



# Air Resources Laboratory



## Publications – FY 2001

- Arnold, J.R., and **R.L. Dennis**. First results from operational testing of the U.S. EPA Models3/Community Multiscale Model for Air Quality (CMAQ). In *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 651–658 (2001).
- Augustine, J.A.**, and **J.J. DeLuisi**. NOAA's surface radiation budget monitoring in the United States for climate research. Proceedings, 1<sup>st</sup> International Conference on Global Warming and the Next Ice Age, Aug. 19-24, Dalhousie University, Halifax, Nova Scotia, Canada, 130-133 (2001).
- Augustine, J.A.**, **J.J. DeLuisi**, and **C.N. Long**. SURFRAD – A national surface radiation budget network for atmospheric research. *Bulletin of the American Meteorological Society* 81(10):2341-2357 (2000).
- Augustine, J.A.**, **J.J. DeLuisi**, and **C.N. Long**. The effect of snow cover and cloud type on the surface radiation budget at SURFRAD network stations. Proceedings, 11<sup>th</sup> Symposium on Meteorological Observations and Instrumentation, Jan. 14-19, Albuquerque, NM. American Meteorological Society, 391-396 (2001).
- Baker, C.B., **T.P. Meyers**, *M.E. Hall*, and R.R. Heim, Jr. The precision and accuracy of the temperature measurements for the Climate Reference Network. Preprints, 11<sup>th</sup> Symposium on Meteorological Observations and Instrumentation, January 14-18, Albuquerque, NM, AMS, Boston, MA, 5-6 (2001).
- Baldocchi, D.D., E. Falge and *K. Wilson*. A spectral analysis of biosphere-atmosphere trace gas flux densities and meteorological variables across hour to year time scales. *Agricultural and Forest Meteorology* 107:1-27 (2001).
- Baldocchi, D.D., and *K.B. Wilson*. Forest canopies as sources and sinks of atmospheric trace gases (Methods for scaling up, contributions of different ecosystems); Scaling up to the ecosystem level. In *Trace Gas Exchange in Forest Ecosystems*, H. Rennenberg, H. Papen, and R. Gashe, eds Kluwer.(2000).
- Benjey, W.G.**, M.R. Houyoux, J.W. Susick. Implementation of the SMOKE emission data processor and SMOKE tool input data processor in Models-3. In *Emission Inventory Conference: One Atmosphere, One Inventory, Many Challenges*, Denver, Colorado, April 30–May 3. Session 8. Preparation for Modeling. Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available online <http://www.epa.gov/ttn/chief/conferences.html>. (2001).

Boone, A., V. Masson, **T. Meyers**, and J. Noilhan. The influence of the inclusion of soil freezing on simulations by a soil-vegetation-atmosphere transfer scheme. *Journal of Applied Meteorology* 39:1544 -1569 (2000).

Brooks, S.B., E.J. Dumas, and J. Verfaillie. Development of the SkyArrow surface/atmosphere flux aircraft for global ecosystem research. American Institute of Aeronautics and Astronautics Journal and Proceedings, 39th Aerospace Sciences Meeting & Exhibit, Jan. 8-11, Reno, NV, 10 pp. (2001).

Brooks, S.B., and S.J. Hastings. Airborne springtime IOP measurements of radiative exchange and albedos in the Barrow, Alaska, regional and comparisons to growing season results. *Journal of Geophysical Research* 106(D14):15,357-15,361 (2001).

**Bullock, O.R., Jr.** Modeling assessment of transport and deposition patterns of anthropogenic mercury air emissions in the United States and Canada. *Science of the Total Environment* 259:145-157 (2000),

Butler, T.J., G.E. Likens, and **B.J.B. Stunder**. Regional-scale impacts of Phase I of the Clean Air Act Amendments in the USA: The relation between emissions and concentrations, both wet and dry. *Atmospheric Environment* 35:1015-1028 (2001),

**Byun, D.W.** Description of atmospheric transport processes in Eulerian air quality models. In *Mesoscale Atmospheric Dispersion*. Z. Boybeyi (Ed.). WIT Press, Boston, 289-341 (2001).

**Byun, D.W.**, and **J.E. Pleim**. Sensitivity of ozone and aerosol predictions to the transport algorithms in the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. In *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 203–212 (2001).

Carter, C., **M. Cohen**, and A. Hilliard. Detective Story: The Airborne solvent that contaminated a water supply. *Opflow* 27(9):8-10, 21 (2001).

**Carter, R.G.**, and R. Ridenour. An improved short term transport and dispersion forecasting method. *Radiation Protection Management* 17(4):26-37 (2000).

**Clawson, K.L.**, **R.G. Carter**, **B.R. Reese**, **R.C. Johnson**, **N.F. Hukari**, and **D.J. Lacroix**. Gauntlet SF<sub>6</sub> atmospheric tracer release and field test support. NOAA Technical Memorandum OAR ARL-240, 340 pp. (2001).

**Clawson, K.L.**, D.A. Johnson, and N.Z. Sallendra. Initial comparisons of fluxes from Bowen Ratio and eddy correlation instrumentation over a sagebrush steppe ecosystem. Preprints, 11th Symposium on Meteorological Observations and

Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 72-73 (2001).

Cohn, R.D., **B.K. Eder**, **S.K. LeDuc**, and **R.L. Dennis**. Development of an aggregation and episode selection scheme to support the Models-3 Community Multiscale air quality model. *Journal of Applied Meteorology* 40:210-228 (2001).

Cote, O.R., J.M. Hacker, **T.L. Crawford**, and R.J. Dobosy. Clear air turbulence and refractive turbulence in upper troposphere and lower stratosphere. Proceedings, Aviation Range and Aerospace Meteorology Conference, Sept. 11-15, Orlando FL, American Meteorological Society (2000).

Cote, O.R., R.J. Dobosy, **T.L. Crawford**, and J.M. Hacker. Turbulence in the upper troposphere and lower stratosphere. European Geophysical Society XXVI General Assembly, Nice, France (2001)

**Crawford, T.L.**, **G.H. Crescenti**, and J. Hacker. Small environmental research aircraft: The future of airborne geoscience. Preprints, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 117-122 (2001).

**Crescenti, G.H.**, **N.F. Hukari**, **R.C. Johnson**, T.W. Strong, and S.A. Beard. Surface and upper-air meteorological data acquired during the Central California Ozone Study (CCOS). NOAA Data Report OAR ARL-21, Air Resources Laboratory, Silver Spring, MD, 102 pp. (2000).

**Dennis, R.L.**, and **R. Mathur**. Airshed domains for modeling atmospheric deposition of oxidized and reduced nitrogen to the Neuse/Pamlico system of North Carolina. *Hydrological Science and Technology* 17(1-4):107-117 (2001).

**Dennis, R.L.**, G.S. Tonnesen, and **R. Mathur**. Nonlinearities in the sulfate secondary fine particulate response to NO<sub>x</sub> emissions reductions as modeled by the Regional Acid Deposition Model. In *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 193–202 (2001).

Dobosy, R.J., **D.L. Auble**, **T.L. Crawford**, **G.H. Crescenti**, and **R.C. Johnson**. The Extreme Turbulence (ET) probe for measuring boundary-layer turbulence during hurricane-force winds. Preprints, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 50-54 (2001).

**Draxler, R.R.**, **D.A. Gillette**, J.S. Kirkpatrick, and J. Heller. Estimating PM<sub>10</sub> air concentrations from dust storms in Iraq, Kuwait and Saudi Arabia. *Atmospheric Environment* 35: 4315-4330 (2001).

- Dumas, E.J., S.B. Brooks, and J. Verfaillie.* Development and testing of a Sky Arrow 650 ERA for atmospheric research. Proceedings, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque, NM, American Meteorological Society (2001).
- Eder, B.K., S.K. Leduc, and R.L. Dennis.** Development of an aggregation and episode selection scheme to support the Models-3 Community Multiscale Air Quality Model. *Journal of Applied Meteorology* 40:210-228 (2001).
- Falge, E., **D. Baldocchi**, R. Olson, P. Anthoni, M. Aubinet, C. Bernhofer, G. Burba, R. Ceulemans, R. Clement, H. Dolman, A. Granier, P. Gross, T. Grünwald, D. Hollinger, N. Jensen, G. Katul, P. Keronen, A. Kowalski, C. Ta Lai, B.E. Law, **T. Meyers**, J. Moncrieff, E. Moors, J.W. Munger, K. Pilegaard, U. Rannik, C. Rebmann, A. Suyker, J. Tenhunen, K. Tu, S. Verma, T. Vesala, *K. Wilson*, and S. Wofsy,. Gap filling strategies for long term energy flux data sets. *Agricultural and Forest Meteorology* 107:71-77 (2001).
- Falge, E., **D. Baldocchi**, R. Olson, P. Anthoni, M. Aubinet, C. Bernhofer, G. Burba, R. Ceulemans, R. Clement, H. Dolman, A. Granier, P. Gross, T. Grünwald, D. Hollinger, N.-O. Jensen, G. Katul, P. Keronen, A. Kowalski, C. Ta Lai, B. E. Law, **T. Meyers**, J. Moncrieff, E. Moors, J. W. Munger, K. Pilegaard, Ü. Rannik, C. Rebmann, A. Suyker, J. Tenhunen, K. Tu, S. Verma, T. Vesala, *K. Wilson*, S. Wofsy. et al. Gap filling strategies for defensible annual sums of net ecosystem exchange. *Agricultural and Forest Meteorology* 107:43-69 (2001).
- Finkelstein, P.L.**, and P. Sims. Sampling error in eddy correlation flux measurements. *Journal of Geophysical Research* 106(D4):3503-3509 (2001).
- French, J.R., T.L. Crawford, R.C. Johnson, and O.R. Cote.** A high-resolution temperature probe for airborne measurements. Preprints, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 139-144 (2001).
- French, J.R.**, G. Vali, and R.D. Kelly. Observations of microphysics pertaining to the development of drizzle in warm, shallow cumulus clouds. *Quarterly Journal of the Royal Meteorological Society* 126:415-443 (2000).
- Frenzen, P., and *C.A. Vogel*. Further studies of atmospheric turbulence in layers near the surface: Scaling the TKE budget above the roughness sublayer. *Boundary-Layer Meteorology* 99:173-206 (2001).
- Gillette, D.A.** Regional scale vertical dust flux is a small fraction of the local field-scale horizontal fugitive dust flux. *Western Governors Association, Western Regional Air Partners, Expert Panel on Fugitive Dust.* Available at [www.wrapair.org](http://www.wrapair.org) under reports - Final Report on Fugitive Dust available under R&D Forum Committee, 13-18 (2001).

- Gillette, D.A.** Disturbed surfaces produce significantly more fugitive dust than undisturbed surfaces. *Western Governors Association, Western Regional Air Partners, Expert Panel on Fugitive Dust*. Available at [www.wrapair.org](http://www.wrapair.org) under Final Reports on Fugitive Dust available under R&D Forum Committee, 71-73 (2001).
- Gillette, D.A.**, and W. Chen. Particle production and aeolian transport from a “supply-limited” source area in the Chihuahuan desert, New Mexico, United States. *Journal of Geophysical Research* 106(D6):5267-5278 (2001).
- Gillette, D.A.**, T.C. Niemeier, and P.J. Helm. Supply-limited horizontal sand drift at an ephemerally crusted, unvegetated saline playa. *Journal of Geophysical Research* 106:18,085–18,098 (2001).
- Gilliland, A.B.**, and P.J. Abbitt. A sensitivity study of the discrete Kalman filter (DKF) to initial condition discrepancies. *Journal of Geophysical Research* 106(D16):17,939–17,952 (2001).
- Godowitch, J.M.** Results of photochemical simulations of subgrid scale point source emissions with the Models-3 CMAQ modeling system. Preprints, Millennium Symposium on Atmospheric Chemistry: Past, Present and Future of Atmospheric Chemistry, 81<sup>st</sup> Annual Meeting of the American Meteorological Society, January 15-18, Albuquerque, New Mexico. American Meteorological Society, Boston, 43-49 (2001).
- Hacker, J.M., B. Neining, and **T.L. Crawford**. Airborne monitoring of air quality using cost-efficient small aircraft combined with state-of-the-art sensor systems. Preprints, Seventh International Conference on Atmosphere Sciences and Applications to Air Quality, Oct. 31 to Nov. 2, Taipei, Taiwan (2000).
- Hicks, B.B.**, **T.P. Meyers**, **R.P. Hosker**, and **R.S. Artz**. Climatological features of regional surface air quality from the Atmospheric Integrated Research Monitoring Network (AIRMoN) in the USA. *Atmospheric Environment* 35:1053-1068 (2001).
- Hicks, B.B.**, **R.A. Valigura**, and F.B. Courtright. The role of the atmosphere in coastal ecosystem decline – Future research directions. *Estuaries* 23(6):854-863 (2000).
- Huber, A.H.**, M. Freeman, S. Rida, K. Kuehlert, and E. Bish. Development and applications of CFD in support of air quality studies of roadway and building microenvironments. Proceedings, 94<sup>th</sup> Annual Meeting of the Air & Waste Management Association, Orlando, FL, June 24-28. (CD-ROM). Session No. AB-3e. Applications of Computational Fluid Dynamics to Air Pollution Modeling. Air & Waste Management Association, Pittsburgh, Paper No. 1035 (2001).

- Irwin, J.S.** Statistical evaluation of centreline concentration estimates by atmospheric dispersion models. *International Journal Environment and Pollution* 14:28-38 (2000).
- Irwin, J.S.** Comparison of two sampling procedures for the statistical evaluation of the performance of atmospheric dispersion models in estimating centerline concentration values. In: *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 665-673 (2001).
- Irwin, J.S.**, J. Niedzialek, and J. Burzynski. A comparison of CALPUFF air quality simulation results with monitoring data for Krakow Poland. Proceedings, 7th International Conference on Harmonisation Within Atmospheric Dispersion Modelling For Regulatory Purposes, May 28-31, Belgirate, Italy. C. Cuvelier (Ed.). Environment Institute, Joint Research Centre, European Commission, I-21020, Ispra, Italy, 217-221 (2001).
- Johnson, R.C., R.G. Carter**, S. Businger, and J. Businger. Improved smart balloon to better characterize hurricane boundary-layer inflow. Preprints, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 182-187 (2001).
- Kuhns, H., V. Etyemezian, D. Landwehr, C. MacDougall, **M. Pitchford**, and M. Green. Testing Re-entrained Aerosol Kinetic Emissions from Roads (TRAKER): A new approach to infer silt loading on roadways. *Atmospheric Environment* 35:2815-2825 (2001).
- Lee, X., **O.R. Bullock, Jr.**, and R.J. Andres. Anthropogenic emission of mercury to the atmosphere in the northeast United States. *Geophysical Research Letters* 28(7):1231-1234 (2001).
- Mahrt, L., D. Vickers, J. Sun, **T. L. Crawford, G.H. Crescenti**, and P. Frederickson. 2001. Surface stress in offshore flow and quasi-frictional decoupling. *Journal of Geophysical Research* 106:20,629-20,639. (2001)
- Meyers, T.** A comparison of summertime water and CO<sub>2</sub> fluxes over rangeland for well watered and drought conditions. *Agricultural and Forest Meteorology* 106:205-214 (2001).
- Meyers, T.**, J. Sickles, **R. Dennis**, K. Russell, J. Galloway, and T. Church. Atmospheric nitrogen deposition to coastal estuaries and their watersheds. In *Nitrogen Loading in Coastal Water Bodies: An Atmospheric Perspective, Coastal and Estuarine Studies*, 53-76 (2001).

- Nappo, C.J.** On the need for wave saturation parameterization in mesoscale models. Proceedings, International Workshop on the Next Generation of Numerical Weather Prediction Models, Yonsei Univeristy, Seoul, Korea, May 14-16. (2001).
- Nappo, C.J.**, and K.S.M. Essa. Modeling dispersion from near-surface releases at Cape Canaveral, Florida. *Atmospheric Environment* 35:3999-4010 (2001).
- NARSTO Ozone Synthesis Team.** Assessing Policy-Relevant Science for Managing Ozone Air Quality. *EM* 6:11-15 (2001).
- NARSTO Synthesis Team.** An assessment of tropospheric ozone pollution: A North American perspective. (Formerly) North American Research Strategy for Tropospheric Ozone. Published by EPRI, Palto Alto, CA, 168 pp. (2000).
- Oechel, W.C., G.L. Vourlitis, J. Verfaillie Jr., **T. Crawford**, *S. Brooks*, *E. Dumas*, A. Hope, S.D. Stow, W. Boynton, V. Nosov, and R. Zulueta. A scaling approach for quantifying the net CO<sub>2</sub> flux of the Kuparuk River Basin, Alaska. *Global Change Biology*, 6:160-173 (2000).
- Okin, G.S., and **D.A. Gillette.** Distribution of vegetation in wind-dominated landscapes: Implications for wind erosion modeling and landscape processes. *Journal of Geophysical Research* 106:9673-9683 (2001).
- Otte, T.L.**, and A. Lacser. Implementation of an urban canopy parameterization in MM5 for meso-gamma-scale air quality modeling applications. Preprints, Ninth Conference on Mesoscale Processes of the Atmospheric Meteorological Society, July 30 - August 2, Ft. Lauderdale, FL. American Meteorological Society, Boston, p 1.21. (2001).
- Otte, T.L.**, N.L. Seaman, and D.R. Stauffer. A heuristic study on the importance of anisotropic error distributions in data assimilation. *Monthly Weather Review* 129:744-783 (2001).
- Paerl, H., W. Boynton, **R. Dennis**, C. Driscoll, H. Greening, J. Kremer, N. Rabalais, and S. Seitzinger. Atmospheric deposition and nitrogen in coastal waters: Biogeochemical and ecological implications. In *Nitrogen Loading in Coastal Water Bodies. An Atmospheric Perspective*. Richard A. Valigura et al., (Eds.). Coastal and Estuarine Studies, 57. American Geophysical Union, Washington, DC, 11–52 (2001).
- Peters, T.M., G.A. Norris, R.W. Vanderpool, D.B. Gemmill, R.W. Wiener, R.W. Murdoch, F.F. McElroy, and **M. Pitchford.** Field performance of PM<sub>2.5</sub> federal reference method samplers. *Aerosol Science and Technology* 34:433-443 (2001).

- Petropavlovskikh, I., D. Theisen, J.J. DeLuisi, R.D. Bojkov, and E. Kosmidis.* On shifts in the long-term Umkehr radiance records and their influence on retrieved ozone profiles. *Geophysical Research Letters* 28(2):255-258 (2001).
- Pleim, J.E.**, and A. Xiu. Updates and evaluation of the PX-LSM in MM5. Preprints, Eleventh PSU/NCAR Mesoscale Modeling System Users' Workshop, June 25-27, Boulder, Colorado. National Center for Atmospheric Research, Boulder, Colorado. 98–101 (2001).
- Pleim, J.E.**, and **D.W. Byun.** Application of a new land-surface, dry deposition, and PBL model in the Models-3 Community Multiscale Air Quality (CMAQ) modeling system. In *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 297–305 (2001).
- Poole-Kober, E.M.**, and **H.J. Viebrock** (Eds). Fiscal year 200 summary report of the NOAA Atmospheric Sciences Modeling Division to the U.S. Environmental Protection Agency. NOAA Technical Memorandum OAR ARL-239, Atmospheric Sciences Modeling Division, Research Triangle Park, NC, 97 pp. (2001).
- Possiel, N.**, G. Stella, R. Ryan, T. Pace, **W.G. Benjey**, A. Beidler, E. Kinnee, M. Houyoux, and Z. Adelman. Development of an anthropogenic emissions inventory for annual nationwide models-3/CMAQ simulations of ozone and aerosols. In *Emission Inventory Conference: One Atmosphere, One Inventory, Many Challenges, Denver, Colorado, April 30–May 3, 2001*. Session 8. Preparation for Modeling. Office of Air Quality Planning & Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC. Available online <http://www.epa.gov/ttn/chief/conferences.html> (2001).
- Ramaswamy, V., M.-L. Chanin, **J. Angell**, J. Barnett, **D. Gaffen**, M. Gelman, P. Kekhut, Y. Koshelkov, K. Labitzke, J.-J. R. Lin, A. O'Neill, J. Nash, W. Randel, R. Rood, K. Shine, M. Shiotani, and R. Swinbank. Stratospheric temperature trends: Observations and model simulations. *Reviews of Geophysics* 39:71-122 (2001).
- Randerson, D.**, and **J.B. Sanders.** Anomalous cloud-to-ground flash densities over southern Nevada. Proceedings, 2000 International Lightning Detection Conference, November 7-8, Tucson, AZ (2000).
- Rao, K.S.** ROADWAY-2: A Model for Pollutant Dispersion near Highways. Proceedings, Third International Conference on Urban Air Quality, 19-23 March, Loutraki, Greece, 4 pp. (2001).
- Ross, R.J.**, and W.P. Elliott. Radiosonde-based Northern Hemisphere tropospheric water vapor trends. *Journal of Climate* 14:1602-1612 (2001).



- Ross, R.J., D.J. Gaffen,** and J. Gille. Preface to Water Vapor in the Climate System Special Section. *Journal of Geophysical Research*:106, 5197 (2001).
- Sanders, J.B.,** and **D. Randerson.** Preliminary cloud-to-ground lightning climatology for southern Nevada. Proceedings, 2000 International Lightning Detection Conference, November 7-8, Tucson, AZ (2000).
- Sagendorf, J. F., R. G. Carter,** and **K. L. Clawson.** MDIFF Transport and Diffusion Models. NOAA Technical Memorandum OAR ARL-238, Air Resources Laboratory, Silver Spring, MD (2001).
- Schere, K.L.** Foreword NARSTO critical reviews. *Atmospheric Environment* 34:1853-1860 (2000).
- Seckmeyer, G., A. Bais, G. Bernhard, M. Blumthaler, C. R. Booth, *P. Disterhoft*, P. Erikson, R.L., McKenzie, C. Roy. Instruments to measure solar ultraviolet radiation, Part 1: Spectral instruments. World Meteorological Report 125 (2001).
- Seidel, D., R.J. Ross,** and **J.K. Angell.** Climatological characteristics of the tropical tropopause as revealed by radiosondes. *Journal of Geophysical Research* 106(D8):7857-7878 (2001).
- Singh, R.B., and **A.H. Huber.** Development of a microscale emission factor model for CO for predicting real-time motor vehicle emissions. *Journal of the Air & Waste Management Association* 50:1980-1991 (2000).
- Singh, R.B., and **A.H. Huber.** Sensitivity analysis and evaluation of MicroFacCO: A microscale motor vehicle emission factor model for CO Emissions. *Journal of the Air & Waste Management Association* 51:1087–1099 (2001).
- Singh, R.B., **A.H. Huber,** and J.N. Braddock. Development of a microscale emission factor model for particulate matter (MicroFacPM) for predicting real-time motor vehicle emissions. Proceedings, 94<sup>th</sup> Annual Meeting of the Air & Waste Management Association, Orlando, FL, June 24-28. (CD-ROM). Session No. AS-1d. Mobile Source Particulate Emissions. Air & Waste Management Association, Pittsburgh, Paper No. 262 (2001).
- Sokolik, I., D. Winkler, G. Bergametti, **D. Gillette,** G. Charmichal, Y. Kaufman, L. Gomes, L. Schuetz, and J. Penner. Introduction to special section: Outstanding problems in quantifying the radiative impact of mineral dust. *Journal of Geophysical Research* 106:18,015–18,027 (2001).
- Strum, M.L., N. Frank, **J.S. Touma,** and R. Mason. Emissions processing and air quality modeling initial National Scale Air Toxics Assessment. Proceedings, 94<sup>th</sup> Annual Meeting of the Air & Waste Management Association, Orlando, FL, June 24–28. Air & Waste Management Association, Pittsburgh, Paper No. 432 (2001).

- Sugata, S., **D.W. Byun**, and I. Uno. Simulation of sulfate aerosol in east Asia using Models-3/CMAQ with RAMS meteorological data. In *Air Pollution Modeling and Its Application XIV*. Gryning, S.-E., and F.A. Schiermeier (Eds.). Kluwer Academic/Plenum Publishers, New York, NY, 267–275 (2001).
- Sun, J., D. Vandemark, L. Mahrt, D. Vickers, **T. Crawford**, and C. Vogel. Momentum transfer over the coastal zone. *Journal of Geophysical Research*, 106:12,437-12447 (2001).
- Valigura, R.A.** An introduction to the first assessment of nitrogen loads to U.S. estuaries with an atmospheric perspective. In: *Nitrogen Loading in Coastal Water Bodies: An Atmospheric Perspective, Coastal Estuarine Studies*, 1-10 (2001).
- Valigura, R.A.**, R.B. Alexander, M.S. Castro, **T.P. Meyers**, H.W. Paerl, P.E. Stacey, and R.E. Turner (Eds.). *Nitrogen Loading in Coastal Water Bodies: An Atmospheric Perspective, Coastal Estuarine Studies*. American Geophysical Union, 254 pp. (2001).
- Vandemark, D., P.D. Mourad, S.A. Bailey, **T.L. Crawford**, *C.A. Vogel*, J. Sun, and B. Chapron. Measured changes in ocean surface roughness due to atmospheric boundary layer rolls. *Journal of Geophysical Research* 106(C3):4639-4654 (2001).
- Venkatram, A., R. Brode, A. Cimorelli, R. Lee, R. Paine, **S. Perry**, W. Peters, J. Weil, and R. Wilson. A complex terrain dispersion model for regulatory applications. *Atmospheric Environment* 35:4211–4222 (2001).
- Vickers, D., L. Mahrt, J. Sun, and **T. Crawford**. Structure of offshore flow. *Monthly Weather Review* 129:1251-1258 (2001).
- Vukovich, F., **A. Gilliland**, A. Venkatram, and J. Sherwell. On performing long-term predictions of ozone using the SOMS model. *Atmospheric Environment* 35:569–578 (2001).
- Walsh, K., and **A. Gilliland**. Regional variations in sulfate and nitrate on annual, seasonal, and synoptic time scales. *Journal of the Air & Waste Management Association* 51:174–185 (2001).
- Wang, J.X.L.**, and **D.J. Gaffen**. Late-twentieth-century climatology and trends of surface humidity and temperature in China. *Journal of Climate* 14:2833-2845 (2001).
- Wang, J.X.L.**, and **D.J. Gaffen**. Trends in extremes of surface humidity, temperature, and summertime heat stress in China. *Advances in Atmospheric Sciences* 18:742-751 (2001).

**Watson, T.B.** (contributor) Air Quality Research Subcommittee of the Committee on Environment and Natural Resources (CENR), Intercontinental transport of air pollution: Relationship to north american air quality. A review of Federal research and future needs. NOAA Aeronomy Laboratory, Boulder, Colorado, 54 pp. (2001).

Weatherhead, E.C. Detecting climate change. Proceedings, 1<sup>st</sup> International Conference on Global Warming and the Next Ice Age, Aug. 19-24, Dalhousie University, Halifax, Nova Scotia, Canada (2001).

Weatherhead, E.C. Environmental changes and trends – who is to blame? Proceedings, IAGA/ICMA/PSMOS Workshop, Long-term Changes and Trends in the Atmosphere, Prague, July 2-6 (2001).

Weatherhead, E.C., and A. Stevermer. Ultraviolet radiation. In, Encyclopedia of Global Environmental Change, Vol. 1, John Wiley and Sons, Inc. (2001).

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

Wilson, K.B. Evidence of drainage flow at an eddy covariance site. Proceedings, International Workshop for Advanced Flux Network and Flux Evaluation, 27-29 September, Hokkaido University, Sapporo, Japan, 47-49 (2000).

Wilson, K.B., **D.D. Baldocchi**, and P.J. Hanson. Leaf age affects the seasonal pattern of photosynthetic capacity and net ecosystem exchange of carbon in a deciduous forest. *Plant, Cell and Environment* 24:571-583 (2001).

Wilson, K.B., and **T.P. Meyers**. The spatial variability of energy and carbon dioxide fluxes at the floor of a deciduous forest. *Boundary-Layer Meteorology* 98: 443-473 (2001).

Wilson, K.B., P.J. Hanson, P.J. Mulholland, **D.D. Baldocchi**, and S.D. Wullschleger. A comparison of methods for determining forest evapotranspiration and its components: sap-flow, soil water budget, eddy covariance and catchment water balance. *Agricultural and Forest Meteorology* 106:153-168 (2001).

Wright, C. W., and **J. R. French**. Comparison of aircraft attitude determination by GPS, INS, and airborne laser: Preliminary results. Preprints, 11th Symposium on Meteorological Observations and Instrumentation, Jan. 14-18, Albuquerque NM, American Meteorological Society, 134-138 (2001).

Xiu, A., and **J.E. Pleim**. Development of a land surface model. Part I: Application in a Mesoscale Meteorological Model. *Journal of Applied Meteorology* 40:192-209 (2001).