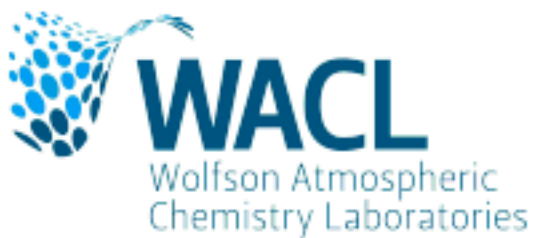


Ozone (O₃) in London

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Nat
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Re

Devices

Four types of devices measured O₃ in London:

- AQMesh - AQM389
- Aeroqual - AQY874
- AriSense - Ari086
- Zephyr - Zep311

This report aims to show how well the devices have performed throughout the study measuring O₃ in London.

Interpreting the Data

Interpreting the data

- Time-series - the darker red colour shows the overlap between the lcs measurements and the reference measurements taken.
- RMSE - the closer the value is to 0, means that the reference values closely matched the tested sensors values.
- Bias - the difference between average sensor measurements and the average reference measurements
- CRMSE - similar to the RMSE but with the bias subtracted. This measures error around an average.
- R-squared (r²) - a value closer to 1 indicates the regression predictions fit more accurately.
- Drift - a gradual increase shows a larger effect of RMSE, CRMSE or bias that the device possesses.

Equations Used

$$\text{RMSE}(R, L) = \sqrt{\frac{\sum_{i=0}^{n-1} (R_i - L_i)^2}{n}}$$

- R = reference measurement.
- L = LCS measurement
- n = number of measurements
- \sum = sum of

$$\text{CRMSE}(R, L) = \sqrt{\text{mean}(L_i - R_i - \bar{L} + \bar{R})^2}$$

- R = reference measurement.
- L = LCS measurement
- \bar{L} = mean LCS measurement
- \bar{R} = mean reference measurement

$$\text{Bias}(R, L) = |\bar{L} - \bar{R}|$$

- \bar{L} = mean LCS measurement
- \bar{R} = mean reference measurement

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