

Modeling Focus Group Report:  
1<sup>st</sup> Meeting(Nov 13-14,2001, ANL)

Participants:

Cyndi Atherton (LLNL),

Jerome Fast (PNNL),

Jake Hales (Envair),

Larry Kleinman, Steve Schwartz (BNL),

Rao Kotamarthi, Marv Wesely(ANL)

Objective: Integrate modeling activities more closely with the field experiments.

Approach:

A summary of current modeling activities directed to ACP field experiments was presented by all the attendees.

A summary of the current planned field experiments were then discussed.

Current and planned interactions between modelers and the field experiments were discussed.

A set of issues that are hindering better collaboration between these two ACP activities and possible remedies were discussed.

- Cynthia Atherton is focussing her efforts on
  - Using the LLNL global scale CTM (IMPACT) to look for Long-Range Transport and stratospheric subsidence at the ACP field experiment sites.
  - Providing Boundary Conditions to Regional Scale Model simulations of the experimental data set.
- Jerome Fast is focussing his efforts on
  - Regional scale simulation of ACP field experiments using the PNNL regional scale chemistry model (PEGASUS) and RAMS simulations of meteorology for several of the experiments.
  - In general PNNL provides meteorological modeling support for most of the ACP experiments and also regional scale chemistry transport modeling capabilities.

- Larry Kleinman is focussing his efforts on:
  - Calculating the ozone production efficiencies using his process-scale chemistry model.
  - Much of the modeling activity is closely integrated with data collected from aircraft platform during the experiments ( probably the only such modeling activity in the ACP).
- Rao Kotamarthi is focussing his efforts on:
  - Using box and trajectory photochemical models to analyze HC field data sets collected mainly from surface stations by Paul Doskey
  - Using the EPA CMAQ and SMOKE models for performing regional scale simulations for evaluation with ACP data sets.

## Suggestions for Improving the Interaction

- Easier access to both aircraft and surface site measurement data within a reasonable time after the experiment through password protected web site. Establish data protocol before the experiment starts.
- Develop emission inventories for study site and make it available to all interested parties before the start of the experiment and make it part of planning a field experiment.
- Provide basic meteorological products such as trajectories to all field experiment participants at a minimum a few months after the end of the experiment.

# Additional Plans

- Bring several modeling capabilities together for planning and execution of a future experiment (AIRMAP was one suggestion).
- Provide the following model inputs for this project
  - Meteorological model calculations and tools to generate quick trajectories on site (may be)
  - Photochemical trajectory model for use by the team for preliminary analysis of the data
  - Background boundary conditions from global scale models
  - Emission inventories for the experiment period (SMOKE based).

- Model scoping studies for future experiments such as the planned Puerto Rico study to locate suitable sites for ground measurements and aircraft flight planning.
- Plan data workshops to analyze and discuss the field experiment data sets.
- Provide basic modeling tools and assistance (such as trajectories, photochemical trajectory and box-photochemical models) for data evaluation to all the measurement scientists.
- Make the data sets available to wider audience by using the NARSTO web site.