

CH₄ Emissions from Tropical Fires

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Dry conditions from a moderate El Nino during the fall of 2006 resulted in enhanced burning with fire emissions of approximately 4-6 times larger than the year before. Here we use tropospheric methane and CO data from the Aura Tropospheric Emission Spectrometer (TES) and CO profile measurements from the TERRA Measurements of Pollution in the Troposphere (MOPITT) satellite instruments to quantify methane emissions from these fires. We estimate methane emissions of 4.5 Tg +/- 4.0% with an accuracy of XXX % for October-November 2006. The accuracy is driven by errors in convection in the GEOS-Chem model and is evaluated by comparing MOPITT CO profiles to GEOS-Chem CO profiles. Despite this pulse of methane from the Indonesian fires, the total global distribution of atmospheric methane remained approximately constant, relative to 2005, indicating that tropical biomass burning emissions can compensate for expected decreases in wetlands emissions elsewhere resulting from ENSO related drying.