



Air Resources Laboratory



Publications – FY 2002

Allwine, K.J., J.H. Shinn, G.E. Streit, **K.L. Clawson**, and M. Brown. Overview of Urban 2000, A multiscale field study of dispersion through an urban environment. *Bulletin of the American Meteorological Society* 83(4):521-536 (2002).

Andreas, E.L., **B.B. Hicks**. Comments on “Critical Test of the Validity of Monin-Obukhov Similarity during Convective Conditions.” *Journal of Atmospheric Sciences* 59:2605-2607 (2002).

Angell, J.K. Relation of size and displacement of the 300 mbar north circumpolar vortex to QBO, El Nino, and sunspot number, 1963-2000. *Journal of Geophysical Research* 106(D23):31,787-31,794 (2001).

Angell, J.K., and **D. Seidel**. Lester Machta, 1919-2001. *Bulletin of the American Meteorological Society* 82:(12):2897-2881 (2001).

Athanassiadis, G., **S.T. Rao**, J.Y. Ku, and R. Clark. Boundary layer evolution and its effects on ground-level ozone concentrations. Preprints, 4th Conference on Atmospheric Chemistry: Urban, Regional and Global-Scale Impacts of Air Pollutants, January 13–17, Orlando, FL. American Meteorological Society, Boston, 97–102 (2002).

Baldocchi, D., E. Falge, L. Gu, R. Olson, D. Hollinger, S. Running, P. Anthoni, C. Bernhofer, K. Davis, R. Evans, J. Fuentes, A. Goldstein, G. Katul, B. Law, X. Lee, Y. Malhi, **T. Meyers**, W. Munger, W. Oechel, K.T. Paw U, K. Pilegaard, H.P. Schmid, R. Valentini, S. Verma, T. Vesala, K. Wilson, and S. Wofsy. FLUXNET: A new tool to study the temporal and spatial variability of ecosystem-scale carbon dioxide, water vapor, and energy flux densities. *Bulletin of the American Meteorological Society* 82(11):2415-2434 (2001).

Baldocchi, D.D., and K.B. Wilson. Modeling CO₂ and water vapor exchange of a temperate broadleaved forest across hourly to decadal time scales. *Ecological Modeling* 142:155-184 (2001).

Benjey, W.G., and R.E. Imhoff. Establishment of a community modeling and analysis support mechanism. Proceedings, The Eleventh International Emission Inventory Conference: Emission Inventories - Partnering for the Future, Atlanta, GA, April 15-18. Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available online from <http://www.epa.gov/ttn/chief/conference/ei11/index.html#ses-8> (2002).

Bird, S.L., **S.G. Perry**, S.L. Ray, and M.E. Teske. Evaluation of the AgDISP spray algorithms in the AgDRIFT model. *Environmental Toxicology and Chemistry* 21(3):672-681 (2002).

Biswas, J., C. Hogrefe, and **S.T. Rao**. Temporal and spatial variability of ozone production efficiencies over the eastern United States. Proceedings, 95nd Annual Meeting of the Air & Waste Management Association, Baltimore, MD, June 23–27. (CD-ROM). Session AB-2c. Advances in Photochemical Air Quality Modeling, Air & Waste Management Association, Pittsburgh, Paper # 43110 (2002).

Bojkov, R. D., E. Kosmidis, **J. J. DeLuisi**, *I. Petropavlovskikh*, V. E. Fioletov, S. Godin, and C. Zerefos. Vertical ozone distribution characteristics deduced from ~40,000 re-evaluated Umkehr profiles (1957-2000). *Meteorological Atmospheric Physics* 79:127-158 (2002).

Brooks, S.B., and S. Lindberg. Contributions to Arctic Pollution 2002: Persistent Organic Pollutants, Heavy Metals, Radioactivity, Human Heath and Changing Pathways. Annika Nilsson and Henry Huntington, Eds., Arctic Monitoring and Assessment Program (2002).

Bullock, O.R., Jr., and K.A. Brehme. Atmospheric mercury simulation using the CMAQ model: formulation description and analysis of wet deposition results. *Atmospheric Environment* 36:2135–2146 (2002).

Cai, C., C. Hogrefe, J. Biswas, **S.T. Rao**, N. Seaman, A. Gibbs, G. Kallos, P. Katsafados, C. Walcek, J. Chang, and K.L. Demerjian. An experimental air quality forecast modeling system (AQFMS) for the northeast United States: A demonstration study. Preprints, 4th Conference on Atmospheric Chemistry: Urban, Regional and Global-Scale Impacts of Air Pollutants, January 13–17, Orlando, FL. American Meteorological Society, Boston, 47–52 (2002).

Ching, J., A. Lacser, **T. Otte**, **D. Byun**, and **J. Herwehe**. Modeling air toxics and PM_{2.5} concentration fields as a means for facilitating human exposure assessments. Proceedings, 10th International Symposium "Transport and Air Pollution", September 2001. W. Dabberdt, Ed., Boulder, CO, 17-24 (2002).

Ching, J., A. Lacser, **T.L. Otte**, **J. Herwehe**, and **D. Byun**. Neighborhood scale modeling of PM_{2.5} and air toxics concentration distributions to drive human exposure models. Preprints, 12th Joint Conference on the Applications of Air Pollution Meteorology with A&WMA, May 20–24, 2002, Norfolk, VA. American Meteorological Society, Boston, 97–98 (2002).

Ching, J.K.S., T.L. Otte, S. Dupont, S. Burian, and A. Lacser, 2002, Urban morphology for Houston to drive Models-3/CMAQ at neighborhood scales. Preprints, 4th

Symposium on the Urban Environment, May 20–24, 2002, Norfolk, VA. American Meteorological Society, Boston, 35–36 (2002).

Ching, J.K.S. Modeled PM and air toxics concentration fields to drive human exposure models. Preprints, 11th Annual Meeting of the International Society of Exposure Analysis, Charleston SC, November 4–8. International Society of Exposure Analysis, Boston, p. 208 (2001).

Clawson, K.L., and G.H. Crescenti. Meteorological measurements during the urban 2000/VTMX field study. NOAA Technical Memorandum OAR ARL-243, Silver Spring, MD, 46 pp (2002).

Clawson, K.L., R.G. Carter, D.J. Lacroix, N.F. Hukari, K.J. Allwine, and J.H. Shinn. Urban 2000 SF₆ atmospheric tracer results from the urban experiment domain. Proceedings, Fourth Symposium on the Urban Environment, May 20-24, Norfolk, VA. American Meteorological Society, Boston, MA, 182-183 (2002).

Cohen, M., R. Laurin, L. Mathewson, J. McDonald, and D. Meyer-Wefering. HYSPLIT model estimates of atmospheric deposition of toxic contaminants to the Great Lakes (An Overview). Air Pollution Modeling and Simulation, ed. Bruno Sportisse, Springer, New York, 30-41 (2002).

Cohen, M.D., R.R. Draxler, R. Artz, B. Commoner, P. Bartlett, P. Cooney, K. Couchot, A. Dickar, H. Eisl, C. Hill, J. Quigley, J.E. Rosenthal, D. Niemi, D. Ratté, M. Deslauriers, R. Laurin, L. Mathewson-Brake, and J. McDonald. Modeling the atmospheric transport and dispersion of PCDD/F to the Great Lakes. *Environmental Science and Technology* 36:4831-4845 (2002).

Cohen, Y., and **E.J. Cooter**. Multimedia environmental distribution of toxics (Mend-Tox). I: Hybrid compartmental-spatial modeling framework. *Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management* 6(2):70-86 (2002).

Cohen, Y., and **E.J. Cooter**. Multimedia environmental distribution of toxics (Mend-Tox). II: Software implementation and case studies. *Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management* 6(2):87-101 (2002).

Cooter, E.J., and Y. Cohen. Model evaluation of dry deposition to vegetation for volatile and semi-volatile organic compounds in a multimedia environment. *Water, Air and Soil Pollution: Focus* 1:285-294 (2001).

Cooter, E.J., and W.T. Hutzell. A regional atmospheric fate and transport model for atrazine: Part 1, Development and implementation. *Environmental Science & Technology* 36:4091-4098 (2002).

Cote, O.R., *R.J. Dobosy*, J.R. Roadcap, **T.L. Crawford**, J.M. Hacker. Aircraft measurements of refractive and clear-air turbulence: Spectra budges, and the prediction problem. European Geophysical Society XXVII General Assembly, Nice, France. (2002).

Crescenti, G.H., J.R. French, and **T.L. Crawford**. Aircraft measurements in the Coupled Boundary Layers Air-Sea Transfer (CBLAST) light wind pilot field study. NOAA Technical Memorandum OAR ARL-241, Air Resources Laboratory, Silver Spring, MD, 82 pp. (2001).

Crescenti, G.H., J.R. French, T.L. Crawford, and D.C. Vandemark. An integrated airborne measurement system for the determination of atmospheric turbulence and ocean surface wave field properties. Preprints, Sixth Symposium on Integrated Observing Systems, Orlando, FL, Jan 13-17. American Meteorological Society, 60-67 (2002).

Dobosy, R.J., E. J. Dumas, and **G.H. Crescenti**. Katabetic flow and turbulence as seen from airborne in-situ measurements and ground-based profiler measurements during VTMX. Preprints, Fourth Symposium on the Urban Environment, Norfolk, VA, May 20-24. American Meteorological Society, Paper 12.6 (2002).

Elliott, W.P., R.J. Ross, and W.H. Blackmore. Recent changes in NWS upper-air observations with emphasis on changes from VIZ to Vaisala radiosondes. *Bulletin of the American Meteorological Society*:1003-1017 (2002).

Fine, S.S. Finding a common data representation and interchange approach for multimedia models. Proceedings, Second Federal Interagency Hydrological Modeling Conference, Las Vegas, NV, July 28-August 1. Session 2B. Identifying Model Behavior. CD-ROM. ACWI (Advisory Committee on Water Information, Subcommittee on Hydrology (2002).

Fine, S.S., C.C. Howard, A.M. Eyth, D.A. Herington, and K.J. Castleton. The EPA multimedia integrated modeling system software suite. Proceedings, Second Federal Interagency Hydrological Modeling Conference, Las Vegas, NV, July 28-August 1. Session 6. Demonstrations. CD-ROM. ACWI (Advisory Committee on Water Information, Subcommittee on Hydrology (2002).

Finkelstein, P.L. Observations of similarity theory stability correction terms for momentum and temperature, Ψ_m and Ψ_h , over agricultural fields and forests. Preprints, 25th Conference on Agricultural and Forest Meteorology, May 20–24, 2002, Norfolk, VA. American Meteorological Society, Boston, 150–151 (2002).

Free, M., and J.K. Angell. Effect of volcanoes on the vertical temperature profile in radiosonde data. *Journal of Geophysical Research* 107(D10): 10.1029/2001JD0001128 (2002).

Free, M., I. Durre, E. Aguilar, D. Seidel, T.C. Peterson, R.E. Eskridge, J.K. Luers, D. Parker, M. Gordon, J. Lanzante, S. Klein, J. Christy, S. Schroeder, B. Soden, L.M. McMillin, and E. Weatherhead. Creating climate reference datasets. CARDS Workshop on Adjusting Radiosonde Temperature Data for Climate Monitoring. *Bulletin of the American Meteorological Society*:891-899 (2002).

Gill, T.E., **D.A. Gillette**, T. Niemeyer, and R.T. Winn. Elemental geochemistry of wind-erodible playa sediments, Owens Lake, California. *Nuclear Instruments and Methods in Physics Research B* 189:209-213 (2002).

Gillette, D.A. Windblown dust. In *Encyclopedia of Soil Science*. Rattan Lal (Ed.). Marcel Dekker, Inc., NY, 1443-1445 (2002).

Gilliland, A.B., R.L. Dennis, S.J. Roselle, T.E. Pierce, and L.E. Bender. Developing seasonal ammonia emission estimates with an inverse modeling technique. *The Scientific World* 1(S2):356-362 (2001).

Godowitch, J.M. Photochemical and aerosol modeling with the CMAQ plume-in-grid approach. Preprints, 12th Joint Conference on the Applications of Air Pollution Meteorology with A&WMA, May 20–24, 2002, Norfolk, VA. American Meteorological Society, Boston, 69–70 (2002).

Griffiths, I.H., D.R. Brook, D.J. Hall, A. Berry, R.D. Kingdon, **K.L. Clawson**, C. Biltuft, J.M. Hargrave, C.M. Clem, D.C. Strickland, and A.M. Spanton. Urban Dispersion Model (UDM) validation. Preprints, Fourth Symposium on the Urban Environment, Norfolk, VA, May 20-24. American Meteorological Society, Paper J1.13 (2002).

Gunter, R.L., J.R. White, and R.P. Hosker. An analysis of mean flow vectors within vehicle wakes using data from a towed array of 3-D sonic anemometers. Proceedings, 10th International Symposium "Transport and Air Pollution", September 2001. W. Dabberdt, Ed., Boulder, CO, 293-300 (2002).

Herwehe, J.A., R.T. McNider, A.P. Bazar, W.B. Norris, and J.-L.A. Song. A numerical study of the effects of large eddies on trace gas measurements and photochemistry in the convective boundary layer. U.S. EPA Agreement No. R825262-01, 8 October, 89 pp. (2002).

Herwehe, J.A., R.T. McNider, and R.K. Decker. Initial application of a coupled LES-photochemical model to examine near-source ozone production from industrial emissions. Preprints, 15th Symposium on Boundary Layers and

Turbulence. American Meteorological Society, 15-19 July, Wageningen, the Netherlands, 233-236 (2002).

Hicks, B.B. Areal measurements of ozone, water, and heat fluxes over land with different surface complexity, using aircraft. Presentation at 6th Intl. Conf. on Air-Surface Exchange, 3-7 July 2000, Edinburgh, UK and publication in *Water, Air, and Soil Pollution: Focus* 1:213-222 (2001).

Hogrefe, C., **S.T. Rao**, and K.L. Demerjian. Using the current-generation meteorological/photochemical modeling systems for real-time ozone forecasting. Preprints, 16th Conference on Probability and Statistics in the Atmospheric Sciences, January 13–17, Orlando, FL. American Meteorological Society, Boston, Paper No. 3.17 (2002).

Huber, A.H. Meteorological measurements and modeling in support of human exposure modeling: microenvironmental factors. Coordinating Research Council Air Toxics Modeling Workshop, February 25-26, Woodland, TX. Coordinating Research Council, Alpharetta, GA. Available at <http://www.crao.com/Air%20Toxics/airtoxicsworkshop.htm> (2002).

Huber, A.H., R.C. Gilliam, H. Feingersh, and R. Kelly. Effects of meteorology on the transport and dispersion of emissions from the WTC recovery site. Proceedings of the 12th Conference of the International Society of Exposure Analysis (ISEA), August 11–15, Vancouver, BC, Canada. International Society of Exposure Analysis, Boston, p. 292 (2002).

Irwin, J.S., and J.P. Notar. Long-range-transport screening technique using CALPUFF. In *Guideline on Air Quality Models: A New Building*, April 4-6, Newport, RI. Session 1 - CALPUFF Studies. CD-ROM. Air & Waste Management Association, Pittsburgh (2001).

Irwin, J.S., K. Steinberg, C. Hakkarinen, and H. Feldman. Uncertainty in air quality modeling for risk calculations. In *Guideline on Air Quality Models: A New Building, April 4-6, Newport, RI*. CD-ROM. Air & Waste Management Association, Pittsburgh (2001).

Irwin, J.S., D. Carruthers, J. Paumier, and J. Stocker. Assessing dispersion model performance to simulate average centerline concentration values. Preprints, 12th Joint Conference on Applications of Air Pollution Meteorology with the A&WMA, May 20–24, Norfolk, VA. American Meteorological Society, Boston, 43-44 (2002).

Irwin, J.S. A historical look at the development of regulatory air quality models for the United States Environmental Protection Agency. NOAA Technical Memorandum OAR ARL-224, 67 pp. (2002).

Kerchner, M., R. Halloran, J. Thomas, and **B. Hicks**. Airsheds and Watersheds III: A Shared Resources Workshop. The Significance of Ammonia to Coastal and Estuarine Areas, November 15-16, 2000. The Bay Center at Ruddertowne, Dewey Beach, DE, 36 pp. (2002).

Lacser, A., and **T.L. Otte**. Implementation of an urban canopy parameterization in MM5. Preprints, 4th Symposium on the Urban Environment, May 20–24, Norfolk, VA. American Meteorological Society, Boston, 153–154 (2002).

Lantz, K., P. Disterhoft, E. Early, A. Thompson, **J. DeLuisi**, P. Kiedron, L. Harrison, J. Berndt, W. Mou, T.J. Erhamjian, L. Cabausua, J. Robertson, D. Hayes, J. Slusser, D. Bigelow, G. Janson, A. Beaubian, and M. Beaubian. The 1997 North American Interagency Intercomparison of Ultraviolet Monitoring Spectroradiometers. *Journal of Research National Institute Standard Technology* 107:19-62 (2002).

Lemone, M.A., R.L. Grossman, **R.T. McMillen**, K. Liou, S.C. Ou, S. McKeen, W. Angevine, K. Ikeda, and F. Chen. CASES-97: Late-morning warming and moistening of the convective boundary layer over the Walnut River watershed. *Boundary-Layer Meteorology* 104:1-52 (2002).

Lindberg, S.E., S. Brooks, C-J Lin, K. Scott, **T. Meyers**, L. Chambers, M. Landis, and R. Stevens. Formation of reactive gaseous mercury in the arctic evidence of Hgo to gas-phase Hg-II compounds after arctic sunrise. *Water, Air, and Soil Pollution Focus* 1:295 - 302 (2001).

Lindberg, S.E., S. Brooks, C-J Lin, and K. Scott. Recent research on missing sources and sinks in the global mercury cycle: The role of the Arctic. Proceedings, NIMD Forum-01, published by the National Institute of Minamata Disease Press, 53-58 (2001).

Lindberg, S.E., S. Brooks, C-J Lin, K. Scott, M.S. Landis, R.K. Stevens, M. Goodsite, and A. Richter. Dynamic oxidation of gaseous mercury in the Arctic troposphere at polar sunrise. *Environmental Science and Technology* 36(6):1245-1256 (2002).

Lindberg, S., M.S. Landis, R.K. Stevens, and S. Brooks. Comments on paper by Berg et al. "Atmospheric mercury species in the European Arctic: measurements and modeling". *Atmospheric Environment* 14:2569-2582 (2001).

Lindberg, S.E., and **T.P. Meyers**. Development of an automated micrometeorological method for measuring the emission of mercury vapor from wetland vegetation. *Wetlands, Ecology, and Management* 9:333-347 (2001).

Machta, L. Meteorological benefits from atmospheric nuclear tests. *Health Physics* 82(5):635-643 (2002).

Marenco, F., A. di Sarra, **J.J. DeLuisi**. Methodology for determining aerosol optical depth from Brewer 300-320-nm ozone measurements *Applied Optics* 41(9)1805-1814.

Middleton, P., and **W.G. Benjey**. The climate-air quality scale continuum and the global emission inventory activity. In The Eleventh International Emission Inventory Conference: Emission Inventories - Partnering for the Future, Atlanta, GA, April 15-18. Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available online from <http://www.epa.gov/ttn/chief/conference/ei11/index.html#ses-10> (2002).

Nappo, C.J. An Introduction to Atmospheric Gravity Waves. Academic Press, Boston, MA, 276 pp. (2002).

Nappo, C., R. Banta, B. Newsom, J. Cuxart, E. Terradellas, B. Balsley, and M. Jensen. CASES-99: A comprehensive investigation of the stable nocturnal boundary-layer. *Bulletin of the American Meteorological Society* 83:555-581 (2002).

Nappo, C.J., R. Dobosy, and E.J. Dumas, Jr. Waves and turbulence observed over two consecutive VTMX nights. Proceedings, 10th Conference on Mountain Meteorology, Park City, UT, 17-21 June. American Meteorological Society, Boston (2002).

Nappo, C.J., R.K. Newsom, and R.M. Banta. Analysis techniques for boundary-layer atmospheric gravity waves. Proceedings, 15th Symposium on Boundary Layers and Turbulence, Wageningen, The Netherlands, 15-19 July. American Meteorological Society, Boston (2002).

Otte, T.L., and A. Lacser. Implementation of an urban canopy parameterization for fine-scale simulations. Preprints, Twelfth PSU/NCAR Mesoscale Model Users' Workshop, June 24-28, Boulder, CO, National Center for Atmospheric Research, Boulder, CO, 138-140 (2002).

Pierce, T., C. Geron, G. Pouliot, E. Kinnee, and J. Vukovich. Integration of the Biogenic Emissions Inventory System (BEIS3) into the Community Multiscale Air Quality modeling system. Preprints, 25th Conference on Agricultural and Forest Meteorology, 12th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA, and Fourth Symposium on the Urban Environment, May 20-24, Norfolk, VA. Joint Sessions. American Meteorological Society, Boston, J85-J86 (2002).

Pierce, T., **J. Pleim**, E. Kinnee, and L. Joyce. Intercomparison of alternative vegetation databases for regional air quality modeling. Preprints, 12th Joint Conference on

the Applications of Air Pollution Meteorology with A&WMA, May 20–24, 2002, Norfolk, VA. American Meteorological Society, Boston, 67–67 (2002).

Pleim, J., A. Xiu, P.L. Finkelstein, and T.L. Otte. A coupled land-surface and dry deposition model and comparison to field measurements of surface heat, moisture, and ozone fluxes. *Water, Air, and Soil Pollution: Focus* 1(5/6):243–252 (2001).

Poole-Kober, E.M., and H.J. Viebrock (Eds.). Fiscal year 2001 summary report of the NOAA Atmospheric Sciences Modeling Division to the U.S. Environmental Protection Agency. NOAA Technical Memorandum OAR ARL-245, Atmospheric Sciences Modeling Division, Research Triangle Park, NC, 109 pp. (2002).

Porter, P.S., **S.T. Rao**, and C. Hogrefe. Discussion on linear trend analysis: a comparison of methods. *Atmospheric Environment* 36:3055–3056 (2002).

Randerson, D., and J.B. Sanders. Characterization of cloud-to-ground lightning flashes on the Nevada Test Site. NOAA Technical Memorandum OAR ARL-242, 23 pp. (2002).

Rao, K.S., and R.L. Gunter. Turbulence and dispersion modeling near highways. Proceedings, 10th International Symposium "Transport and Air Pollution", September 2001. W. Dabberdt, Ed., Boulder, CO, 193-200 (2002).

Rao, K.S., R.L. Gunter, J.R. White, and R.P. Hosker. Turbulence and dispersion modeling near highways. *Atmospheric Environment* 36:4337-4346 (2002).

Rao, K.S. 2002: ROADWAY-2. A model for dispersion near highways. In Urban Air Quality - Recent Advances, R.S. Sokhi and J.G. Bartzis, eds., Kluwer Academic Publishers, Dordrecht, The Netherlands, 261-277. (2002).

Reinsel , G.C., E.C. Weatherhead, G.C. Tiao, A.J. Miller, R.M. Nagatani, D.J. Wuebbles, and L.E. Flynn. On detection of turnaround and recovery in trend for ozone. *Journal of Geophysical Research* 107 (D10), doi:10.1029/2001JD000500 (2002).

Ross, R.J., W.P. Elliott, and D.J. Seidel. Lower-tropospheric humidity- temperature relationships in radiosonde observations and atmospheric general circulation models. *Journal of Hydrometeorology* 3:26-38 (2002).

Ryaboshapko, A., **O.R. Bullock, Jr.**, R. Ebinghaus, I. Ilyin, K. Lohman, J. Munthe, G. Petersen, C. Seigneur, and I. Wangberg. Comparison of mercury chemistry models. *Atmospheric Environment* 36:3881-3898 (2002).

- Schell, B., I.J. Ackermann, H. Hass, **F.S. Binkowski**, and A. Ebel. Modeling the formation of secondary organic aerosol within a comprehensive air quality model system. *Journal of Geophysical Research* 106(D22):28,275-28,293 (2001).
- Schwede, D.B., **S.K. LeDuc**, and **T.L. Otte**. Using meteorological model output as a surrogate for on-site observations to predict deposition velocity. *Water, Air and Soil Pollution: Focus* 1:59-66 (2001).
- Seidel, D.**, and **J. Angell**. Lester Machta (1919-2001). EOS, Transactions. *American Geophysical Union* 82(44):515 (2001).
- Singh, R.B., **A.H. Huber**, and J.N. Braddock Application of a **Microscale emission Factor** model for **Particulate Matter** (MicroFacPM) to calculate vehicle generated contribution of PM_{2.5} emissions. Proceedings, 95th Annual Meeting of the Air & Waste Management Association, Baltimore, MD, June 23–27. CD-ROM. Session ET-1a. Diesel Propulsion Emissions. Air & Waste Management Association, Pittsburgh, Paper # 42825 (2002).
- Sistla, G., K. Civerolo, W. Hao, and **S.T. Rao**. An evaluation of the UAM-V predicted concentrations of carbon monoxide and reactive nitrogen compounds over the eastern United States during Summer 1995. *Journal of the Air & Waste Management Association* 152:1324-1332 (2002).
- Snyder, W.H., R.E. Lawson, Jr.**, M.S. Shipman, and J. Lu. Fluid modelling of atmospheric dispersion in the convective boundary layer. *Boundary-Layer Meteorology* 102:335–366 (2002).
- Stein, A.F., and D. Lamb. Empirical evidence for the low- and high-NOx photochemical regimes of sulfate and nitrate formation. Proceedings, NADP Scientific Symposium and Technical Meeting, Seattle, WA, September 10-13 (2002).
- Stein, A.F. The sensitivity of aerosol sulfate to changes in nitrogen oxides and volatile organic compounds. Proceedings, 2nd Annual MODELS-3 Workshop, Research Triangle Park, NC, October 21-23 (2002).
- Sun, J, S.P. Burns, D.H. Lenschow, R. Banta, R. Newsom, R. Coulter, S. Frasier, T. Ince, **C. Nappo**, J. Cuxart, W. Blumen, X. Lee, and X. Hu. Intermittent turbulence associated with a density current passage in the stable boundary layer. *Boundary-Layer Meteorology* 105:199-219 (2002).
- Teske, M.E., S.L. Bird, D.M. Esterly, T.B. Curbishley, S.L. Ray, and **S.G. Perry**. AgDRIFT®: A model for estimating near-field spray drift from aerial applications. *Environmental Toxicology and Chemistry* 21:659-671 (2002).

Vogel, C.A., and P. Frenzen. On reasons for the observed variation of the von Karman Constant in the atmospheric surface layer. Proceedings, 15th Symposium on Boundary Layers and Turbulence, Wageningen, The Netherlands, 15-19 July. American Meteorological Society, Boston, 422-423 (2002).

Vukovich, J.M., and **T.E. Pierce**. The implementation of BEIS3 within the SMOKE modeling framework. In The Eleventh International Emission Inventory Conference: Emission Inventories - Partnering for the Future, Atlanta, GA, April 15-18. Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available online from <http://www.epa.gov/ttn/chief/conference/ei11/index.html#ses-10> (2002).

Weatherhead, E., D. Theisen, A. Stevermer, J. Enagonio, B. Rabinovitch, P. Disterhoft, K. Lantz, R. Meltzer, J. Sabburg, J. DeLisi, J. Rives, and J. Shreffler. Temperature dependence of the Brewer ultraviolet data. *Journal of Geophysical Research* 106(D24):34,121-34,129 (2001).

Weatherhead, E.C., A.J. Stevermer, and B.E. Schwartz. Detecting environmental changes and trends. *Physics and Chemistry of the Earth* 27:399-403 (2002).

Weil, J.C., **W.H. Snyder**, **R.E. Lawson**, Jr., and M.S. Shipman. New developments in dispersion experiments for the convective boundary layer. *Air Pollution Modeling and It's Application* XIV:445-454 (2001).

Weil, J.C., **W.H. Snyder**, **R.E. Lawson**, Jr., and M.S. Shipman. Experiments on buoyant plume dispersion in a laboratory convection tank. *Boundary-Layer Meteorology* 102:367–414 (2002).

Wesley, M.L., J. Song, and **R.T. McMillen**, and **T.P. Meyers**. Effects of soil moisture variations on deposition velocities above vegetation. *Water, Air, and Soil Pollution: Focus* 1: 5-15 (2001).

Wilson, K.B., and D.D. Baldocchi. Comparing independent estimates of carbon dioxide exchange over 5 years at a deciduous forest in the southeastern United States. *Journal of Geophysical Research* 106(D24):34,167-34,178 (2001).

Yan, P., J. Huang, **R.R. Draxler**. A preliminary study of effects from surrounding sources on surface SO₂ in Beijing. *Journal of Applied Meteorological Sciences* 13:144-152 (2002).

Zhou, S., A.J. Miller, **J. Wang**, and **J.K. Angell**. Downward-propagating temperature anomalies in the preconditioned polar stratosphere. *Journal of Climate* 15:781-792 (2002).

Zhou, S., A.J. Miller, **J. Wang**, and **J.K. Angell**. Trends of NAO and AO and their associations with stratospheric processes. *Geophysical Research Letters* 28(21):4107-4110 (2001).