

AGU 2018 Fall Meeting
Washington, DC
10-14 December 2018

Oral Presentation

Thursday, 13 December 2018 13:40 - 18:00
Walter E. Washington Convention Center Hall A-C (Poster Hall)

AUTHORS

Garima Raheja
Email: garima.raheja@nasa.gov
University of California Berkeley
Berkeley, CA
United States

Ronald C. Cohen
Email: N/A
University of California Berkeley
Berkeley, CA
United States

[Alexis Shusterman](#)
Email: N/A
University of California Berkeley
Berkeley, CA
United States

ABSTRACT

A43R-3449 Estimating CO₂ Emissions Using Real and Simulated Total Column Observations

Total column measurements of CO₂ (XCO₂) have been proposed as a possible way to estimate emissions from large urban regions. Using calculations from the Weather Research and Forecasting (WRF) model with a 1km emissions field, we investigate the viability of both real and proposed observing systems consisting of surface and/or column measurements for constraining emission sources of various types and sizes in the San Francisco Bay Area. We find that column observations are best suited for assessing enhancements downwind of very large emissions sources. For smaller sources (such as highways), in situ surface monitors are required to provide sufficient sensitivity. We explore methods for estimating emissions from the real and simulated observations.

Key Words: CO₂ Emissions, Column, Observations