Supplement of

Comparing OMI-based and EPA AQS in situ NO₂ trends: towards understanding surface NOₓ emission changes

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Figure S1. The ratios between surface NO$_2$ concentrations of chemiluminescence to photolytic instruments. The ratios are calculated for each month from 7 sites with coincident photolytic measurements. The shaded area shows the 95$^\text{th}$ percentile confidence intervals.
Figure S2. The monthly OMI tropospheric NO$_2$ SCD trends averaged in the North Pacific region from 2005 to 2014. The red shade represents the 95$^{th}$ percentile confidence intervals.
Figure S3. Seasonal differences of OMI-based relative trends from those computed from AQS in situ data. The error bars represent 95th percentile confidence intervals. Same as Figure 7 in the main text but using monthly correction for ocean trend removal.
Figure S4. The cumulative distribution function of NLDN detected CG lightning density in the South.