

Upcoming Training Events:

(All are at UNC-CH unless otherwise indicated)

- SMOKE –
January 24-26,
2005
- CMAQ –
January 27-28,
2005
- SMOKE –
April 2005
- CMAQ –
April 2005



Can't come to us for training? Have the same courses taught on-site at your location by the same experienced trainers. Visit <http://www.cmascenter.org/cmastraining> or contact cmas@unc.edu for more information.



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Annual Conference Brings Record Numbers

In conjunction with the Carolina Environmental Program at The University of North Carolina, the CMAS Center hosted the Third Annual Models-3 Users' Conference on October 18-20 at the Friday Center in Chapel Hill, NC. This year's conference drew 184 attendees from eight countries (Australia, Canada, China, Germany, South Korea, Spain, Taiwan, and the United States); within the U.S., they came from 24 states and the District of Columbia.

Participants attended presentations in sessions on Model Development, Model Evaluations, Forecasting, Computational Issues, Climate/Air Pollution Feedbacks & Multiscale Applications, Fine-Scale Modeling for Exposure/Risk Assessment, and Air Quality Management. New this year was the use of dual sessions on Tuesday to provide more opportunities for presentations and additional topics for discussion. Tuesday night concluded with the poster session, where 24 presenters displayed their work and discussed it with the attendees during the poster reception.

The conference concluded with an open discussion on future directions for CMAS.

In addition to the three days of presentations and

discussions, 15 students took the SMOKE and CMAQ classes offered before and after the conference. Those classes were the fourth set provided by CMAS in 2004. Also, the External Advisory Committee met to discuss the current status of CMAS and make recommendations for the upcoming year.

From all of us here at CMAS, thank you to all attendees for making this year's conference the best yet. We look forward to seeing you at the Fourth Annual CMAS Models-3

Users' Conference next October. To help us better serve you at next year's conference, please take a few moments to fill out the on-line survey on the conference web page: http://www.cmascenter.org/html/2004_workshop/announcement.html. We rely heavily on these survey results to improve the conference each year, so if there is something you'd like to see done differently, or something you want kept the same, please take a minute to let us know. We appreciate your help.



Violeta Coarfa discusses her poster on SAPRC99 during the poster session at the 2004 Models-3 Users' Conference.

CMAS Suggestion Box Open for Comments

Acting on a recommendation made by the CMAS External Advisory Committee at their annual meeting in October, CMAS has created an on-line suggestion box so that the CMAS community can provide suggestions directly to the CMAS Center. Use this new feature, for example, to request additional or revised features on the CMAS web site, or to ask that additional models or different versions of models be supported, or to

suggest potential research avenues.

When you enter a suggestion, we ask that you provide us with your name and e-mail address so that we can contact you with any questions we may have. Please keep in mind that we are limited by our resources, but we will try to address any suggestions we receive.

The suggestion box is accessible using a button on the left side of each

page on the CMAS web site, or it can be accessed directly via this link:

<http://www.cmascenter.org/html/suggestions.html>.

Note that the suggestion box is not a replacement for the CMAS help desk. Please continue to use the help desk for specific user questions and bug tickets and for model feature requests. For more information on the help desk, please visit

<http://www.cmascenter.org/html/help.html>.

Advanced Training Under Development

CMAS has taught introductory courses in SMOKE and CMAQ since its inception. In this the fourth year of CMAS, we hope to expand our repertoire to include more advanced training classes. These classes would focus on specific aspects of SMOKE and/or CMAQ modeling. Unlike the multiday introductory trainings, these classes would be shorter, most likely half- to one-day classes.

While we have some general topic ideas, we would like to get opinions from the community on what types of courses you would like to see. Please visit our on-line advanced training survey (http://www.cmascenter.org/html/training_survey.html) to provide your suggestions.

There is still time to sign up for the introductory classes in SMOKE and CMAQ to be held January 24-28 in Chapel Hill, NC. You will receive hands-on training on the newest versions of the modeling systems (CMAQ v4.4 and SMOKE vX.X) with our experienced training faculty. Spots are limited, so register on-line today at <http://fs7.formsite.com/cmas/2004TrainRegForm/index.html?264163868>.

Would you like to host your own set of training courses in SMOKE, CMAQ, and/or MIMS? CMAS can set up a training session at your location to train your staff. Discounted rates for training will apply, and the host location is responsible for the costs of the trainers' travel, hotel, transportation, and per diem. We can

also create custom classes based on your specific needs. All classes are conducted on CMAS's IBM Thinkpad laptops running Red Hat 9.0. Based on our resources, we can easily conduct remote classes of up to 14 students.

For more information, contact cmas@unc.edu or visit <http://www.cmascenter.org/cmastraining>.

EAC Members Hold Annual Meeting

The CMAS External Advisory Committee met following the 3rd Annual CMAS Models-3 Users' Conference. They discussed the current state of CMAS, provided feedback on the conference, examined future directions for CMAS, discussed how to better build and meet the needs of the CMAS community, and further defined the role of the EAC.

EAC members in attendance were:

- Alan Cimorelli
- Mark Evangelista
- Adel Hanna
- Alan Hansen
- Bob Imhoff
- Weimin Jiang
- Ralph Morris
- Talat Odman
- Ken Schere
- Christian Seigneur
- Neil Wheeler

Update on Internet Sessions

In the last issue of the CMAS Quarterly, we introduced Internet Sessions, the on-line seminar and training resource. Unfortunately, unforeseen issues arose that prevented us from holding the scheduled sessions. We apologize for any inconvenience this may have caused and are working to remedy the situation to bring this service to the CMAS community as soon as possible. Once the situation has been resolved, we will post the Internet Sessions schedule on the CMAS web site as well as send an e-mail to all on the CMAS Quarterly mailing list. For more information on Internet Sessions, please contact us at cmas@unc.edu.

New Versions of CMAQ and MCIP Released

The Community Modeling and Analysis System is pleased to announce the release of CMAQ version 4.4 and MCIP version 2.3. Register to download current, development, and past versions of CMAQ and MCIP from the CMAS Model Clearinghouse at <http://www.cmascenter.org/html/models.html>. Please report any bugs or problems with this release to the CMAS help desk, <http://www.cmascenter.org/html/help.html>. In addition to offering MCIP v2.3 as a stand-alone download and installation, we have also integrated it into the CMAQ v4.4 release, so that now if you download CMAQ v4.4 you will get the current versions of both CMAQ and MCIP.

The major changes and new features of CMAQ v4.4 are outlined below. The sidebar contains the MCIP v2.3 changes.

Aerosols

- Added a computationally efficient coagulation routine
- Improved the efficiency of the SOA solver
- Updated ISORROPIA for stability at low relative humidity
- Added in-line documentation
- Adjusted molecular weights of inorganic species for consistency with mechanism files
- Changed the output variables in the aerosol diagnostic file
- Removed SOA from the definition of "dry" aerosol

- Modified SOA condensation so that it does not affect geometric standard deviation
- Added a new subroutine, HCOND3, to calculate condensational-growth factors
- Merged former subroutines AEROPROC and AEROSTEP into a single routine
- Removed include file AEROSTUFF.EXT (no longer needed)
- Removed modules AERO2 and AERO_DEPV1 (no longer supported)

Chemistry

- Added EBI_SAPRC99 solver
- Added Rosenbrock solver
- Corrected the HO2 production rate in the EBI_CB4 solver
- Removed QSSA, MEBI_CB4, and MEBI_SAPRC99 solvers

Process Analysis

- Corrected the Integrated Process Rate (IPR) calculations for emissions and dry deposition for aerosols

Clouds

- Added the capability for "graupel" in the resolved cloud model
- Corrected the molecular weights for organic aerosols

Vertical Diffusion

- Changed deposition velocity from flux form ($\rho \cdot V_d$) to velocity form
- Revised RDDEPV to be more general for the

- nonreactive species
- Initialized the INDX10 variable in AERO_EMIS.F

Advection

- Fixed bug in the VPPM and HPPM advection module
- Removed VBOT and HBOT

PinG and PDM

- Added capability for aerosols
- Dropped PING_MEBI_CB4 and PING_QSSA modules (no longer supported)

Parallel I/O

- Incorporated speedups suggested by Sandia National Laboratories

Initial and Boundary Conditions

- Fixed bug in ICON
- Updated profiles for ICs and BCs: added species TERP

Miscellaneous

- Updated all no-op routines for the TSTEP used in the layer-dependent horizontal advection scheme
- Removed library DYNMEM
- Updated mechanism files molecular weights for organic aerosols and terpene
- Revised BLKSIZE parameter in HGRD_DEFN module to enhance computational performance for Linux machines with Pentium4 processors
- Corrected variable descriptions in the average-concentration file

MCIP v2.3 Changes

- Added capability to pass 3-D graupel field through to CMAQ
- Added workaround for NCAR bug in MM5 that impacts P-X LSM
- Restored full Jacobian to output
- Restored some P-X fields to output for BEIS 3.12
- Corrected formatting issue with GRIDDESC output file
- Restored the file GRIDBDY2D to output (for CMAQ boundary lat/lon coordinates)
- Corrected I/O API header info for polar stereographic and Mercator
- Modified error-checking for collapsed layer settings
- Added 10-m wind speed and direction to output
- Added MM5-calculated 2-m temperature to output
- Added user flag to not output GRID files (to save disk space)
- Added explicit calculation of dot point lat/lon and map-scale factors
- Eliminated fields of "missing" values in time-varying files
- Changed output land use to USGS values rather than RADM

For more details, please see the MCIP2 change log and an abstract from the 2004 CMAS Conference by T. L. Otte: http://www.cmascenter.org/html/2004_workshop/abstracts/Forecasting/otte_abstract2.pdf

Annual CMAS Awards Presented at Conference



From the Help Desk: SMOKE Tip

You do not need to run SMOKE for every single day of the week. Take advantage of the temporal profiles. If you set your scripts to run SMOKE for Mondays, weekdays, Saturdays, and Sundays, SMOKE will apply the corresponding information to each day of your episode. Instead of running SMOKE for seven days a week, you will need to run it for only four days.

We're on the Web!

www.cmascenter.org

For the second year, the CMAS Center presented Awards of Recognition to three individuals who have contributed significantly to the CMAS Center over the past year. The awards were presented by CMAS Director Adel Hanna at the Third Annual CMAS Models-3 Users' Conference last month in Chapel Hill, NC.

This year's winners join Eric Giroux, Elizabeth Bailey, and Christian Hogrefe, who won the award last year. All six award winners were recognized for their contributions to the concept of community modeling.

CMAS is always seeking nominations for future CMAS award winners. To nominate someone that you feel exemplifies the ideals of community modeling, please e-mail his/her name and a brief description of why you are nominating him or her to cmas@unc.edu.

2004 CMAS Award Winners

Daniel Cohen

Georgia Institute of Technology
Atlanta, GA

Daniel Cohen has worked closely with CMAS to make the CMAQ-DDM version available for distribution through the CMAS web site (this is expected to be in the near future). He presented his findings on this version at the both the 2003 and 2004 Models-3 Users' Conferences.

Weimin Jiang

National Research Council of Canada
Ottawa, Ontario, Canada

Weimin Jiang serves as a member of the External Advisory Committee. In addition, he has been a vocal proponent of CMAS and has participated in numerous discussions regarding the future of CMAS and how to better serve the air quality community.

Douw Steyn

The University of British Columbia
Vancouver, British Columbia, Canada

Douw Steyn coordinated and led the CMAQ review held last December. Through his support of CMAS, he has helped to promote CMAS as a valuable resource to others within the modeling community.

COMMUNITY MODELING AND ANALYSIS SYSTEM

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