



Using Tropospheric Emission Spectrometer (TES) CO₂ observations for inverse modeling estimates of carbon fluxes

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We present carbon dioxide estimates and characterization from the Tropospheric Emission Spectrometer (TES) aboard the NASA Aura spacecraft, launched in 2004, with comparisons to aircraft and surface in situ data. The sensitivity of TES CO₂ observations peak in the mid-troposphere (511 hPa) and TES CO₂ accuracy is ~ 1.5 ppm for regional monthly averages. We present terrestrial and ocean flux estimates from TES data and the GEOS-Chem chemical transport model, using a Bayesian inversion approach, and find that TES satellite observations of CO₂ provide important constraints on flux estimates in the tropics.