

RBCAA Technical Feedback – January 2024

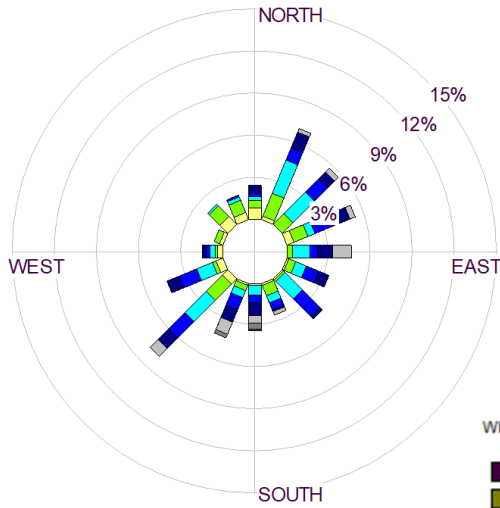


Meteorology

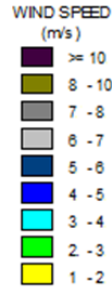
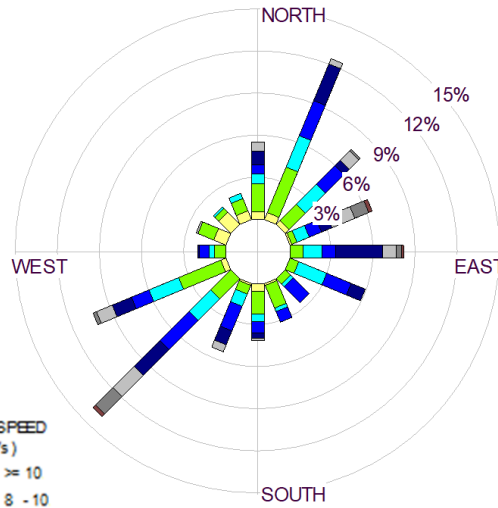
WIND



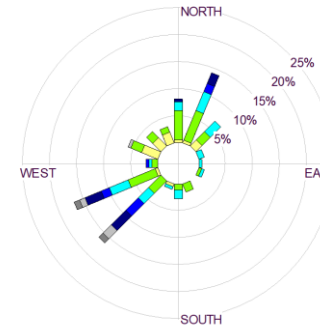
January 2024 Wind Rose



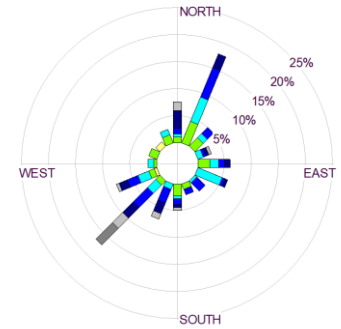
January 2025 Wind Rose



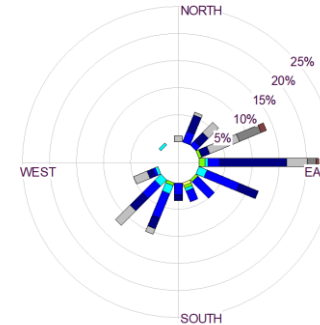
00:00 – 05:59



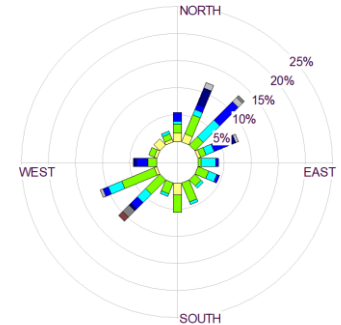
06:00 – 11:59



12:00 – 17:59



18:00 – 23:59

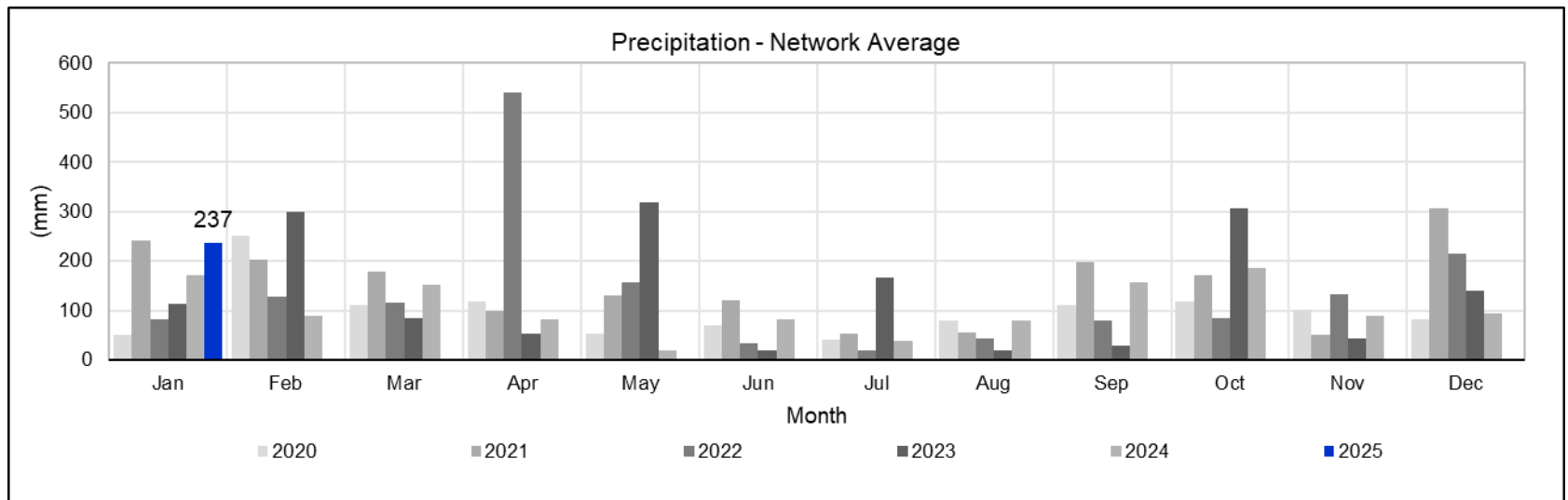
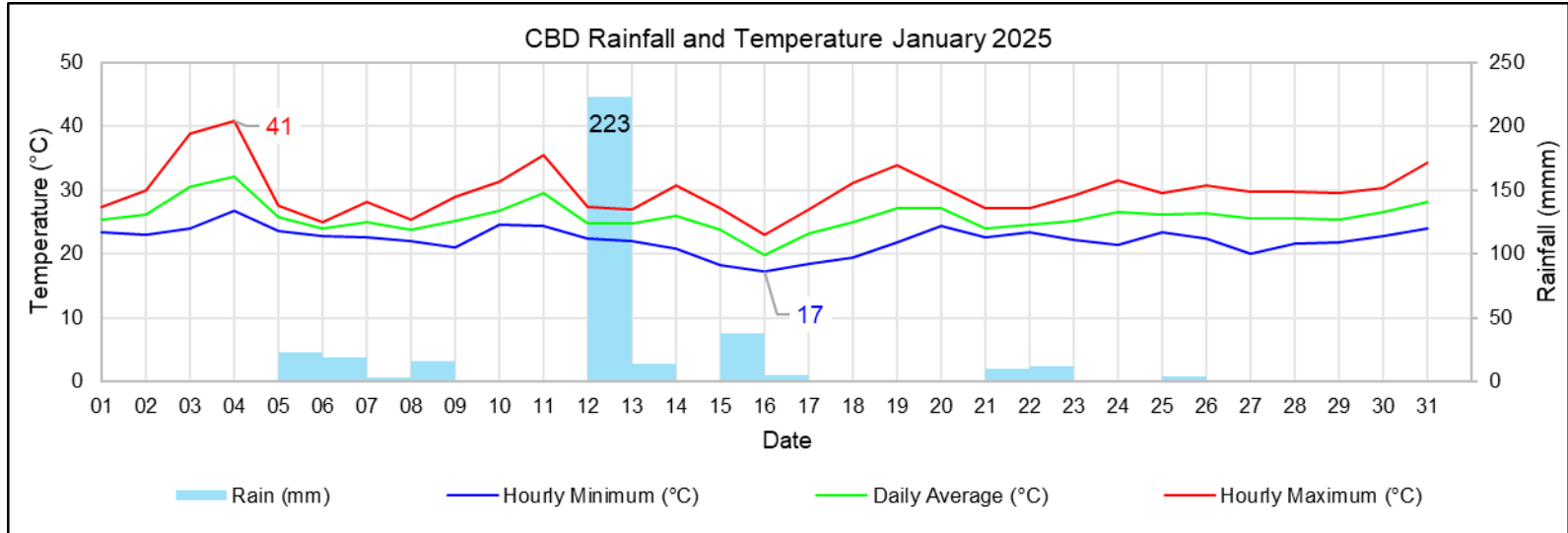


Period	Wind Speed	Dominant Sector 1		Dominant Sector 2		Calms	Valid Data
January 2024	3.5 m/s	NNE-E	37%	SE&SSW-WSW	34%	0%	60%
January 2025	3.7 m/s	NNE-ESE	43%	SW-WSW	26%	0%	92%
00:00-05:59	2.9 m/s	N-NE	34%	SSW-WSW & WNW	46%	0%	84%
06:00-11:59	3.8 m/s	N-NNE&E-ESE	40%	SSW-WSW	34%	0%	93%
12:00-17:59	4.8 m/s	ENE-ESE	48%	SSW-SW	22%	0%	99%
18:00-23:59	3.0 m/s	NNE-ESE	35%	SW-WSW	24%	0%	92%

Meteorology

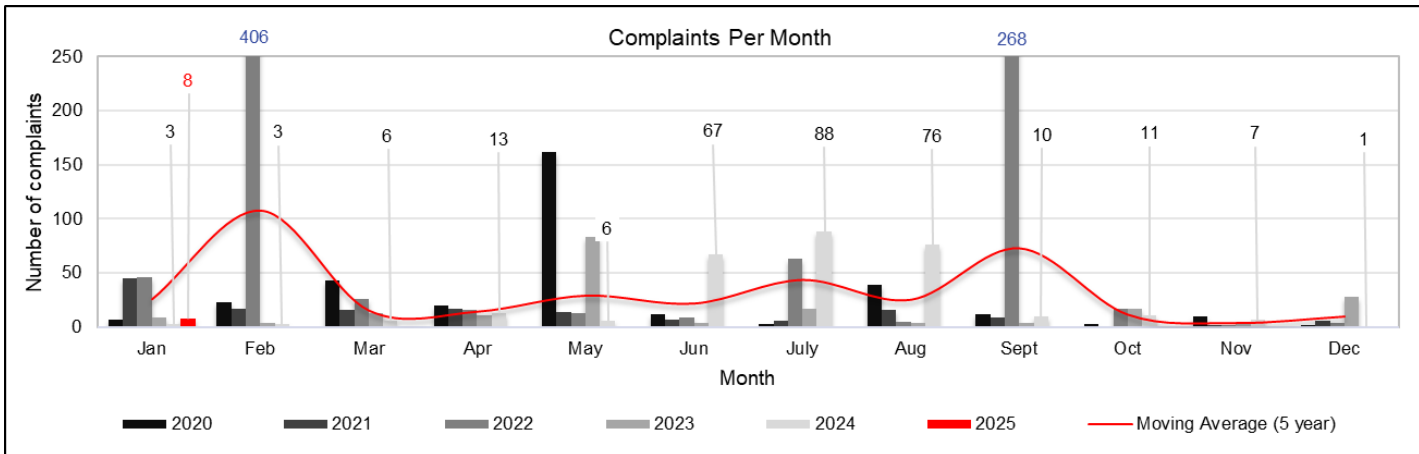
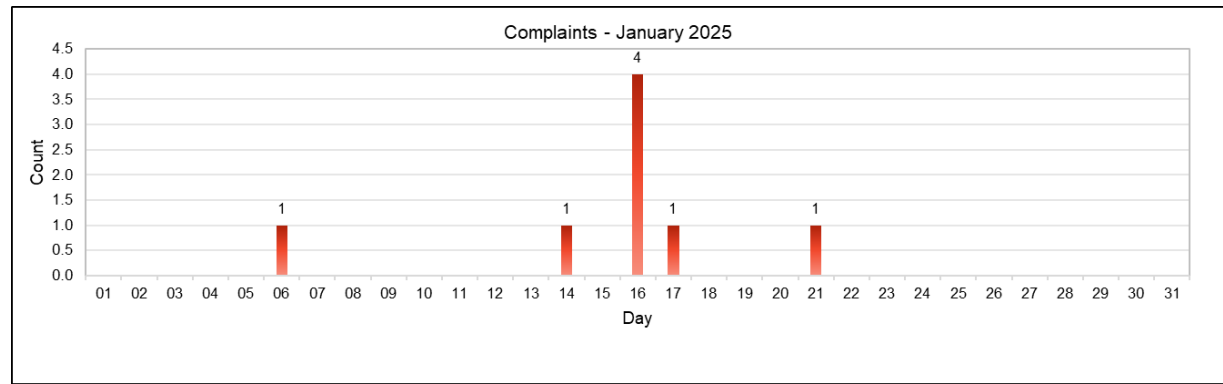
Month	Richards Bay (mm)	Felixton (mm)	RBCT (mm)	South32 (mm)	Average (mm)
January 2025	371	117	229	232	237

RAINFALL AND TEMPERATURE

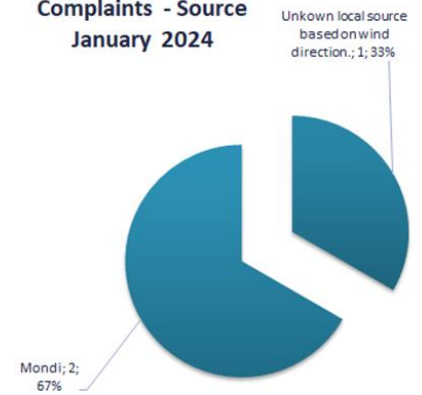


Complaints

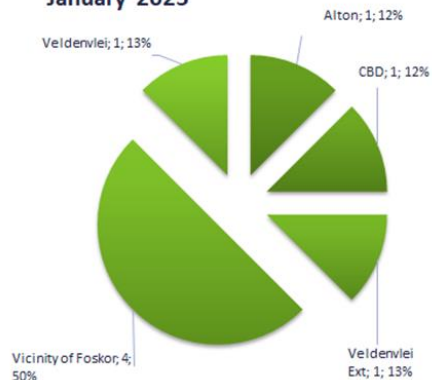
DISTRIBUTION



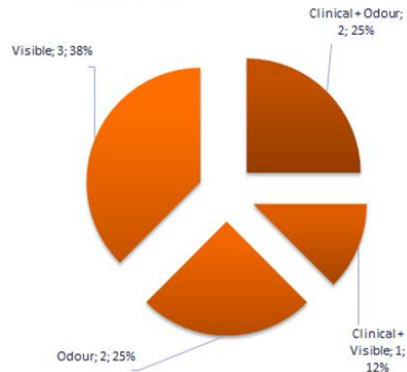
Complaints - Source January 2024



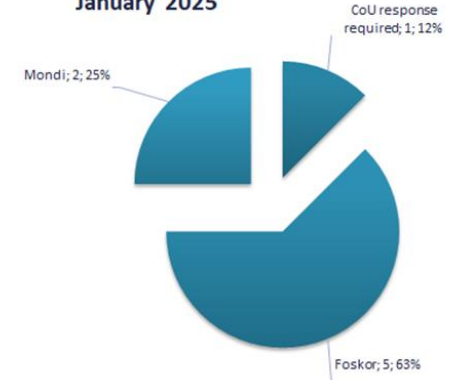
Complaints - Region January 2025



Complaints - Type January 2025

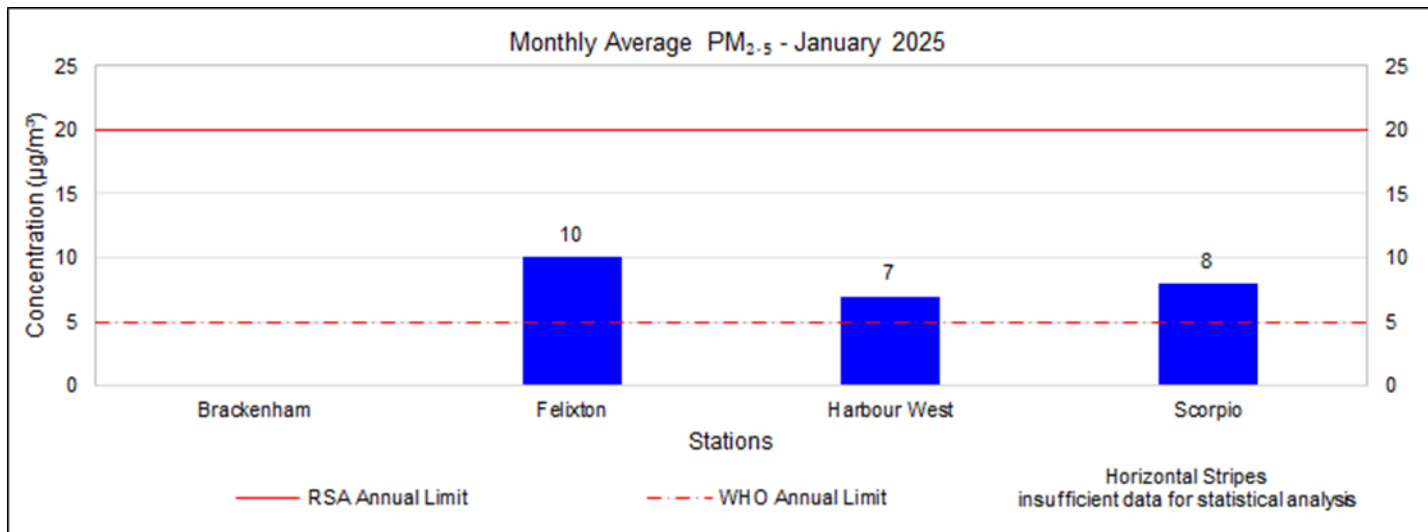
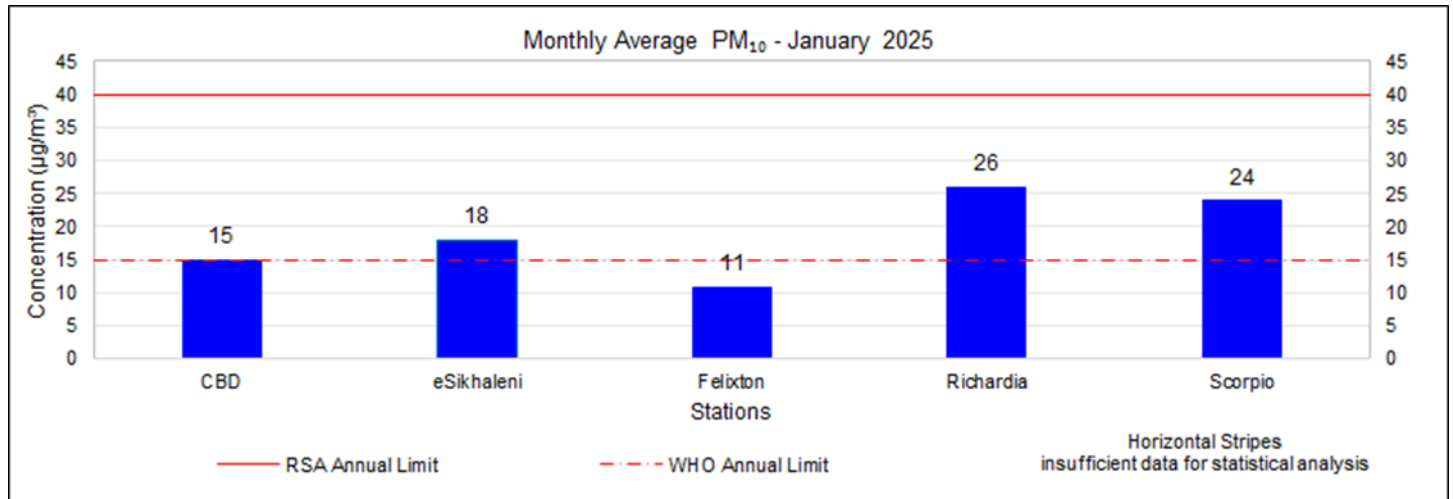


Complaints - Source January 2025



PM

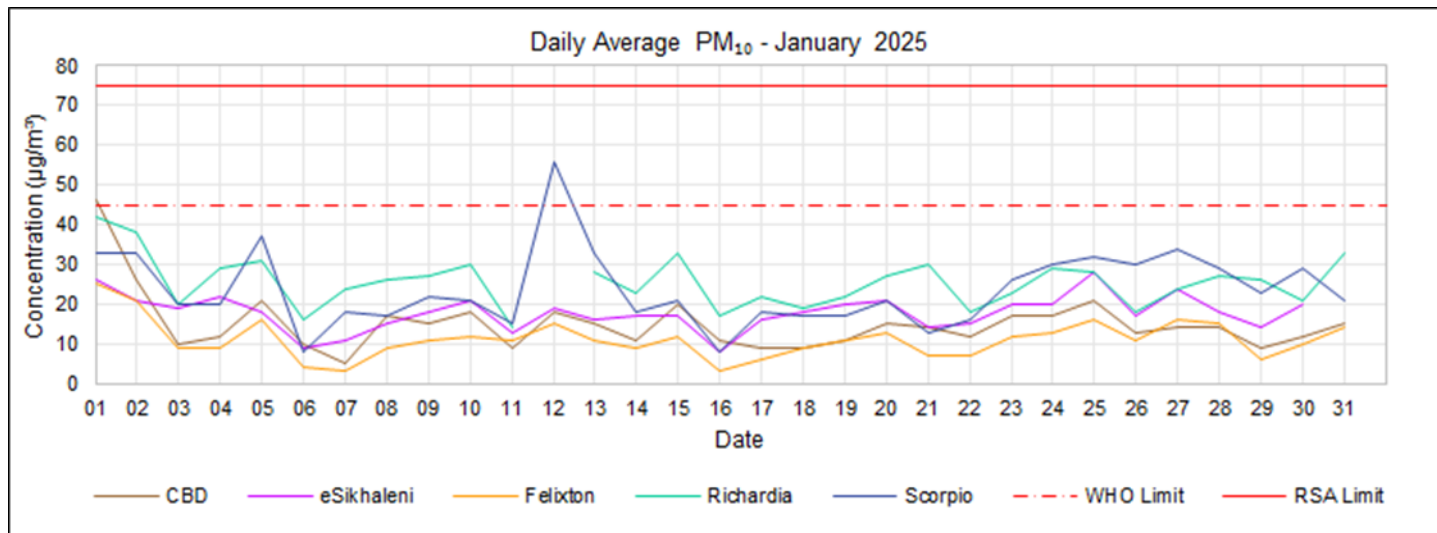
MONTHLY



PM₁₀

24-HOUR

PM ₁₀ Daily WHO Limit (45 µg/m ³)	1
Scorpio	1
No response required	1



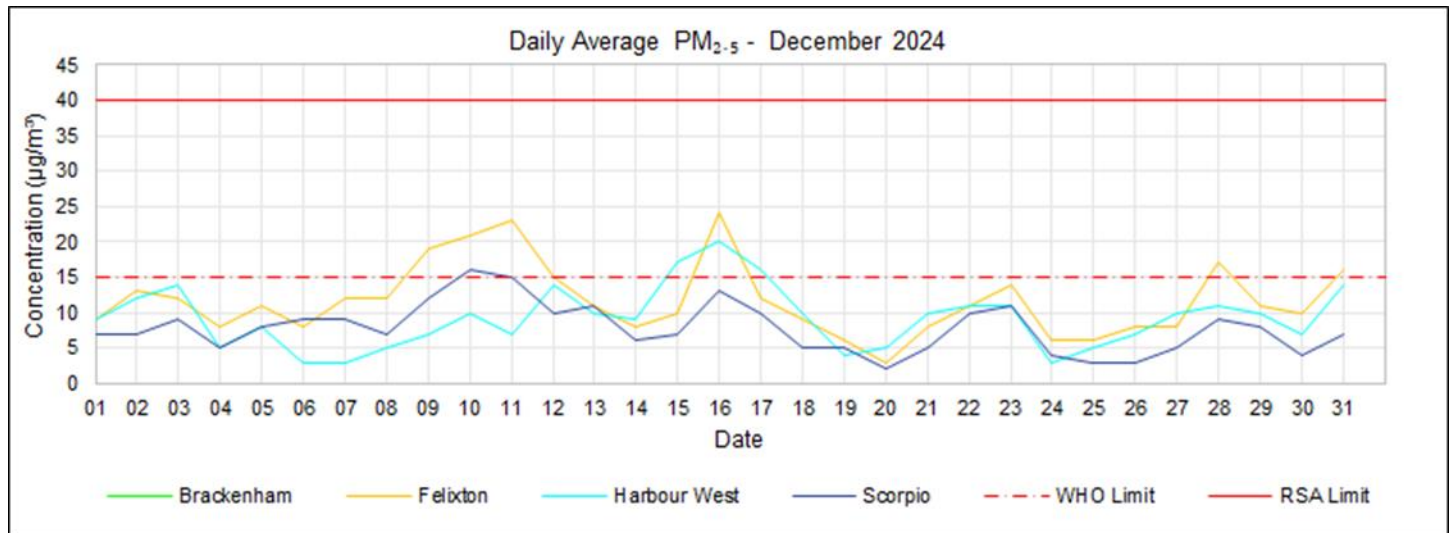
Missing Data (PM₁₀)

- eSikhaleni – power outages, data invalidation (1 day with <80% data capture 31 January 2025).
- Richardia – power outages, data invalidation (1 day with <80% data capture 12 January 2025).

PM_{2.5}

24-HOUR

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

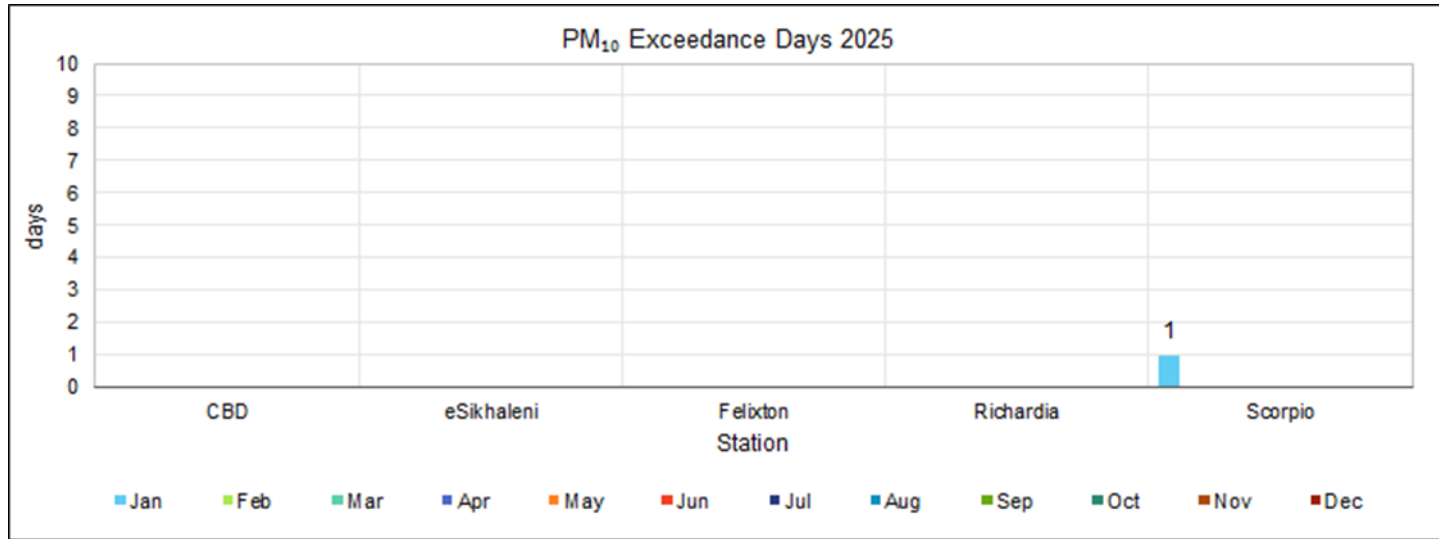


Missing Data (PM_{2.5}):

- *Brackenham – instrument failure, retired, will be replaced with an e-sampler (30 days with <80% data capture 1-31 January 2025).*

PM₁₀

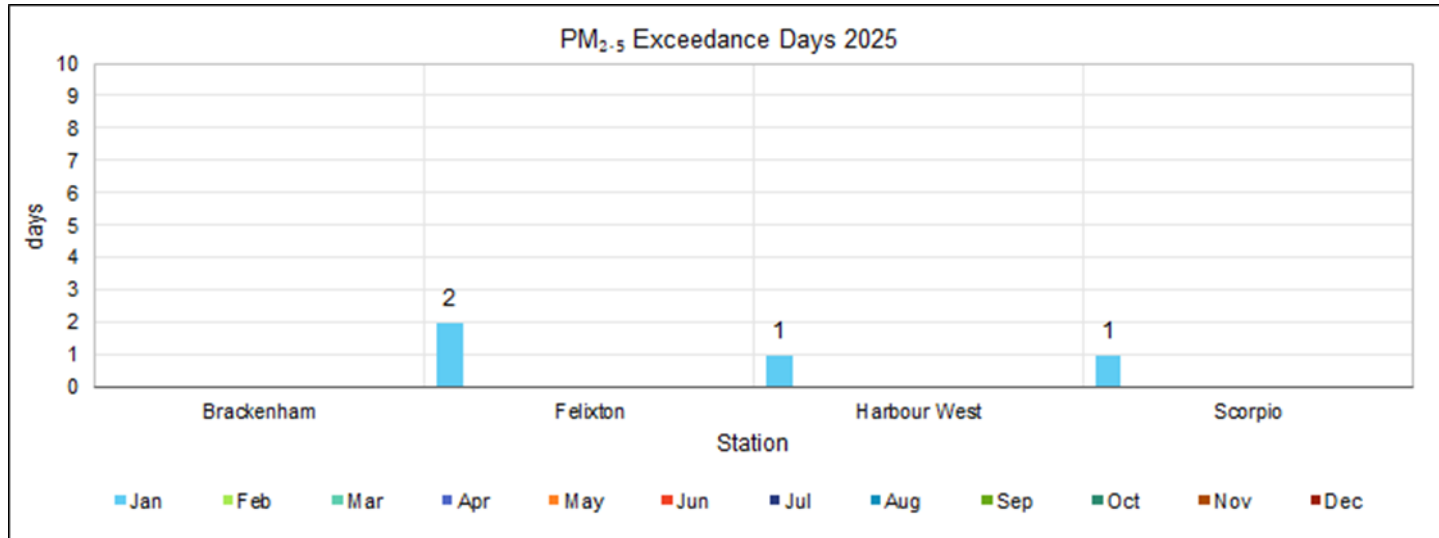
EXCEEDANCE DAYS



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	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	1	-	-	-	-	-	-	-	-	-	-	-	1

PM_{2.5}

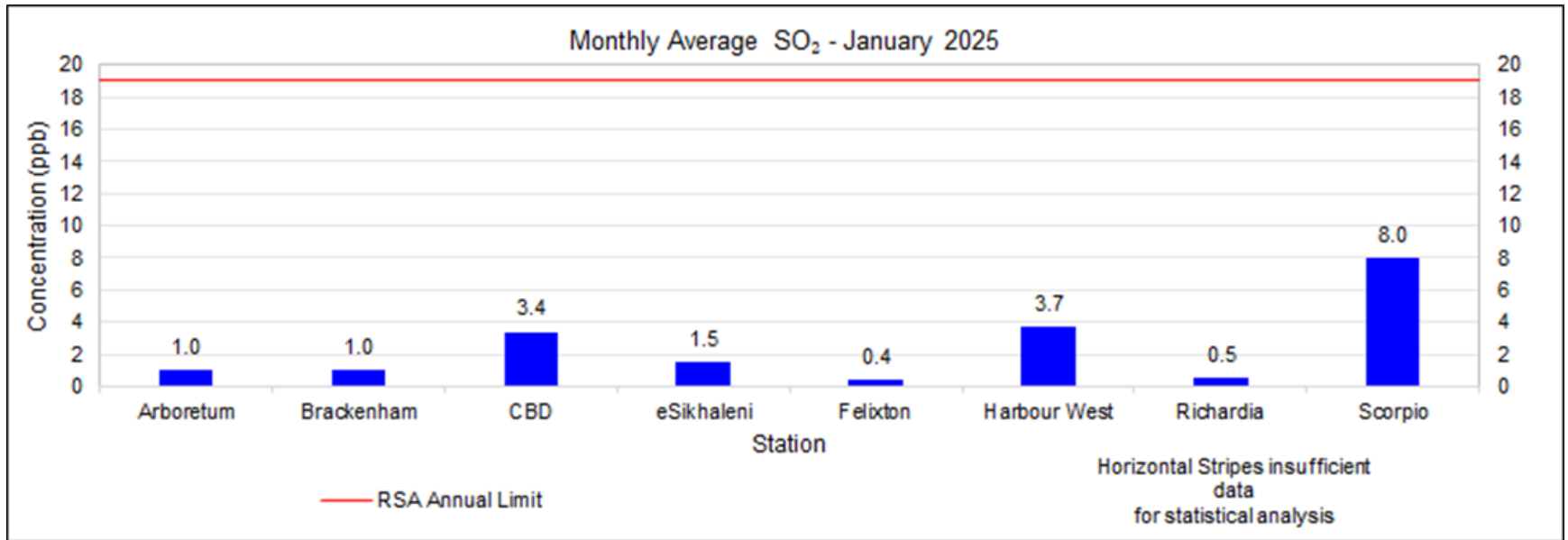
EXCEEDANCE DAYS



2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
PM_{2.5} Daily RSA Limit (40 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	-
Felixton	-	-	-	-	-	-	-	-	-	-	-	-	-
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	-
Scorpio	-	-	-	-	-	-	-	-	-	-	-	-	-
PM_{2.5} Daily WHO Limit (15 µg/m³)													
Brackenham	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	2	-	-	-	-	-	-	-	-	-	-	-	2
Harbour West	1	-	-	-	-	-	-	-	-	-	-	-	1
Scorpio	1	-	-	-	-	-	-	-	-	-	-	-	1

SO₂

MONTHLY

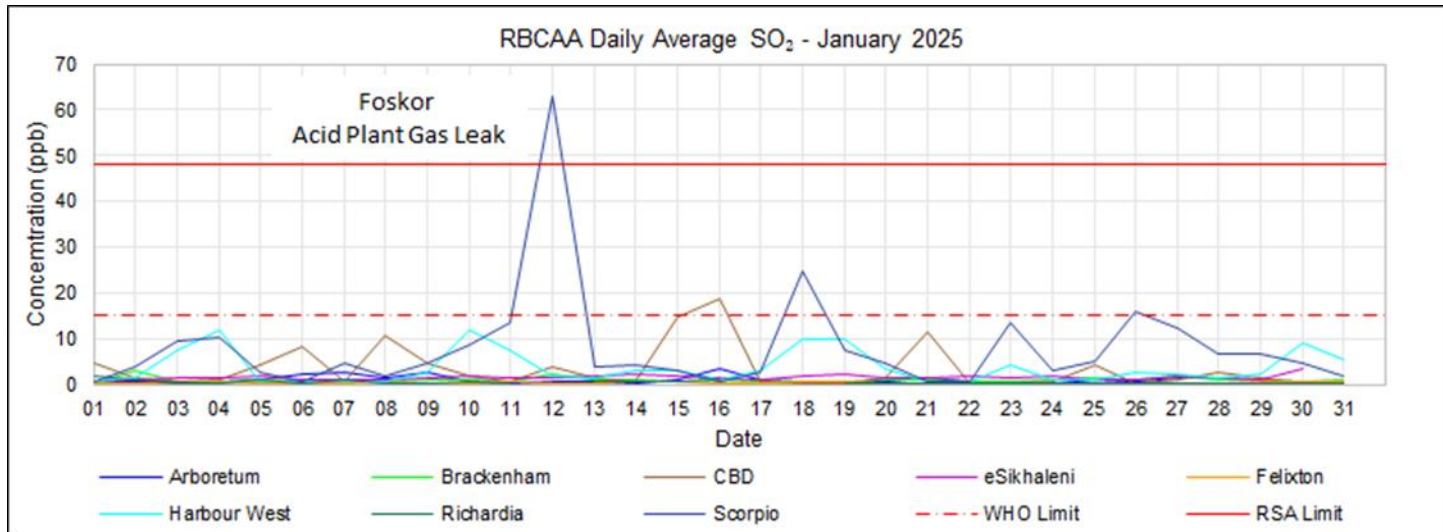


SO₂

24-HOUR

SO ₂ Daily RSA Limit (48 ppb)		1
Scorpio		1
Foskor		1

SO ₂ Daily WHO Limit (15 ppb)		4
CBD		1
No response required		1
Scorpio		3
No response required		3



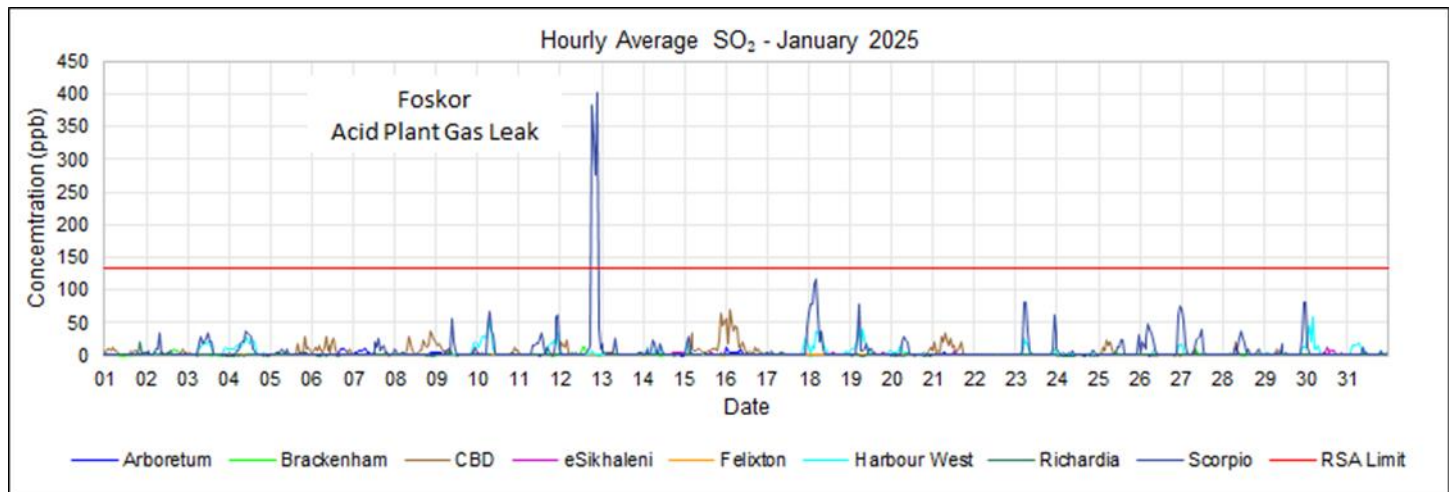
Missing Data (SO₂):

- eSikhaleni – power outages, data invalidation (1 day with <80% data capture 31 January 2025).
- Richardia – analyser failure – replaced, power outages, data invalidation (1 day with <80% data capture 12, 17-18 January 2025).

SO₂

1-HOUR

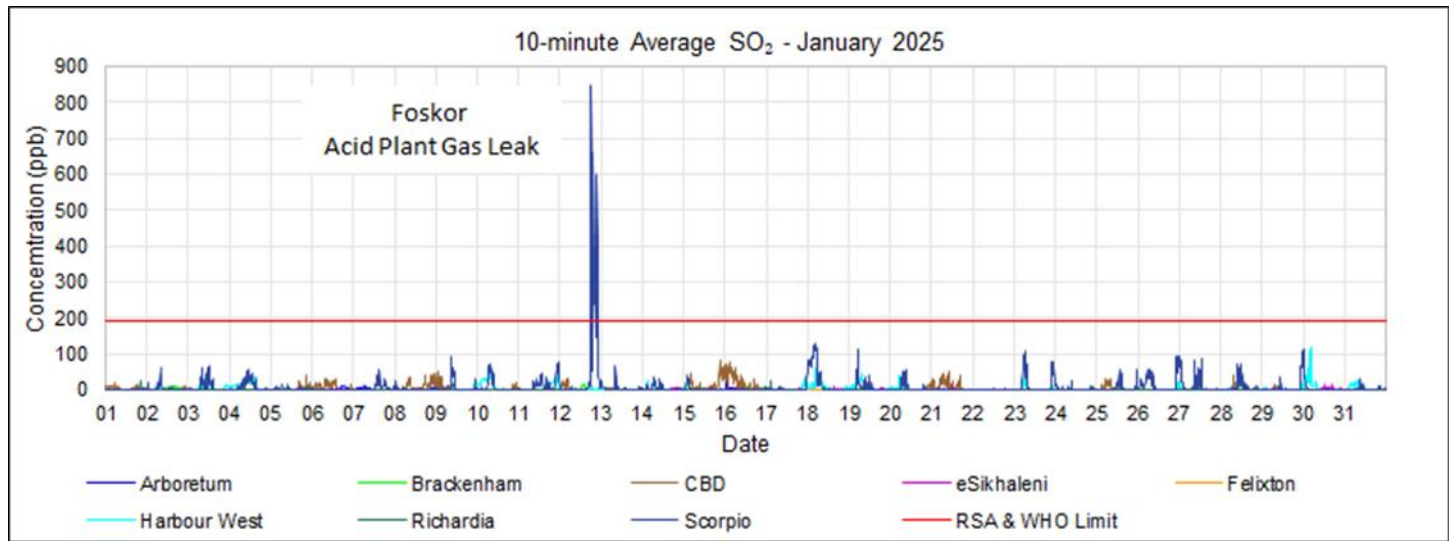
SO ₂ Hourly RSA Limit (134 ppb)	
Scorpio	4
Foskor	4



SO₂

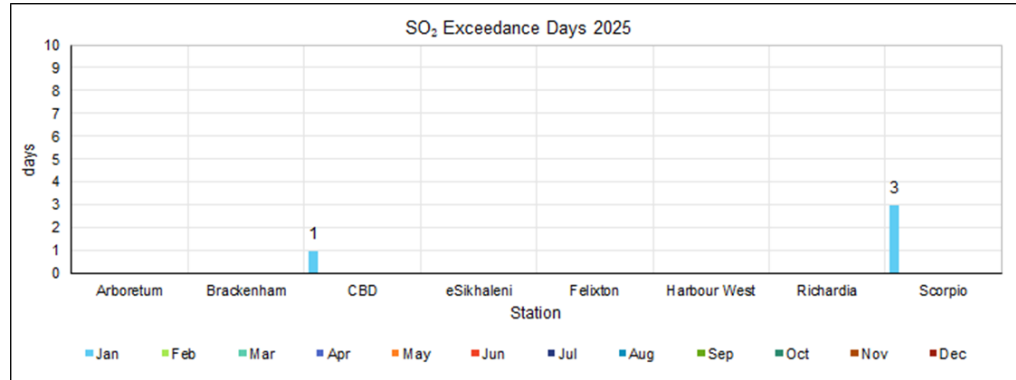
10-MINUTE

SO ₂ 10-minute RSA & WHO Limit (191 ppb)	
Scorpio	18
Foskor	18



SO₂

EXCEEDANCE DAYS

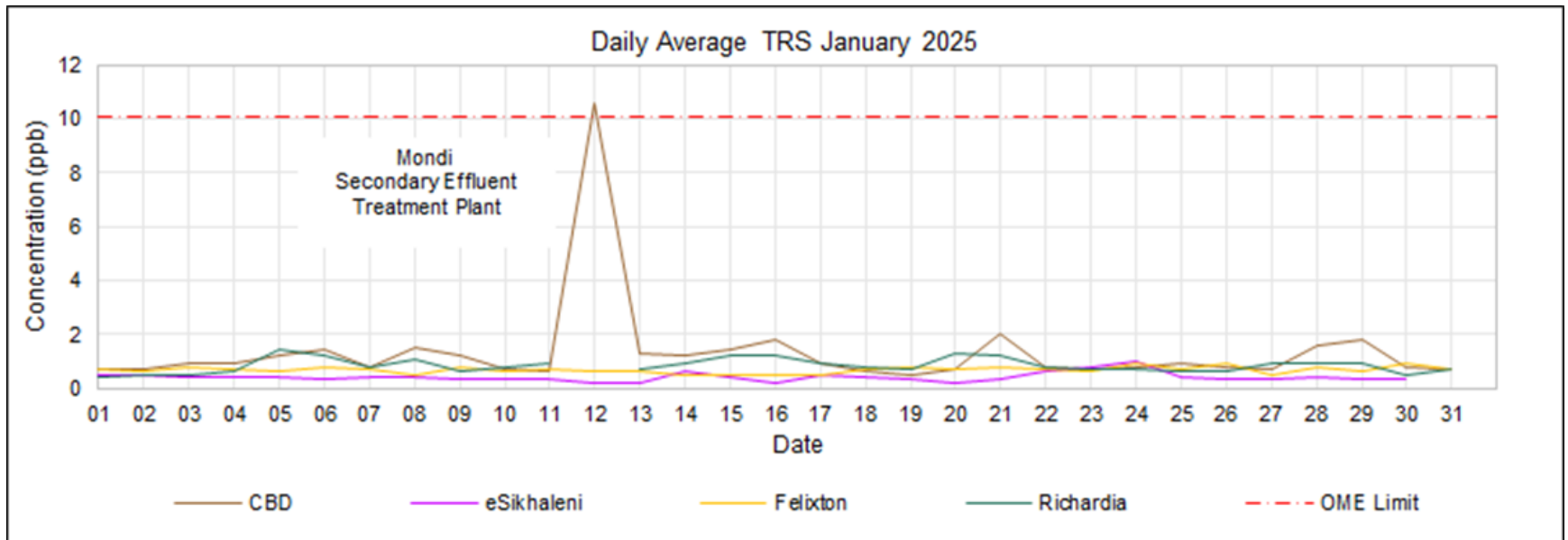


2025	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
SO₂ Daily WHO Limit (15 ppb)													
CBD	1	-	-	-	-	-	-	-	-	-	-	-	1
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Harbour West	-	-	-	-	-	-	-	-	-	-	-	-	0
Richardia	-	-	-	-	-	-	-	-	-	-	-	-	0
Scorpio	3	-	-	-	-	-	-	-	-	-	-	-	3
SO₂ Hourly RSA Limit (134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

TRS

24-HOUR

TRS 24-hr-OME Limit (10.1 ppb)		1
CBD		1
Mondi		1



Missing Data (TRS):

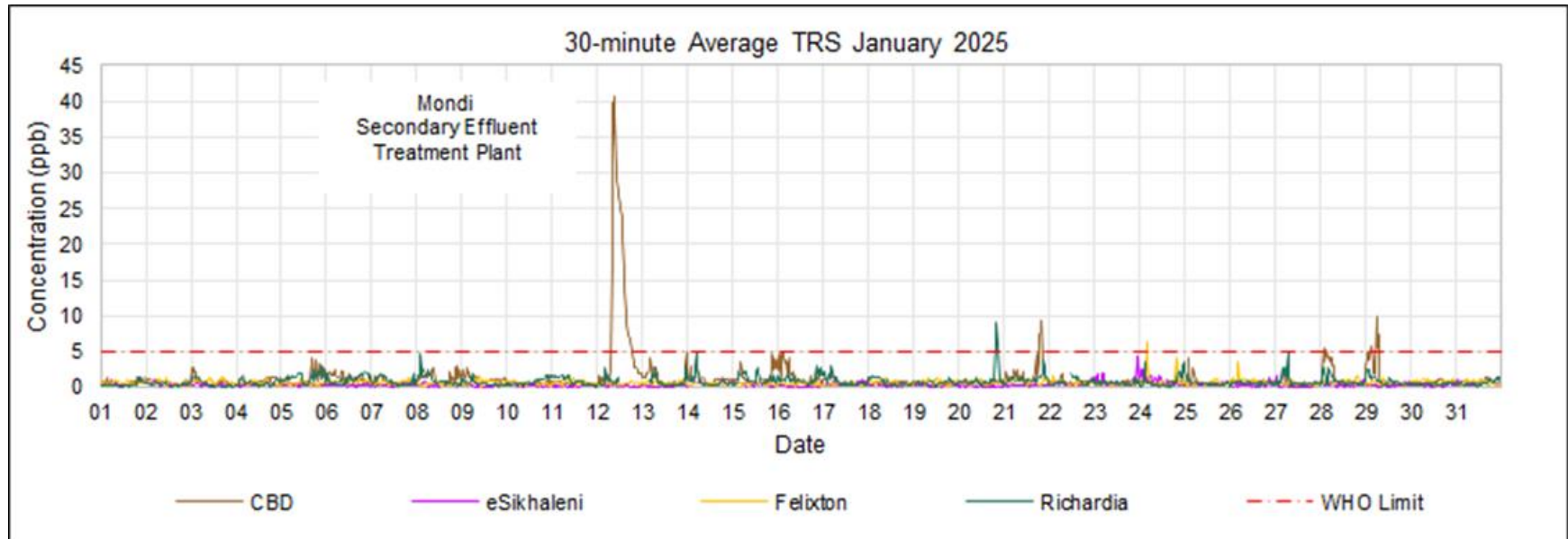
eSikhaleni – power outages, data invalidation (1 day with <80% data capture 31 January 2025).

Richardia – power outages, data invalidation (1 day with <80% data capture 12 January 2025).

TRS

30-MINUTE

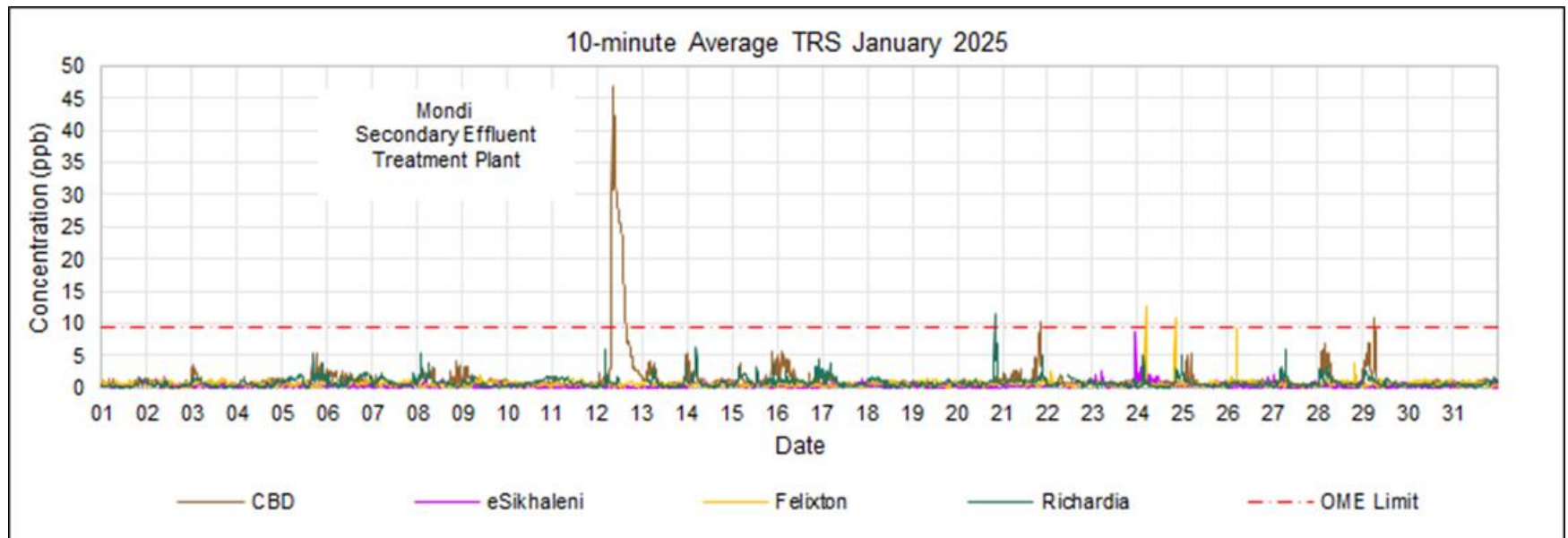
TRS 30-minute WHO H ₂ S Limit (5.0 ppb)		40
CBD		34
Mondi		34
Felixton		1
THS - meteorology		1
Richardia		5
Mondi		5



TRS

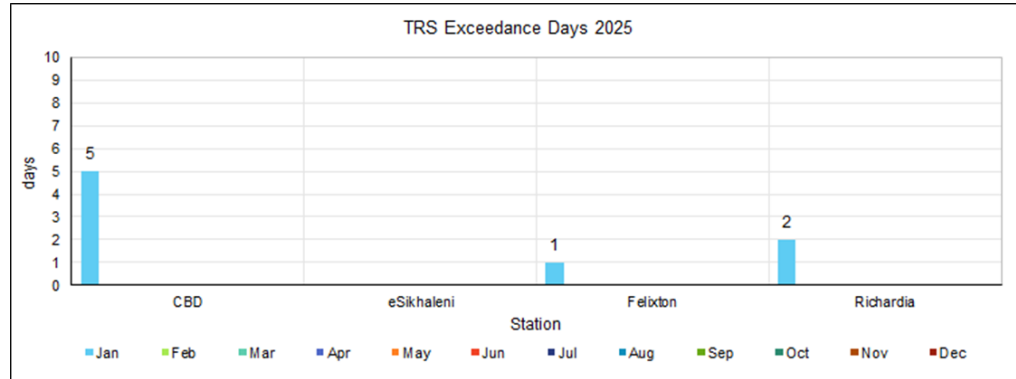
10-MINUTE

TRS 10-minute OME Limit (9.3 ppb)		58
CBD		53
Mondi		53
Felixton		2
THS - meteorology		2
Richardia		3
Mondi		3



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	1	-	-	-	-	-	-	-	-	-	-	35
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	1	-	-	-	-	-	-	-	-	-	-	-	1
Richardia	5	-	-	-	-	-	-	-	-	-	-	-	5
TRS 10-minute OME Limit (9.3 ppb)													
CBD	53	-	-	-	-	-	-	-	-	-	-	-	53
eSikhaleni	-	-	-	-	-	-	-	-	-	-	-	-	0
Felixton	2	-	-	-	-	-	-	-	-	-	-	-	2
Richardia	3	-	-	-	-	-	-	-	-	-	-	-	3

Air Quality

SUMMARY

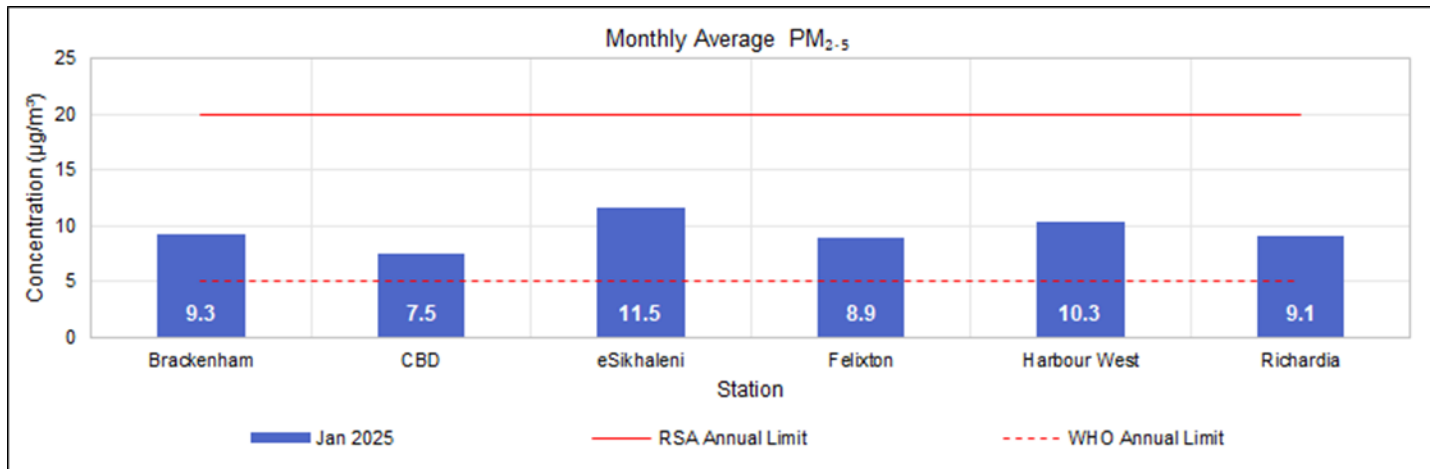
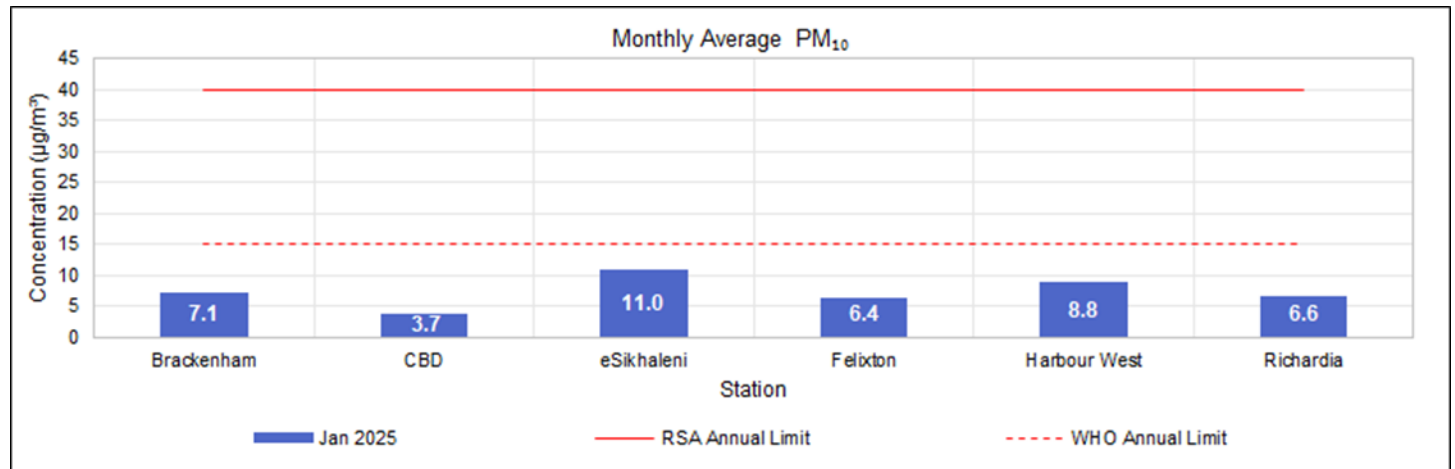
AIMS concludes that during January 2025, based on the following:

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

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

AirGradient PM

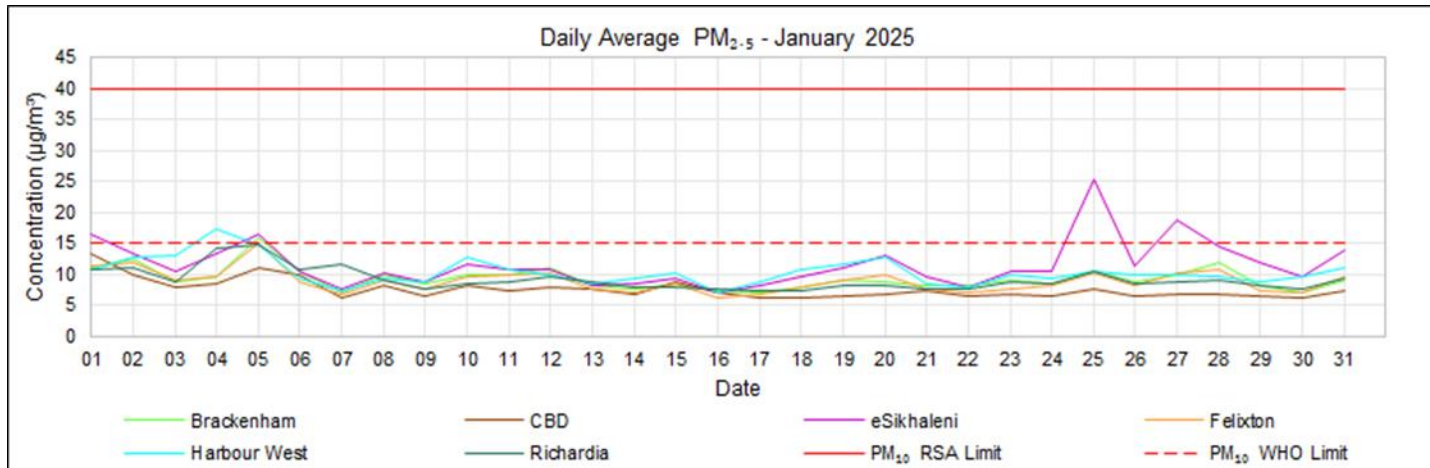
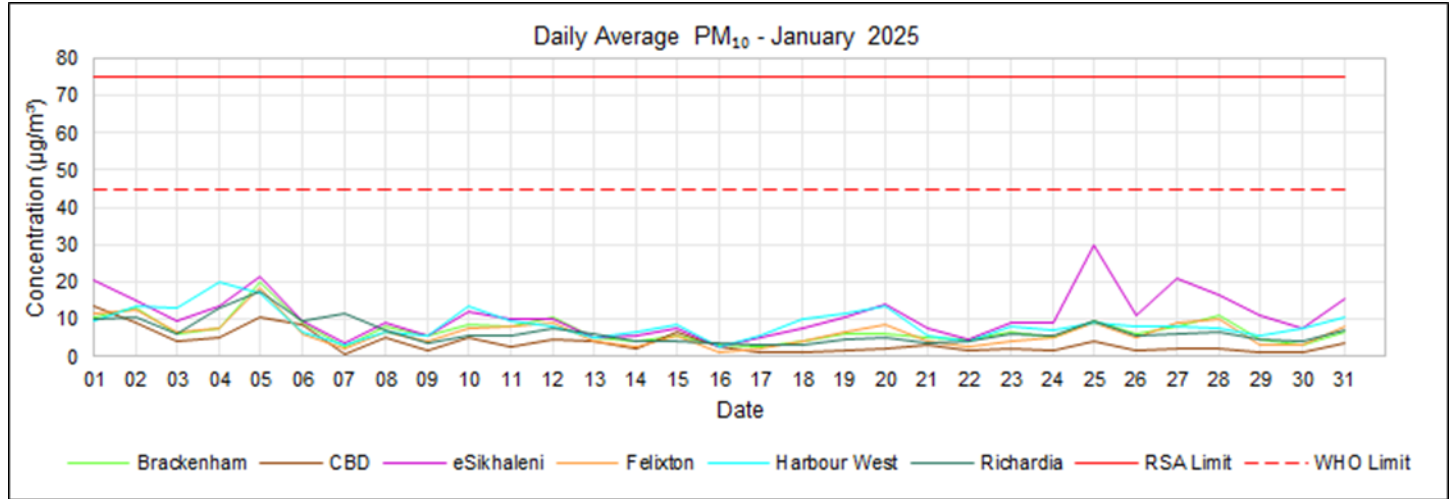
MONTHLY



AirGradient

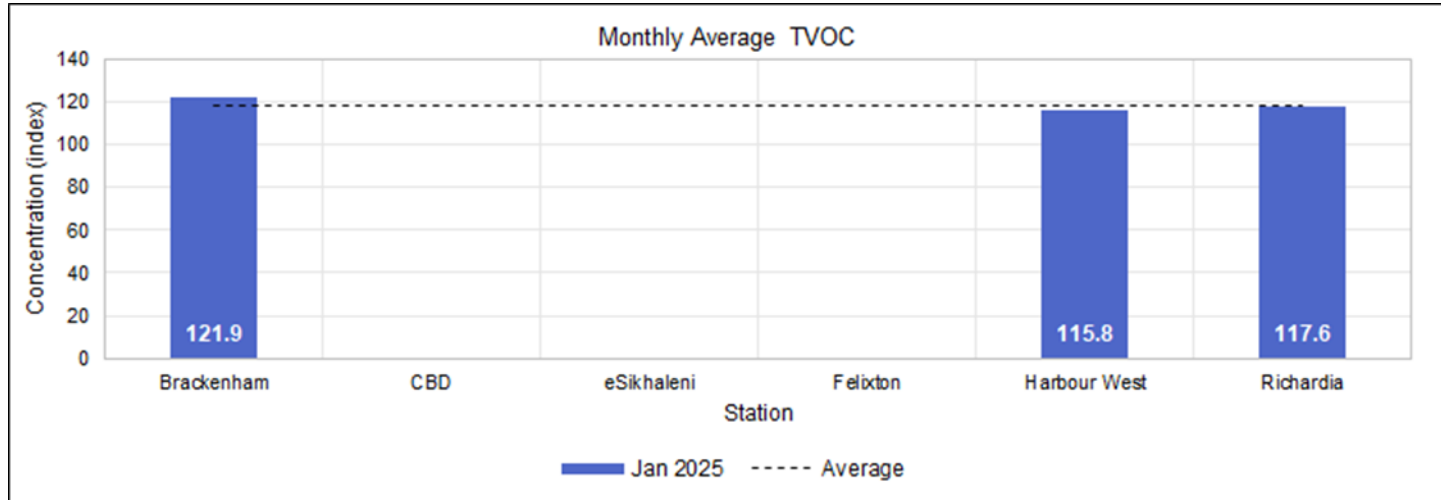
PM

DAILY

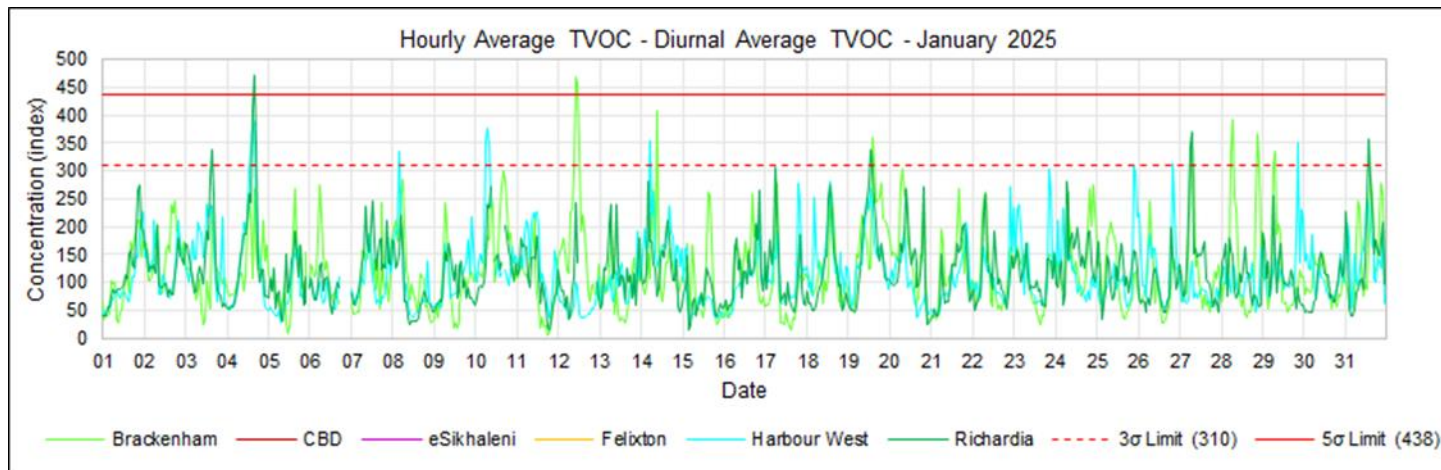


AirGradient TVOC

MONTHLY

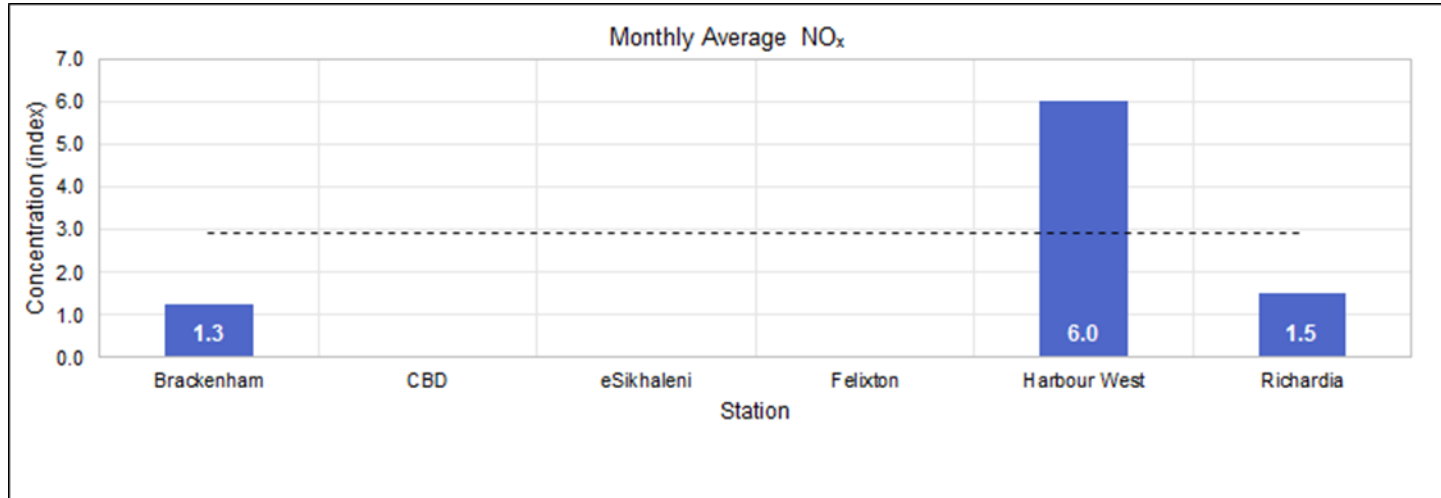


1-HOUR

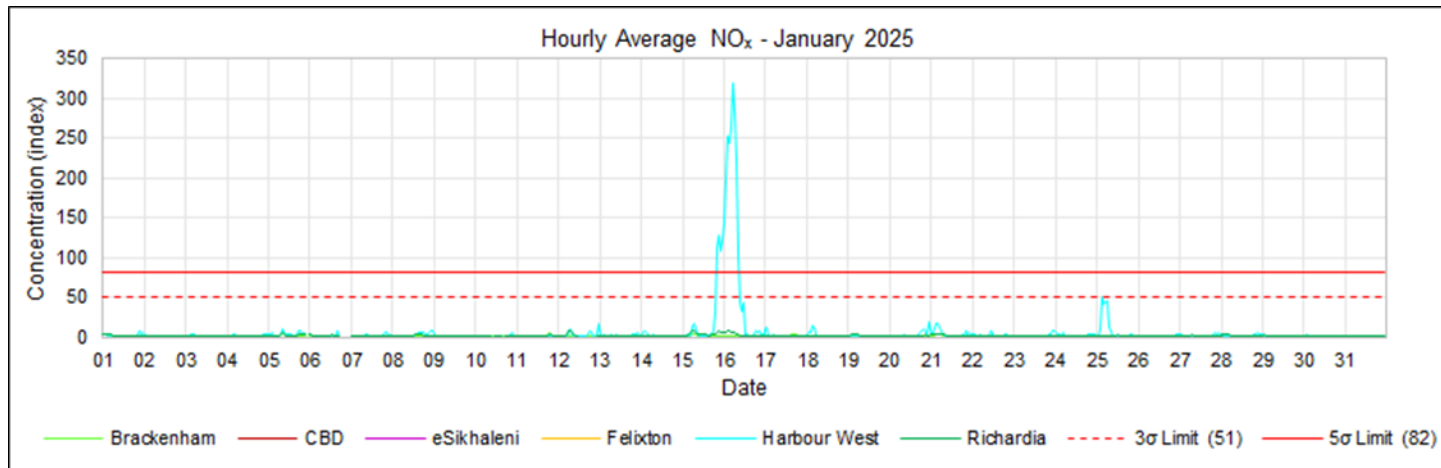


AirGradient NO_x

MONTHLY

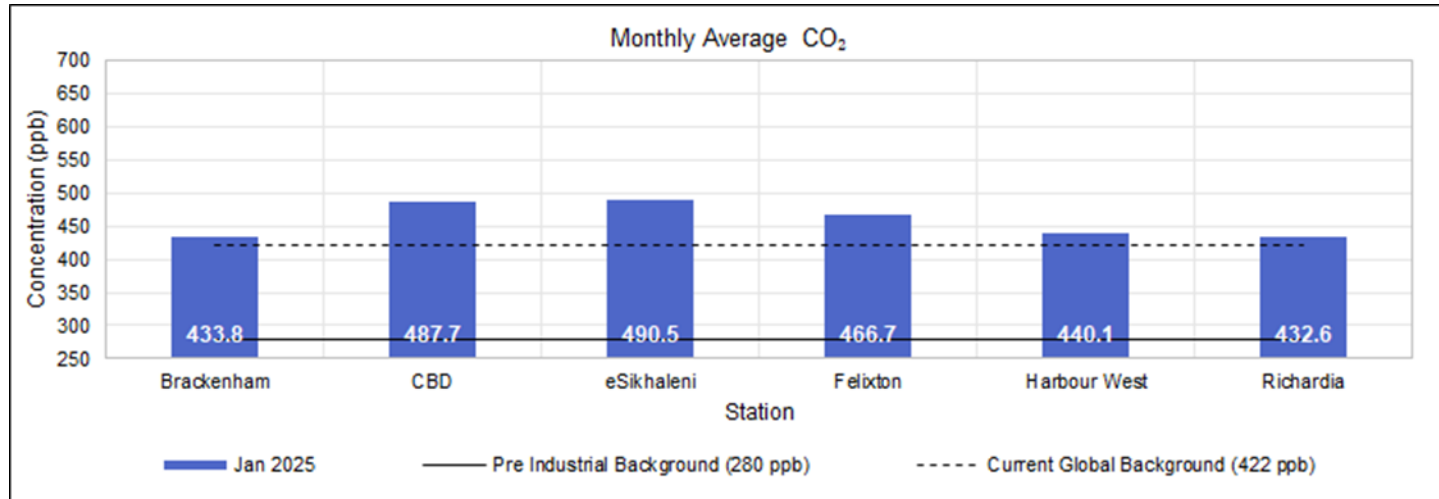


1-HOUR

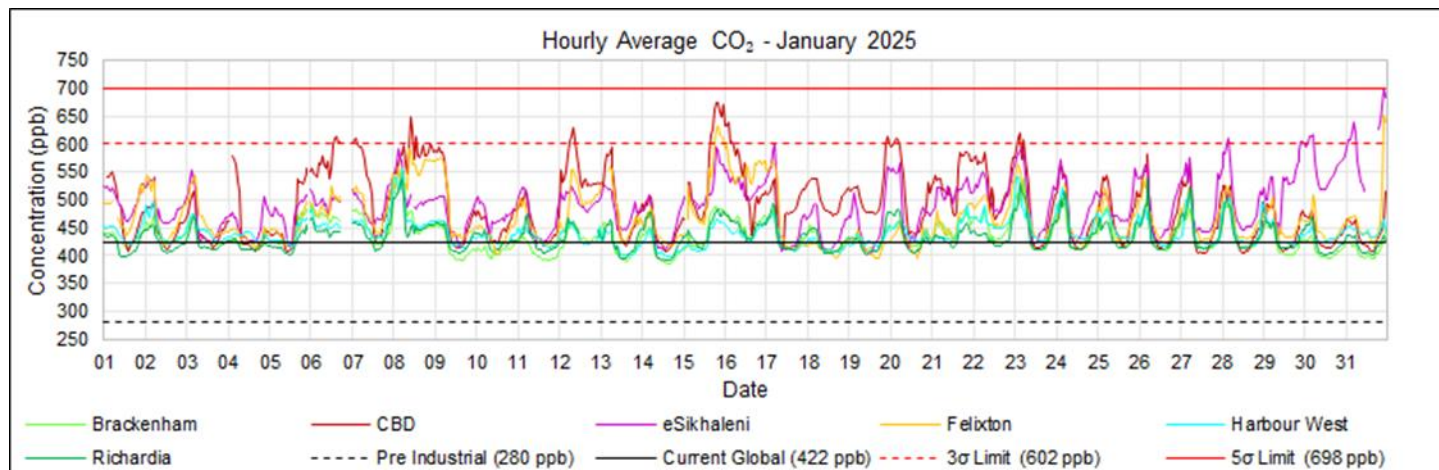


AirGradient CO₂

MONTHLY



1-HOUR



Thank you

- Lance Coetzee
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- Francois Nel
- francois@airimpact.co.za

- Alicia Garnica
- alicia@airimpact.co.za

