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Verification of the Atmospheric Infrared Sounder (AIRS) and the Microwave Limb Sounder (MLS) ozone algorithms based on retrieved daytime and night-time ozone

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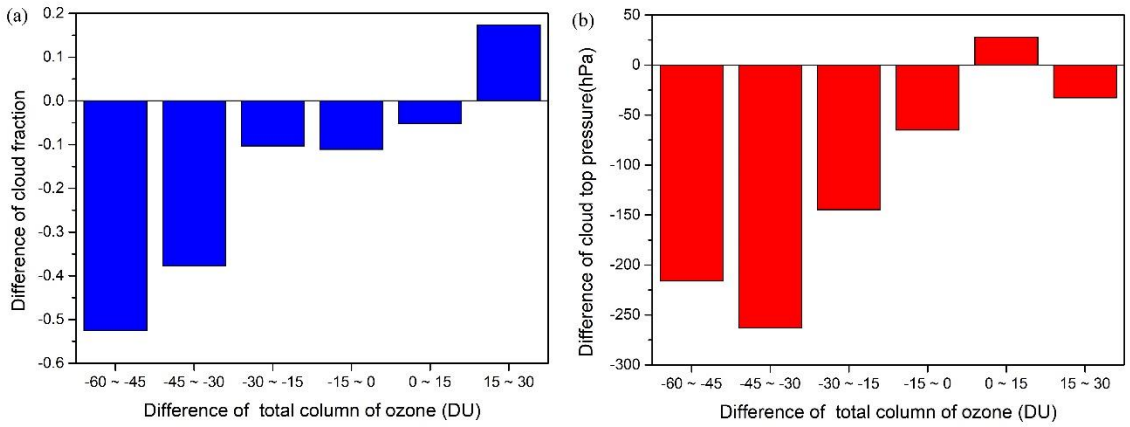

Figure S1. (a) Average day/night difference of cloud fraction as function of difference of total column of ozone. (b) Average day/night difference of cloud top pressure as function of difference of total column of ozone. We select AIRS L2 daily observations over a part of Pacific Ocean near the South America [20 ℃S,100 ℃W,10 ℃S,90 ℃W] when there are persistent clouds day and night in 2018.

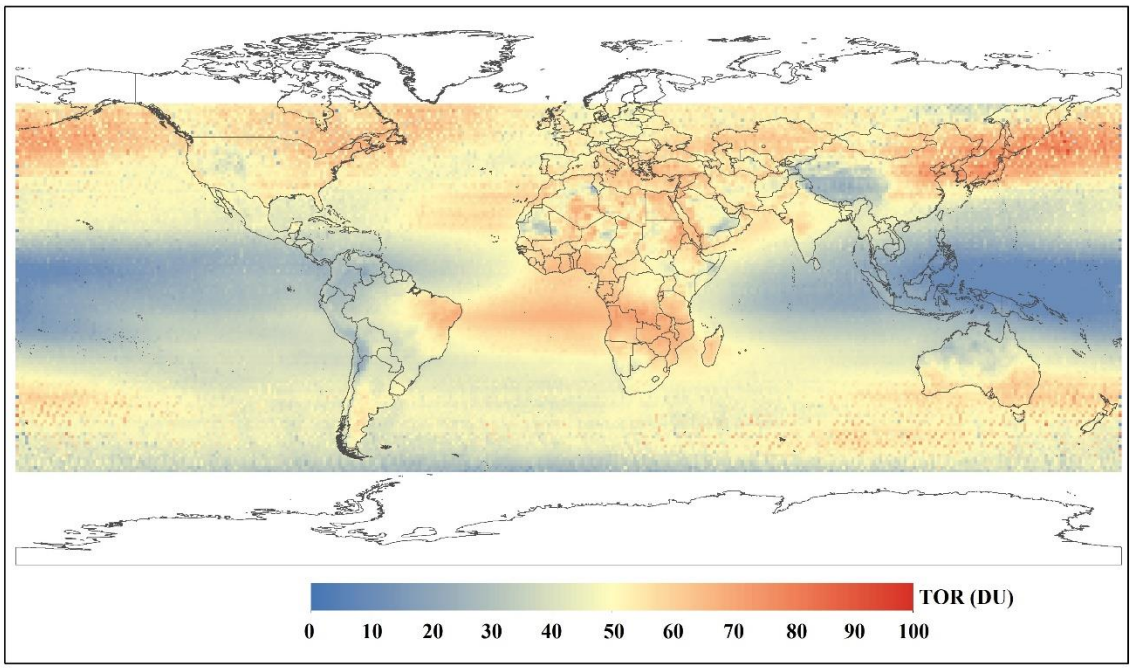

Figure S2. Daytime tropospheric ozone residuals (TOR) averaged for 2005-2018 in 60 ℃S-60 ℃N. The TOR is calculated as AIRS TCO – MLS SCO.

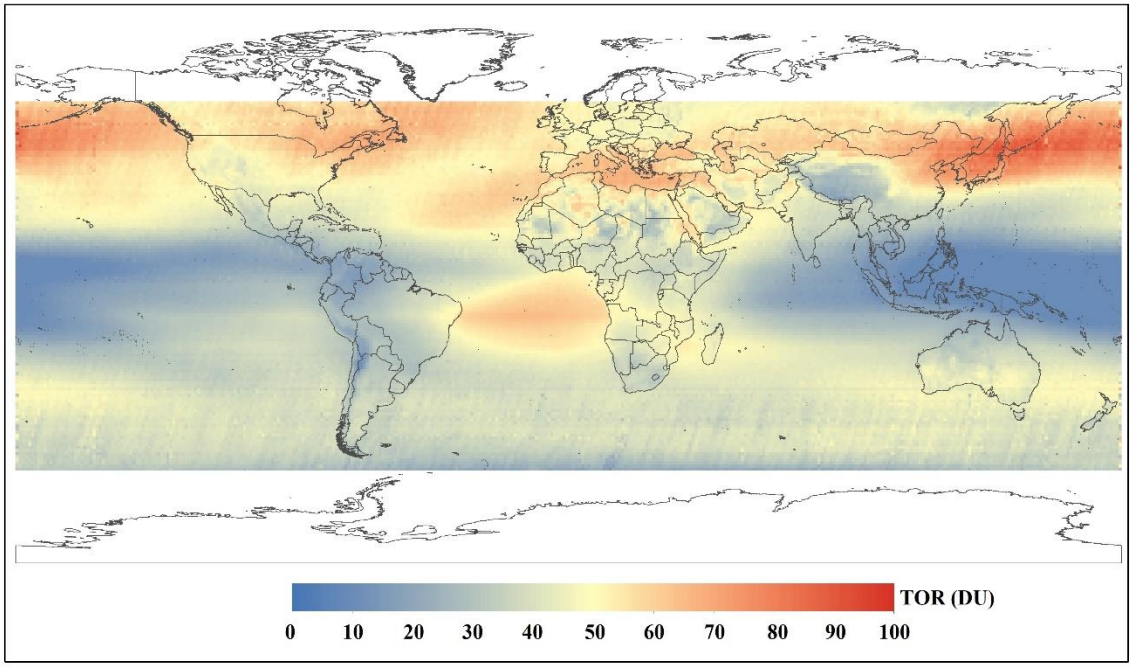

Figure S3. Same as Figure S2, but for nighttime.

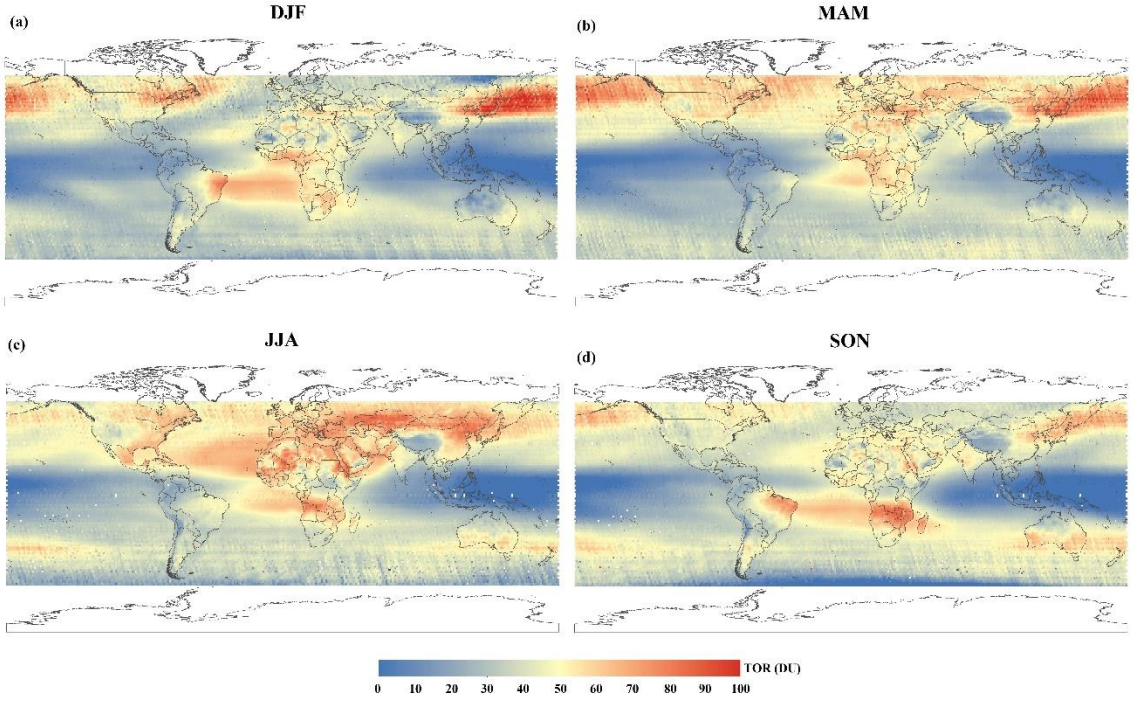

Figure S4. Seasonal daytime TOR averaged for 2005-2018 in 60 °S-60 °N. (a) DJF. (b) MAM. (c) JJA. (d) SON.

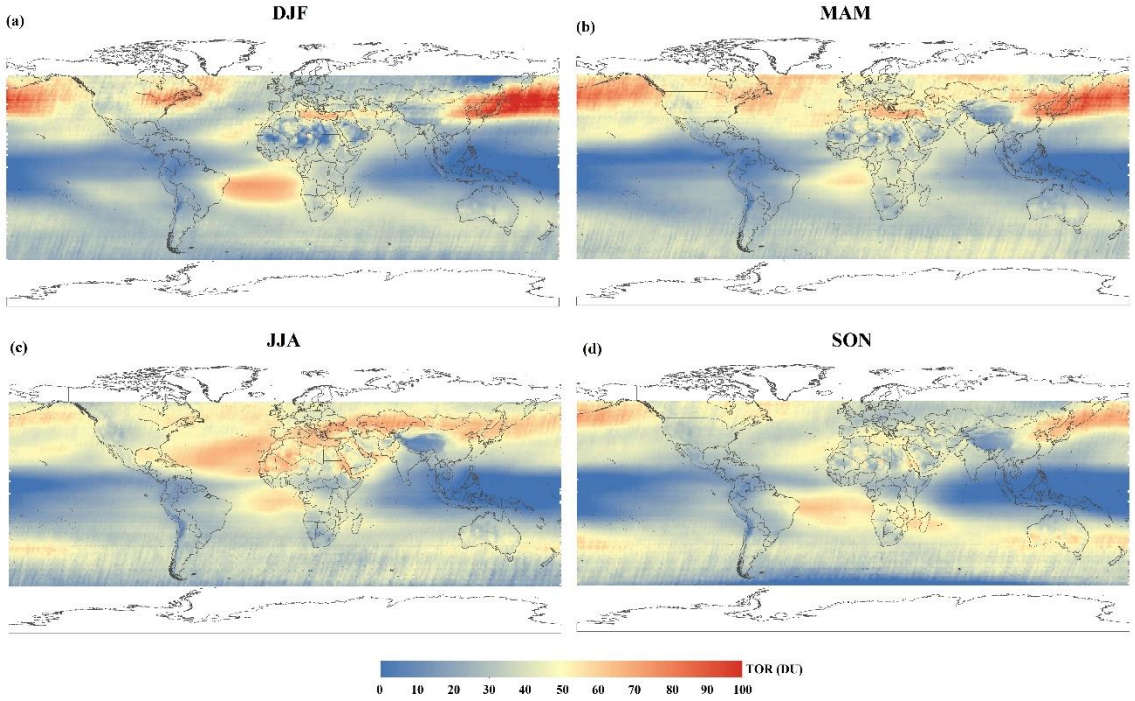

Figure S5. Same as Figure S4, but for nighttime.