

Meeting Presentations and Conference Proceedings

- Penfold B.M. (2009) Using GIS in Air Quality Research. Presented at *Sonoma County GIS Day, Santa Rosa, CA, Nov. 18* (STI-3760).
- Hafner H.R., Funk T.H., and Penfold B.M. (2009) Monitoring network assessments: lessons learned. Presented at the *National Air Quality Conference, Dallas, TX, March 2-5*, by Sonoma Technology, Inc., Petaluma, CA (STI-3547). Also presented at the EPA Region 5 State/Local/Tribal Contacts Meeting, Chicago, IL, April 21 (STI-3620).
- Reid S.B., Chinkin L.R., Penfold B.M., and Gilliland E.K. (2007) Emissions inventory validation and improvement: a Central California case study. Paper presented at the *U.S. Environmental Protection Agency's 16th Annual Emission Inventory Conference, Raleigh, NC, May 14-17*, by Sonoma Technology, Inc., Petaluma, CA (STI-3109).
- Reid S.B., Sullivan D.C., Penfold B.M., Raffuse S.M., and Funk T.H. (2007) Activity trends for key emission sources in California's San Joaquin Valley, 1970-2030. Paper presented at the *U.S. Environmental Protection Agency's 16th Annual International Emission Inventory Conference, Raleigh, NC, May 14-17*, by Sonoma Technology, Inc., Petaluma, CA (STI-3121).
- Hafner H. and Penfold B.M. (2006) An introduction to monitoring network assessment. Presented at the *National Air Monitoring Conference, Las Vegas, NV, November 6-9*, Sonoma Technology, Inc., Petaluma, CA (STI-3062).
- Penfold B.M., Hafner H., and Raffuse S. (2006) Analytical techniques used for regional-scale network assessments. Presented at the *National Air Monitoring Conference, Las Vegas, NV, November 6-9*, Sonoma Technology, Inc., Petaluma, CA (STI-3061).
- Wheeler N.J., Craig K.J., and Penfold B.M. (2006) Generating shapefiles from CMAQ, SMOKE, and CAMX files. Poster presentation at the *Community Modeling and Analysis System (CMAS) Conference, Chapel Hill, NC, October 16-18*, Sonoma Technology, Inc., Petaluma, CA (STI-3008).
- Hafner H.R., Penfold B.M., and Brown S.G. (2005) Using GIS tools to select suitable DPM monitoring locations: Phoenix, Arizona. Presented at the *2005 Air Toxics Summit, Seeking Solutions for our Rural and Urban Communities, Portland, OR, October 18-19*, by Sonoma Technology, Inc., Petaluma, CA (STI-904234-2755).
- Brown S.G., Penfold B.M., and Hafner H.R. (2005) Selecting monitoring locations using GIS-based spatial analysis techniques. Presented at *Air & Waste Management Association Environmental Data Analysis: Assessing Health and Environmental Impacts, Oak Brook, IL, October 4* by Sonoma Technology, Inc., Petaluma, CA (STI-2711).
- Sullivan D.C., Reid S.B., Penfold B.M., and Chinkin L.R. (2005) Development of agricultural dust emission inventories for the Central States Regional Air Planning Association. Presented at *the U.S. Environmental Protection Agency 14th International Emission Inventory Conference, Las Vegas, NV, April 11-14* by Sonoma Technology, Inc., Petaluma, CA (STI-2713, STI-2720).
- Hafner H.R., Penfold B.M., and Brown S.G. (2005) Using spatial analysis techniques to select monitoring locations. Presentation at the *U.S. Environmental Protection Agency's 2005 National Air Quality Conference: Quality of Air Means Quality of Life, San Francisco, CA, February 12-13* (STI-2645).
- Funk T.H., Penfold B.M., Raffuse S.M., and Stiefer, P.S. (2004) Using GIS technology for emission inventory development and improvement (case studies). Presented at *WESTAR GIS & Emission Inventory Development Workshop, Snowbird, UT, September 30 to October 1, 2004* (STI-904490-2614).

- Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2004) Use of GIS tool to investigate suitable diesel emissions monitoring locations in Detroit, Michigan. Paper no. 35 presented at the *Air & Waste Management Association Symposium on Air Quality Measurement Methods and Technology, Research Triangle Park, NC, April 19-22* (STI-2444).
- Penfold B.M., Funk T.H., and Hafner H.R. (2003) Exploring the use of suitability modeling to locate air toxics monitors in Massachusetts. Paper and presentation prepared for the *ESRI International User Conference 2003, San Diego, CA, July 7-11* (STI-2388).
- Funk T.H., Dye T.S., Chan A.C., Anderson C.B., and Penfold B.M. (2003) Mapping PM_{2.5} - methods and uncertainties. Presented at the *U.S. EPA National Air Quality Conference, San Antonio, TX, February 2-5* (STI-902090-2324).
- Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2003) Suitability analysis for monitoring diesel particulate matter in the Detroit area. Presented at the *National Workshop on Air Toxics Monitoring, Chicago, IL, May 13-14* (STI-902530-2372).
- Hafner H.R., Funk T.H., Penfold B.M., and Anderson D. (2002) Assessment of the toxics monitoring network in Phoenix, Arizona. Presented at the *Symposium on Air Quality Measurements, Methods, and Technology, San Francisco, CA, November 13* (STI-901483-2232).

Formal Reports

- Penfold B.M. and deWinter J.L. (2009) GIS training. Prepared for the Salt River Pima-Maricopa Indian Community, Scottsdale, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-908057-3679, August.
- Funk T.H., Penfold B.M., Pasch A.N., MacDonald C.P., and Stone J.M. (2009) Ambient air quality monitoring network assessment for the San Joaquin Valley. Final report prepared for the San Joaquin Valley Unified Air Pollution Control District by Sonoma Technology, Inc., Petaluma, CA, STI-908072.04-3643-FR, July.
- Penfold B.M., Lurmann F.W., and Alcorn S.H. (2009) Summary of SAGE traffic metrics. Technical memorandum prepared for the University of California, Berkeley, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-908008.01-3631, June.
- Hafner H.R. and Penfold B.M. (2007) British Columbia network assessment analysis results. Technical memorandum prepared for the Ministry of Water, Land, & Air Protection, British Columbia, Canada, by Sonoma Technology, Inc., Petaluma, CA, STI-906059.02-3186-TM, June.
- Raffuse S.M., Sullivan D.C., McCarthy M.C., Penfold B.M., and Hafner H.R. (2007) Ambient air monitoring network assessment guidance: Analytical techniques for technical assessments of ambient air monitoring networks. Guidance document prepared for the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, EPA-454/D-07-001 (STI-905212.02-2805-GD), February.
- Reid S.B., Sullivan D.C., Cozzo E.M., Penfold B.M., Raffuse S.M., and Funk T.H. (2006) Compilation of emission growth factors, emission growth surrogates, and activity projections used in forecasting area, point, or mobile source emissions. Final compilation prepared for the San Joaquin Valley Unified Air Pollution Control District, Fresno, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-905032-2868-FC, December.
- Reid S.B., Penfold B.M., and Chinkin L.R. (2006) Emission inventory for the Central California Ozone Study (CCOS) - review of spatial variations of area, non-road mobile, and point sources of emissions.

Technical memorandum prepared for the California Air Resources Board, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-906036-3057-TM, November.

Penfold B.M. and Lurmann F.W. (2005) Alternate traffic assignments for the NIEHS Atherosclerosis Risk in Communities (ARIC) Study. Technical memorandum prepared for the National Institute of Environmental Health Sciences, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-904771.03-2850-TM, November.

Raffuse S.M., Sullivan D.C., McCarthy M.C., Penfold B.M., and Hafner H.R. (2005) Analytical techniques for technical assessments of ambient air monitoring networks. Guidance document prepared for the U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-905104.02-2805-GD, September.

Chinkin L.R., Penfold B.M., Brown S.G., and Hafner H.R. (2005) Emission inventory evaluation and reconciliation in the South Coast Air Basin. Final report prepared for South Coast Air Quality Management District, Diamond Bar, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-904045-2728-FR, August.

Sullivan D.C., Hafner H.R., Brown S.G., MacDonald C.P., Raffuse S.M., Penfold B.M., and Roberts P.T. (2005) Analyses of the causes of haze for the Central States (Phase II) Summary of findings. Executive summary prepared for the Central States Regional Air Planning Association by Sonoma Technology, Inc., Petaluma, CA, STI-904780.08-2754-ES, August.

Sullivan D.C., Reid S.B., Penfold B.M., and Cozzo E.M. (2005) Preparation of emission inventories of toxic air contaminants for the Bay Area. Final report prepared for the Bay Area Air Quality Management District, San Francisco, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-905019-2771-FR2, August.

Sullivan D.C., Reid S.B., Penfold B.M., and Raffuse S.M. (2004) An emission inventory of toxic air pollutants for South Phoenix and recommendations for further inventory development. Final report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-903773-2670-FR, December.

Reid S.B., Sullivan D.C., Penfold B.M., Funk T.H., Tamura T.M., Stiefer P.S., Raffuse S.M., and Arkinson H.L. (2004) Emission inventory development for mobile sources and agricultural dust sources for the Central States. Final report prepared for The Central States Air Resource Agencies and The Central Regional Air Planning Association, Oklahoma City, OK, by Sonoma Technology, Inc., Petaluma, CA, STI-903574-2611-FR, October.

Reid S.B., Sullivan D.C., Funk T.H., Tamura T.M., Stiefer P.S., Penfold B.M., and Raffuse S.M. (2004) Emission estimation methods for mobile sources and agricultural dust sources in the Central States. Methods document prepared for The Central States Air Resource Agencies and The Central Regional Air Planning Association, Oklahoma City, OK, by Sonoma Technology, Inc., Petaluma, CA, STI-903574-2610-MD, September.

Coe D.L., Reid S.B., Stiefer P.S., Penfold B.M., Funk T.H., and Chinkin L.R. (2004) Collection and analysis of weekend/weekday emissions activity data in the South Coast Air Basin. Final report prepared for the California Air Resources Board, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-901140/901150-2477-FR; ARB Contract Nos. 00-305 and 00-313, May.

Hafner H.R., Brown S.G., Tamura T.M., Arkinson H.L., and Penfold B.M. (2003) Site selection, data acquisition, data validation, and MOBILE6 sensitivity. Technical memoranda prepared for the Federal Highway Administration, Washington, DC, by Sonoma Technology, Inc., Petaluma, CA, STI-903631-2454, December.

Funk T.H., Chinkin L.R., Ryan P.A., and Penfold B.M. (2003) Top-down evaluation of urban area and mobile source SO₂, CO, and NO_x emission estimates in the 1996 National Emission Inventory. Final report prepared for EPRI, Palo Alto, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-902190-2279-FR, March.

Hafner H.R., Brown S.G., Penfold B.M., and Funk T.H. (2003) Designing a monitoring regimen for air toxics from landfills. Final report prepared for Massachusetts Department of Environmental Protection, Boston, MA, by Sonoma Technology, Inc., Petaluma, CA, STI-902133-2335-FR, March.

Main H.H., Funk T.H., and Penfold B.M. (2002) Arizona Department of Environmental Quality toxics network assessment. Report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-901483-2226-FR, September.