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Tropospheric Emission Spectrometer (TES) and Atmospheric Chemistry Experiment (ACE) measurements of tropospheric chemistry in tropical southeast Asia during a moderate El Nino in 2006

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High spectral resolution Fourier transform spectrometer (FTS) measurements of tropospheric carbon monoxide (CO) distributions show mixing ratios over Indonesia during October 2006 of $\sim$ 200 ppbv (10^{-9} per unit volume) in the middle troposphere. The elevated emissions were caused by intense and widespread Indonesian peat and forest fire emissions elevated compared to other years by the impact of a moderate

El Niño/Soutern Oscillation (ENSO) event, which delayed that year's monsoon season and produced very dry conditions. Moderate Resolution Imaging Spectrometer (MODIS) fire counts, ACE measurements of elevated mixing ratios of fire emission products and near infrared extinction, and back trajectory calculations for a sample measurement location near the time of maximum emissions provide additional evidence that the elevated 2006 emissions resulted primarily from the Indonesia fires. Lower CO mixing ratios measured by ACE and fewer MODIS fire counts in Indonesia during October 2005 indicate lower emissions than during 2006. Coincident profiles from the Atmospheric Chemistry Experiment (ACE) and the Tropospheric Emission Spectrometer (TES) agree within the uncertainties over pressure ranges and time periods where both instruments have good sensitivity.