

## Journal Articles

Chen L.-W.A., Lowenthal D.H., Watson J.G., Koracin D., Kumar N., Knipping E.M., Wheeler N., Craig K., and Reid S. (2010) Toward effective source apportionment using positive matrix factorization: experiments with simulated PM<sub>2.5</sub> data. *J. Air & Waste Manag. Assoc.* 60, 43–54 (doi:10.3155/1047-3289.60.1.43).

Lowenthal D.H., Watson J.G., Koracin D., Chen L.-W.A., Dubois D., Vellore R., Kumar N., Knipping E.M., Wheeler N.J.M., Craig K.J., and Reid S.B. (2010) Evaluation of regional-scale receptor modeling. *J. Air & Waste Manage. Assoc.* 60, 26–42 (doi:10.3155/1047-3289.60.1.26).

## Meeting Presentations and Conference Proceedings

MacDonald C.P., Craig K.J., DeWinter J.L., Pasch A.N., Tollstrup B., and Kennard A. (2010) Benefits of forecast-based residential wood burning bans on air pollution. Presented at the *National Air Quality Conferences, Raleigh, NC, March 15-18* (STI-3807).

MacDonald C.P., Miller D.S., Dye T.S., Craig K.J., and Alrick D.M. (2010) Adjusting numerical model data in real time: AQMOS. Presented at the *National Air Quality Conferences, Raleigh, NC, March 15-18* (STI-3805).

Dye T.S., MacDonald C.P., Craig K.J., and Alrick D.M. (2010) Adjusting numerical model data in real time: AQMOS. Presented at the *American Meteorological Society Annual Meeting, 12th Conference on Atmospheric Chemistry, Atlanta, GA, January 21*, by Sonoma Technology, Inc., Petaluma, CA (STI-3667).

Wheeler N.J.M., Craig K.J., Pasch, A., Raffuse S.M., Sullivan D.C., Larkin S., Strand T., and Solomon R. (2009) The Smoke and emissions model intercomparison project. Poster presented at the *8th Annual Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 19-21* by Sonoma Technology, Inc., Petaluma, CA, and the U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-3715).

Miller D.S., Dye T.S., and Craig K.J. (2009) Bias-correcting NOAA model data in real time: AQMOS. Presented at the NOAA focus group meeting, Washington, D.C. by Sonoma Technology, Inc., Petaluma, CA, September 16 (STI-3699).

Wheeler N.J.M., Craig K.J., and Reid S.B. (2009) An investigation of aloft model performance for two episodes during the 2000 Central California ozone study. Paper presented at the *30th NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, San Francisco, CA, May 18-22* by Sonoma Technology, Inc., Petaluma, CA (STI-3594).

Wheeler N.J.M., Raffuse S.M., Sullivan D.C., Craig K.J., and Reid S.B. (2009) Daily air quality predictions from the BlueSky gateway. Presented at the *30th NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, San Francisco, CA, May 18-22* by Sonoma Technology, Inc., Petaluma, CA (STI-3589).

Sullivan D., Chan A., Knoderer C., Raffuse S., Wheeler N., and Craig K. (2008) Emergency smoke response systems: air quality forecasts and monitoring during the 2008 California wildfires. Presented at the *Pacific Coast Fire Conference, San Diego, CA, December 3* by Sonoma Technology, Inc., Petaluma, CA; USFS AirFire Team, Seattle, WA; Desert Research Institute, Reno, NV; and USFS Region 5, CA (STI-3515).

Sullivan D.C., Raffuse S.M., Wheeler J.M.W., and Craig K.J. (2008) Emergency smoke response systems. Slide show presented at the *California Air Response Planning Alliance, Air Quality in Emergency Response: Monitoring, Modeling, Messaging, and Media, Sacramento, CA October 15-16*, by Sonoma Technology, Inc., Petaluma, CA (STI-3510).

- Craig K.J., Wheeler N.J.M., Raffuse S.M., Sullivan D.C., Reid S.B., Solomon R., Strand T., and Larkin S. (2008) BlueSky Gateway: providing access to products from the BlueSky smoke modeling program. Poster presented at the *7th Annual Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 6-8* by Sonoma Technology, Inc., Petaluma, CA, and the U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-3452).
- Sullivan D.C., Raffuse S.M., Pryden D.A., Craig K.J., Reid S.B., Wheeler N.J.M., Chinkin L.R., Larkin N.K., Solomon R., and Strand T. (2008) Development and applications of systems for modeling emissions and smoke from fires: the BlueSky smoke modeling framework and SMARTFIRE. Paper presented at the *17th International Emissions Inventory Conference, Portland, OR, June 5*, by Sonoma Technology, Inc., Petaluma, CA, and the U.S. Forest Service, Seattle, WA (STI-3378).
- Wheeler N.J.M., Craig K.J., Reid S.B., Gilliland E.K., Sullivan D.C., and Chinkin L.R. (2008) The BlueSky Gateway air quality forecast system for fire management. Presented at the *BlueSky Smoke Modeling Framework Stakeholders' Meeting, Boise, ID, May 20-22* (STI-905028-3367).
- Raffuse S.M., Craig K.J., Wheeler N.J.M., Sullivan D.C., Larkin N.K., Solomon R., and Strand T. (2008) PM<sub>2.5</sub> emissions and smoke predictions from the BlueSky Smoke Modeling Framework. *Presentation at the Aerosol & Atmospheric Optics: Visual Air Quality and Radiation, Moab, UT, May 2* (STI-3324).
- Craig, K.J., Wheeler N.J.M., Reid S.B., Gilliland E.K., and Sullivan D.C. (2007) Development and operation of national CMAQ-based PM<sub>2.5</sub> forecast system for fire management. Presented at the *Sixth Annual Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 1-3* (STI-3228).
- Wheeler N.J.M., Craig K., and Reid S. (2008) Meteorological modeling analyses of data captured during the CRPAQS field program. Final presentation to the CRPAQS Technical Committee, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-905030-3648, October 1.
- Wheeler J.M.W., Craig K.J., and Reid S.B. (2008) Central California Ozone Study (CCOS) improvement of air quality model aloft performance. Presented to CCOS Technical Committee, Sacramento, CA, Sonoma Technology, Inc., Petaluma, CA, STI-905030-3560 (05-2CCOS), October 1.
- Wheeler N.J.M., Craig K.J., Reid S.B., Gilliland E.K., Kumar N., Knipping E.M., Lowenthal D.H., Chen L.-W.A., Watson J.G., and Koracin D. (2007) Simulating IMPROVE-like data for use in evaluating receptor models. Poster presented at the *2007 Aerosol Conference, Reno, NV, September 24-28*, by Sonoma Technology, Inc., Petaluma, CA, EPRI, Palo Alto, CA, and Desert Research Institute, Reno, NV (STI-3155).
- Wheeler N.J.M., Reid S.B., and Craig K.J. (2007) Air quality training on photochemical modeling. Presentation for RasGas Company Limited, Houston, TX, by Sonoma Technology, Inc., Petaluma, CA, STI-906066.01-3147, March 14-16.
- Wheeler N.J., Craig K.J., and Penfold B.M. (2006) Generating shapefiles from CMAQ, SMOKE, and CAMX files. Poster presentation for the *Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 16-18*, Sonoma Technology, Inc., Petaluma, CA (STI-3008).
- Wheeler N.J. and Craig K.J. (2006) Evaluating meteorological inputs to air quality models with inert tracer simulations. Presentation for the *Fifth Annual Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 16-18*, by Sonoma Technology, Inc., Petaluma, CA (STI-3006).
- Davis K.J., Craig K.J., Kang S.L., Mecikalski J.R., and Chen F. (2006) Evaluation of surface flux maps over the southern Great Plains in IHOP. Presented at the *17<sup>th</sup> Symposium on Boundary Layers and Turbulence*, American Meteorological Society, San Diego, CA, May 22-25.

- Davis K.J., Craig K.J., Desai A.R., Kang S., Reen B.R., and Stauffer D.R. (2004) Observations and simulations of ABL and land surface heterogeneity during IHOP. Poster presented at the *Second International H<sub>2</sub>O Project (IHOP\_2002) Science Workshop, Toulouse, France, June* by the National Center for Atmospheric Research.
- Davis K.J., Craig K.J., Desai A.R., Kang S., Seaman N.L., Stauffer D.R., Reen B.R., and Richardson S.J. (2003) Mesoscale variability in CBL structure observed during IHOP: Causes and implications for convective initiation. Presented at the *American Meteorological Society Annual Meeting, Symposium on Observing and Understanding the Variability of Water in Weather and Climate, Long Beach, CA, February 9-13*.
- Craig K.J. and Bornstein R.D. (2002) MM5 simulations of urban induced convective precipitation over Atlanta. In *Preprints of the Fourth Symposium on the Urban Environment, Norfolk, VA, 5-6*, American Meteorological Society, Boston, MA.
- Craig K.J. and Bornstein R.D. (2001) Urbanization of numerical mesoscale models. In proceedings of *COST Action 715 Workshop on Urban Boundary Layer Parameterisation, Zurich, Switzerland, May 24, 17-30*.
- Craig K.J. and Bornstein R.D. (2001) MM5 simulations of thunderstorm initiation by the city of Atlanta, Georgia. In *Proceedings of the 3<sup>rd</sup> International Symposium on Environmental Hydraulics, Tempe, AZ, December 5-8, 112*, International Association for Hydraulic Research.
- Bornstein R.D. and Craig K.J. (2001) Survey of the urbanization of numerical mesoscale models. In *Proceedings of the 3<sup>rd</sup> International Symposium on Environmental Hydraulics, Tempe, AZ, December 5-8, 2*, International Association for Hydraulic Research.

### **Formal Reports**

- Craig K.J., Raffuse S.M., and Pryden D.A. (2010) BlueSky Framework version 3.1 installation guide and testing procedures for the Canadian Wildland Fire Information System extensions. Prepared for Environment Canada's Meteorological Service of Canada: Prairie and Northern Region, STI-909057-3830-FR, April.
- Reid S.B., Huang S., Pollard E.K., Craig K.J., Sullivan D.C., Zahn P., MacDonald C., and Raffuse S.M. (2009) An almanac for understanding smoke persistence during the 2008 fire season. Final report prepared for the U.S. Department of Agriculture, Forest Service, Pacific Southwest Region, STI-908045-3747-FR, November.
- Reid S.B., Wheeler N.J.M., Pollard E.K., Craig K.J., and Du Y. (2009) Impact of offshore ship emissions on Puerto Rico and the U.S. Virgin Islands. Final report prepared for the U.S. Environmental Protection Agency, Office of Transportation and Air Quality, by Sonoma Technology, Inc., Petaluma, CA, STI-909201-3729-FR, October.
- MacDonald C.P., Craig K.J., Pasch A.N., Pollard E.K., Wheeler N.J.M., and Reid S.B. (2009) Contributors to Sacramento County wood smoke primary PM<sub>2.5</sub>. Final report prepared for the Sacramento Metropolitan Air Quality Management District, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-909014.06-3676-FR2, September.
- MacDonald C.P., Craig K.J., DeWinter J.L., Pasch A.N., Brown S.G., and Wheeler N.J.M. (2009) Evaluation of Sacramento Metropolitan Air Quality Management District's Check Before You Burn Program. Final report prepared for the Sacramento Metropolitan Air Quality Management District, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-909014.06-3612-FR2, August.
- Wheeler N.J.M. and Craig K.J. (2009) Uncertainty analysis of the Integrated Air Quality Modeling System for use in the U.S. Environmental Protection Agency's Section 812 Second Prospective Analysis.

Technical memorandum prepared for Industrial Economics, Inc., Cambridge, MA, by Sonoma Technology, Inc., Petaluma, CA, STI-908026.02-3537-TM, March.

Wheeler N.J.M., Reid S.B., Craig K.J., Zielonka J.R., Stauffer D.R., and Hanna S.R. (2008) Cumulative increment analysis for the Breton National Wilderness Area. Final report prepared for the Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA, by Sonoma Technology, Inc., Petaluma, CA, STI-901360.08-3163-FR (MMS 2008-058), December.

Wheeler N.J.M., Reid S.B., and Craig K.J. (2007) The Albuquerque ozone modeling analysis. Final report prepared for the City of Albuquerque, Air Quality Division, Albuquerque, NM, by Sonoma Technology, Inc., Petaluma, CA, STI-906041.08-3289-FR, December.

Wheeler N.J.M. and Craig K.J. (2007) Evaluation of plume rise in CAMx. Technical memorandum prepared for the California Air Resources Board, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-904150.04-3181-TM, June.

Wheeler N., Craig K., and Reid S. (2007) Simulating IMPROVE-like data for use in evaluating receptor models. Technical memorandum prepared for EPRI, Palo Alto, CA, by Sonoma Technology, Inc., Petaluma, CA, June.

Wheeler N.J.M., Reid S.B., and Craig K.J. (2006) Protocol for the Albuquerque Ozone Modeling Analysis. Modeling protocol prepared for the City of Albuquerque Air Quality Division, Albuquerque, NM, by Sonoma Technology, Inc., Petaluma, CA, STI-906041.01-3052-MP, October.

Wheeler N.J.M., Reid S.B., and Craig K.J. (2006) Data Report I for the Breton National Wilderness Area Increment Analysis. Draft report prepared for the Department of the Interior, Minerals Management Service, New Orleans, LA, by Sonoma Technology, Inc., Petaluma, CA, STI-901360-2963, April.

Craig K.J. and Bornstein R.D. (2001) Mesoscale model MM5: proposed modifications. Final report prepared for the Lockheed-Martin, Corporation, Sunnyvale, CA, by San Jose State University, Department of Meteorology, San Jose, CA.

Craig K.J. (2000) Installation and development of the mesoscale model (MM5) at the CREST facility in Sunnyvale. Final report prepared for the Lockheed-Martin Corporation, Sunnyvale, CA, by San Jose State University, Department of Meteorology, San Jose, CA.

## **Thesis**

Craig K.J. (2001) MM5 simulations of urban induced convective precipitation over Atlanta, GA. M.S. Thesis, Department of Meteorology, San Jose State University, San Jose, CA.