

## NATIONAL/REGIONAL AIR QUALITY MODELING ASSESSMENT IN CHINA USING AN ADVANCED AIR QUALITY MODELING SYSTEM

J. S. Fu<sup>1</sup>, C. C. Jang<sup>2</sup>, D. G. Streets<sup>3</sup>, J.-H. Woo<sup>4</sup>

<sup>1</sup>*Department of Civil and Environmental Engineering, University of Tennessee, Knoxville, USA*

<sup>2</sup>*U.S. Environmental Protection Agency, Research Triangle Park, USA*

<sup>3</sup>*U.S. Department of Energy, Argonne National Laboratory, Argonne, USA*

<sup>4</sup>*Nescaum, Boston, USA*

A modeling effort has been undertaken to conduct a China national and regional air quality modeling assessment by applying an advanced modeling system, the Models-3/CMAQ, developed at USEPA. The 'one-atmosphere' Models-3/CMAQ system was designed to approach air quality as a whole by including state-of-the-science capabilities for modeling multiple air quality issues, including ozone, particulate matter, visibility degradation, acid deposition, and air toxics, at multiple scale. For this study we use the Asian emission inventory based on the emission estimates of the year 2000 that supported the NASA TRACE-P program as our foundation. However, the TRACE-P emission inventory was developed for a different purpose, further effort is required to transform the inventory into the data format needed for the Models-3/CMAQ system. Because the Asian emission inventory is restricted to anthropogenic emissions, GEIA biogenic emissions are added, as well as net PM<sub>2.5</sub> and PM<sub>10-2.5</sub> emissions. We convert TRACE-P 31 pollutant types into the 22 source species in CB-IV format of Models-3/CMAQ and spatially emissions gridded according to the 36 km × 36 km and 12 km × 12 km resolutions and boundaries set up by the MM5 meteorological processing model for episodes of January, and July 2001. The focus of this paper is the Models-3/CMAQ application to establish feasibility of model simulations over China domain. This paper gives a description of the model configuration and setup and presents some preliminary model simulation results. The results of model runs should be shown reasonable agreement for concentrations of most species, ozone and particulate matters.