Supplementary Information

Results of Multiple Regression Analysis: A multiple regression model of particulate ROS concentration with ozone concentration, temperature and solar radiation was found to be significant (p=0.0000) with an R^2 value of 0.6. The standardized coefficients for the three predictor variables were 0.72 (p=0.000), 0.32 (p=0.066), and -0.20 (p=0.306), respectively. This indicates that ozone has the greatest influence on ambient particulate ROS concentrations.

Table S1: Outdoor environmental conditions during ROS sampling, November 2011 – September 2012.

Date	Ozone Conc. [ppb][a]	$PM_{2.5}$ Conc. [$\mu g/m^3$][a]	Temperature [°C][a]	Relative Humidity %[b]	Precipitation [mm][c]	Solar Radiation [W/m^2][d]
28-Nov	35.3 ± 3.5	1.4 ± 2.0	15.5 ± 1.2	20.6 ± 2.4	0.0	584.6 ± 82.0
30-Nov	30.0 ± 5.3	6.5 ± 4.7	16.5 ± 0.3	31.4 ± 0.9	0.0	309.6 ± 187.4
5-Dec	26.5 ± 1.3	2.1 ± 2.0	4.9 ± 0.4	83.0 ± 0.4	16.3	75.5 ± 55.5
6-Dec	23.0 ± 1.0	4.2 ± 2.0	2.5 ± 0.1	56.0 ± 1.2	0.0	255.4 ± 138.7
7-Dec	35.7 ± 4.5	1.5 ± 2.3	9.7 ± 0.3	36.1 ± 1.9	0.0	349.9 ± 206.7
12-Dec	22.0 ± 3.0	21.9 ± 2.1	13.7 ± 0.1	72.8 ± 1.0	0.0	83.2 ± 71.6
15-Dec	23.0 ± 5.2	3.7 ± 2.2	12.5 ± 0..2	95.5 ± 1.6	18.0	64.7 ± 38.6
16-Dec	26.3 ± 1.0	5.3 ± 2.2	11.9 ± 0.5	74.8 ± 1.3	0.0	169.1 ± 71.4
21-Dec	8.7 ± 1.5	13.4 ± 2.4	9.4 ± 0.0	56.7 ± 1.6	9.1	23.5 ± 21.3
22-Dec	32.0 ± 2.8	9.0 ± 2.1	18.3 ± 0.9	45.2 ± 6.6	18.0	319.6 ± 168.5
23-Dec	14.3 ± 1.0	9.4 ± 3.0	5.7 ± 0.2	77.4 ± 2.1	0.0	118.9 ± 48.3
9-Jan	14.9 ± 0.7	2.8 ± 2.5[e]	8.8 ± 0.5	92.6 ± 1.1	22.1	40.2 ± 24.9
12-Jan	36.0 ± 2.8	0.8 ± 2.1[e]	6.2 ± 1.6	22.8 ± 4.9	0.0	412.2 ± 144.8
23-Jan	30.5 ± 0.7	2.7 ± 2.9[e]	17.8 ± 0.1	36.3 ± 1.1	0.0	321.1 ± 141.5
24-Jan	8.0 ± 0.5	13.8 ± 2.5	13.2 ± 0.7	81.3 ± 2.2	10.2	120.5 ± 58.6
25-Jan	19.3 ± 2.1	2.5 ± 2.4	12.8 ± 0.2	86.5 ± 2.9	79.8	114.0 ± 45.3
26-Jan	29.7 ± 6.0	2.3 ± 2.6	15.8 ± 2.0	44.4 ± 6.7	0.0	683.1 ± 29.1
27-Jan	41.0 ± 7.3	3.8 ± 2.4	18.0 ± 1.6	46.3 ± 1.5	0.0	676.0 ± 44.3
7-Feb	36.0 ± 1.4	6.2 ± 2.0	17.8 ± 0.0	46.3 ± 0.6	0.0	474.4 ± 183.5
8-Feb	29.5 ± 1.7	6.7 ± 2.1	11.0 ± 0.6	63.3 ± 2.1	0.0	455.2 ± 130.9
9-Feb	33.5 ± 1.7	8.9 ± 2.5	12.6 ± 0.7	58.9 ± 2.6	0.0	505.5 ± 169.6
28-Feb	22.0 ± 4.0	7.3 ± 2.4	22.1 ± 1.8	74.9 ± 8.0	1.0	367.7 ± 102.6
1-Mar	20.0 ± 4.3	12.3 ± 2.5	20.7 ± 1.0	89.8 ± 1.9	0.0	474.5 ± 118.1
12-Mar	37.7 ± 2.1	7.0 ± 2.2	24.5 ± 1.7	73.9 ± 6.1	0.0	311.7 ± 277.2
30-Mar	47.3 ± 3.6	9.0 ± 2.3	27.2 ± 0.8	60.5 ± 4.1	0.0	691.5 ± 175.0
2-Apr	45.2 ± 8.1	8.2 ± 3.6	26.1 ± 1.5	57.5 ± 4.9	0.0	806.2 ± 98.5
8-Jun	57.3 ± 5.3	16.5 ± 3.3	26.0 ± 0.7	66.6 ± 3.4	0.3	524.5 ± 167.9
12-Jun	32.0 ± 2.0	15.3 ± 2.1	33.5 ± 0.1	44.0 ± 1.7	0.8	486.3 ± 162.4
2-Jul	31.4 ± 0.9	19.6 ± 3.3	33.1 ± 1.0	38.5 ± 5.6	0.0	674.3 ± 205.4
11-Jul	48.3 ± 4.7	11.0 ± 2.2	25.2 ± 2.2	87.9 ± 3.9	3.1	529.6 ± 239.6
17-Jul	30.8 ± 1.5	7.2 ± 2.5	30.0 ± 0.6	62.6 ± 2.5	0.0	435.8 ± 94.9
18-Jul	26.3 ± 4.5	6.0 ± 3.3	30.5 ± 0.7	62.5 ± 2.8	0.0	878.2 ± 186.5
20-Jul	30.3 ± 1.9[e]	8.7 ± 3.1	34.6 ± 0.5	42.2 ± 2.0	0.0	882.1 ± 122.4
23-Jul	30.5 ± 2.1	9.4 ± 3.5	31.5 ± 1.5	50.0 ± 7.2	0.0	927.7 ± 49.4
24-Jul	34.0 ± 1.2	3.5 ± 2.4	33.4 ± 0.7	44.7 ± 2.4	0.0	801.9 ± 143.7
8-Aug	59.4 ± 2.1	8.8 ± 2.8	34.8 ± 1.2	36.2 ± 4.2	0.0	895.2 ± 110.4
19-Sep	57.7 ± 5.0	7.3 ± 2.1	26.4 ± 0.8	39.6 ± 4.5	0.0	907.9 ± 22.9
20-Sep	71.5 ± 4.8	12.0 ± 2.4	29.6 ± 0.9	43.9 ± 5.5	0.0	726.4 ± 243.5
26-Sep	46.3 ± 0.6	3.0 ± 2.9[e]	30.0 ± 1.0	39.9 ± 5.6	0.0	835.4 ± 71.0

[a] Data from TCEQ site CAMS3, located 5 miles from ROS sampling site. MDL for ozone measurements is 5 ppb and for $PM_{2.5}$ measurements is 2 $\mu g/m^3$.

[b] Relative humidity data from CAMS5003 (nearest TCEQ site to take this measurement).

[c] Daily precipitation data from Weather Underground.

[d] Solar Radiation data from TCEQ site CAMS38.

[e] Data from CAMS38 (next closest TCEQ site to measure these parameters) because of instrument error at CAMS3.

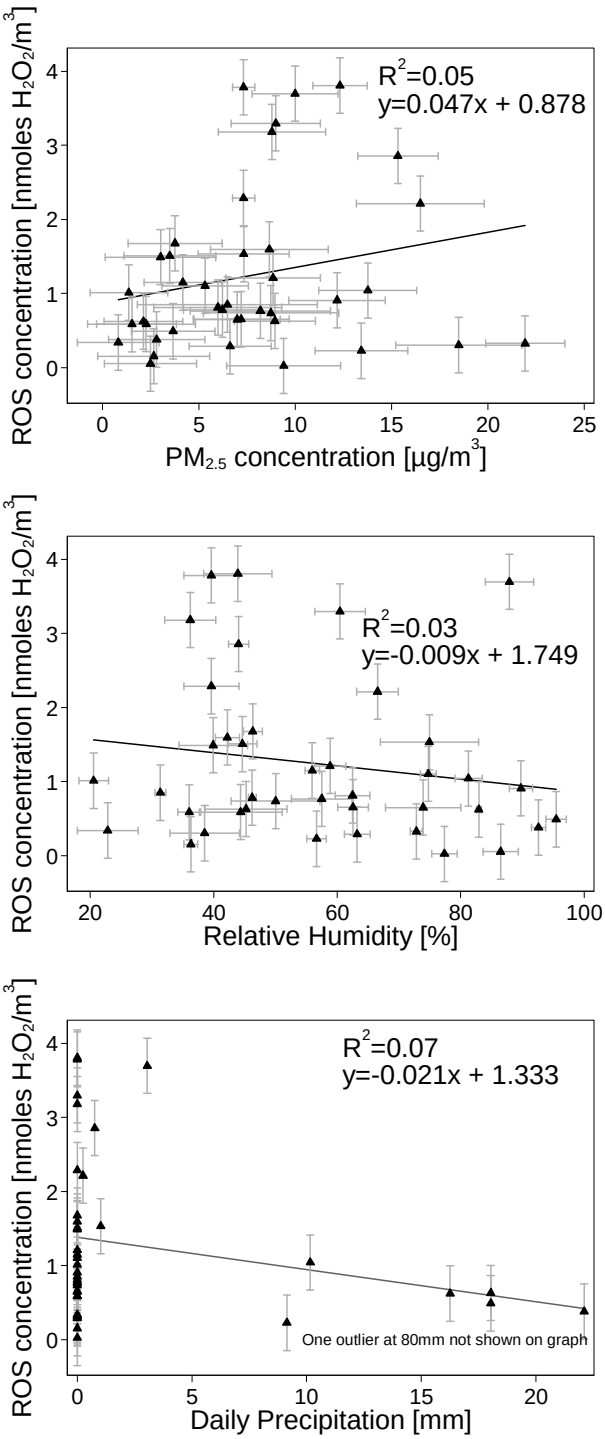

Figure S1: Particulate ROS concentrations depicted with respect to $PM_{2.5}$ concentration, relative humidity, and precipitation. Linear regression analysis indicates that these relationships are not significant. Error bars for ROS concentration represent the average standard error of replicate ROS samples. Error bars for environmental conditions represent the variance in the measurements during the 3-hour sampling period.