



*Supplement of*

## **Nitrogen oxides in the global upper troposphere: interpreting cloud-sliced NO<sub>2</sub> observations from the OMI satellite instrument**

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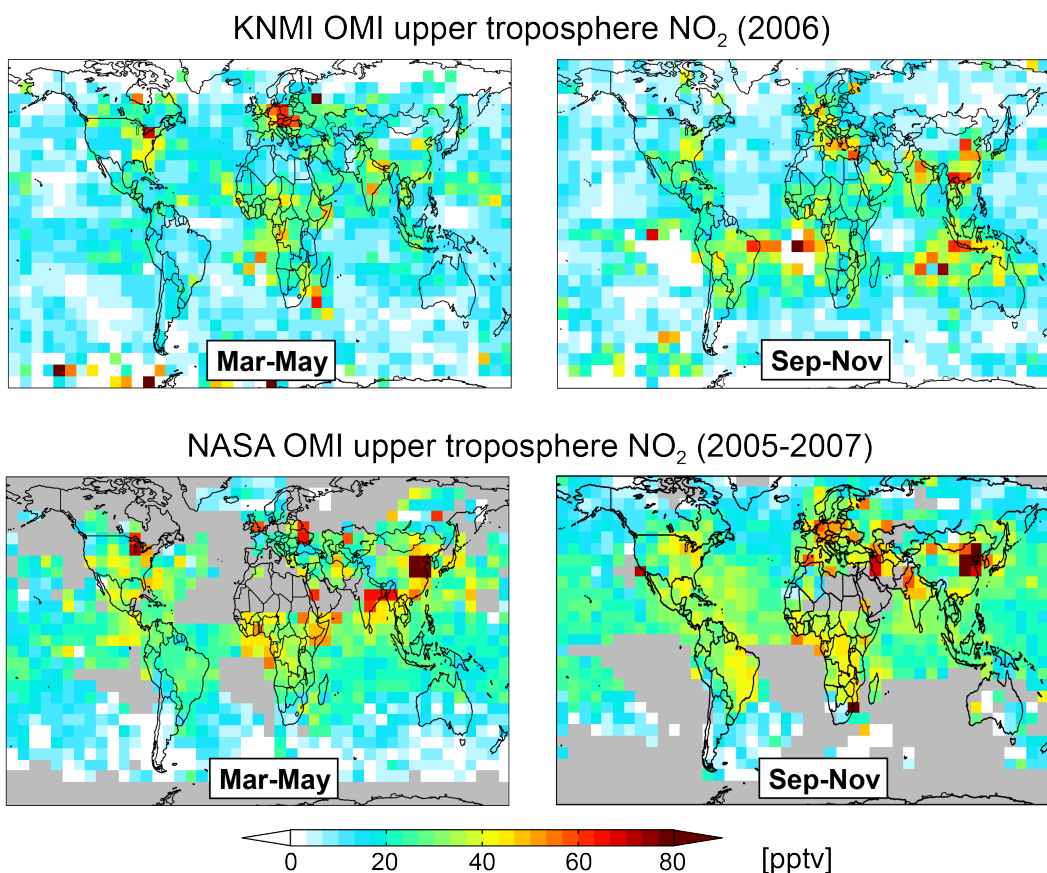


Fig. S1. Upper troposphere (UT) NO<sub>2</sub> from the OMI satellite instrument. Seasonal mean UT NO<sub>2</sub> from KNMI in  
 5 2006 at 330-450 hPa (top) is compared to NASA in 2005-2007 at 280-450 hPa (bottom). Data are at 5° × 8°  
 horizontal resolution for March-May (left) and September-November (right). Grey areas indicate no data and, for  
 NASA, scenes with fewer than 50 measurements.

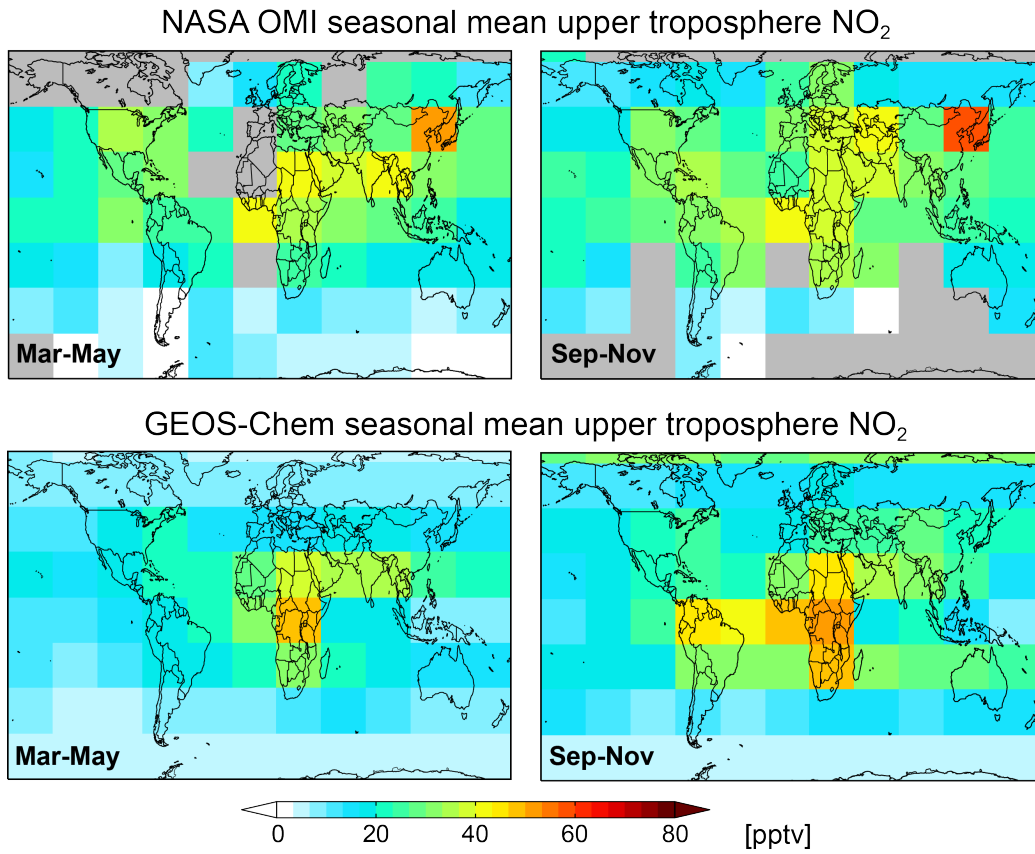


Fig. S2. Observed and modelled upper troposphere NO<sub>2</sub>. NASA OMI for 2005-2007 (top) and GEOS-Chem (bottom) seasonal mean UT NO<sub>2</sub>. The model is sampled at 280-450 hPa during the satellite overpass (12h00-15h00 LT), and filtered for stratospheric influence. Data are at 20° × 32° horizontal resolution for March-May (left) and September-November (right). Grey gridsquares in the top panel indicate no OMI data.