

## Supplementary Material

**Table S1** Total number of cardiovascular disease deaths and daily median levels of the air pollutants (lag0-1) on days with low, moderate and high Tapp levels (lag0-1) in Cape Town, South Africa, 1 January 2006 – 31 December 2015 (3652 days).

Variable	Low Tapp (907 days)	Moderate Tapp (1814 days)	High Tapp (907 days)
Total (n=20376)	6464	9783	3985
Females (n= 9063)	2914	4328	1751
Males (n= 11270)	3536	5433	2227
15-64 year olds (n= 9735)	2990	4776	1905
≥65 year olds (n= 10588)	3457	4984	2067
PM <sub>10</sub> (µg.m <sup>-3</sup> )	26.5	27.1	30.5
NO <sub>2</sub> (µg.m <sup>-3</sup> )	19.0	14.3	11.5
SO <sub>2</sub> (µg.m <sup>-3</sup> )	9.5	7.9	7.4

Abbreviations: PM<sub>10</sub>: particulate matter with an aerodynamic diameter less or equal to 10 µm; NO<sub>2</sub>: nitrogen dioxide, SO<sub>2</sub>: sulphur dioxide; Tapp: apparent temperature

Tapp data missing on 24 days

High Tapp: > 75<sup>th</sup> percentile (20.3°C); Low Tapp: < 25<sup>th</sup> percentile (12.6°C); Moderate Tapp: ≥ 25<sup>th</sup> and ≤ 75<sup>th</sup> percentile

There was a significant difference between the daily median levels of the air pollutants (lag0-1) on days with low, moderate and high Tapp levels (lag0-1), p<0.001. The air pollutant levels did not have Gaussian distributions and the non-parametric Wilcoxon Rank Sum test was applied.

**Table S2** Broad group for underlying causes of cardiovascular diseases mortality in Cape Town, South Africa, 1 January 2006 – 31 December 2015 (3652 days)

Underlying Broad Group	Frequency	Percent %
I00-I02 Acute rheumatic fever	27	0.1
I05-I09 Chronic rheumatic heart diseases	381	0.7
I10-I15 Hypertensive diseases	10193	18.8
I20-I25 Ischemic heart diseases	16894	31.1
I26-I28 Pulmonary heart disease	1408	2.6
I30-I52 Other forms of heart disease	8881	16.3
I60-I69 Cerebrovascular diseases	14411	26.5
I70-I79 Diseases of arteries, arterioles and capillaries	1750	3.2
I80-I89 Diseases of veins, lymphatic vessels and lymph nodes, not elsewhere classified	351	0.7
I95-I99 Other and unspecified disorders of the circulatory system	60	0.1

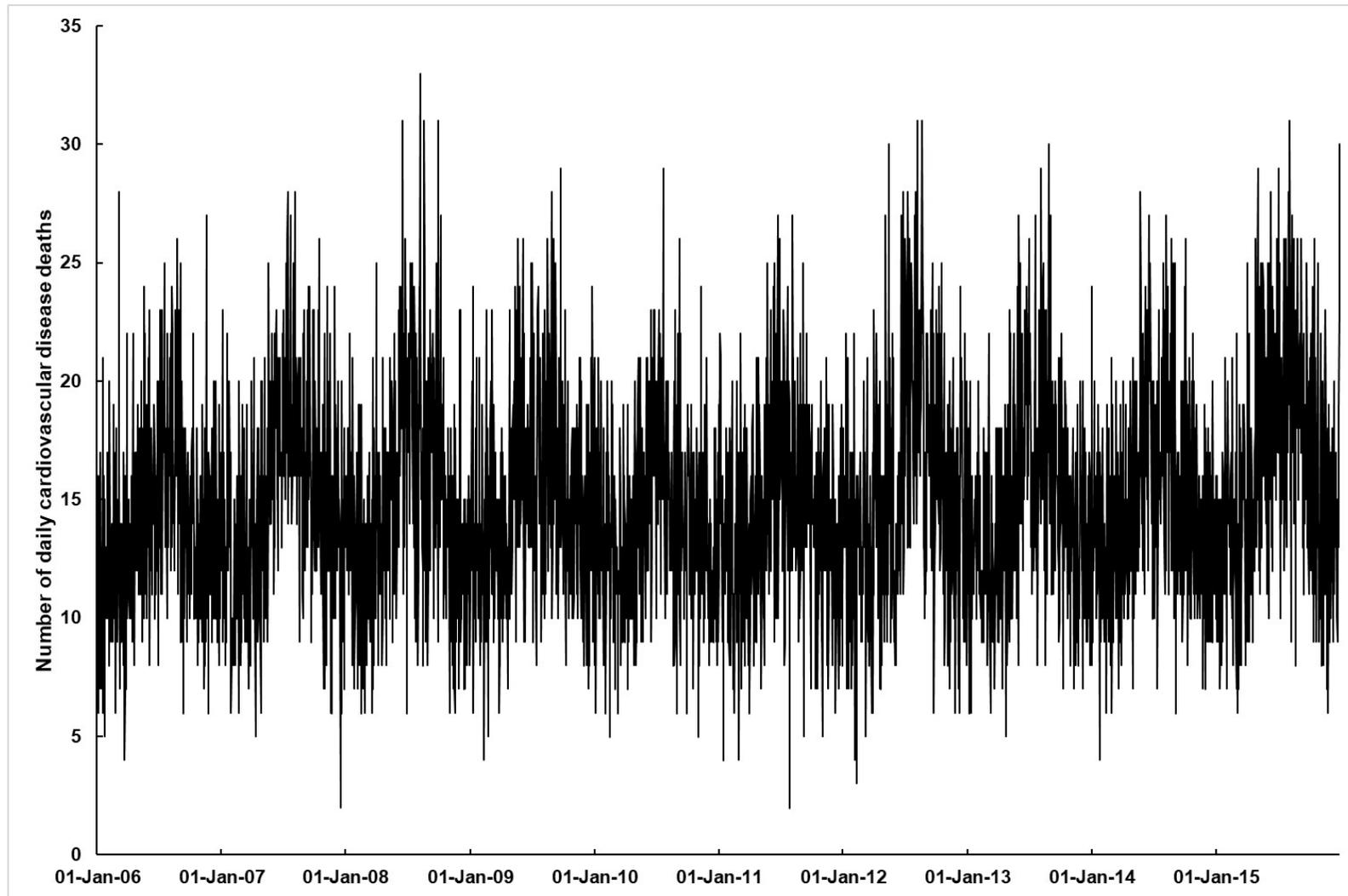
**Table S3** Spearman rank correlation coefficients between air pollution and weather variables at low, moderate and high Tapp levels in Cape Town, South Africa, 1 January 2006 – 31 December 2015 (3652 days).

Variable	NO <sub>2</sub>	SO <sub>2</sub>
Low Tapp		
PM <sub>10</sub>	0.513	0.375
NO <sub>2</sub>		0.501
Moderate Tapp		
PM <sub>10</sub>	0.339	0.230
NO <sub>2</sub>		0.447
High Tapp		
PM <sub>10</sub>	0.381	0.303
NO <sub>2</sub>		0.467

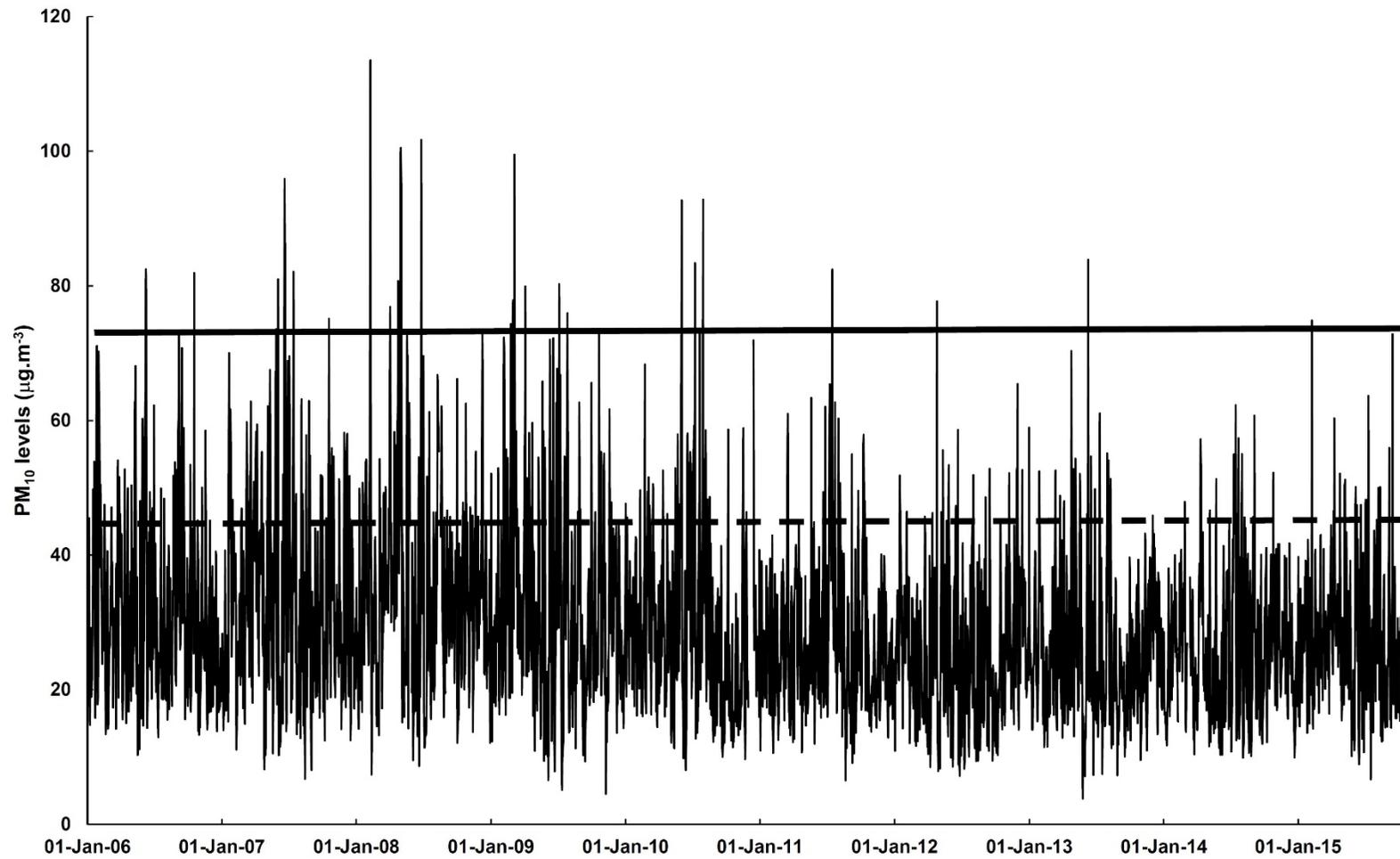
Abbreviations: PM<sub>10</sub>: particulate matter with an aerodynamic diameter less or equal to 10 µm; NO<sub>2</sub>: nitrogen dioxide, SO<sub>2</sub>: sulphur dioxide; Tapp: apparent temperature

All correlations were significant ( $p < 0.0001$ )

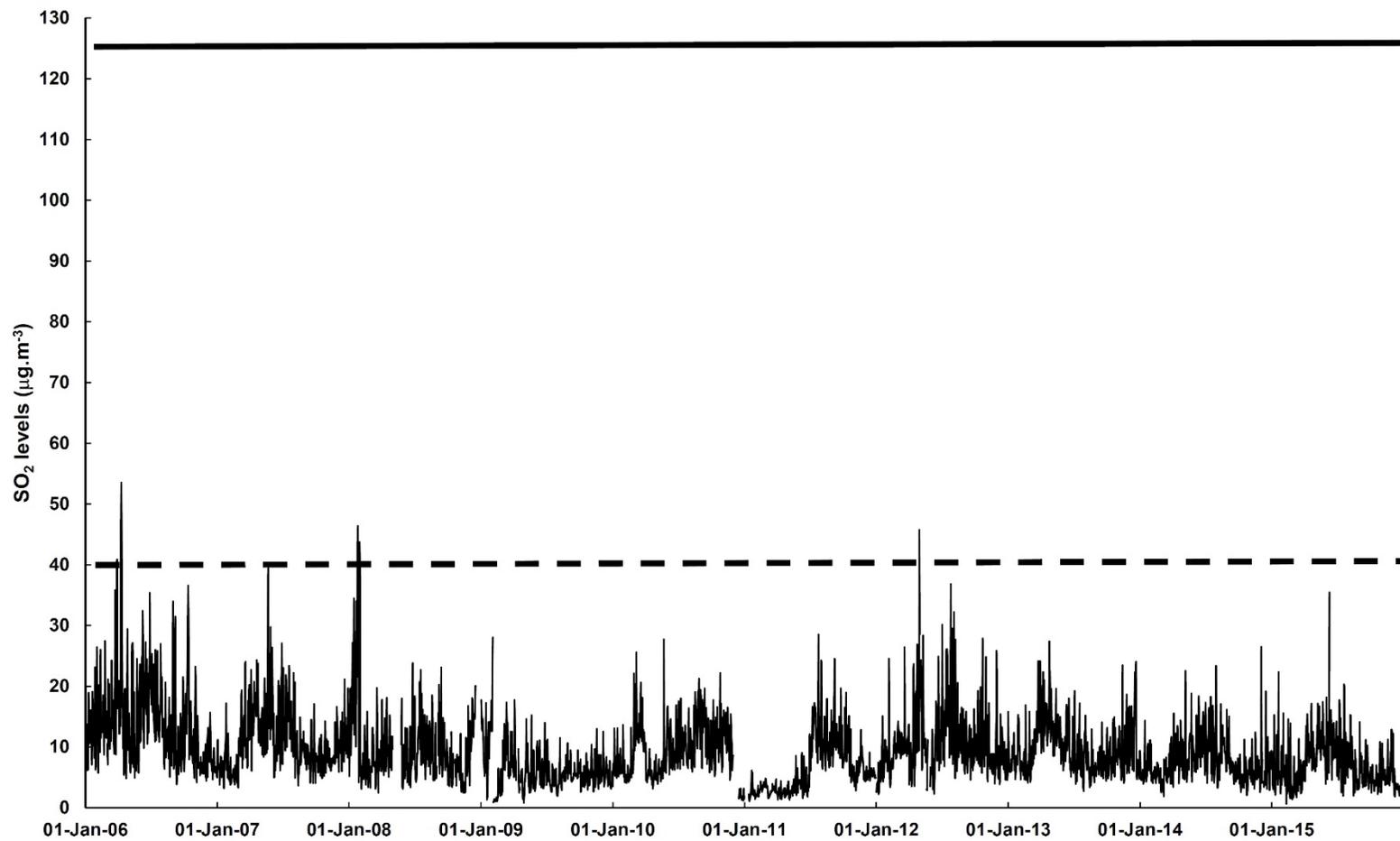
High Tapp: > 75<sup>th</sup> percentile (20.3°C); Low Tapp: < 25<sup>th</sup> percentile (12.6°C); Moderate Tapp: ≥ 25<sup>th</sup> and ≤ 75<sup>th</sup> percentile



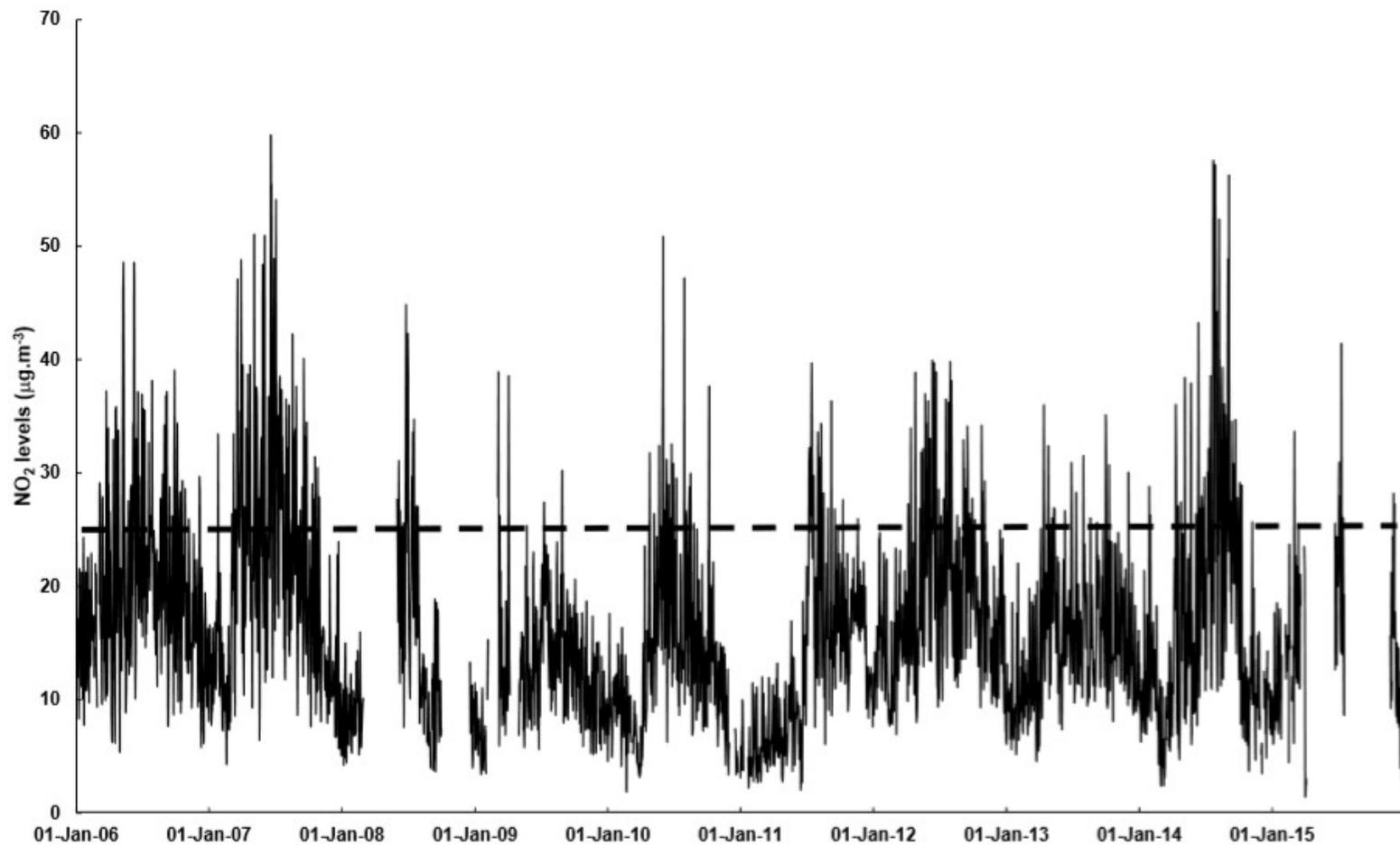
**Figure S1.** Time-series of the daily number of cardiovascular disease deaths in Cape Town, South Africa during 1 January 2006 to 31 December 2015.



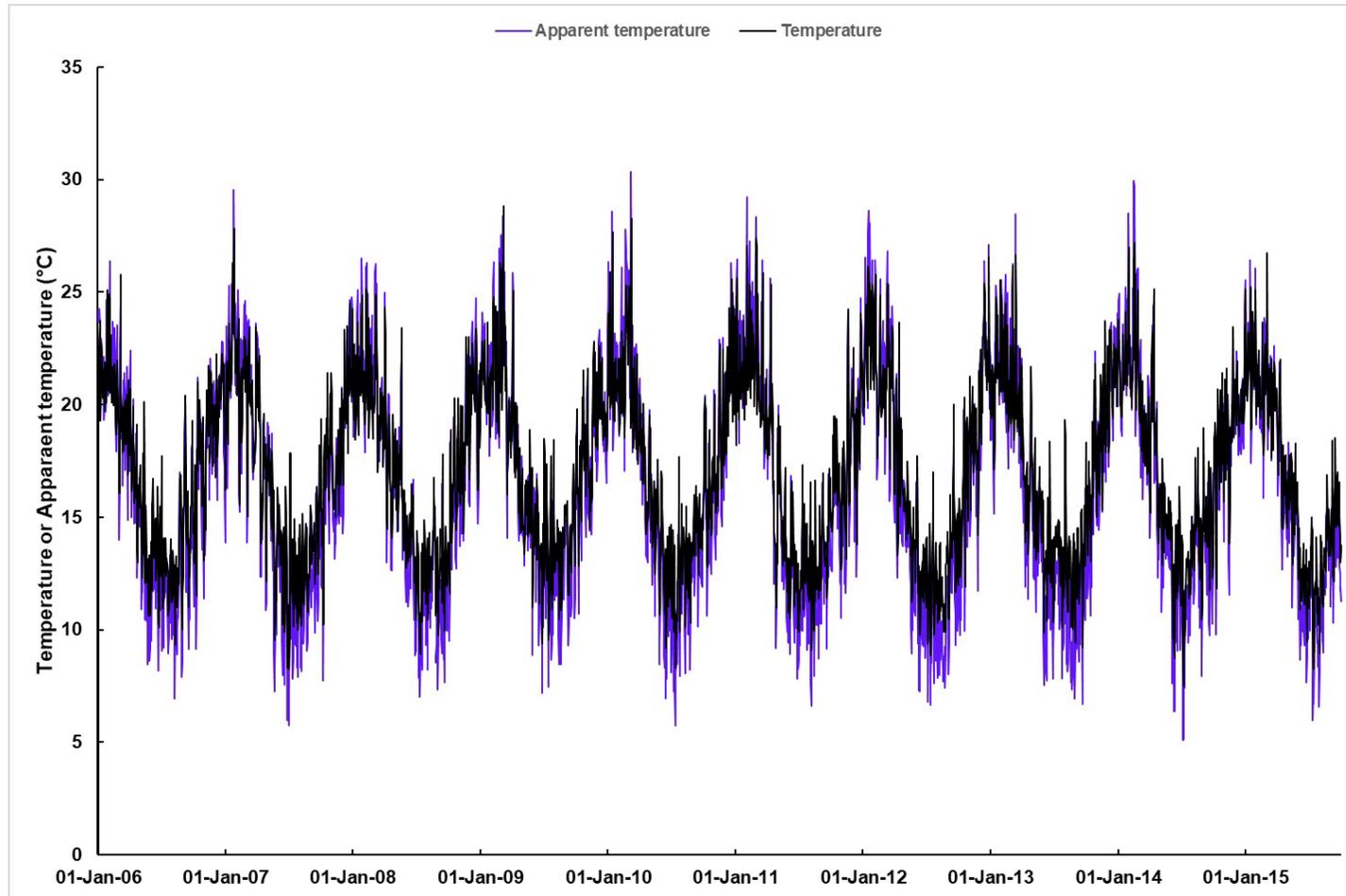
**Figure S2** Time-series of PM<sub>10</sub> levels in Cape Town, South Africa during 1 January 2006 to 31 December 2015. Dotted line: Daily WHO guideline, Solid bold line: Daily South African standard



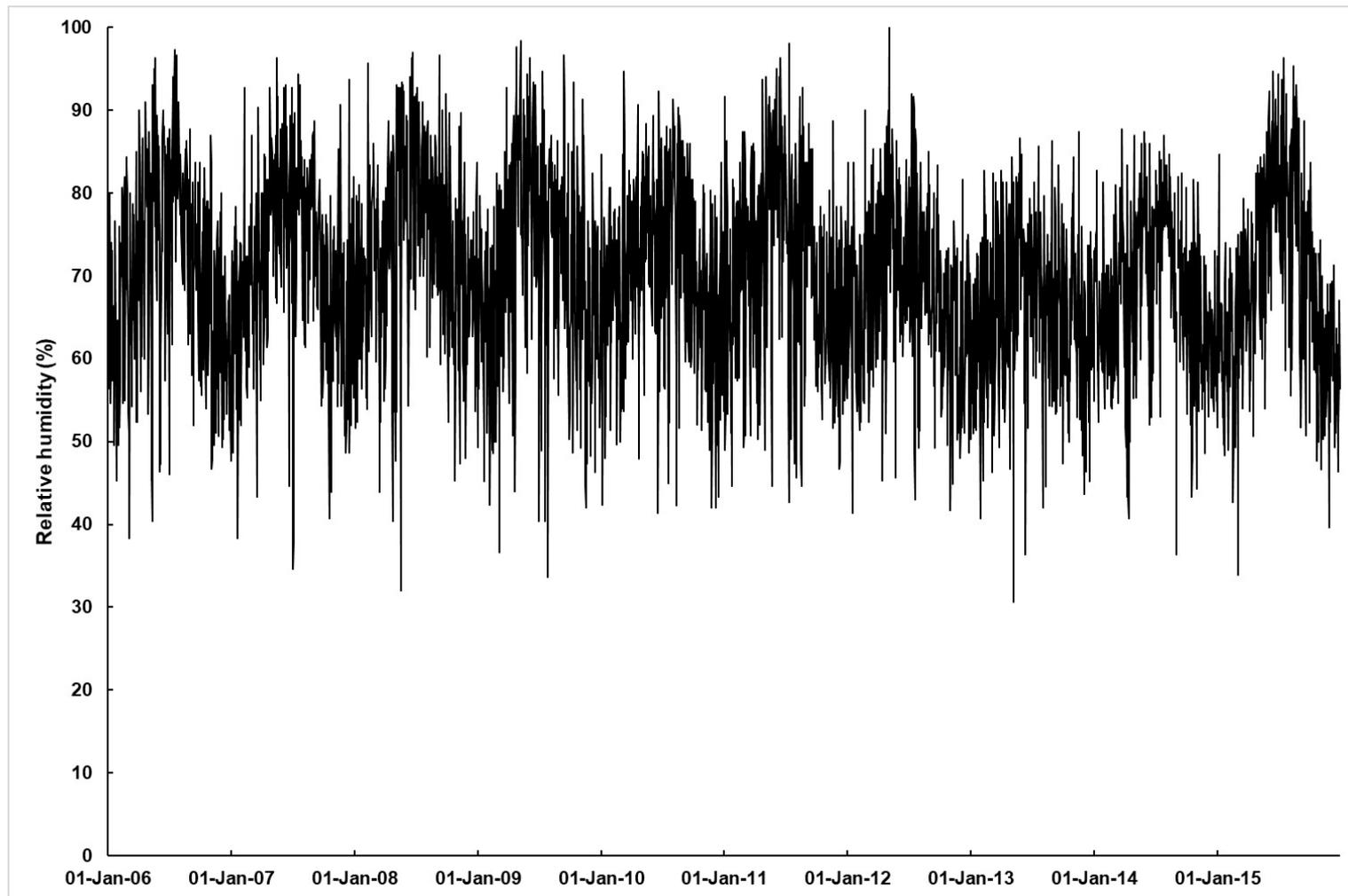
**Figure S3** Time-series of SO<sub>2</sub> levels in Cape Town, South Africa during 1 January 2006 to 31 December 2015. Dotted line: Daily WHO guideline, Solid bold line: Daily South African standard



**Figure S4** Time-series of NO<sub>2</sub> levels in Cape Town, South Africa during 1 January 2006 to 31 December 2015.  
No South African daily air quality standard for NO<sub>2</sub>



**Figure S5** Time-series of apparent temperature and temperature in Cape Town, South Africa during 1 January 2006 to 31 December 2015.



**Figure S6** Time-series of relative humidity in Cape Town, South Africa during 1 January 2006 to 31 December 2015