

RBCAA Technical Feedback – March 2024

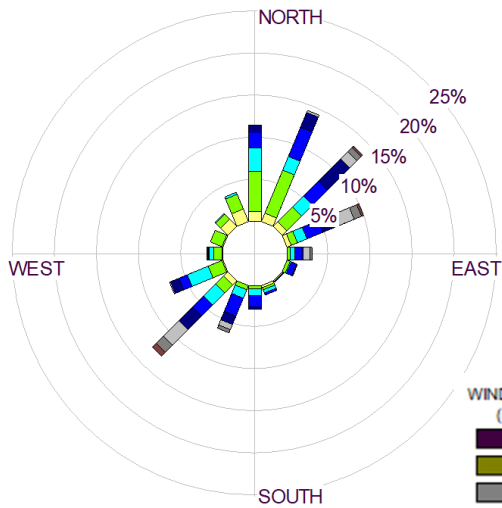


Meteorology

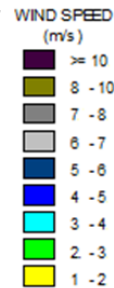
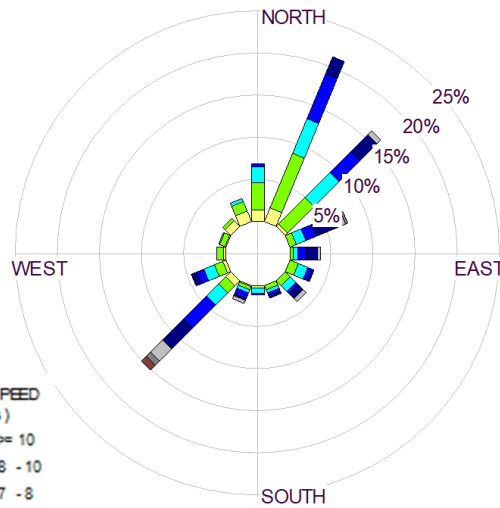
WIND



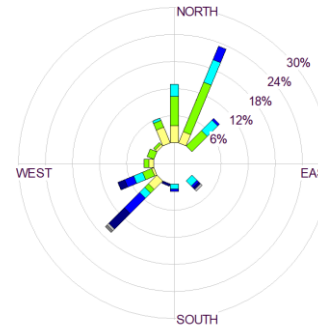
March 2024 Wind Rose



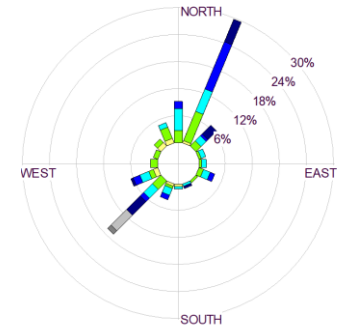
March 2025 Wind Rose



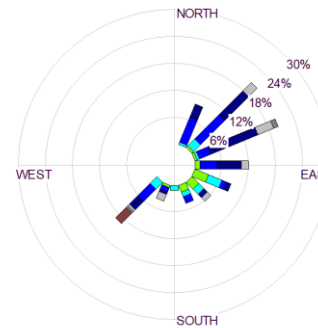
00:00 – 05:59



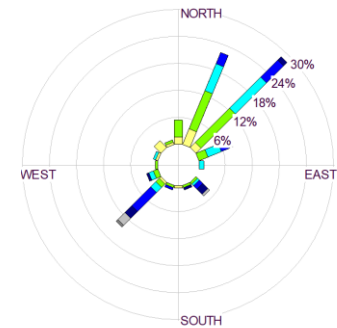
06:00 – 11:59



12:00 – 17:59



18:00 – 23:59

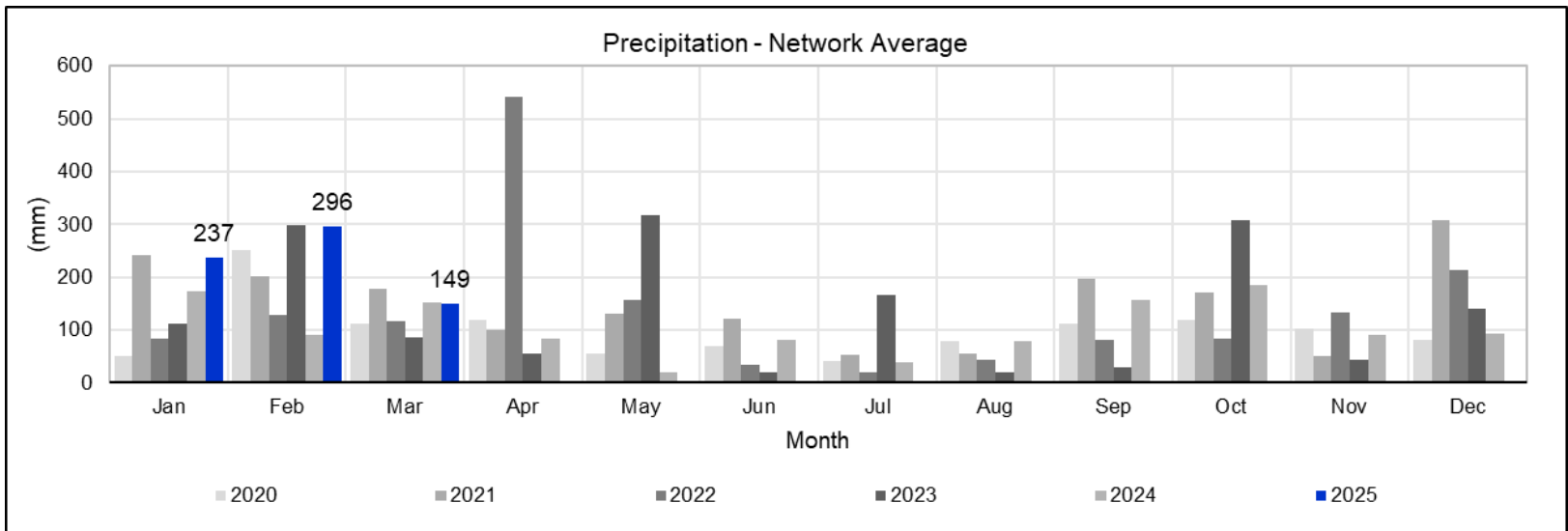
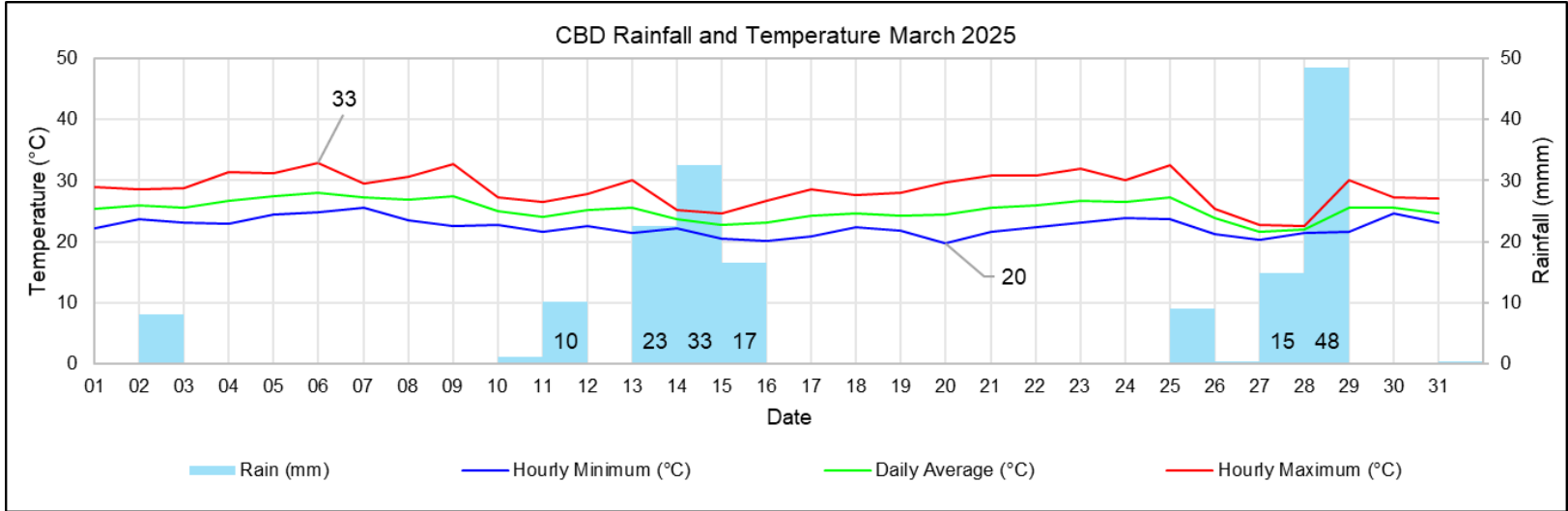


Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
March 2024	3.5 m/s	N-ENE	53%	SSW-WSW	28%	0%	92%
March 2025	3.4 m/s	N-ENE	56%	SW	16%	0%	92%
00:00-05:59	2.7 m/s	NNW-NE	59%	SW-WSW	29%	0%	85%
06:00-11:59	3.3 m/s	N-NE	49%	SW-WSW	25%	0%	91%
12:00-17:59	4.4 m/s	NNE-ESE	72%	SW	13%	0%	98%
18:00-23:59	2.9 m/s	NNE-ESE	63%	SW	15%	0%	94%

Meteorology

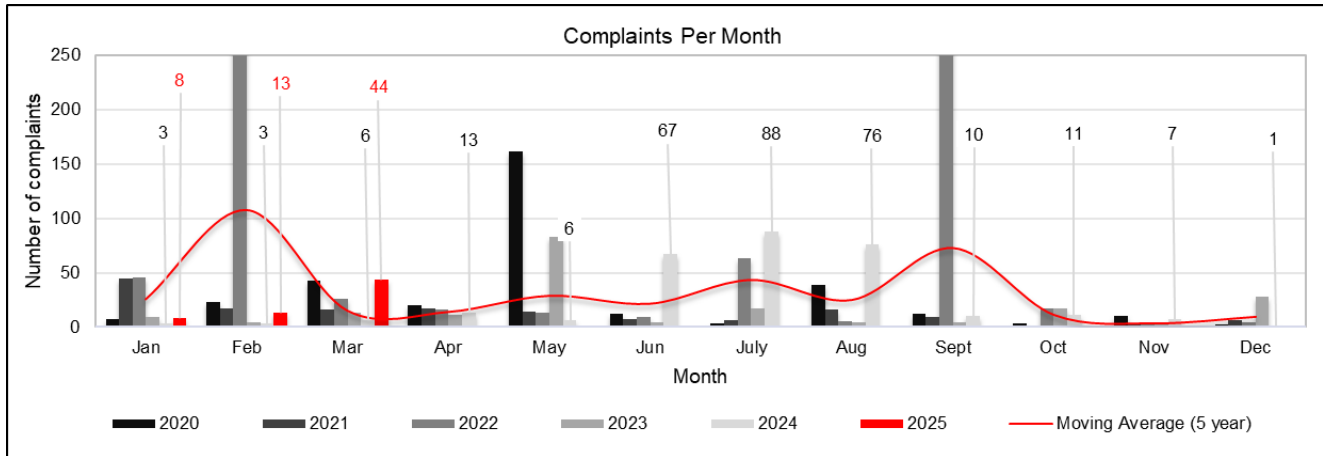
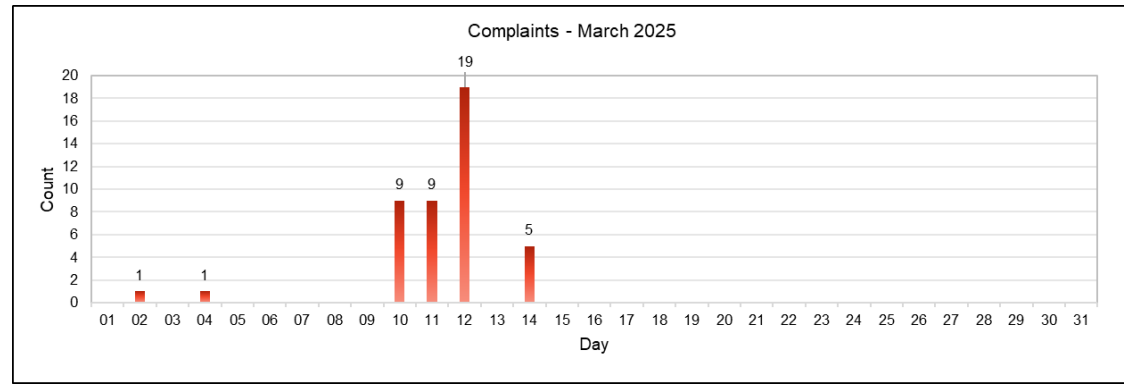
Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)	Average (mm)
March 2025	165	148	145	137	149

RAINFALL AND TEMPERATURE

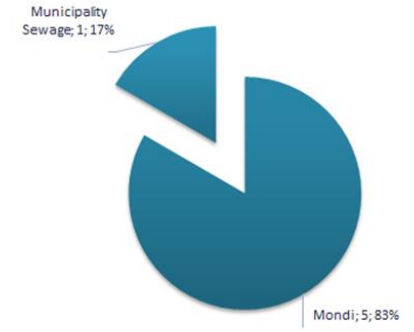


Complaints

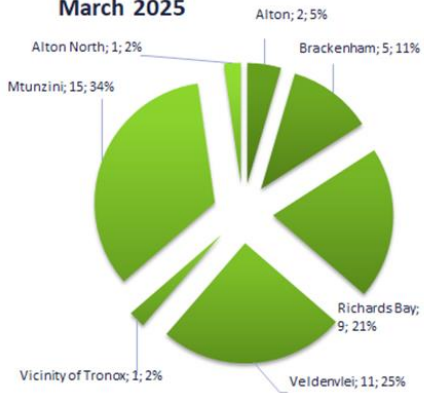
DISTRIBUTION



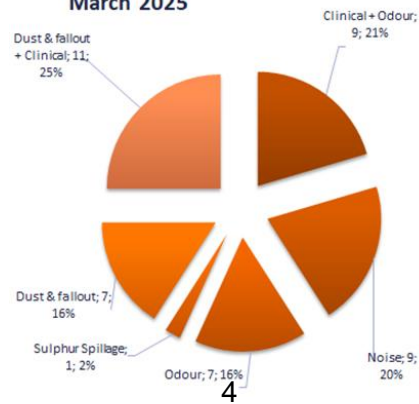
Complaints - Source March 2024



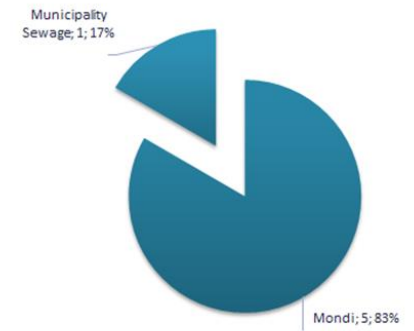
Complaints - Region March 2025



Complaints - Type March 2025

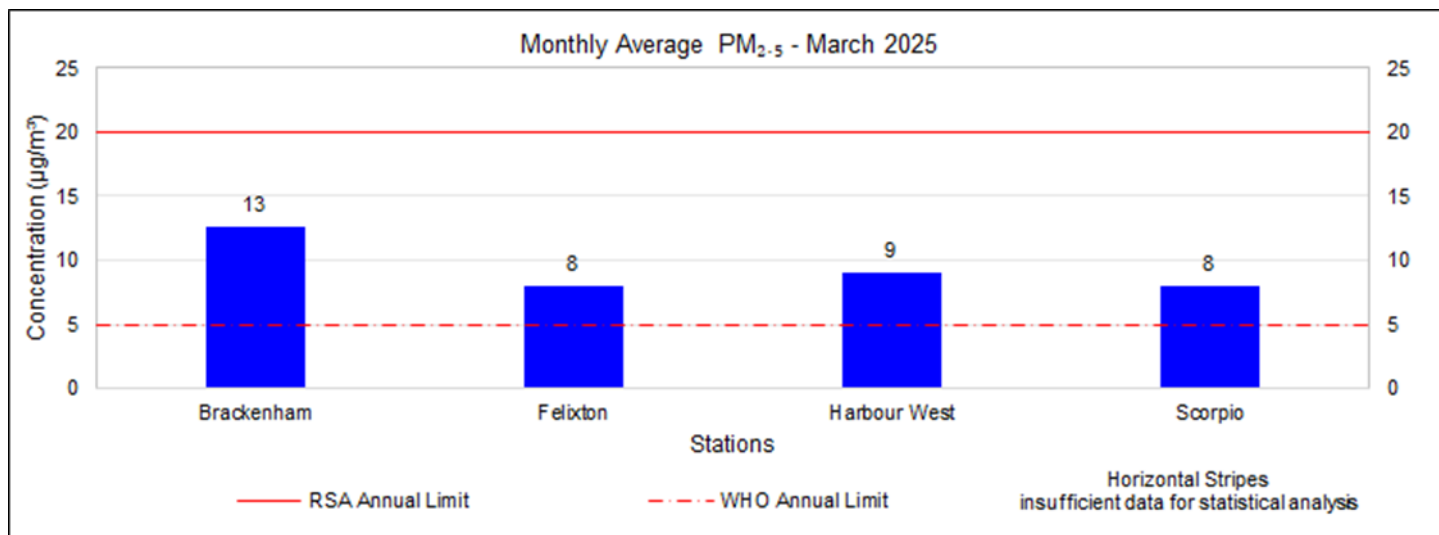
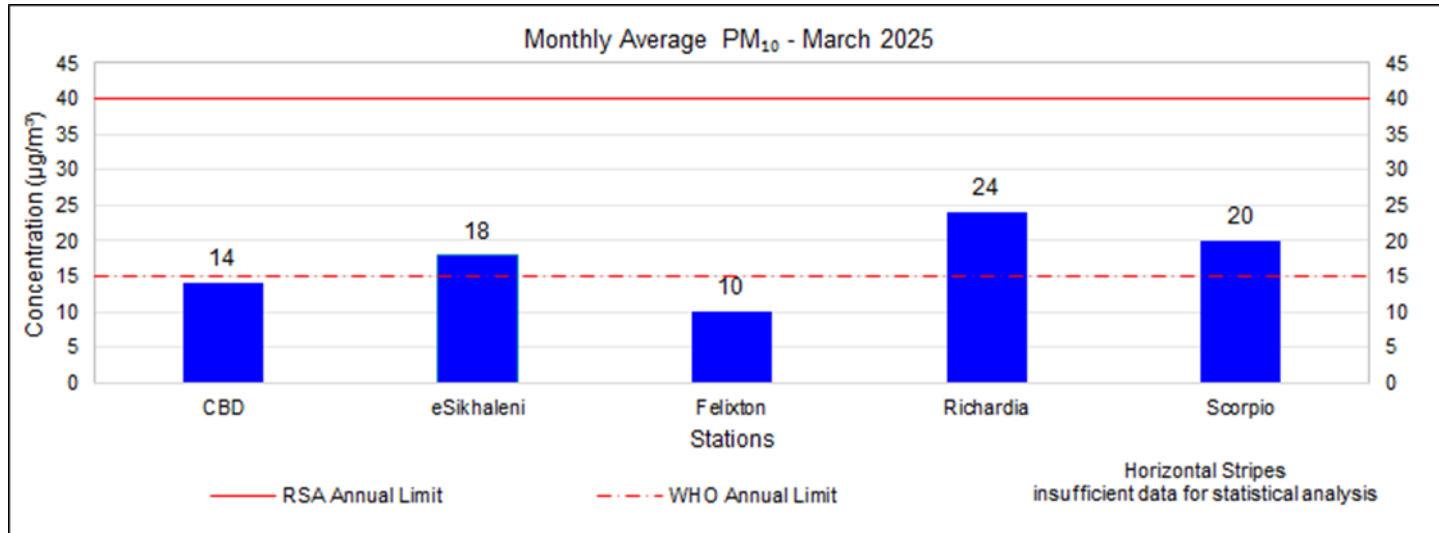


Complaints - Source March 2024



PM

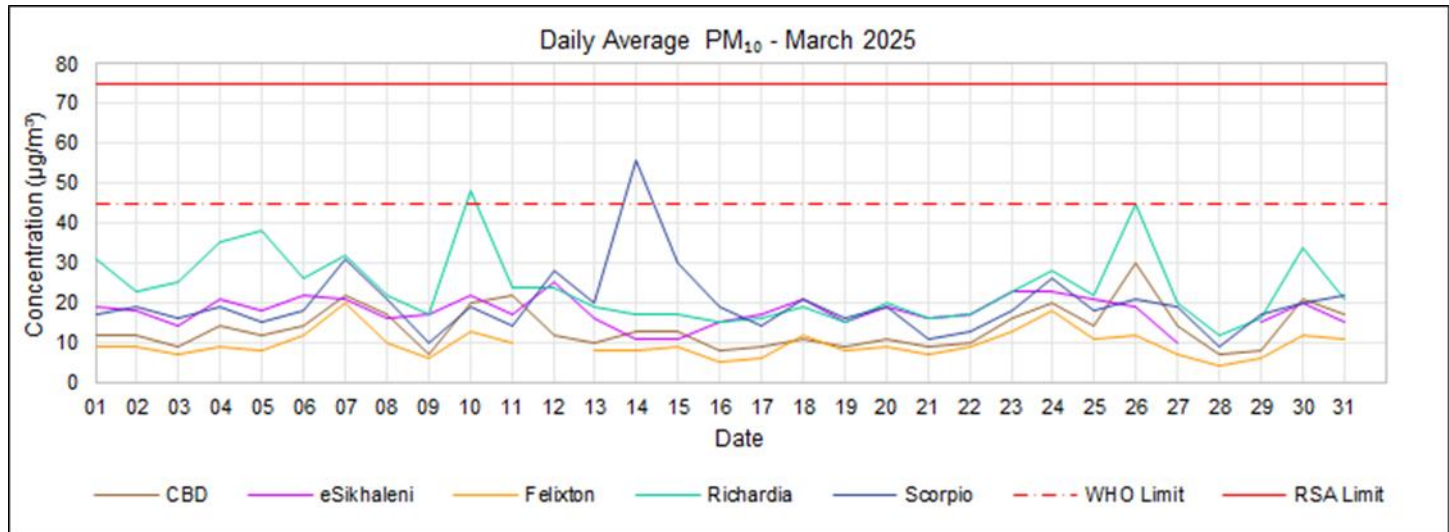
MONTHLY



PM₁₀

24-HOUR

March: PM ₁₀ Daily WHO Limit (45 µg/m ³)	2
No response required	2
Richardia	1
No comment	1
Scorpio	1
No comment	1



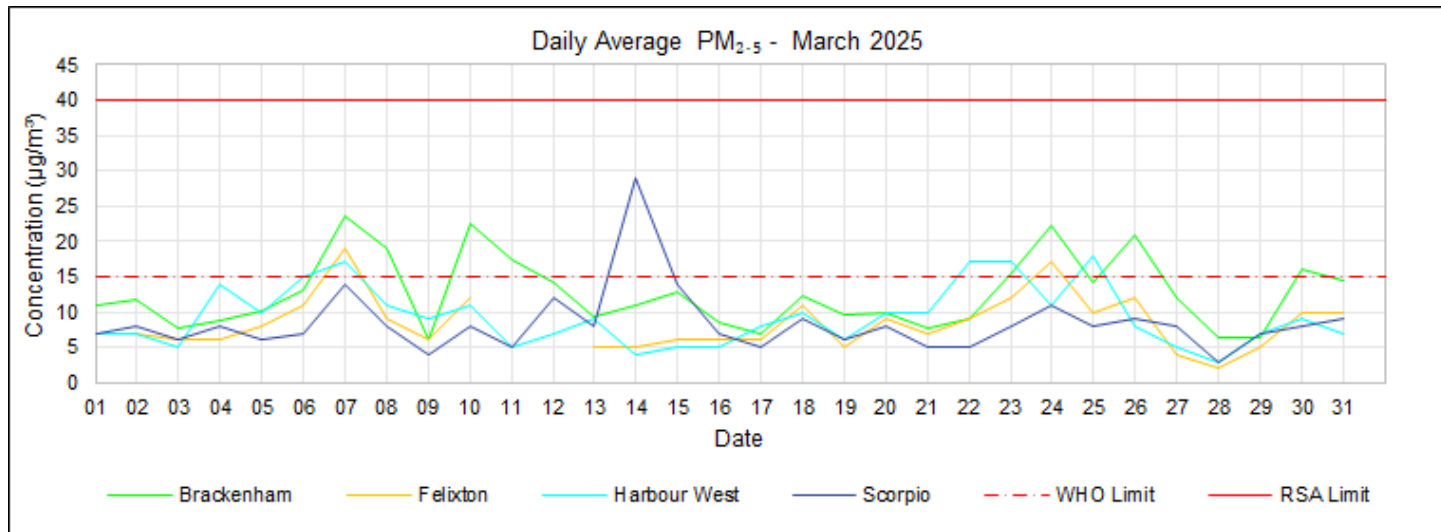
Missing Data (PM₁₀)

- eSikhaleni - power outages, data invalidation (1 day with <80% data capture 28 March 2025).
- Felixton ES1 - power outages, data invalidation (1 day with <80% data capture 12 March 2025).

PM_{2.5}

24-HOUR

March: PM _{2.5} Daily WHO Limit (15 µg/m ³)	15
No response required	15
Brackenhams	8
No comment	8
Felixton	2
No comment	2
Scorpio	1
No comment	1
Harbour West	4
No comment	4

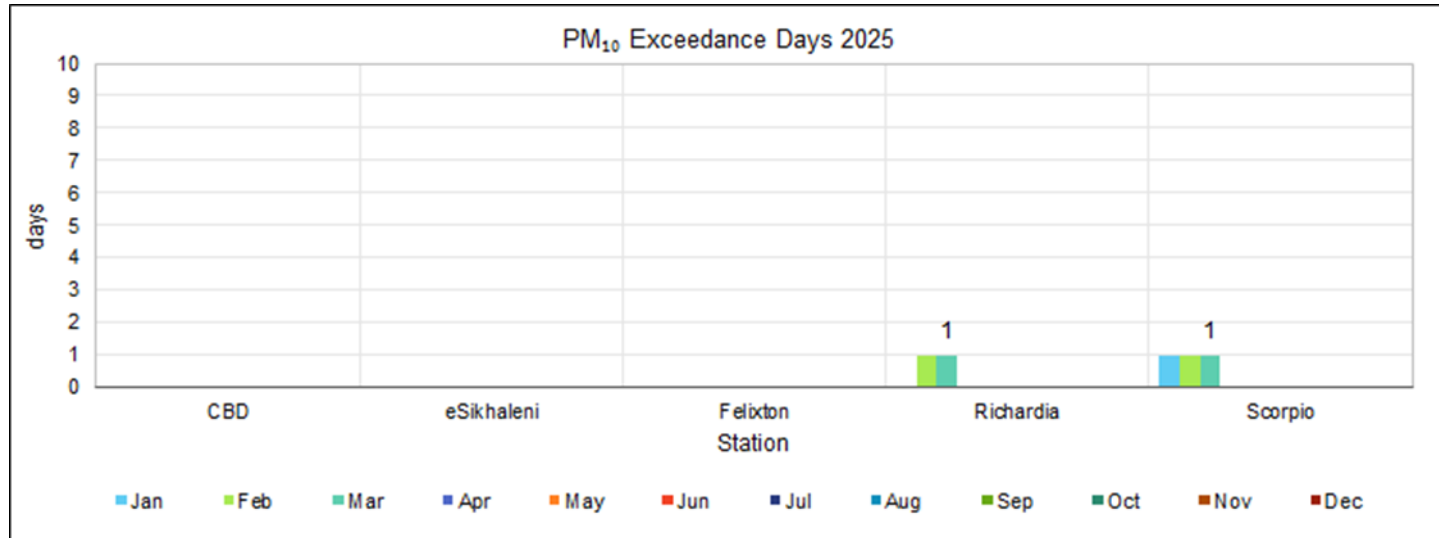


Missing Data (PM_{2.5}):

Felixton ES2 - power outages (2 days with <80% data capture 11-12 March 2025).

PM₁₀

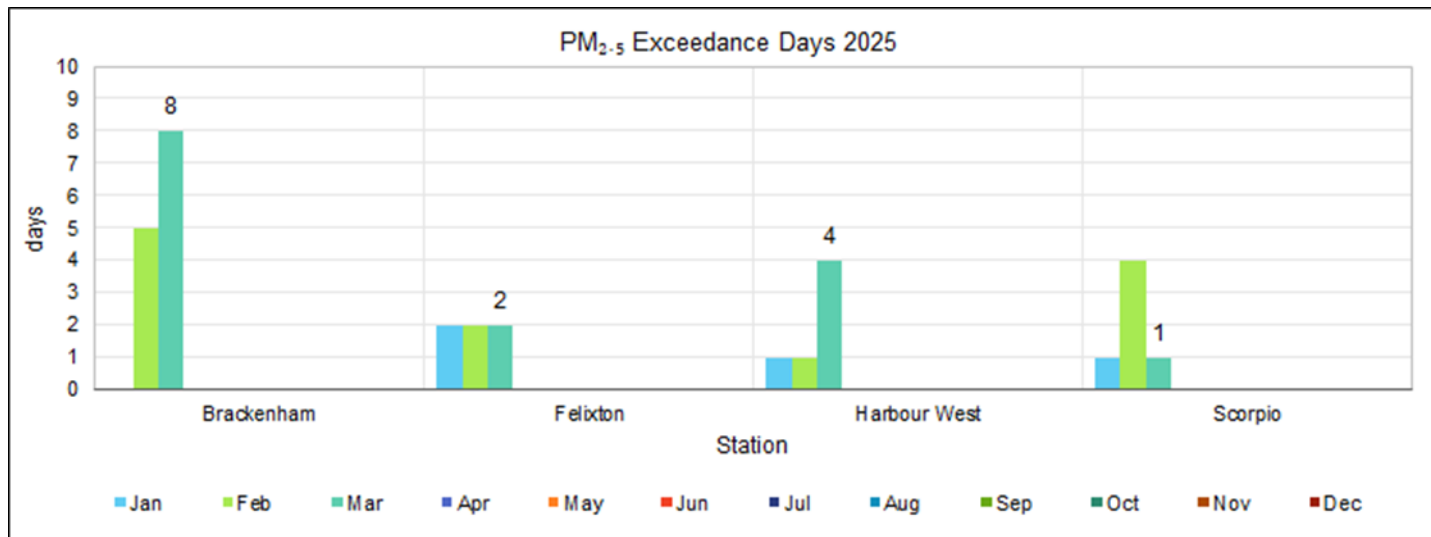
EXCEEDANCE DAYS



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

PM_{2.5}

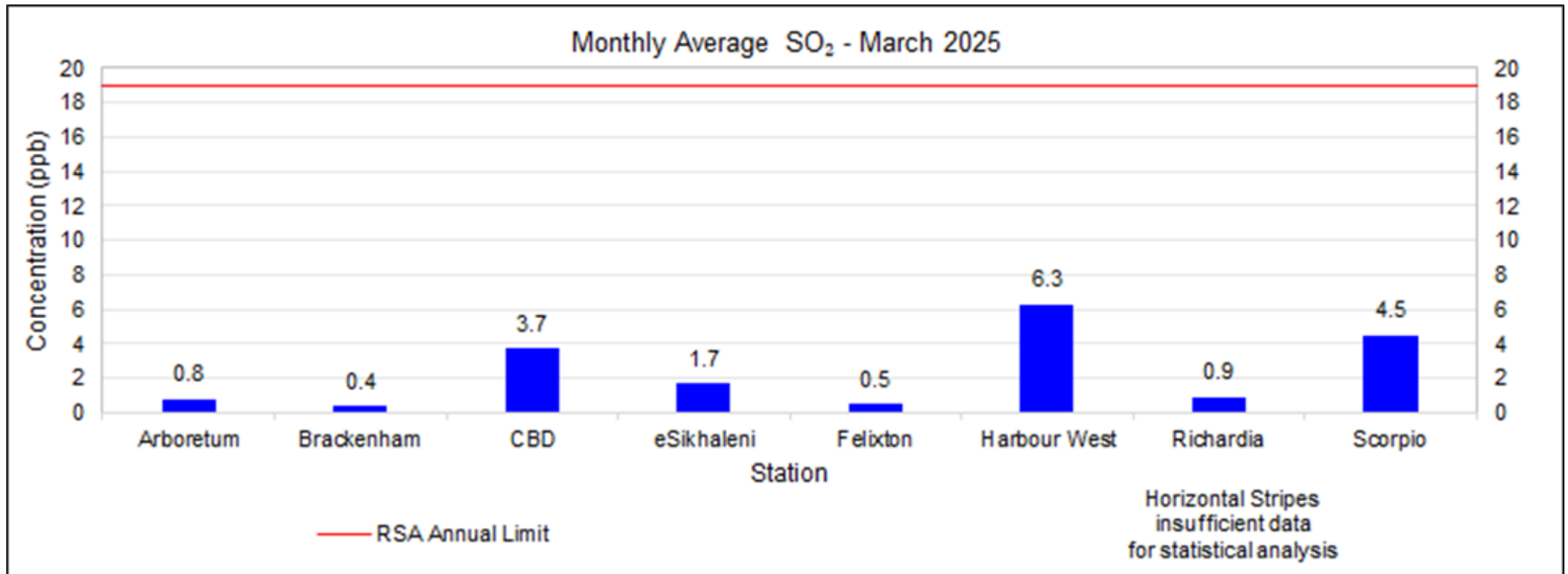
EXCEEDANCE DAYS



2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM_{2.5} Daily RSA Limit (40 µg/m³)													
Brackenheim	-	-	-	-	-	-	-	-	-	-	-	-	-
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	-
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	-
Scorpio	-	-	-	-	-	-	-	-	-	-	-	-	-
PM_{2.5} Daily WHO Limit (15 µg/m³)													
Brackenheim	-	5	8	-	-	-	-	-	-	-	-	-	13
Felixton	2	2	2	-	-	-	-	-	-	-	-	-	6
Harbour West	1	1	4	-	-	-	-	-	-	-	-	-	6
Scorpio	1	4	1	-	-	-	-	-	-	-	-	-	6

SO₂

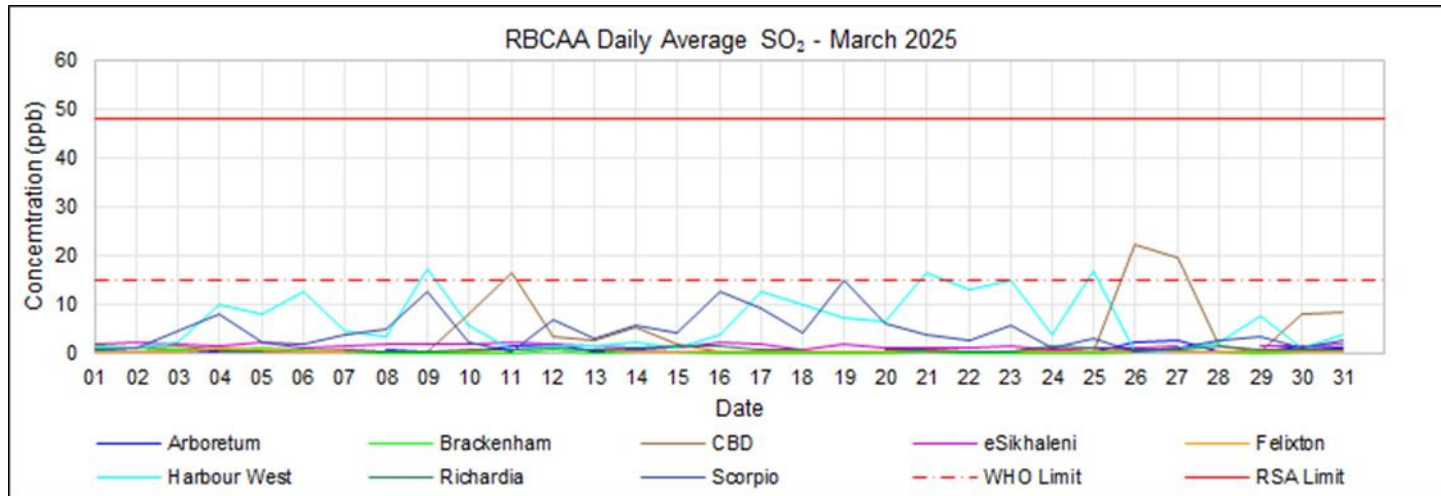
MONTHLY



SO₂

24-HOUR

March: SO ₂ Daily WHO Limit (15 ppb)		8
No response required		8
CBD		3
No comment		3
Harbour West		4
No comment		4
Scorpio		1
No comment		1

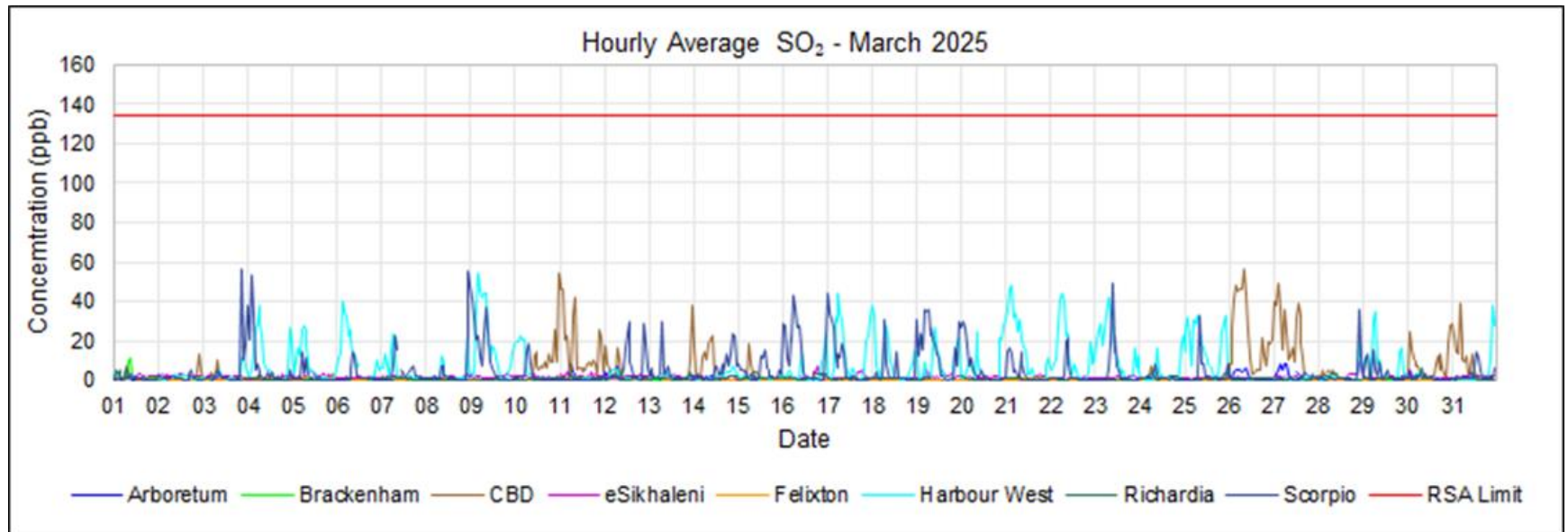


Missing Data (SO₂):

- Arboretum - power outages, data invalidation (1 day with <80% data capture 7 March 2025).
- CBD - power outages, data invalidation (2 days with <80% data capture 19-20 March 2025).
- eSikhaleni - power outages, data invalidation (1 day with <80% data capture 28 March 2025).
- Felixton - power outages, data invalidation (1 day with <80% data capture 12 March 2025).
- Richardia - power outages, unstable power supply, data invalidation (5 days with <80% data capture 1-3, 6, 19 March 2025)

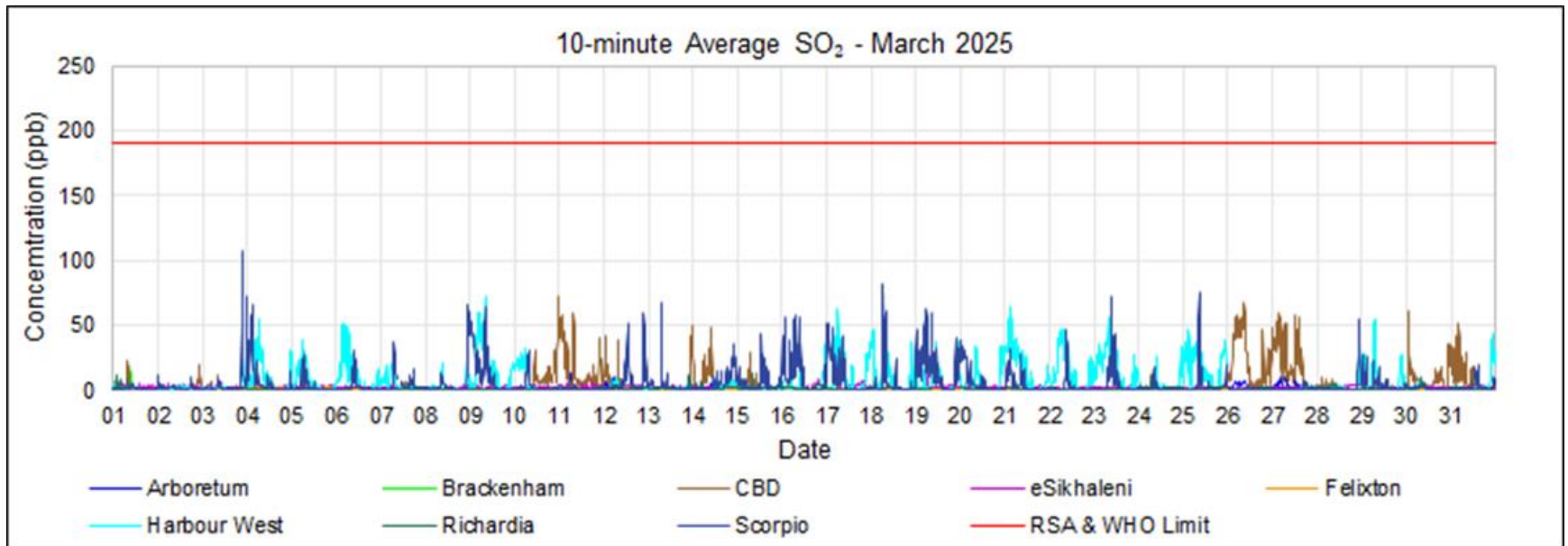
SO₂

1-HOUR



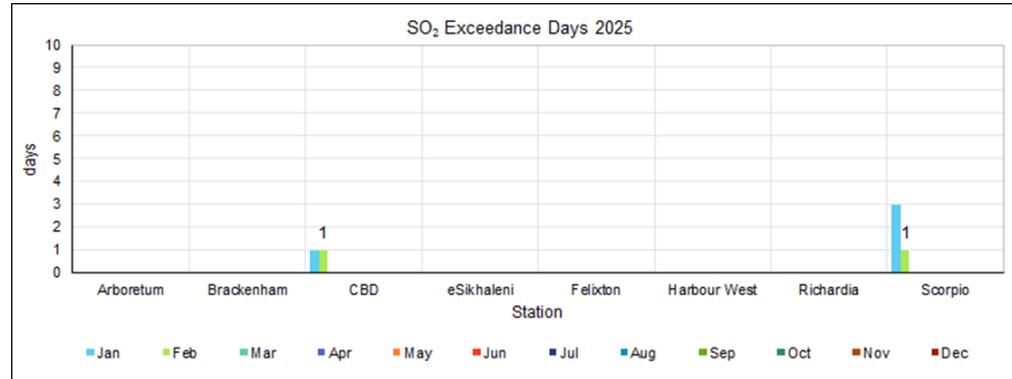
SO₂

10-MINUTE



SO₂

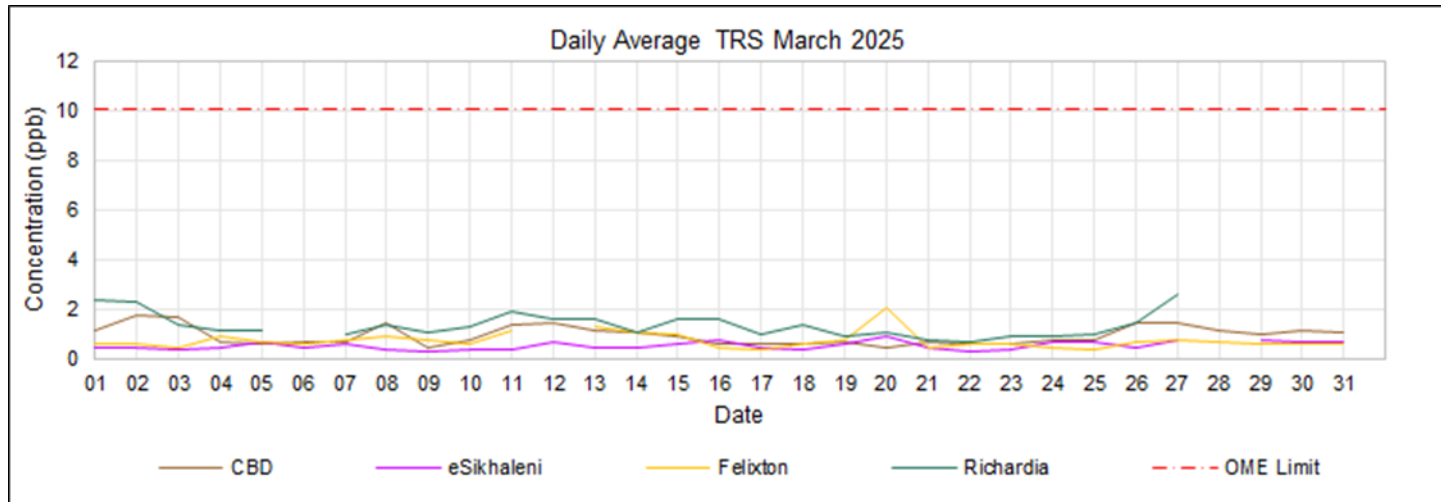
EXCEEDANCE DAYS



2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO₂ Daily WHO Limit (15 ppb)													
CBD	1	1	3	-	-	-	-	-	-	-	-	-	5
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	4	-	-	-	-	-	-	-	-	-	4
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	3	-	1	-	-	-	-	-	-	-	-	-	4
SO₂ Hourly RSA Limit (134 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	4	-	-	-	-	-	-	-	-	-	-	-	4
SO₂ 10-minute RSA & WHO Limit (191 ppb)													
CBD	-	-	-	-	-	-	-	-	-	-	-	-	0
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	18	1	-	-	-	-	-	-	-	-	-	-	19

TRS

24-HOUR



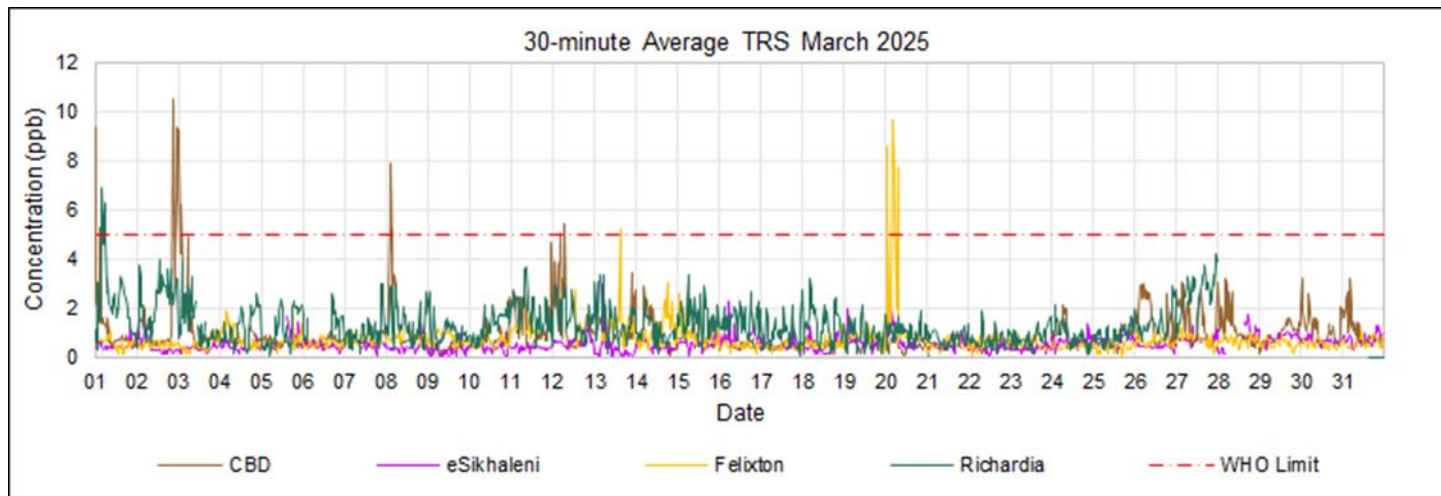
Missing Data (TRS):

- eSikhaleni - power outages, data invalidation (1 day with <80% data capture 28 March 2025).
- Felixton - power outages, data invalidation (1 day with <80% data capture 12 March 2025).
- Richardia - power outages, unstable power supply, data invalidation (5 days with <80% data capture 6, 27-31 March 2025).

TRS

30-MINUTE

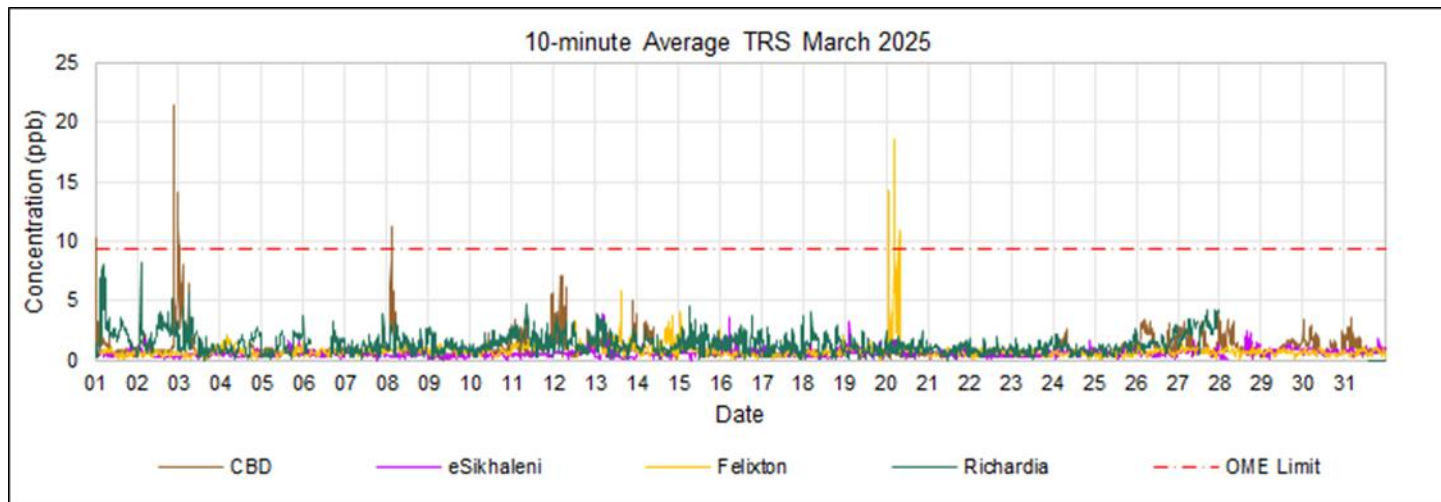
March: TRS 30-minute WHO H ₂ S Limit (5.0 ppb)		26
Mondi		18
CBD		15
Over-pressurisation of the CPX tank		2
Poor effluent quality		3
Root cause not identified		8
Softwood (SW) blowdowns		2
Richardia		3
Softwood (SW) blowdowns		3
RBCAA allocation		8
Felixton		8
Local Source - unknown		8



TRS

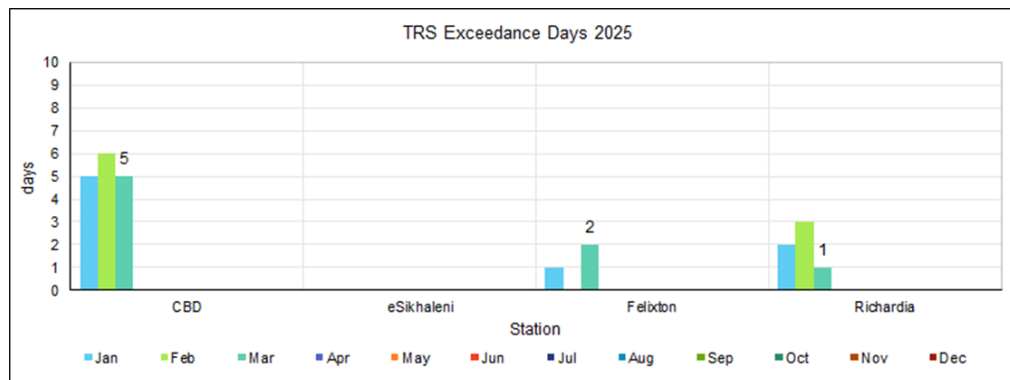
10-MINUTE

March: TRS 10-minute OME Limit (9.3 ppb)		12
Mondi		8
CBD		8
Poor effluent quality		1
Root cause not identified		6
Softwood (SW) blowdowns		1
RBCAA allocation		4
Felixton		4
Local Source - unknown		4



TRS

EXCEEDANCE DAYS



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	-	-	-	-	-	-	-	-	-	74
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	1	-	8	-	-	-	-	-	-	-	-	-	9
Richardia	5	7	3	-	-	-	-	-	-	-	-	-	15
TRS 10-minute OME Limit (9.3 ppb)													
CBD	53	10	8	-	-	-	-	-	-	-	-	-	71
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	2	-	4	-	-	-	-	-	-	-	-	-	6
Richardia	3	1	-	-	-	-	-	-	-	-	-	-	4

Air Quality

SUMMARY

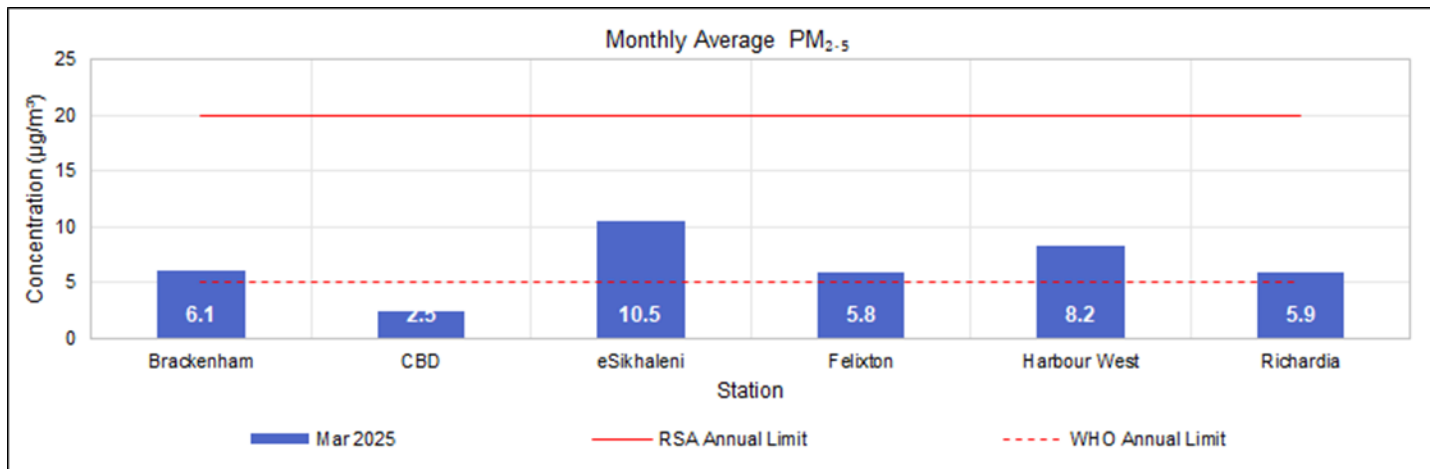
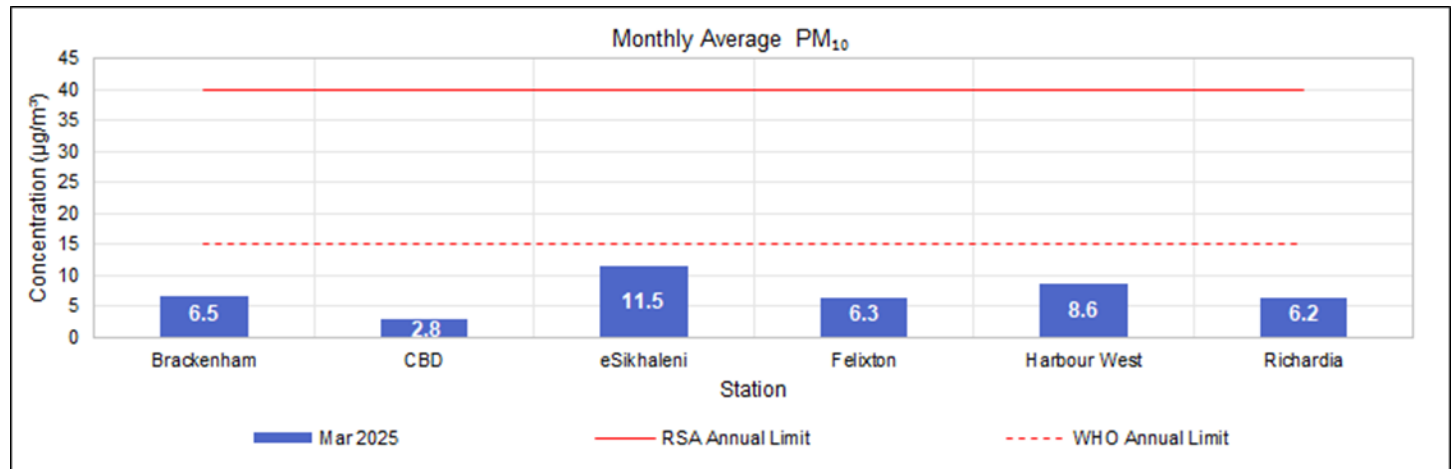
AIMS concludes that during March 2025, based on the following:

- ▶ Measured long-term average concentrations (chronic exposure) and WHO health guidelines of concern are:
 - PM_{10} at eSikhaleni, Richardia and Scorpio;
 - $PM_{2.5}$ at Brackenham, Felixton, Harbour West and Scorpio (all points monitored).

- ▶ Measured short-term average concentrations (acute exposure) and WHO health guidelines ambient air quality was compromised by:
 - PM_{10} Richardia and Scorpio;
 - $PM_{2.5}$ at Brackenham, Felixton, Harbour West and Scorpio (all points monitored); and
 - TRS at CBD, Felixton and Richardia.

AirGradient PM

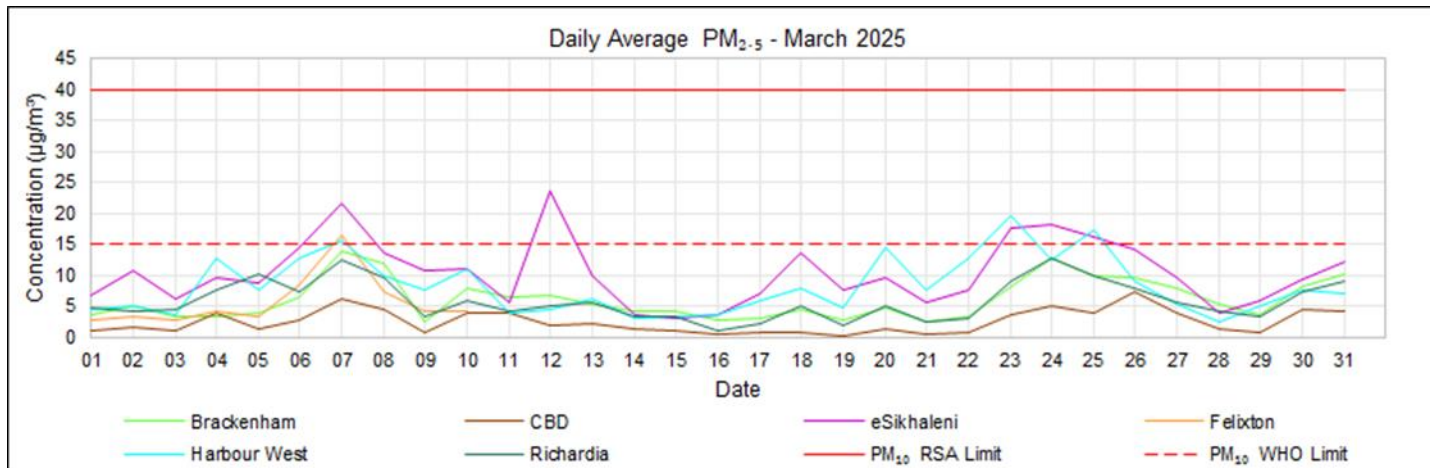
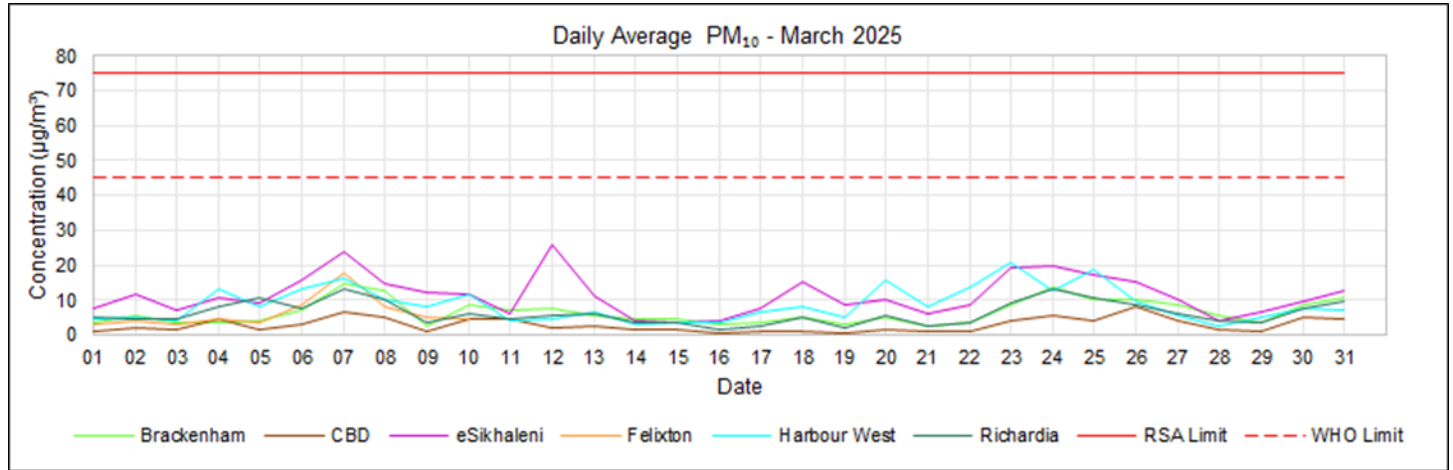
MONTHLY



AirGradient

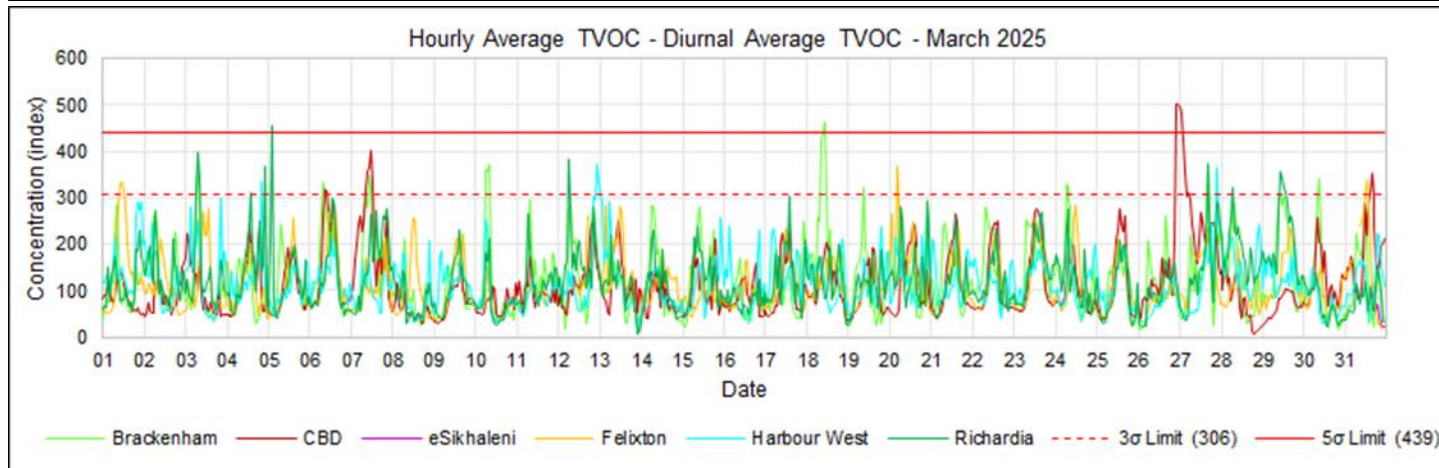
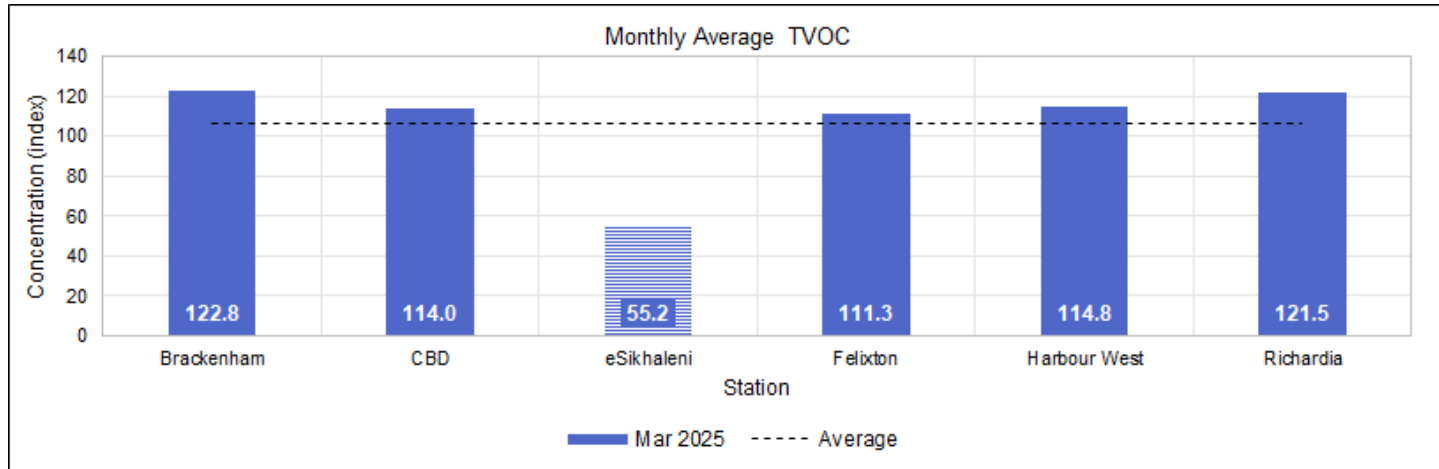
PM

DAILY



AirGradient TVOC

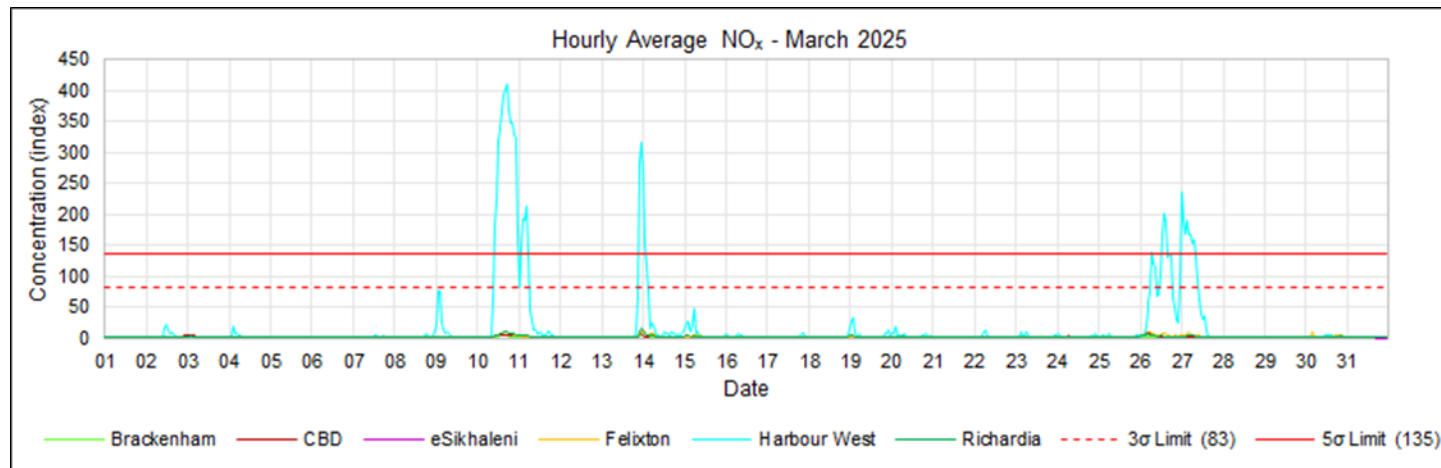
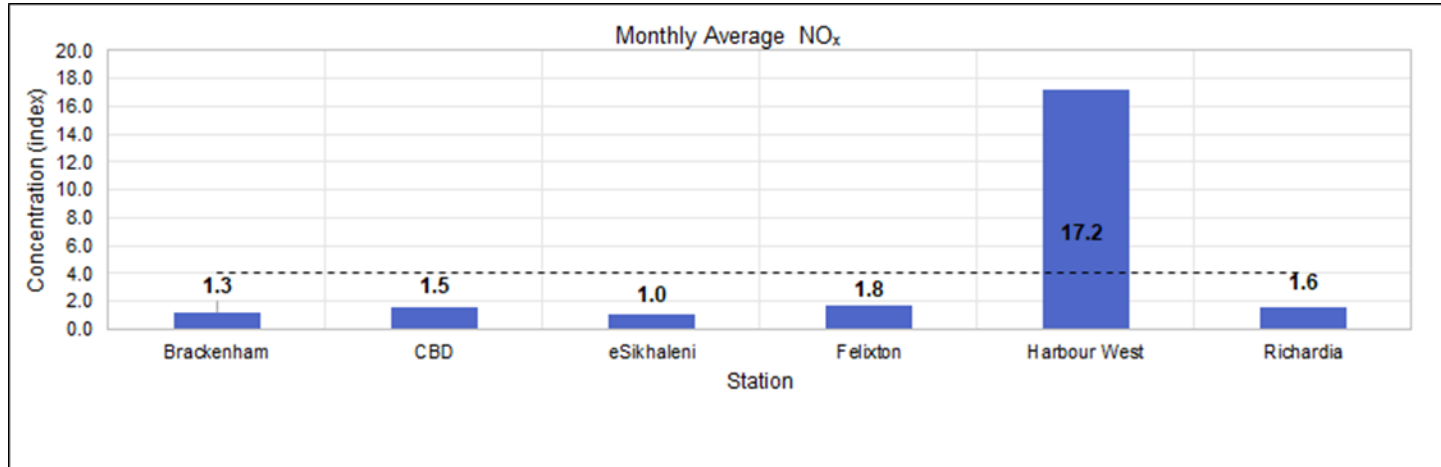
MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	16	13	0	5	4	11
5σ	1	4	0	0	0	1

AirGradient NO_x

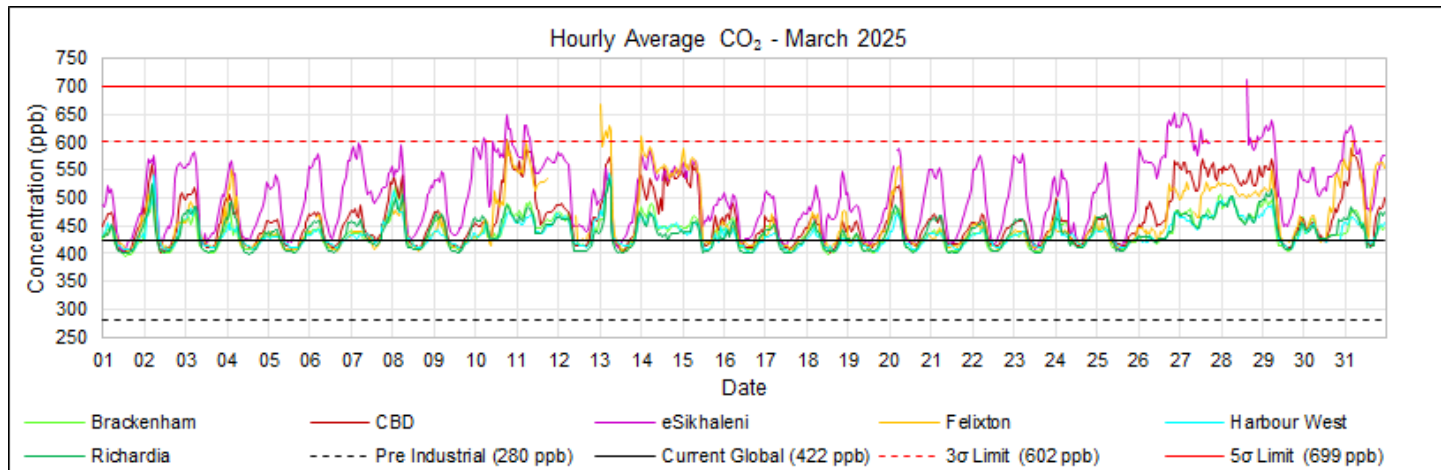
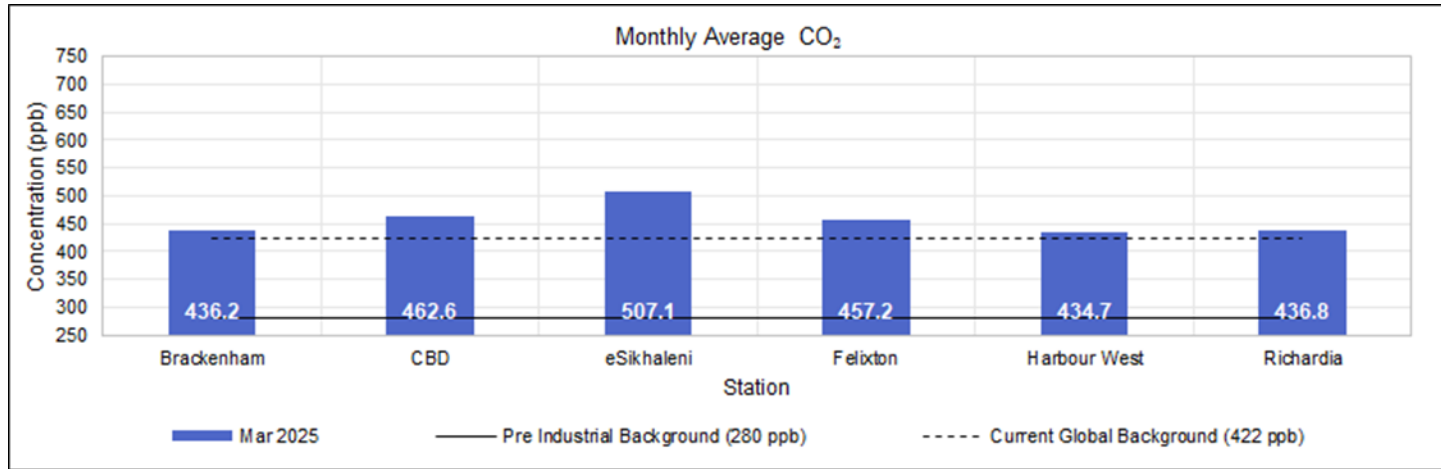
MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	0	0	0	0	45	0
5σ	0	0	0	0	36	0

AirGradient CO₂

MONTHLY & HOURLY



Limit	Brackenham	CBD	eSikhaleni	Felixton	Harbour West	Richardia
3σ	0	1	44	7	0	0
5σ	0	0	1	0	0	0

Thank you

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- Alicia Garnica
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