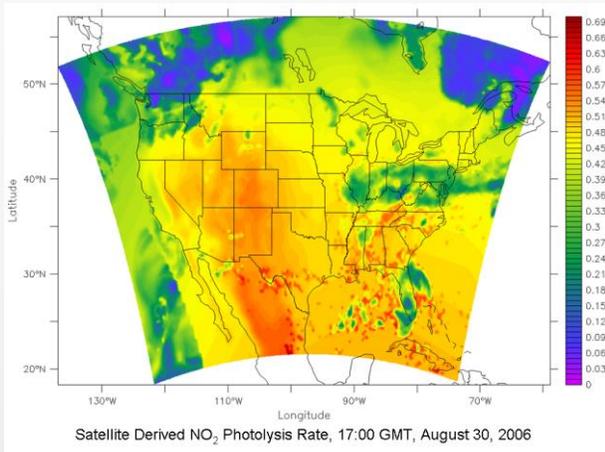




AIR AND WATER RESOURCES ENGINEERING SEMINAR



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Satellite Data Assimilation in Support of Air Quality Studies

The utilization of air quality modeling (AQM) systems is becoming more prevalent in air quality decision making practices. Whether it is retrospective regulatory modeling or an air quality forecasting practice, the reliance on model results to make critical decisions demands accurate information from the model. There are many sources of uncertainty in an AQM simulation emanating from meteorology, emissions, and chemical kinetics. However, uncertainties carried over from meteorological simulations have a dominant role as they impact transport, emissions and chemistry. Our group at the University of Alabama in Huntsville has been involved in utilizing satellite observations in AQMs to improve their performance and to make such improvements available to the air quality community. Examples include the use of geostationary satellite observations to recover surface moisture and improve model representation of the boundary layer, correct photochemical reaction rates in the photochemical model for the radiative impact of clouds, and create dynamical support for observed clouds in the meteorological model. Utilization of satellite trace gas and aerosol observations has also proven to improve air quality simulations.

This talk will present an overview of our activities pertaining to the use of satellite observations to improve air quality simulations. Several examples will be provided.

Date: Monday, March 24, 2014

Place: ETRL 101

Time: 4:10 p.m.—5:00 p.m.