Supplemental Information

Table 3. Results for alternate regression model using additional variables.

| Effect | Site | Estimate | Std. Err. | P-Value |
|---|---|---|---|---|
| Intercept | | -39.6061 | 6.5826 | <.0001 |
| 1/Visual Range | | 744892 | 29360 | <.0001 |
| $RH^2$ | | -0.00357 | 0.00083 | <.0001 |
| Site | 1 | 3.0222 | 3.173 | 0.3412 |
| Site | 2 | 1.1852 | 4.6924 | 0.8007 |
| Site | 3 | 0 | . | . |
| Season | | 1.0122 | 1.2358 | 0.4131 |
| Temperature | | -0.1316 | 0.1815 | 0.4689 |
| Wind Speed | | -0.254 | 0.266 | 0.3399 |

Table 4. Descriptive statistics for meteorological variables of the three Kuwait calibration sites.

| | Meteorological Variables | Mean | Std. Dev. | Min. | Max. |
|---|---|---|---|---|---|
| Site 1 | Wind Speed (m/s) | 8.7 | 4.1 | 1.8 | 20.7 |
| | Temperature (°C) | 29.4 | 9.2 | 6.7 | 43.4 |
| | Relative Humidity (%) | 30.8 | 20.1 | 7.3 | 94.4 |
| Site 2 | Wind Speed (m/s) | 7.9 | 3.6 | 2.1 | 18.0 |
| | Temperature (°C) | 26.5 | 10.7 | 7.7 | 41.1 |
| | Relative Humidity (%) | 30.6 | 23.3 | 7.6 | 91.1 |
| Site 3 | Wind Speed (m/s) | 8.6 | 4.1 | 2.1 | 18.3 |
| | Temperature (°C) | 29.5 | 9.4 | 10.8 | 40.8 |
| | Relative Humidity (%) | 31.7 | 22.1 | 7.4 | 94.1 |

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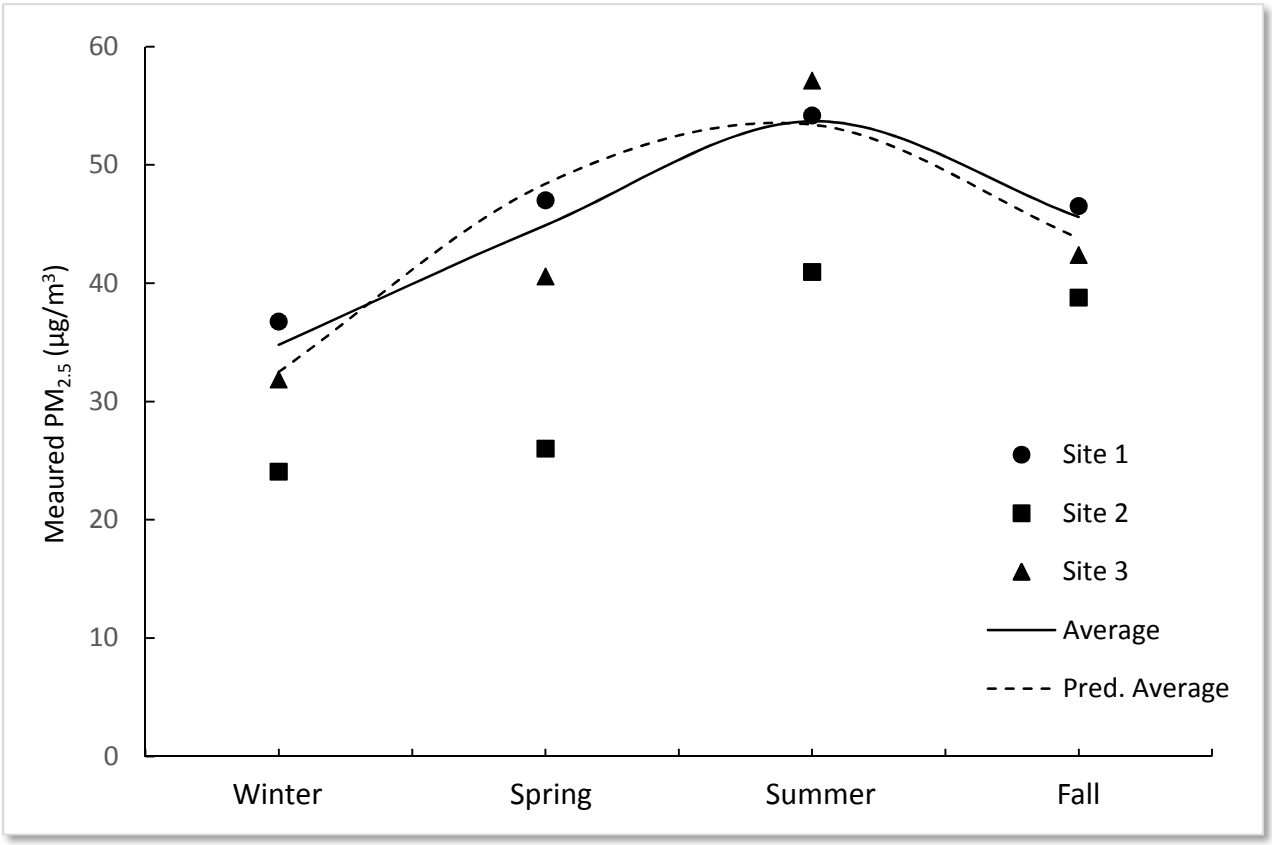


Figure 7. Seasonal variability of measured and predicted (Pred.) average $PM_{2.5}$ at the three Kuwait calibration sites.

In Figure 7, since sites had different numbers of observations, overall seasonal average concentrations did not fall midway between the site seasonal averages. Rather, averages were influenced mostly by "Site 1." In terms of seasonal variability, each site followed a similar patter, with peak $PM_{2.5}$ concentrations occurring in summer and the lowest concentrations occurring in winter. As shown, when comparing seasonal measured and predicted $PM_{2.5}$ concentrations, predictions followed the seasonal pattern well. This is also evident in Figure 2 of this manuscript.

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