

Table S2. Temporal correlation (R^2) between O_3 flux and concentration metrics^a

Metrics	Pooled ^b	Site-by-site ^c	Trends ^d
mean O_3 & AOT40	0.83 ± 0.02	0.80 ± 0.05	$0.68 \begin{smallmatrix} +0.09 \\ -0.11 \end{smallmatrix}$
mean O_3 & W126	0.70 ± 0.03	0.72 ± 0.04	$0.57 \begin{smallmatrix} +0.11 \\ -0.13 \end{smallmatrix}$
AOT40 & W126	0.88 ± 0.01	0.84 ± 0.04	$0.90 \begin{smallmatrix} +0.03 \\ -0.04 \end{smallmatrix}$
POD ₀ & mean O_3	< 0.01	0.14 ± 0.03	$0.05 \begin{smallmatrix} +0.10 \\ -0.05 \end{smallmatrix}$
POD ₀ & AOT40	< 0.01	0.12 ± 0.03	$0.03 \begin{smallmatrix} +0.09 \\ -0.02 \end{smallmatrix}$
POD ₀ & W126	< 0.01	0.14 ± 0.03	$0.04 \begin{smallmatrix} +0.10 \\ -0.04 \end{smallmatrix}$
POD ₃ & mean O_3	< 0.01	0.20 ± 0.04	$0.08 \begin{smallmatrix} +0.11 \\ -0.07 \end{smallmatrix}$
POD ₃ & AOT40	< 0.01	0.19 ± 0.04	$0.06 \begin{smallmatrix} +0.11 \\ -0.06 \end{smallmatrix}$
POD ₃ & W126	< 0.01	0.22 ± 0.04	$0.05 \begin{smallmatrix} +0.10 \\ -0.05 \end{smallmatrix}$

^a Values in table are the coefficients of determination. Underlying metrics are for summer daytime 2005-2014.

^b Correlation of all metric anomalies, which have no mean spatial differences, pooled across sites and years ($n = 299$). See also Figures 3, S2.

^c Correlation calculated at each site ($m = 8-10$ years), then the R^2 values are averaged across sites ($n = 32$). Range is the multi-site standard error.

^d Correlation of temporal trends (i.e. regression slopes; $n = 32$ sites). See also Figures 4, S3.

