



Air Resources Laboratory Publications – 2012

Journals

Barrett, Steven, Steve Yim, Christopher Gilmore, Lee Thomas Murray, Stephen Kuhn, Amos Tai, Robert Yantosca, Daewon Byun, **Fong Ngan**, Xiangshang Li, Jon Levy, Akshay Ashok, Jamin Koo, Hsin Min Wong, Olivier Dessens, Sathya Balasubramanian, Gregg Fleming, Matthew Pearson, Christoph Wollersheim, Robert Malina, Sarav Arunachalam, Francis Binkowski, Eric Leibensperger, Daniel J. Jacob, Jim Hileman, and Ian Waitz (2012) Public Health, Climate and Economic Impacts of Desulfurizing Jet Fuel, *Environ. Sci. Technology*, 46:8, pp 4275-4282. doi: 10.1021/es203325a.

Castro, Mark S., Chris Moore, John Sherwell, and Steve B. Brooks (2012). Dry deposition of gaseous oxidized mercury in Western Maryland. *Science of the Total Environment* 417–418(0): 232-240. doi: 10.1016/j.scitotenv.2011.12.044.

Chen, Bing, Ariel F. Stein, Nuria Castell, J.D. de la Rosa, A.M. Sanchez de la Campa, Yolanda Gonzalez-Castanedo, **Roland R. Draxler**. (2012). Modeling and surface observations of arsenic dispersion from a large Cu-smelter in southwestern Europe. *Atmospheric Environment*. Volume 49, Pages 114–122. doi:10.1016/j.atmosenv.2011.12.014.

Choi Y, Hyun Kim, Daniel Tong, and **Pius Lee** (2012). Summertime weekly cycles of observed and modeled NOx and O₃ concentrations as a function of satellite-derived ozone production sensitivity and land use types over the Continental United States. *Atmospheric Chemistry and Physics* 12(14):6291-6307. doi:10.5194/acp-12-6291-2012

Denkenberger JS, CT Driscoll, BA Branfireun, CS Eckley, **M. Cohen**, and P. Selvendiran. (2012). A synthesis of rates and controls on elemental mercury evasion in the Great Lakes Basin. *Environmental Pollution* 161:291-298. doi:10.1016/j.envpol.2011.06.007

Draxler RR and GD Rolph. (2012). Evaluation of the Transfer Coefficient Matrix (TCM) approach to model the atmospheric radionuclide air concentrations from Fukushima. *Journal of Geophysical Research-Atmospheres* 117:D05107. doi:10.1029/2011jd017205

Gitelson, Anatoly A., Yi Peng, Jeffery G. Masek, Donald C. Rundquist, Shashi Verma, Andrew Suyker, John M. Baker, Jerry L. Hatfield, **Tilden Meyers**. (2012). Remote estimation of crop gross primary production with Landsat data. *Remote Sensing of Environment*. 121, 404–414. doi: 10.1016/j.rse.2012.02.017.

Gu, L.H., W.J. Massman, R. Leuning, S.G. Pallardy, **T. Meyers**, P.J. Hanson, J.S.

Riggs, K.P. Hosman, and B. Yang. (2012). The fundamental equation of eddy covariance and its application in flux measurements. *Agricultural and Forest Meteorology*, 152:135-148. doi:10.1016/j.agrformet.2011.09.014

Hicks, Bruce B., W. J. Callahan, **W. R. Pendergrass III**, and Ronald J. Dobosy (2012). Urban Turbulence in Space and in Time. *Journal of Applied Meteorology and Climatology*, 51, 205–218, doi: 10.1175/jamc-d-11-015.1.

Kochendorfer, John, Tilden P. Meyers, John Frank, William J. Massman and Mark W. Heuer (2012). How Well Can We Measure the Vertical Wind Speed? Implications for Fluxes of Energy and Mass. *Boundary Layer Meteorology*. Volume 145, Issue 2, pp 383-398. doi: 10.1007/s10546-012-9738-1.

Krishnan, Praveena, Tilden P. Meyers, Russell L. Scott, Linda Kennedy, and Mark Heuer (2012) Energy exchange and evapotranspiration over two temperate semi-arid grasslands in North America. *Agricultural and Forest Meteorology*. 153, 31–44. doi:10.1016/j.agrformet.2011.09.017.

Lan, X., R. Talbot, M. Castro, K. Perry, and **W. Luke**. (2012) Seasonal and diurnal variations of atmospheric mercury across the US determined from AMNet monitoring data, *Atmospheric Chemistry and Physics*. 12, 10569-10582, doi:10.5194/acp-12-10569-2012.

Lee, P., R. Saylor and J. Meagher. (2012) Developing air quality forecasts, *Eos Trans. AGU* 93(22), 213. Doi: 10.1029/2012EO220013.

Liang, Xin Zong, Min Xu, Xing Yan, Tiejun Ling, Hyun Choi, Feng Zhang, Ligang Chen, Shuyan Liu, Shenjian Su, FengXue Qiao, Yuxiang He, **Julian X. L. Wang**, Kenneth E. Kunkel, Wei Gao, Everette Joseph, Vernon Morris, Tsann-Wang Yu, Jimy Dudhia, and John Michalakes (2012). Regional Climate-Weather Research and Forecasting Model. *Bulletin of the American Meteorological Society* 93(9):1363-1387. doi:10.1175/BAMS -D-11-00180.1

Mao, J., X. Ren, L. Zhang, D. M. Van Duin, R. C. Cohen, J.-H. Park, A. H. Goldstein, F. Paulot, M. R. Beaver, J. D. Crounse, P. O. Wennberg, J. P. DiGangi, S. B. Henry, F. N. Keutsch, C. Park, G. W. Schade, G. M. Wolfe, J. A. Thornton, and W. H. Brune. (2012) Insights into hydroxyl measurements and the atmospheric oxidation in a California forest, *Atmospheric Chemistry and Physics*, 12, 8009–8020. doi:10.5194/acp-12-8009-2012.

Myles, LaToya, Mark W. Heuer, Tilden P. Meyers, Zakiya J. Hoyett (2012) A comparison of observed and parameterized SO₂ dry deposition over a grassy clearing in Duke Forest. *Atmospheric Environment* 49, 212–218. doi:10.1016/j.atmosenv.2011.11.059.

Ngan, Fong, Daewon Byun, Hyuncheol Kim, Daegyun Lee, Bernhard Rappenglueck, and Arastoo Pour-Bazar (2012) Performance Assessment of Retrospective

Meteorological Inputs for Use in Air Quality Modeling during TexAQS 2006.
Atmospheric Environment. 54, 86–96. doi.org/10.1016/j.atmosenv.2012.01.035.

Olson, J. R., J. H. Crawford, W. Brune, J. Mao, X. Ren, A. Fried, B. Anderson, E. Apel, M. Beaver, D. Blake, G. Chen, J. Crounse, J. Dibb, G. Diskin, S.R. Hall, L.G. Huey, D. Knapp, D. Richter, D. Riemer, J. St. Clair, K. Ullmann, J. Walega, P. Weibring, A. Weinheimer, P. Wennberg, and A. Wisthaler. (2012) An analysis of fast photochemistry over high northern latitudes during spring and summer using in-situ observations from ARCTAS and TOPSE. *Atmospheric Chemistry & Physics*, 12, 6799-6825, doi:10.5194/acp-12-6799-2012, 2012. <http://www.atmos-chem-phys.net/12/6799/2012/acp-12-6799-2012.pdf>

Rasmussen, Roy, **Bruce Baker, John Kochendorfer, Tilden Meyers**, Scott Landolt, Alexandre P. Fischer, Jenny Black, Julie Theriault, Paul Kucera, David Gochis, Craig Smith, Rodica Nitu, Mark Hall, Steve Cristanelli, and Ethan Gutmann (2012). How Well Are We Measuring Snow: The NOAA/FAA/NCAR Winter Precipitation Test Bed. *Bulletin of the American Meteorological Society*, 93, 811–829. doi: <http://dx.doi.org/10.1175/BAMS-D-11-00052.1>

Ren, X., Mao, J., Brune, W. H., Cantrell, C. A., Mauldin III, R. L., Hornbrook, R. S., Kosciuch, E., Olson, J. R., Crawford, J. H., Chen, G., and Singh, H. B. (2012). Airborne intercomparison of HO_x measurements using laser-induced fluorescence and chemical ionization mass spectrometry during ARCTAS, *Atmospheric Measurement Techniques*, 5, 2025-2037, doi:10.5194/amt-5-2025-2012.

Santiago, Manuel, Marta G. Vivanco, and Ariel Stein. (2012). Evaluation of CMAQ parameterizations for SOA formation from the photooxidation of α-pinene and limonene against smog chamber data. *Atmospheric Environment*. Volume 56, Pages 236–245. doi:10.1016/j.atmosenv.2012.04.011.

Santiago, Manuel, Marta García Vivanco, and Ariel F. Stein (2012). SO₂ effect on secondary organic aerosol from a mixture of anthropogenic VOCs: experimental and modelled results. *Int. J. of Environment and Pollution*, Vol.50, No.1/2/3/4, pp.224 – 233.

Saylor, R. D. and A.F. Stein. (2012) Identifying the causes of differences in ozone production from the CB05 and CBMIV chemical mechanisms, *Geoscientific Model Development*, 5, 257-268, doi:10.5194/gmd-5-257-2012.

Seidel, D. J., M. Free, and J. S. Wang (2012), Reexamining the warming in the tropical upper troposphere: Models versus radiosonde observations, *Geophysical Research Letters*, 39, L22701, doi:10.1029/2012GL053850.

Seidel, D. J., Y. Zhang, A. C. M. Beljaars, J.-C. Golaz, A. R. Jacobson, and B. Medeiros (2012), Climatology of the planetary boundary layer over the continental United States and Europe, *J. Geophys. Res.*, 117, D17106, doi:10.1029/2012JD018143.

Stein, A. F. and R. D. Saylor. (2012). Sensitivities of sulfate aerosol formation and oxidation pathways on the chemical mechanism employed in simulations. *Atmospheric Chemistry and Physics*, 12, 8567-8574. doi:10.5194/acpd-12-8567-2012.

Thomas, J. L., Dibb, J. E., Stutz, J., von Glasow, R., Brooks, S., Huey, L. G., and Lefer, B. (2012). Overview of the 2007 and 2008 campaigns conducted as part of the Greenland Summit Halogen-HO_x Experiment (GSHOX). *Atmospheric Chemistry and Physics*. 12(22): 10833-10839. doi:10.5194/acp-12-10833-2012

Thompson, David W. J. **Dian J. Seidel**, William J. Randel, Cheng-Zhi Zou, Amy H. Butler, Roger Lin, Craig Long, Carl Mears, Albert Osso (2012) The mystery of recent stratospheric temperature trends. *Nature*. 491, 692–697. doi:10.1038/nature11579.

Tong, Daniel Q., Pius Lee, and Rick D. Saylor. (2012) New Directions: The need to develop process-based emission forecasting models. *Atmospheric Environment* 47, 560–561. doi:10.1016/j.atmosenv.2011.10.070

Tong, D. Q., Dan, M., Wang, T., and **Lee, P.** (2012). Long-term dust climatology in the western United States reconstructed from routine aerosol ground monitoring, *Atmospheric Chemistry and Physics*. 12, 5189-5205, doi:10.5194/acp-12-5189-2012.

Wang, J. S., D. J. Seidel, and M. P. Free (2012), How well do we know recent climate trends at the tropical tropopause?, *Journal of Geophysical Research*, 117, D09118. doi:10.1029/2012JD017444.

Wang, Panxing, **Julian X. L. Wang**, Hai Zhi, Yukun Wang, and Xiaojuan Sun. (2012). Circulation indices of the Aleutian low pressure system: Definitions and relationships to climate anomalies in the northern hemisphere. *Advances in Atmospheric Sciences*. 29(5):1111-1118. doi:10.1007/s00376-012-1196-7.

Wen, Deyong, John C. Lin, Dylan B. Millet, Ariel Stein, Roland Draxler (2012). A backward-time stochastic Lagrangian air quality model. *Atmospheric Environment*. 54, 373-386, doi:10.1016/j.atmosenv.2012.02.042.

Wilson, T.B., T.P. Meyers, J. Kochendorfer, M. C. Anderson, and M. Heuer (2012). The effect of soil surface litter residue on energy and carbon fluxes in a deciduous forest. *Journal of Agriculture and Forest Meteorology* 161, 134–147, doi.org/10.1016/j.agrformet.2012.03.013

Wong, K. W., C. Tsai, B. Lefer, C. Haman, N. Grossberg, W.H. Brune, X. Ren, W. Luke, and J. Stutz. (2012). Daytime HONO vertical gradients during SHARP 2009 in Houston, TX, *Atmospheric Chemistry & Physics*, 12, 635-652. doi:10.5194/acp-12-635-2012.

Yan, H., S.Q. Wang, D. Billesbach, W. Oechel, J.H. Zhang, **T. Meyers**, T.A. Martin, R. Matamala, D. Baldocchi, G. Bohrer, D. Dragoni, and R. Scott. (2012). Global estimation of evapotranspiration using a leaf area index-based surface energy and water balance model. *Remote Sensing of Environment* 124; 581–595.
<http://dx.doi.org/10.1016/j.rse.2012.06.004>

Yerramilli, A., V.B.R.Dodla, C.V. Srinivas, **L. Myles, W.R. Pendergrass, C.A. Vogel**, H.P. Dasari, F. Tuluri, J.M. Baham, R. Hughes, C. Patrick, J. Young, and S. Swanier. (2012). Simulation of surface ozone pollution in the Central Gulf Coastal region during summer synoptic condition using WRF/Chem air quality model. *Atmospheric Pollution Research* 3, 55-71, doi:10.5094/APR.2012.005.

Yerramilli A., Venkata Dodla, Venkata Challa, **LaToya Myles, William Pendergrass, Christoph Vogel**, Hari Dasari, Francis Tuluri, Julius Baham, Robert Hughes, Chuck Patrick, John Young, Shelton Swanier, Mark Hardy (2012). An integrated WRF/HYSPLIT modeling approach for the assessment of PM2.5 source regions over the Mississippi Gulf Coast region. *Air Quality Atmosphere and Health*. 5(4):401-412. doi:10.1007/s11869-010-0132-1

Yi, Chuixiang, Gerald Rustic, Xiyan Xu, Jingxin Wang, Anand Dookie, Suhua Wei, George Hendrey, Daniel Ricciuto, **Tilden Meyers**, Zoltán Nagy, and Krisztina Pinter.(2012).Climate extremes and grassland potential productivity. *Environmental Research Letters*, Volume 7, Issue 3, 035703 (6pp). doi:10.1088/1748-9326/7/3/035703.

Zhang, Y., L. Jaeglé, A. van Donkelaar, R. V. Martin, C. D. Holmes, H. M. Amos, Q. Wang, R. Talbot, **R. Artz, S. Brooks, W. Luke**, T. M. Holsen, D. Felton, E. K. Miller, K. D. Perry, D. Schmeltz, A. Steffen, R. Tordon, P. Weiss-Penzias, and R. Zsolway. (2012).Nested-grid simulation of mercury over North America. *Atmospheric Chemistry & Physics*, 12, 6095-6111, doi:10.5194/acp-12-6095-2012. <http://www.atmos-chem-phys.net/12/6095/2012/acp-12-6095-2012.pdf>

Zhao H.M., **D.Q. Tong**, Q.X. Lin, X.G. Lu, and G.P. Wang. (2012). Effect of fires on soil organic carbon pool and mineralization in a Northeastern China wetland. *Geoderma* 189:532-539. doi:10.1016/j.geoderma.2012.05.013