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Seminar

Estimating emission inventories using an inverse model that combines backward trajectories with Eulerian grid simulations

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Monday, October 22, 2012, 3:30 p.m.
3:00 p.m. - Refreshments

Foothills Lab 2, Room 1001

Abstract

An inverse model will be presented that estimates emissions of pollutants using year-long time series of hourly concentration measurements based on mesoscale simulations using WRF. The model uses backward trajectories from the measurement site. In addition, we simulate forward impacts from candidate sources using CAMx Eulerian grid model. The inverse model identifies source strengths for the grid of back-trajectories as well as scaling factors for the forward simulations. The bootstrap method is used to calculate confidence intervals for the emission estimates. The model identified mercury emissions from forest fires and lake surfaces as well as from urban and industrial sources. Results will also be presented for elemental carbon measurements from the East-St. Louis supersite.