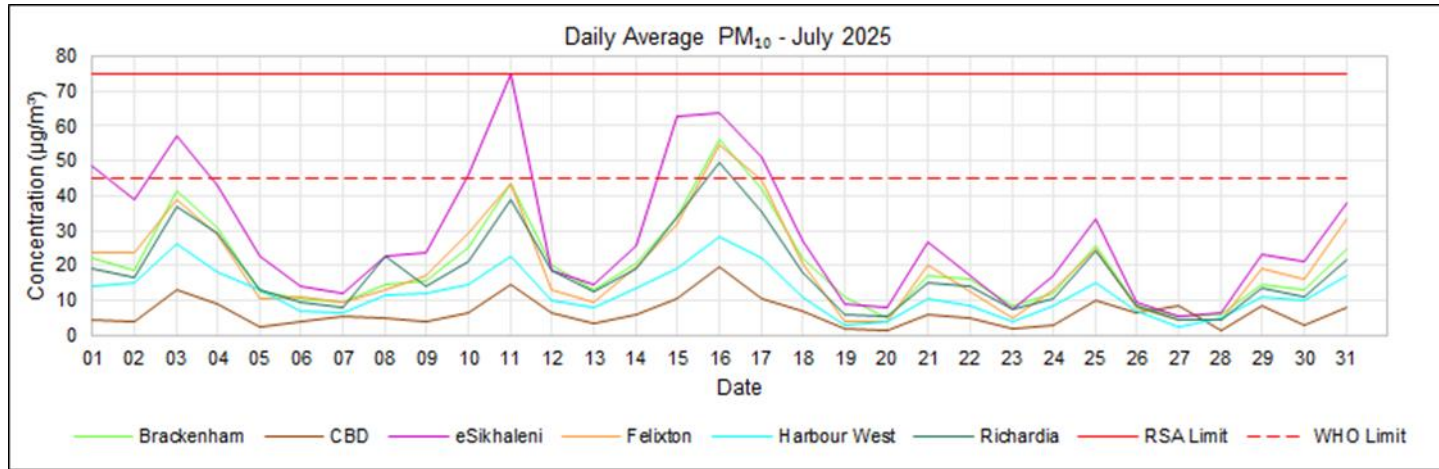
- ▶ Measured short-term average concentrations (acute exposure) and the WHO health guidelines, ambient air quality was compromised by:
 - PM₁₀ at eSikhaleni, Felixton, Richardia and Scorpio.
 - PM_{2.5} at Brackenham, Felixton, Harbour West and Scorpio - all points monitored.
 - SO₂ at Harbour West and Scorpio; and
 - TRS at CBD, eSikhaleni, Felixton and Richardia - all points monitored.

AirGradient PM

MONTHLY

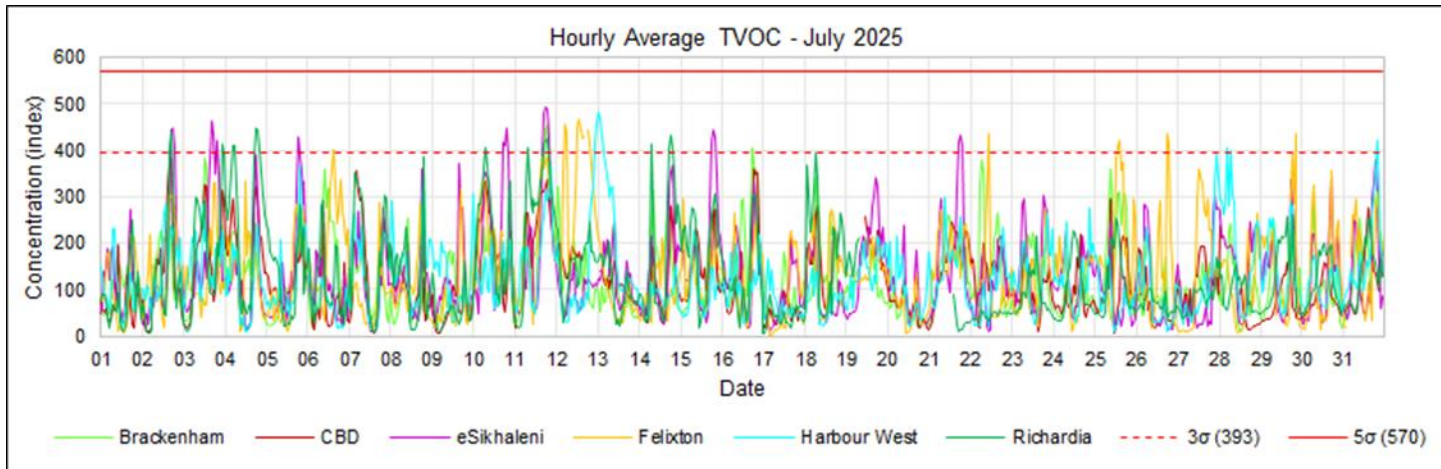
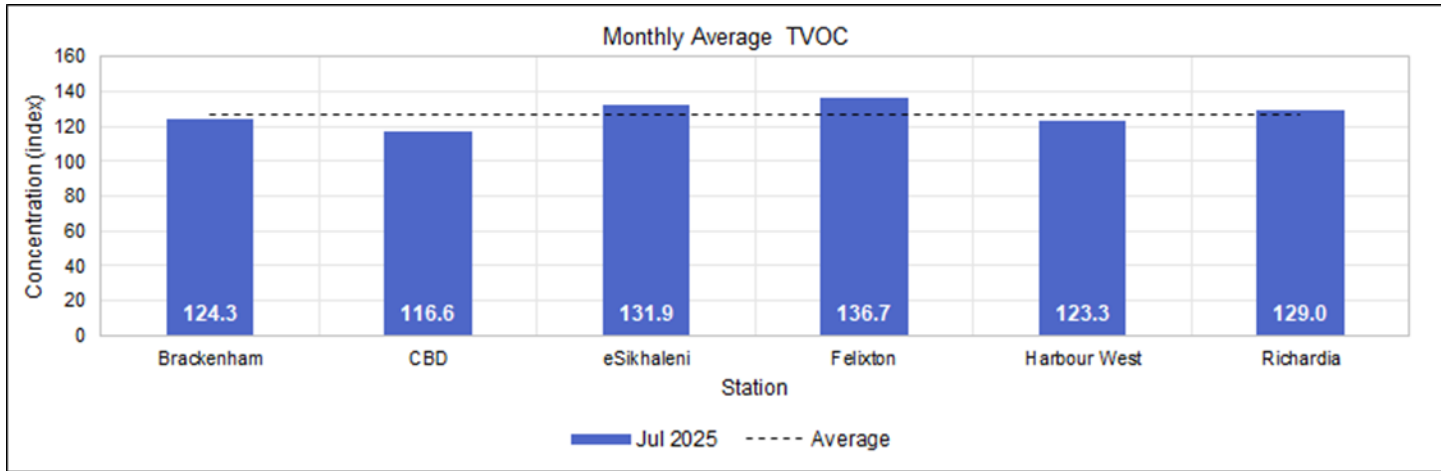


AirGradient PM DAILY



AirGradient TVOC

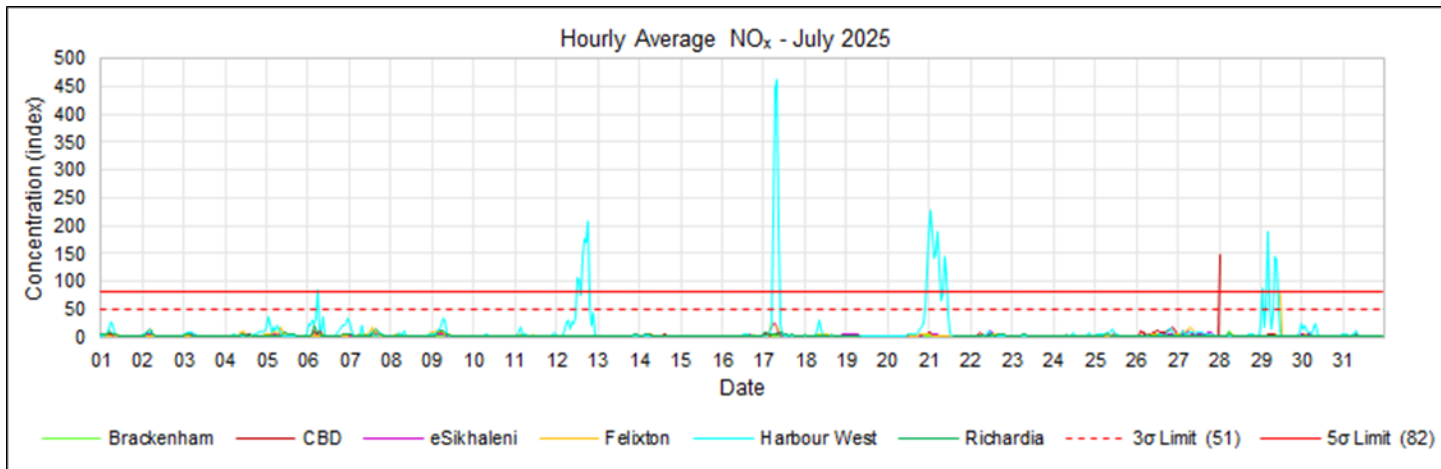
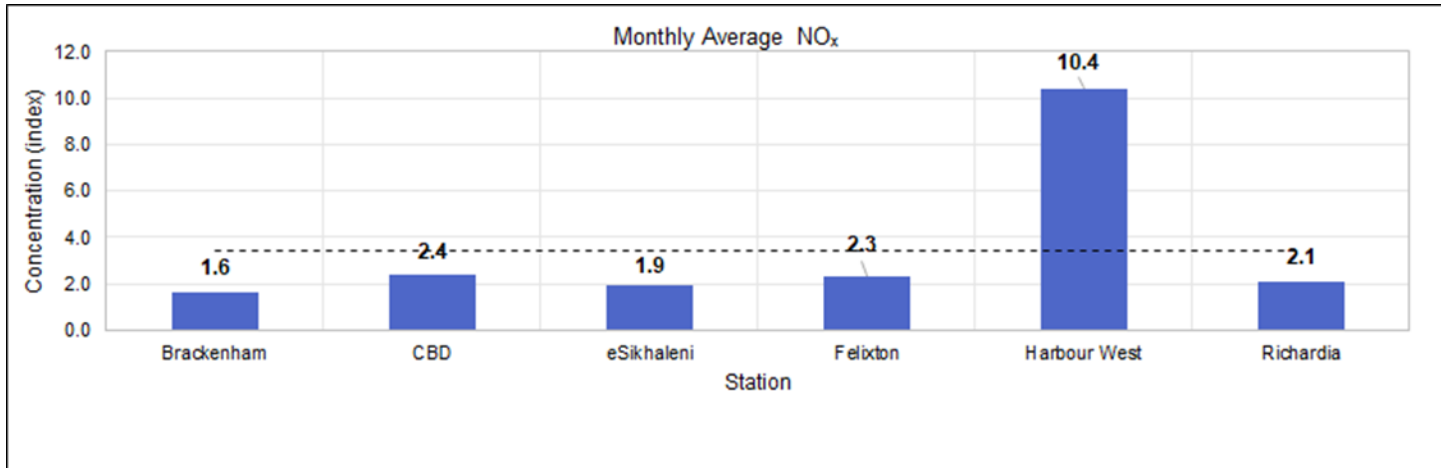
MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	3	0	20	17	9	18

AirGradient NO_x

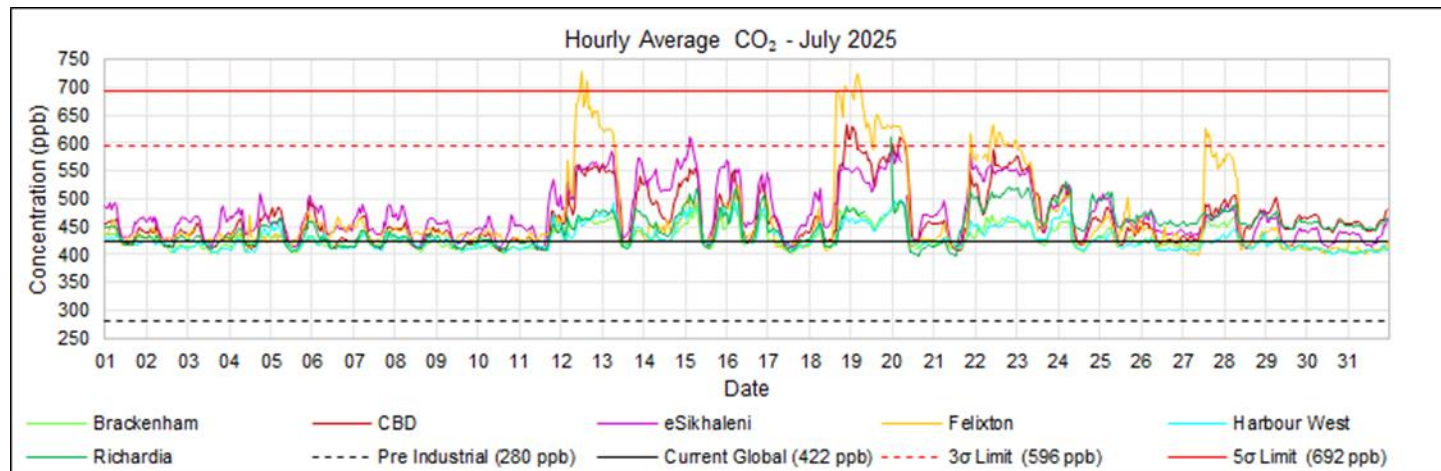
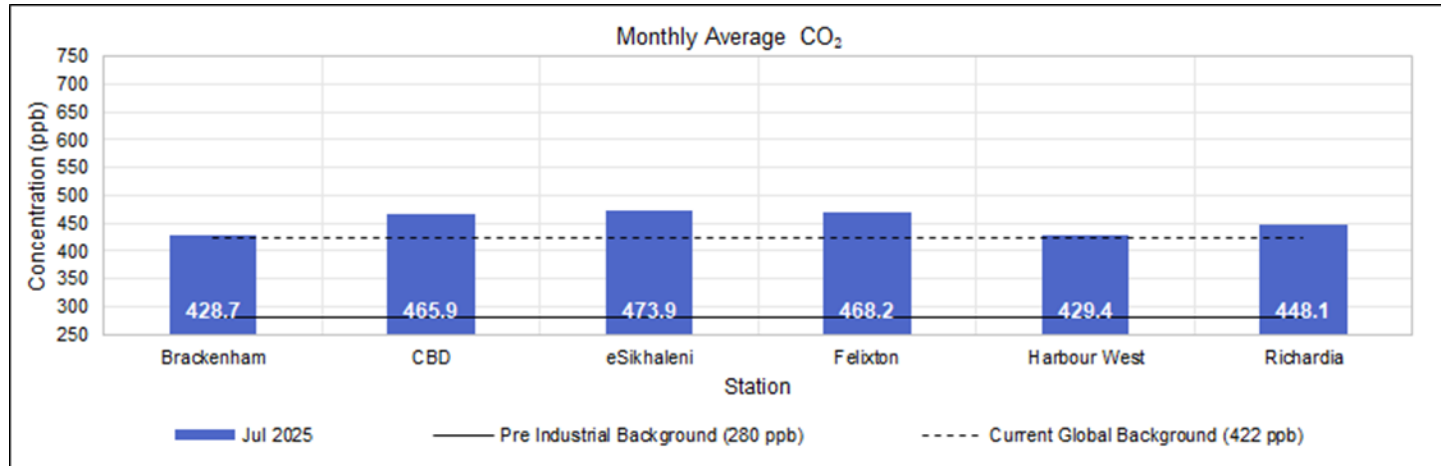
MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
5σ	0	1	0	0	25	0

AirGradient CO₂

MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
5σ	0	0	0	10	0	0

Thank you

- Lance Coetzee
- lance@airimpact.co.za

- Francois Nel
- francois@airimpact.co.za

- Alicia Garnica
- alicia@airimpact.co.za

