

Journal Articles

- Koracin D., Vellore R., Lowenthal D.H., Watson J.G., Koracin J., McCord T., DuBois D.W., Chen L.-W.A., Kumar N., Knipping E.M., Wheeler N.J.M., Craig K., and Reid S. (2011) Regional source identification using Lagrangian Stochastic Particle Dispersion and HYSPLIT backward-trajectory models. *J. Air Waste Manage. Assoc.* **61** (June), 660-672 (STI-4156).
- 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_{2.5} data. *J. Air & Waste Manag. Assoc.* **60**, 43–54 (doi: 0.3155/1047-3289.60.1.43).
- 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

- Drury S.A., Rorig M., Craig K.J., Wheeler N.J.M., Strenfel S.J., Erdakos G.B., and Bothwell P. (2011) Uncertainty in model-generated fire weather values: how does model variability influence the reliability of dry thunderstorm risk and ignition potential predictions? Year 1 update. Presented at the *Ninth Symposium on Fire and Forest Meteorology, Palm Springs, CA, October 18-20* by Sonoma Technology, Inc., Petaluma, CA; Pacific Northwest Research Station, Seattle, WA; and NOAA NWS Storm Prediction Center, Norman, OK (STI-4243).
- Wheeler N., Hafner H., Roberts P., Craig K., MacDonald C., Gray E., and Reid S. (2011) Design recommendations for the three-state pilot study. Presented at the *Federal Leadership Forum, Denver, CO, January 19* by Sonoma Technology, Inc., Petaluma, CA (STI-910208-4079).
- McCarthy M.C., Raffuse S.M., DeWinter J.L., Craig K.J., Lurmann F.W., and Fruin S.A. (2010) Development and evaluation of a high-resolution AOD product for the Southern California region during the October 2007 wildfires. Poster presented at the *AGU Fall Meeting, San Francisco, CA, December 13-17* by Sonoma Technology, Inc., Petaluma, CA, and University of Southern California, Los Angeles, CA (STI-3997).
- Raffuse S.M., Craig K.J., Larkin N.K., Strand T.T., Sullivan D.C., Wheeler N.J., and Solomon R.C. (2010) Assessment of plume injection height from the BlueSky Smoke Modeling Framework with MISR and CALIPSO. Poster presented at the *AGU Fall Meeting, San Francisco, CA, December 13-17* by Sonoma Technology, Inc., Petaluma, CA, and U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-3998).
- DeWinter J.L., Larkin N.K., Strand T.T., Raffuse S.M., Brown S.G., Craig K.C., Roberts P.T., and Draxler R.R. (2010) Climatology of air mass transport to the Arctic from locations of prescribed burning in the United States. Poster presented at the *AGU Fall Meeting, San Francisco, CA, December 13-17* by Sonoma Technology, Inc., Petaluma, CA, and U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-3996).
- Raffuse S.M., Larkin N.K., Strand T.T., DeWinter J.L., Brown S.G., Craig K.J., and Roberts P.T. (2010) Identifying conditions necessary for CONUS fires to impact the Arctic. Poster presented at the *3rd Fire Behavior and Fuels Conference, Spokane, WA, October 28* by Sonoma Technology, Inc., Petaluma, CA and U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-910020-4005).

- DeWinter J.L., Raffuse S.M., Brown S.G., Craig K.J., Roberts P.T., Larkin N.K., and Strand T.T. (2010) Climatology of air mass transport to the Arctic from locations of prescribed burning in the United States. Poster presented at the *29th Annual AAAR Conference, Portland, OR, October 25-29* by Sonoma Technology, Inc., Petaluma, CA and U.S. Forest Service Pacific Northwest Research Station, Seattle, WA (STI-4001).
- Miller D., MacDonald C., Dye T., Craig K., and Alrick D. (2010) AQMOS: air quality model output statistics from CMAQ model forecasts. Poster presented at the *9th Annual CMAS Conference, Chapel Hill, NC, October 11-13* by Sonoma Technology, Inc., Petaluma, CA (STI-3897).
- Wheeler N.J.M., Raffuse S.M., Sullivan D.C., Craig K.J., and Reid S.B. (2010) Daily air quality predictions from the BlueSky Gateway. NATO Science for Peace and Security Series - C: Environmental Security Air Pollution Modeling and Its Application XX, D.G. Steyn and S.T. Rao eds., Springer Science + Business Media, N.V., Dordrecht, The Netherlands, 307-311 (DOI: 10.1007/978-90-481-3812-8).
- Wheeler N.J.M., Craig K.J., and Reid S.B. (2010) An investigation of aloft model performance for two episodes during the 2000 Central California ozone study. NATO Science for Peace and Security Series - C: Environmental Security Air Pollution Modeling and Its Application XX, D.G. Steyn and S.T. Rao eds., Springer Science + Business Media N.V., Dordrecht, The Netherlands, 603-607 (DOI: 10.1007/978-90-481-3812-8).
- Dye T.S., Miller D.S., MacDonald C.P., Craig K.J., and Alrick D.M. (2010) Adjusting numerical model data in real time: AQMOS. Presented at the *A&WMA International Specialty Conference, Xi'an, Shaanxi Province, China, May 10-14* by Sonoma Technology, Inc., Petaluma, CA (STI-3865).
- Craig K., Wheeler N., Raffuse S., Sullivan D., Reid S., MacDonald C., Larkin S., Solomon R., and Strand T. (2010) Experimental air quality predictions from the BlueSky Gateway. Poster presented at the *National Air Quality Conference, Raleigh, NC, March 15-18* by Sonoma Technology, Inc., Petaluma, CA, and the USDA Forest Service, Pacific Northwest Research Station, Seattle, WA (STI-3803).
- 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).
- Miller, D.S., 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).
- Dye T.S., Miller D.S., MacDonald C.P., Craig K.J., and Alrick D.M. (2010) Adjusting numerical model data in real time: AQMOS. Presented at the *A&WMA International Specialty Conference, Xi'an, Shaanxi Province, China, January 10-14*, by Sonoma Technology, Inc., Petaluma, CA (STI-3865).
- 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 N.J.M., 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_{2.5} 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_{2.5} 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 N.J.M., 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.M., 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.M. 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 *17th 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 H₂O Project (IHOP_2002) Science Workshop, Toulouse, France, June*.
- 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 3rd 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 3rd International Symposium on Environmental Hydraulics, Tempe, AZ, December 5-8, 2*, International Association for Hydraulic Research.

Formal Reports

- Reid S.B., Pollard E.K., Erdakos G.B., and Craig K.J. (2011) Dispersion modeling support for infill construction projects in San Francisco. Technical memorandum prepared for the Bay Area Air Quality Management District, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-911042-4296-TM, December 7.

- Pasch A.N., Craig K.J., Bai S., and Eisinger D.S. (2011) AERMOD particulate matter hot-spot analyses: simple highway project example. Report prepared for the California Department of Transportation, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-909106-4125, June 28.
- Craig K.J., Bai S., Eisinger D.S., and Brown S.G. (2011) Guidance for using AERMOD to complete particulate matter hot-spot analyses. Report prepared for the California Department of Transportation, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-909106-3966, June 28.
- Bai S., Craig K.J., Pasch A.N., Eisinger D.S., and Niemeier D. (2011) Quantitative particulate matter hot-spot analysis guidance, version 2. Report prepared for California Department of Transportation, Sacramento, CA by Sonoma Technology, Inc., Petaluma, CA, and U.C. Davis Department of Civil and Environmental Engineering, Davis, CA, STI-909106-4110, June 28.
- Wheeler N.J.M., Hafner H.R., Roberts P.T., Craig K.J., Reid S.B., MacDonald C.P., and Gray E.A. (2011) Design recommendations for the three-state pilot study data warehouse. Report prepared for the U.S. Environmental Protection Agency, Region 8, Denver, Colorado, by Sonoma Technology, Inc., Petaluma, California, STI-910208-4092-FR, March 21.
- Pollard E.K., Raffuse S., and Craig K. (2011) Enhancements and technical improvements to the Western Canada BlueSky Smoke Modeling System. Technical memorandum prepared for David Lyder, Alberta Environment, Alberta, Canada by Sonoma Technology, Inc., Petaluma, California, 911004-4111-TM, March.
- Reid S.B., Pollard E.K., Craig K.R., and Stille J.C. (2011) Impact of offshore ship emissions on Alaska and Pacific Islands. Draft final report prepared for the U.S. Environmental Protection Agency, Research Triangle Park, NC by Sonoma Technology, Inc. Petaluma, CA, STI 910209-4074-DFR, March.
- Wheeler N.J., Craig K.C., and Gray E.A. (2010) Data warehouse research for the three-state pilot study design. Technical memorandum prepared for the U.S. Environmental Protection Agency, Region 8, Denver, CO by Sonoma Technology, Inc., Petaluma, CA, STI-910117.02-3989-TM, October.
- Miller D.S., Craig K.J., DeWinter J.L., MacDonald C.P., Reid S.B., and Hafner H.R. (2010) An air parcel transport corridor analysis for Sublette County, Wyoming. Technical memorandum prepared for the Wyoming Department of Environmental Quality by Sonoma Technology, Inc., Petaluma, CA, STI-910028-3954, September 2.
- Pollard E.K., Reid S.B., Craig K.J., and Du Y. (2010) Impact of offshore ship emissions on eastern Caribbean islands. Final report prepared for the U.S. Environmental Protection Agency, Office of Transportation and Air Quality, Ann Arbor, MI, by Sonoma Technology, Inc., Petaluma, CA, STI-910119-3900-FR, July 19.
- Craig K.J., DeWinter J., and Raffuse S. (2010) Qualitative analysis of the Western Canada BlueSky Pilot System for August 2009. Technical memorandum prepared for Rachel Mintz, Environment Canada, Edmonton, Alberta, Canada by Sonoma Technology, Inc., Petaluma, CA, STI-909057-3866-TM, April 30.
- 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.
- Craig K.J. and Raffuse S.M. (2010) HYSPLIT optimization for BlueSky framework applications in Western Canada. Technical memorandum prepared for British Columbia Ministry of Healthy Living and Sport by Sonoma Technology, Inc., Petaluma, CA, STI-910011-3846, March.

- 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_{2.5}. 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, STI-906046.01-3179-TM, 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.