Pope, Francis D. ORCID: https://orcid.org/0000-0001-6583-8347 , Gatari, Michael ORCID: https://orcid.org/0000-0001-9193-6901 , Ng'ang'a, David, Poynter, Alexander ORCID: https://orcid.org/0000-0002-8260-921X and Blake, Rhiannon (2018) Airborne particulate matter monitoring in Kenya using calibrated low cost sensors [discussion paper]. Atmospheric Chemistry and Physics Discussions .

Supplementary Material

Airborne particulate matter monitoring in Kenya using calibrated low cost sensors

Francis D. Pope[1]*, Michael Gatari[2], David Ng'ang'a[2], Alexander Poynter[1] and Rhiannon Blake[1]

[1]*School of Geography, Earth and Environmental Sciences, University of Birmingham, Birmingham, United Kingdom, B15 2TT.*

[2]*Institute of Nuclear Science and Technology, University of Nairobi, Nairobi, Kenya,*

Corresponding author – f.pope@bham.ac.uk

Table S1 Mean average PM mass concentrations (PM_1, $PM_{2.5}$ and PM_{10}) and daily exceedances of the WHO PM guidelines ($PM_{2.5}$ and PM_{10}) observed at the three measurement sites during the intensive period. [1]WHO guidelines for daily PM_{10} and $PM_{2.5}$ are 50 and 25 $\mu g/m^3$, respectively

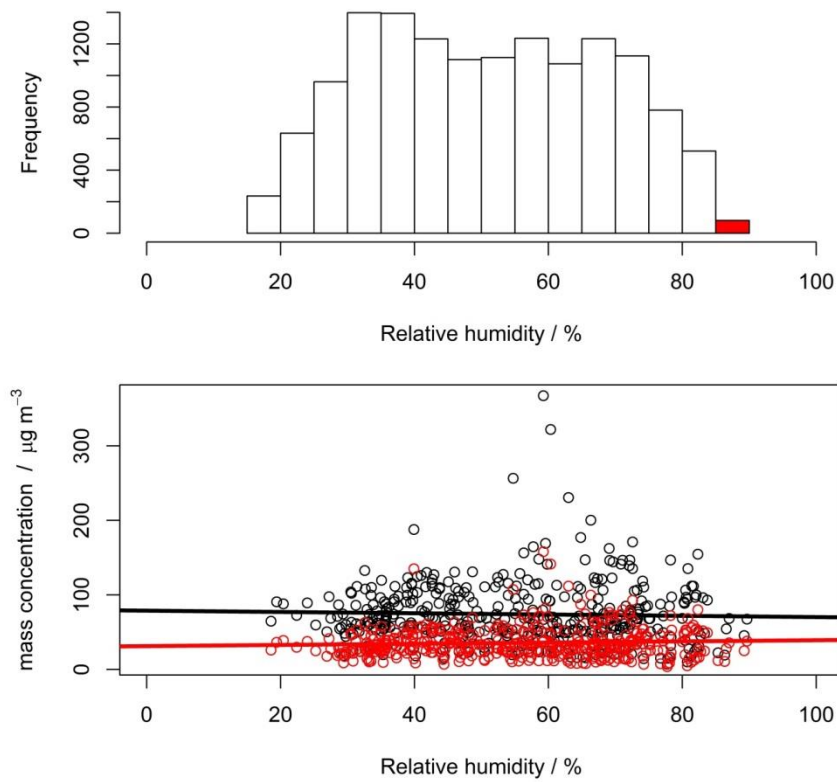| Measurement location	Measurement days (number)	Average PM_1 mass concentration ($\mu g/m^3$)	Average $PM_{2.5}$ mass concentration ($\mu g/m^3$)	Average PM_{10} mass concentration ($\mu g/m^3$)	% daily $PM_{2.5}$ exceedances[1]	% daily PM_{10} exceedances[1]
Urban background	14	17.1	25.3	62.6	35.7	71.4
Urban roadside	14	33.0	48.2	120.6	100.0	100.0
Rural background	14	11.6	16.6	23.4	21.4	0.0

Figure S1. There is no dependence on recorded PM mass concentration upon RH. Top panel – histogram of recorded RH at the urban background site. The data with RH greater than 85% RH is shown in red and represents only 0.84% of the data recorded. Bottom panel – scatter plots of PM_{10} and $PM_{2.5}$ versus RH for the urban background site. Black and red points represent PM10 and PM2.5 data, respectively. Neither site shows any significant dependence of PM concentration upon RH, as expected with respect to Crilley et al. 2018
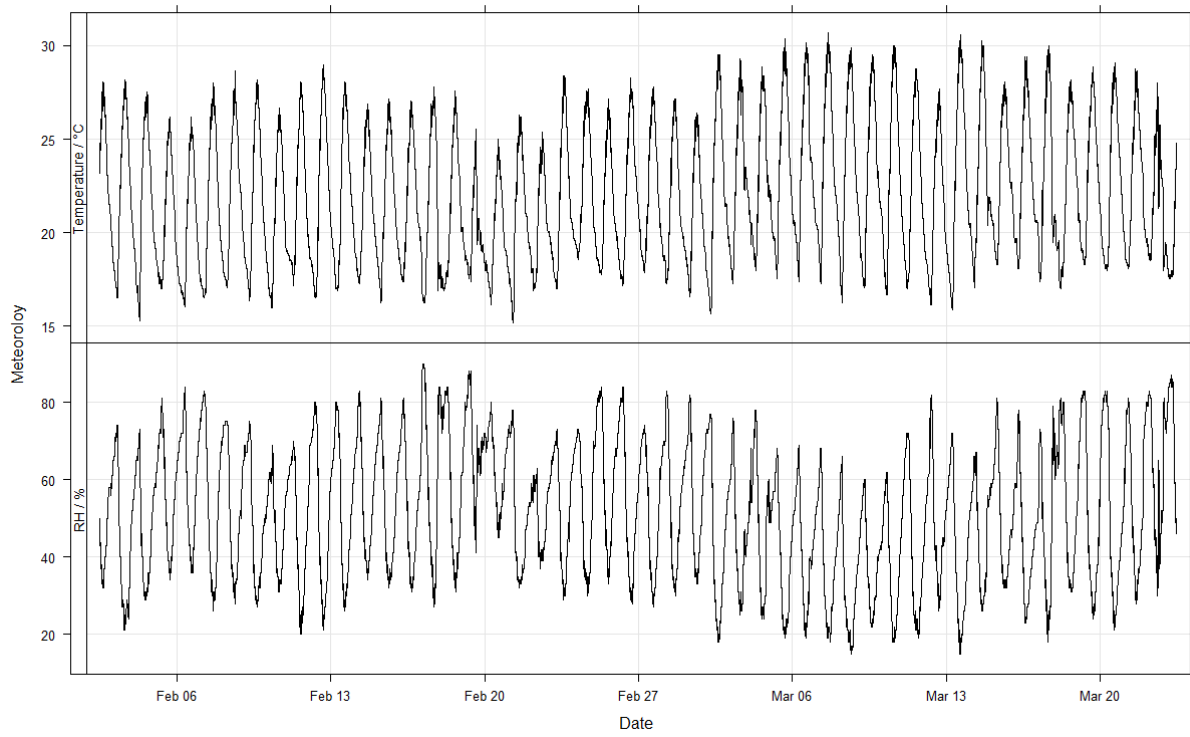
Figure S2. Time series for temperature and relative humidity data collected at the urban background field site in Nairobi.