**What:** Oral presentation

**Where:** American Meteorological Society annual meeting, New Orleans, Jan 22–26, 2012

**When:** Thursday, 1/26/12

**Talk information:**

**Title:** A New Retrieval Algorithm for OMI NO2: Tropospheric Results and Comparisons with Measurements and Models

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**Abstract:** Nitrogen oxides (NOx =NO+NO2) are important atmospheric trace constituents that impact tropospheric air pollution chemistry and air quality. We have developed a new NASA algorithm for the retrieval of stratospheric and tropospheric NO2 vertical column densities using measurements from the nadir-viewing Ozone Monitoring Instrument (OMI) on NASA’s Aura satellite. The new products rely on an improved approach to stratospheric NO2 column estimation and stratosphere-troposphere separation and a new monthly NO2 climatology based on the NASA Global Modeling Initiative chemistry-transport model. The retrieval does not rely on daily model profiles, minimizing the influence of a priori information. We evaluate the retrieved tropospheric NO2 columns using surface in situ (e.g., AQS/EPA), ground-based (e.g., DOAS), and airborne measurements (e.g., DISCOVER-AQ). The new, improved OMI tropospheric NO2 product is available at high spatial resolution for the years 2005-present. We believe that this product is valuable for the evaluation of chemistry-transport models, examining the spatial and temporal patterns of NOx emissions, constraining top-down NOx inventories, and for the estimation of NOx lifetimes.