

## Journal Articles

- McClure C.D., Pavlovic N.R., Huang S., Chaveste M., and Wang N. (2023) Consistent, high-accuracy mapping of daily and sub-daily wildfire growth with satellite observations. *International Journal of Wildland Fire*, 32(4), doi: 10.1071/WF22048, April.
- Peterson A.K., Habre R., Niu Z., Amin M., Yang T., Eckel S.P., Farzan S.F., Lurmann F., Pavlovic N., Grubbs B.H., Walker D.K., Al-Marayati L.A., Grant E.G., Lerner D., Bastain T.M., and Breton C.V. (2022) Identifying pre-conception and pre-natal periods in which ambient air pollution exposure affects fetal growth in the predominantly Hispanic MADRES cohort. *Environmental Health*.
- Pavlovic N.R., Chang S.Y., Huang J., Craig K., Clark C., Horn K., and Driscoll C.T. (2023) Empirical nitrogen and sulfur critical loads of U.S. tree species and their uncertainties with machine learning. *Science of The Total Environment*, 857, 159252, January 20. Available at <https://www.sciencedirect.com/science/article/pii/S0048969722063513>.
- Bratburd J., Gupta P., Kondragunta S., Zhang H., Henderson B.H., Dickerson P., Pavlovic N.R., and others. (2022) Incorporating satellite data updates into AirNow. *em PLUS*. Available at [https://haqast.org/wp-content/uploads/sites/91/2022/09/emplusq322\\_bratburd-final.pdf](https://haqast.org/wp-content/uploads/sites/91/2022/09/emplusq322_bratburd-final.pdf).
- Niu Z., Habre R., Chavez T.A., Yang T., Grubbs B.H., Lurmann F., Pavlovic N., and others (2022) Association between ambient air pollution and birth weight by maternal individual- and neighborhood-level stressors. *JAMA Network Open*, 5(10), e2238174-e2238174. Available at <https://doi.org/10.1001/jamanetworkopen.2022.38174>.
- Gheissari R., Liao J., Garcia E., Pavlovic N., Gilliland F.D., Xiang A.H., and Chen Z. (2022) Health outcomes in children associated with prenatal and early-life exposures to air pollution: a narrative review. *Toxics*, 10(8), 458, August. Available at <https://www.mdpi.com/2305-6304/10/8/458>.
- Xu Y., Yi L., Cabison J., Rosales M., O'Sharkey K., Chavez T., Johnson M., Lurmann F., Pavlovic N., Bastain T., Breton C., Wilson J.P., Habre R. (2022) The Impact of GPS-derived Activity Spaces on Personal PM<sub>2.5</sub> Exposures in the MADRES Cohort. *Environmental Research*, Accepted.
- McClure C.D., Pavlovic N.R., Huang S., Chaveste M.R., and Wang N. (2022) Consistent, high-accuracy mapping of daily and sub-daily wildfire growth with satellite observations. (submitted), (STI-921020-7695).
- Carter S., Rahman M., Lin J., Shu Y., Chow T., Yu T., Martinez M., Eckel S., Chen J., Chen Z., Schwartz J., Pavlovic N., Lurmann F., McConnell R., and Xiang A. (2021) In utero exposure to near-roadway air pollution and autism spectrum disorder in children. *Environment International*, Accepted.
- Li, L., Girguis, M., Lurmann, F., Pavlovic, N., McClure, C., Franklin, M., Wu, J., Oman, L.D., Breton, C., Gilliland, F. and Habre, R., 2020. Ensemble-based deep learning for estimating PM<sub>2.5</sub> over California with multisource big data including wildfire smoke. *Environment International*, 145, p.106143.
- Larkin N.K., Raffuse S.M., Huang S., Pavlovic N., Lahm P., and Rao V. (2020) The Comprehensive Fire Information Reconciled Emissions (CFIRE) inventory: wildland fire emissions developed for the 2011 and 2014 U.S. National Emissions Inventory. *J. Air Waste Manage.*, doi: <https://doi.org/10.1080/10962247.2020.1802365> (STI-7439), September 11.

- Li L., Franklin M., Girguis M., Lurmann F., Wu J., Pavlovic N., Breton C., Gilliland F., and Habre R. (2020) Spatiotemporal imputation of MAIAC AOD using deep learning with downscaling. *Remote Sensing of Environment*, 237(February), 111584.
- Brown S.G., Snyder J.L., McCarthy M.C., Pavlovic N., D'Andrea S., Hanson J., Sullivan A.P., and Hafner H.R. (2020) Assessment of ambient air toxics and wood smoke pollution among communities in Sacramento County. *International Journal of Environmental Research and Public Health*, 17(3), doi: 10.3390/ijerph17031080 (STI-7183). Available at <https://www.mdpi.com/1660-4601/17/3/1080>.
- Mukherjee A.D., Brown S.G., McCarthy M.C., Pavlovic N.R., Stanton L.G., Snyder J.L., Andrea S.D., and Hafner H.R. (2019) Measuring spatial and temporal PM<sub>2.5</sub> variations in Sacramento, California, communities using a network of low-cost sensors. *Sensors*, 19(21), 4701, doi: 10.3390/s19214701 (STI-7092). Available at <https://www.mdpi.com/1424-8220/19/21/4701>.
- Bassett T.J., Koné M., and Pavlovic N.R. (2018) Power relations and upgrading in the cashew value chain of Côte d'Ivoire. *Development and Change* (Published online), April 16. Available at <https://doi.org/10.1111/dech.12400>.
- Minn M., Cutts B.B., Greenberg J.A., Pavlovic N.R., Fraterrigo J.M., and Turner V.K. (2015) Detection of foreclosure-related landscape management changes using Landsat. *Applied Geography*, 62, 217-224, doi: 10.1016/j.apgeog.2015.04.023, August. Available at <http://www.sciencedirect.com/science/article/pii/S0143622815001083>.

## Meeting Presentations, Webinars, and Conference Proceedings

- Coughlin J., Chang S.Y., Pavlovic N.R., Huang J., Craig K.J., Scarborough C., and Driscoll C.T. (2023) Spatially varying nitrogen critical loads and the influences of mediating factors. Presentation given at the *NADP Spring Meeting, Madison, WI, May 1-5*, by Sonoma Technology, Petaluma, CA. STI-7898.
- Mukherjee A., King D., Nathan Pavlovic, Cavallaro A., Lurmann F., and DeWinter J. (2023) Evaluation of three computationally-efficient, high-resolution bias-correction methods for real-time modeled PM<sub>2.5</sub> concentrations. Presented at *American Meteorological Society (AMS) Annual Meeting, January 11*, by Sonoma Technology, Petaluma, CA. STI-7843.
- Pavlovic N., McClure C.D., Huang S., Chaveste M., and Wang N. (2022) Mapping hourly wildfire growth rate using fused geostationary and polar orbiting satellite observations. Presented at the *American Geophysical Union (AGU) Fall Meeting, Chicago, IL, December 12-16*, by Sonoma Technology, Petaluma, CA. STI-7773.
- Mukherjee A., Pavlovic N., Cavallaro A., Lurmann F., DeWinter J., and King D. (2022) Evaluation of a novel approach to estimate PM<sub>2.5</sub> concentrations at high spatial resolution during smoke episodes by fusing low-cost sensor and reference monitor observations with chemical transport model forecasts. Poster presented at the *American Geophysical Union (AGU) Conference, Chicago, IL, December 12-16*, by Sonoma Technology, Petaluma, CA. STI-7772.
- Huang J., Sussman E., Houk J., and Chang S.-Y. (2022) Public health effects from the adoption of California's Advanced Clean Cars II regulation in Oregon and Connecticut in 2030 and 2040. Presentation given at the *21st Annual CMAS Conference, October 17-19*, by Sonoma Technology, Petaluma, CA. STI-7749.

- Chang S.Y., Pavlovic N.R., Coughlin J., Huang J., Craig K.J., Scarborough C., Horn K., Driscoll C.T., and Herrick J. (2022) Empirical critical levels of ozone for U.S. tree species and their uncertainties with machine learning. Presentation given at the *National Atmospheric Deposition Program 2022 Science Symposium, Knoxville, TN, November 17*, by Sonoma Technology, Petaluma, CA, the Freedom Consulting Group, Columbia, MD, and the Syracuse University Department of Civil and Environmental Engineering, Syracuse, NY. STI-7769.
- Pavlovic N.R., Coughlin J.G., Chang S., Huang J., Craig K.J., Scarborough C., Horn K., and Driscoll C.T. (2022) Mapping variability of nitrogen critical loads using machine learning. Poster presented at the *2022 National Atmospheric Deposition Program Conference, Knoxville, TN, November 14-18*, by Sonoma Technology, Petaluma, CA, the Freedom Consulting Group, Columbia, MD, and the Syracuse University Department of Civil and Environmental Engineering, Syracuse, NY. STI-7770.
- Pavlovic N., Li L., Girguis M., Lurmann F., McClure C., Franklin M., Wu J., Oman L.D., Breton C., Gilliland F., Habre R., and Franklin M. (2022) Use of wildfire smoke indicators in health exposure research: high spatial resolution mapping of PM<sub>2.5</sub> in California. Poster presented at the *International Society of Environmental Epidemiology 34th Annual Conference, Athens, Greece, September 18-21*, by Sonoma Technology, Petaluma, CA, the University of Southern California, Los Angeles, CA, the University of California, Irvine, CA, the National Aeronautics and Space Administration (NASA) Goddard Space Flight Center, Greenbelt, MD, and the University of Toronto, Toronto, Canada. STI-7789.
- Pavlovic N.R., Lurmann F., Li L., Breton C., Wu J., Ritz B., and Habre R. (2022) Transportation-related emissions surrogates support modeling of oxides of nitrogen exposure. Poster presented at the *International Society of Environmental Epidemiology 34th Annual Conference, Athens, Greece, September 18-21, 2022*. STI-7787.
- Huang S., McClure C., Pavlovic N., Chaveste M., and Wang N. (2022) Consistent, high accuracy mapping of daily and sub daily wildfire growth using satellite observations. Presented at the *California Utility Forecasters Meeting, June 29*, by Sonoma Technology, Petaluma, CA. STI-7744.
- Huang S., Pavlovic N., McClure C., Chaveste M., and Wang N. (2022) Methodology for consistent daily and sub daily mapping of wildfire growth for 2003-2020 and beyond. Presentation given at the *Fire and Climate 2022 Conference, Pasadena, CA, May 26*, by Sonoma Technology, Petaluma, CA. STI-7730.
- DeWinter J., Pavlovic N., Mukherjee A., Churchman L., Cavallaro A., Brown S., and Lurmann F. (2022) Evaluation of high-spatial-resolution air pollutant concentration and AQI estimates across the U.S. by fusing low-cost and reference monitor observations with chemical transport model forecasts. Presentation given at the *Air Sensors International Conference, May 13, 2022, Pasadena, CA*, by Sonoma Technology, Petaluma, CA. STI-7627.
- Pavlovic N., Khan S., and Sullivan B. (2022) Supporting timely, high-resolution air quality data availability in Africa by fusing satellite observations of aerosol optical depths, PM<sub>2.5</sub> model data, and PM<sub>2.5</sub> surface-based measurements. Presentation given at the *Air Sensors International Conference, May 11, 2022, Pasadena, CA*, by Sonoma Technology, Petaluma, CA. STI-7622.
- Mukherjee A., Pavlovic N.R., and DeWinter J. (2022) Evaluation of methods for using low-cost sensors to improve hourly air quality forecasts for the United States. Poster presented at the *Air Sensors International Conference, May 11-13, 2022, in Pasadena, CA* by Sonoma Technology, Petaluma, CA. STI-7629.

- Peterson A.K., Habre R., NuiM. Z., Amin, Farzan S., Eckel S., Lurvey N., Lerner D., Lurmann F., Pavlovic N., Grubbs B., Walker D., Grant E., Bastain T., and Breton C. (2022) Prenatal PM<sub>2.5</sub> is Associated with Third Trimester Fetal Weight and Abdominal Circumference within the MADRES Cohort. Poster presented at the *2022 Society for Epidemiologic Research (SER) Annual Meeting, Chicago, IL, June 14-17*.
- Thapa L., Saide P.E., Bortnik J., Berman M., da Silva A., Kondragunta S., Csiszar I., McClure C., Pavlovic N.R., Huang S., Ahmadov R., and Peterson D. (2021) Forecasting Western US Wildfire Emissions Using Machine Learning. Poster presented at the *American Geophysical Union Fall Meeting, December 15*.
- Miller D.J., Pavlovic N.R., and Lurmann F.W. (2021) Weekly airport NO<sub>x</sub> emission trends and NO<sub>2</sub> exposure implications during the COVID-19 pandemic in California. Poster presented at the *AGU Fall Meeting, New Orleans, LA, December 13-17*, by Sonoma Technology, Inc., Petaluma, CA. STI-7606.
- Pavlovic N.R., Chang S., Huang J., Craig K.J., Clark C., Horn K., and Driscoll C.T. (2021) Empirical nitrogen and sulfur critical loads of U.S. tree species and their uncertainties with machine learning. Poster presented at the *AGU Fall Meeting, New Orleans, LA, December 13-17*, by Sonoma Technology, Inc., Petaluma, CA. STI-7576.
- McClure C.D., Pavlovic N.R., Huang S., Chaveste M.R., and Wang N. (2021) Consistent, high-accuracy mapping of daily and sub-daily wildfire growth with satellite observations. Poster presented at the *AGU Fall Meeting, New Orleans, LA, December 13-17*, by Sonoma Technology, Inc., Petaluma, CA. STI-921020-7573.
- Pavlovic N., McClure C., Huang S., Chaveste M., and Wang N. (2021) Methodology for consistent daily and sub-daily mapping of wildfire growth for 2003-2020 and beyond. Presented at the *Association for Fire Ecology 9th International Fire Ecology and Management Congress, Virtual, December 3*, by Sonoma Technology, Petaluma, CA. STI-7643.
- Chang S.Y., Huang J., Alexander M., Eisinger D., Pavlovic N., and Knipping E. (2021) Air quality benefit from accelerated EV penetration in Southern California: a case study in the Interstate 710 corridor. Presented at the *CMAS Conference, virtual, November 4*, by Sonoma Technology, Petaluma, CA and Electric Power Research Institute, Palo Alto, CA. 600600-7613.
- Pavlovic N.R., Driscoll C.T., Craig K., Huang J., Chang S.Y., Clark C.M., and Horn K. (2021) An application of machine learning to determine critical loads of nitrogen and sulfur in forest ecosystems in the U.S. Presentation given at the *NADP 2021 Fall Meeting and Symposium, virtual event, October 27*, by Sonoma Technology, Petaluma, CA. STI-7667.
- Pavlovic N.R., Li L., Girguis M., Lurmann F., McClure C., Franklin M., Wu J., Oman L.D., Breton C., Gilliland F., and Habre R. (2021) Use of wildfire smoke indicators in health exposure research: high spatial resolution mapping of PM<sub>2.5</sub> in California. Poster presented at the *International Society of Exposure Science Annual Meeting (ISES 2021), August 30-September 2*, by Sonoma Technology, Petaluma, CA. STI-7580.
- Johnson M., Eckel S., Chavez T., Amadeus M., Faham D., Cheng W., Lurmann F., Pavlovic N., Grubbs B., Lerner D., Habre R., Farzan S., Bastain T., and Breton C. (2021) Prenatal air pollution exposure and infant weight gain trajectories. Poster presented at the *33rd Annual Conference of the International Society for Environmental Epidemiology, New York City, August 23-26, 2021*, by Sonoma Technology, Inc., Petaluma, CA.

- Driscoll C.T., Scarborough C., Huang J., Craig K., Pavlovic N.R., and Chang S.Y. (2021) Constraining uncertainties of critical loads for atmospheric nitrogen and sulfur deposition with machine learning. Presented to Syracuse University, May 3, by Sonoma Technology, Inc., Petaluma, CA.
- Chang S.Y., Pavlovic N., Craig K., Kirk-Davidoff D., and Wang Q. (2021) Predicting fog and stratus dissipation for solar energy applications in California using meteorological measurements and machine learning. Presentation given at the *101st Annual AMS Conference, virtual event, January*, by Sonoma Technology, Petaluma, CA. STI-7426.
- Pavlovic N.R., Driscoll C.T., Craig K., Huang J., Chang S.Y., and Clark C.M. (2020) An application of machine learning to determine critical loads of nitrogen and sulfur in forest ecosystems in the U.S. Presentation given at the *NADP 2020 Fall Meeting and Symposium, virtual event, October 29*, by Sonoma Technology, Petaluma, CA. STI-7420.
- Chang S.Y., Pavlovic N., Beachley G., Puchalski M., and Rogers C. (2020) TDep measurement model fusion (MMF) method to fuse modeled and measured air quality data to estimate total deposition with Python geoprocessing. Presentation given at the *NADP Fall Meeting and Symposium, virtual event, October 26-27*, by Sonoma Technology, Petaluma, CA. STI-7419.
- Chang S.Y., Pavlovic N., Beachley G., Puchalski M., and Rogers C. (2020) TDep Measurement Model Fusion (MMF) method to fuse modeled and measured air quality data to estimate total deposition with Python geoprocessing. Presentation given at the *19th Annual CMAS Conference, Chapel Hill, NC, October*, by Sonoma Technology, Petaluma, CA. STI-7419.
- Zahn P. (2020) Incorporating smoke in air quality forecasting: conclusions and resources. Presentation given at the *3rd International Smoke Symposium, April 20*, by Sonoma Technology, Petaluma, CA. STI-7207.
- Zahn P. (2020) Case studies in smoke forecasting: ozone exceedance in Sacramento: September 3, 2017. Presentation given at the *3rd International Smoke Symposium, April 20*, by Sonoma Technology, Petaluma, CA. STI-7207.
- Zahn P. (2020) Case studies in smoke forecasting. Presentation given at the *3rd International Smoke Symposium, April 20*, by Sonoma Technology, Petaluma, CA. STI-7207.
- Pavlovic N., McClure C., Brown S., Lurmann F., McDonald-Buller E., Kimura Y., and Wiedinmyer C. (2020) Performance assessment of fire inventory from the National Center for Atmospheric Research (FINN v2.2) wildfire emissions estimates using satellite aerosol observations. Presentation given at the *3rd International Smoke Symposium, April 21*, by Sonoma Technology, Petaluma, CA. STI-7233.
- Zahn P., Beamish J., and Pavlovic N. (2020) Incorporating smoke impacts into air quality forecasting. Presentation given at the *3rd International Smoke Symposium, April 20*, by Sonoma Technology, Inc., Petaluma, CA. STI-7207.
- McClure C.D., Pavlovic N., Brown S., Lurmann F., Kimura Y., McDonald-Buller E., and Wiedinmyer C. (2019) Evaluation of the Fire Inventory from the National Center for Atmospheric Research (FINNv2.2) wildfire emissions using satellite observations. Poster presented at the *2019 American Geophysical Union Fall Meeting, San Francisco, CA, December 9-13*, by Sonoma Technology, Inc., Petaluma, CA; the University of Texas at Austin, Austin, TX; and the University of Colorado, Boulder, CO. A23L-2960, STI-7152.

- Pavlovic N., Khan S., and Sullivan B. (2019) Supporting timely, high-resolution air quality data availability in Africa by fusing satellite observations of aerosol optical depths, PM<sub>2.5</sub> model data, and PM<sub>2.5</sub> surface-based measurements. Poster presented at the *2019 American Geophysical Union Fall Meeting, December 9-13*, by Sonoma Technology, Petaluma, CA. STI-7157.
- Pavlovic N., Khan S., Sullivan B., and Martin R. (2019) Global framework for air quality monitoring. Presented at the *Google Geo for Good Summit, Sunnyvale, CA, September 18*, by Sonoma Technology, Inc., Petaluma, CA. STI-7274. Available at <https://docs.google.com/presentation/d/1nRyaXINyhV-0BN79I84Saf7ESeucmXdpGK3SxlgAA8/edit?usp=sharing>.
- McDonald-Buller E., Kimura Y., Wiedinmyer C., Joseph M., Pavlovic N., McClure C., Brown S., and Lurmann F. (2019) Development and evaluation of the FINNv.2.2 global model application and fire emissions estimates for the expanded Texas air quality modeling domain. Presented at the Texas Air Quality Research Program Workshop, Austin, TX, August 22, by the University of Texas at Austin, Austin, TX, the University of Colorado Boulder, Boulder, CO, and Sonoma Technology, Inc., Petaluma, CA. AQRP Project 18-022, STI-918062-7168.
- Pavlovic N., McClure C., Brown S., Lurmann F., McDonald-Buller E., Kimura Y., and Wiedinmyer C. (2019) Performance assessment of fire inventory from the National Center for Atmospheric Research (FINN v2.2) wildfire emissions estimates using satellite aerosol observations. Presented at the *U.S. EPA International Emissions Inventory Conference, Dallas, Texas, August 2*, by Sonoma Technology, Inc., Petaluma, CA, the University of Texas at Austin, TX, and the University of Colorado Boulder, CO. STI-7113.
- Pavlovic N., DeWinter J., and Mukherjee A. (2019) Global framework for air quality monitoring. Webinar presented to the United Nations Environment Programme (UNEP), July 24, by Sonoma Technology, Inc. STI-919004-7146.
- Pavlovic N., Huang S., McClure C., and Mukherjee A. (2019) Modeling of smoke impacts on air quality using direct observation of hourly fire activity from geostationary satellites. Presentation given at the *Fire Behavior and Fuels Conference, Albuquerque, New Mexico, April 30*, by Sonoma Technology, Inc., Petaluma, CA. STI-7110.
- Craig K.J., Huang S., Pavlovic N., Chang S.Y., Cavallaro A., and Drury S. (2019) Improving spatial resolution of wildland fire location and fuel biomass data inputs to NOAA's NAQFC. Presentation given at the *International Fire Behavior and Fuels Conference, Albuquerque, NM, April 30*, by Sonoma Technology Inc., Petaluma, CA. STI-7017.
- Pavlovic N.R. (2019) Where there's fire there's smoke: using remote sensing tools and modeling to understand wildland fires and their air quality impacts. Presented at the *Colloquium for the Department of Natural Resources and Environmental Science, University of Nevada, Reno, January 31*, by Sonoma Technology, Inc., Petaluma, CA. STI-7053.
- Pavlovic N., Brown S., O'Brien T., Huang S., Craig K., Zahn P., Penfold B., and Jaffe D. (2018) Wildland fire smoke from long-range transport enhances ozone in the southeastern United States. Presented at the *American Geophysical Union 2018 Fall Meeting, Washington, DC, December 13*, by Sonoma Technology, Inc., Petaluma, CA, and the University of Washington, Bothell, WA. STI-6964.

- Pavlovic N., McCarthy M., and Brown S. (2018) Using machine learning to identify anomalies in hourly continuous emissions data from 2010 to 2016. Presented to the U.S. Environmental Protection Agency's Clean Air Markets Division, Emissions Modeling Branch, Washington, DC, December 11, by Sonoma Technology, Inc., Petaluma, CA. STI-915409-7038.
- Pavlovic N.R., Craig K.J., and Zahn P.H. (2018) Managing air quality impacts from agricultural burning: case studies and lessons learned from smoke information systems developed in the United States. Presented at the *2018 Better Air Quality Conference, Kuching, Malaysia, November 13*, by Sonoma Technology, Inc., Petaluma, CA. STI-6928.
- Pavlovic N. and Chan A. (2018) Introduction to large-scale air quality data analysis with R and openair. Presented at the *2018 Better Air Quality Conference, Kuching, Malaysia, November 13*, by Sonoma Technology, Inc., Petaluma, CA. STI-915400-7022.
- Pavlovic N. and Chan A. (2018) Data analysis with R for an air quality case study: hands-on exercise. Presented at the *2018 Better Air Quality Conference, Kuching, Malaysia, November 13*, by Sonoma Technology, Inc., Petaluma, CA. STI-915400-7022.
- Craig K.J., Huang S., Pavlovic N., Chang S.Y., and Cavallaro A. (2018) Improving spatial resolution of wildland fire location and fuel biomass data inputs to NOAA's NAQFC. Presentation given at the *17th Annual CMAS Conference, Chapel Hill, NC, October 23*, by Sonoma Technology, Inc., Petaluma, CA. STI-6993. Available at [https://www.cmascenter.org/conference//2018/slides/craig\\_improving\\_spatial\\_2018.pdf](https://www.cmascenter.org/conference//2018/slides/craig_improving_spatial_2018.pdf).
- Pavlovic N.R. (2018) Tracking and visualizing air quality trends using Google Earth Engine. Presented at the *Geo for Good Summit 2018, Sunnyvale, CA, October 2*, by Sonoma Technology, Inc., Petaluma, CA. STI-7049.
- Pavlovic N.R., Dickerson P.G., White J.E., Appoh E., Terry S., Hagler G., Kaufman A., Chan A., DeWinter J.L., Stanton L., and Brown S.G. (2018) U.S. EPA's AirNow international air sensor applications and initiatives in Accra, Ghana. Presented at the American Geophysical Union, Fall Meeting by Sonoma Technology, Inc., Petaluma, CA.
- Stanton L.G., Pavlovic N.R., DeWinter J.L., and Hafner H.R. (2018) Approaches to air sensor calibration. Poster presented at the *2018 UC Davis Air Sensors International Conference, Oakland, CA, September 12-14*, by Sonoma Technology, Petaluma, CA. STI-6908.
- Pavlovic N., Brown S., O'Brien T., Huang S., Craig K., Zahn P., Penfold B., and Jaffe D. (2018) Wildland fire smoke from long-range transport enhances ozone in the Southeastern U.S. Presentation given at the *National Ambient Air Monitoring Conference, Portland, OR, August 16*, by Sonoma Technology, Inc., Petaluma, CA, and the University of Washington, Bothell, WA. STI-6934.
- Pavlovic N., Hafner H., Brown S., and McCarthy M. (2018) Using the R statistical language for air quality data analysis and visualization. Presentation given at the *National Ambient Air Monitoring Conference, Portland, OR, August 16*, by Sonoma Technology, Inc., Petaluma, CA. STI-6918.
- Stanton L., Pavlovic N., DeWinter J., and Hafner H. (2018) Approaches to sensor calibration. Presentation given at the *National Ambient Air Monitoring Conference, August 15*, by Sonoma Technology, Petaluma, CA. STI-6917.

- Hylton M., Pavlovic N., and Zahn P. (2018) Using new statistical approaches to update daily ozone concentration forecasting tools. Presentation given at the *National Air Quality Conference, Austin, TX, January 25*, by Sonoma Technology, Inc., Petaluma, CA. STI-6769.
- Hylton M. and Pavlovic N. (2018) Dayton ozone statistical tools. Presented to the Regional Air Pollution Control Agency, Dayton, Ohio, January 11, by Sonoma Technology, Inc., Petaluma, CA. STI-917045-6849.
- Pavlovic N., Huang S., and Rao V. (2017) The 2015 wildland fire emissions inventory for the United States, Canada, and Mexico. Presented at the *2017 International Emission Inventory Conference, Baltimore, MD, August 18*, by Sonoma Technology, Inc., Petaluma, CA, and the U.S. Environmental Protection Agency, Durham, NC.
- Huang S., Pavlovic N., Rao V., and Larkin S. (2017) Development of the 2014 wildland fire National Emissions Inventory version 1. Presented at the *2017 International Emissions Inventory Conference, Baltimore, MD, August 18*, by Sonoma Technology, Inc., Petaluma, CA. STI-6674.
- Brown S.G. and Pavlovic N.R. (2017) Next-generation air quality data analysis. Training course given for the Lake Michigan Air Directors Consortium, Chicago, IL, June 21-22. STI-917006-6742.
- Lavezzo T., Huang S., Pavlovic N., and Hafner H. (2017) The Marin Community Wildfire Protection Plan: science-based collaborative planning and implementation. Presented at the *National Cohesive Wildland Fire Management Strategy Workshop, Reno, NV, April 25-27*, by Sonoma Technology, Inc., Petaluma, CA. STI-6668.
- Huang S., Pavlovic N., Rao V., and Larkin S. (2017) Development of the 2014 wildland fire National Emissions Inventory version 1. Presented at *2017 Smoke Management in the Northwest, Portland, OR, March 22*, by Sonoma Technology, Inc., Petaluma, CA. STI-6699.
- Brown S., Pavlovic N., and Lavezzo T. (2017) Tool to streamline exceptional event analysis for wildfires. Webinar presented on January 26. STI-6659.
- Brown S., Pavlovic N., Graham A., and Huang S. (2016) Understanding the impacts of wildfires on ozone concentrations. Presented at the *IAWF's 2nd International Smoke Symposium, Long Beach, CA, November 17*, by Sonoma Technology, Inc., Petaluma, CA. STI-6514.
- Huang S., Pavlovic N., Rao V., and Larkin S. (2016) Development of the 2014 wildland fire National Emissions Inventory version 1. Presented at the *IAWF's 2nd International Smoke Symposium, Long Beach, CA, November 15*, by Sonoma Technology, Inc., Petaluma, CA. STI-6512.
- Pavlovic N., Huang S., Drury S., Lavezzo T., Neill C., and Lando T. (2016) Development of a high-resolution (5-m) fuel model map for Marin County, California, based on LiDAR and NAIP. Poster presented at the *IAWF's 2nd International Smoke Symposium, Long Beach, CA, November 14-17*. STI-6510.
- Pavlovic N. (2016) Interactive dashboards for visual quality control of air quality data. Presented at the *R User Conference, Stanford, CA, June 30*. STI-6481.
- Brown S., Pavlovic N., Graham A., McCarthy M., and MacDonald C. (2016) Sacramento ozone wildfire briefing. Presented to the Sacramento Metropolitan Air Quality Management District, Sacramento, CA, May 25. STI-916022-6521.

- Pavlovic N., Huang S., Lavezzo T., Drury S., Neill C., Walsh T., and Lando T. (2016) Development and application of a high-resolution (5-m) fuel model map based on LiDAR and NAIP for Marin County, California. Extended abstract in the conference proceedings of the IAWF Fire Behavior and Fuels Conference, Portland, OR, April 11-15. STI-6524.
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- Pavlovic N.R., Bassett T.J., and Greenberg J.A. (2015) Seasonal trends in vegetation burning in Côte d'Ivoire, 1984-2014. Presented at the *Association of American Geographers Annual Meeting, Chicago, IL, April 21-25*.
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## Formal Reports

- Brown S., McClure C., Gostic C., Miller D., Pavlovic N., Scarborough C., and Wang N. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada: August 7, 2020. Final Report prepared for the Clark County Department of Environment and Sustainability, Las Vegas, NV, by Sonoma Technology, Inc., Petaluma, CA, STI-920053-7477, September.
- Gostic C., Scarborough C., Pavlovic N., McClure C., Miller D., and Wang N. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada: August 3, 2020. Final report prepared for the Clark County Department of Environment and Sustainability, Las Vegas, NV, by Sonoma Technology, Inc., Petaluma, CA, STI-920053-7477, September.

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- Gostic C., Scarborough C., McClure C., Miller D., Pavlovic N., and Brown S. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada – June 22, 2020. Final report prepared for the Clark County Department of Environment and Sustainability, Las Vegas, NV by Sonoma Technology, Inc., Petaluma, CA, STI-920053-7477, doi: STI-920053-7477, June.
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- Pavlovic N.R. and Chang S.Y. (2021) TDep measurement-model fusion application readme version 0.5.0. Final report prepared for U.S. EPA Clean Air Markets Division, Washington D.C. by Sonoma Technology, Petaluma, CA, STI-920004-7274, January.
- Pavlovic N. (2020) Review of pertinent ecological receptors to constrain nitrogen critical loads. Prepared for the Electric Power Research Institute, Palo Alto, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-920027-7428, November.
- McClure C., Wang N., Chaveste M., Pavlovic N., and Huang S. (2020) Remote sensing fire activity database with agency record integration for years 2003-2019. Technical memorandum prepared for Pacific Gas & Electric, San Francisco, CA by Sonoma Technology, Petaluma, CA, STI-920029-7286, September 15.
- Pavlovic N.R. (2020) Near-real time global-scale satellite-based estimates of surface PM<sub>2.5</sub>: evaluation for select locations in Africa. Technical memorandum prepared for United Nations Environment Programme (UNEP) by Sonoma Technology, Petaluma, CA, STI-920023-7417-TM, August 7.
- Pavlovic N. (2020) Framework for TDep measurement-model fusion application development. Technical memorandum prepared for the U.S. Environmental Protection Agency, Clean Air Markets Division, by Sonoma Technology, Inc., Petaluma, CA, STI-920004-7250, January 31.
- Pavlovic N., Huang S., Craig K., and Zahn P. (2019) Smoke information system for Mexico City: understanding and managing air quality impacts of smoke from wildland fires and agricultural burning. White paper prepared by Sonoma Technology, Inc., Petaluma, CA, STI-7100, May 2.

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- Craig K.J., Huang S., Pavlovic N.R., Erdakos G.B., and Drury S.A. (2018) Improving spatial resolution of wildland fire location and fuel biomass data inputs to NOAA's NAQFC. Final report prepared for the National Oceanic and Atmospheric Administration by Sonoma Technology, Inc., STI-916034-6927-FR, July 20.
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- Hafner H., Minor H., and Pavlovic N. (2018) Wintertime study of PM<sub>2.5</sub> transport into Marin County. Technical memorandum prepared for the Bay Area Air Quality Management District by Sonoma Technology, Inc., STI-915064-6815-TM, February 15.
- Brown S., Craig K., Graham A., DeWinter J., and Pavlovic N. (2018) Overview of exceptional event analysis techniques and data resources: methods and case study examples for wildfire and stratospheric ozone intrusion events. Technical report prepared for the Electric Power Research Institute, Palo Alto, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-916029-6667-FR, February.
- Stanton L., Hafner H., and Pavlovic N. (2017) Sensor technology to inform new environmental monitoring: comparison of low-cost PM<sub>10</sub> sensors. Final report prepared for the Electric Power Research Institute, Palo Alto, CA, STI-916031-6801, November.
- Pavlovic N.R. and Huang S. (2017) Methods and results for preparation of the Wildland Fire Emissions Inventory for the AIRPACT5 domain from July through September 2013. Technical memorandum prepared for the Idaho Department of Environmental Quality, Boise, ID, STI-917019-6741-TM, May 24.
- Larkin N.K. and Pavlovic N.R. (2017) Fire activity data set quick catalog. Prepared for the U.S. Forest Service AirFire Team by Sonoma Technology, Inc., Petaluma, CA, STI-913029-6690, April.
- Pavlovic N. and Huang S. (2017) 2015 wildland fire emissions inventory for the United States, Canada, and Mexico. Final report prepared for the U.S. Environmental Protection Agency, Durham, NC, by Sonoma Technology, Inc., Petaluma, CA, STI-916054-6637, January 4.
- Graham A., Brown S., Pavlovic N., Hafner H., Craig K., McCarthy M., Huang S., and MacDonald C. (2016) Impact of wildfires on ozone concentrations in the Sacramento region. Final report prepared for the Sacramento Metropolitan Air Quality District, Sacramento, CA, by Sonoma Technology, Inc., Petaluma, CA, STI-916022-6559, December 16.

- Graham A., McCarthy M., Baringer L., Pavlovic N., Brown S., and Eisinger D. (2016) Effects of roadside barriers on near-road pollutant concentrations. Final report prepared for the Washington State Department of Transportation, Olympia, WA, by Sonoma Technology, Inc., Petaluma CA, STI-914205-6495, December.
- Huang S., Pavlovic N., and Du Y. (2016) Technical documentation for the wildfire and prescribed fire portion of the 2014 National Emissions Inventory. Draft report prepared for the U.S. Environmental Protection Agency Emissions Inventory and Analysis Group, Durham, NC, by Sonoma Technology, Inc., STI-916054-6590-DR, October.
- McCarthy M.C. and Pavlovic N.R. (2016) Southern Florida air quality literature review. Prepared for the Seminole Tribe of Florida, Hollywood, FL, by Sonoma Technology, Inc., Petaluma, CA, STI-916053-6584, September 21.
- Lavezzo T.L., Huang S., Pavlovic N.R., Hafner H.R., and Penfold B.M. (2016) Marin County Community Wildfire Protection Plan. Prepared for FIRESafe MARIN, San Anselmo, CA, by Sonoma Technology, Inc., Petaluma, CA, 915038-6398, August. Available at [drive.google.com/file/d/0Bx15pyv0JoJZWXE2WXIwMWtENUE/view](https://drive.google.com/file/d/0Bx15pyv0JoJZWXE2WXIwMWtENUE/view).
- Dumas J.S., Pavlovic N.R., Brown S.G., Vaughn D.L., and Roberts P.T. (2016) Eighth annual report of ambient air quality monitoring at Sunshine Canyon Landfill and Van Gogh Elementary School: an eight-year summary November 22, 2007–November 21, 2015. Final report prepared for the Planning Department, City of Los Angeles, and Los Angeles County Department of Regional Planning by Sonoma Technology, Inc., Petaluma, CA, STI-915022-6490-AR, April 20.
- Huang S. and Pavlovic N. (2016) Preparation of the Wildland Fire Emissions Inventory version 1 for 2014. Technical memorandum prepared for the U.S. Environmental Protection Agency by Sonoma Technology, Inc., Petaluma, CA, STI-915214-6493, April 11.
- Sullivan D.C., Pavlovic N., and Drury S. (2016) Views of the fire, fuels, smoke, and air quality community for the 2017 NRC Decadal Survey in Earth Science and Applications from Space. White paper prepared for the National Academies of Sciences, Engineering, and Medicine, Washington, DC, by Sonoma Technology, Inc., Petaluma, CA, STI-915027-6437, January.
- Minor H.A., Pavlovic N.R., Penfold B.M., Vaughn D.L., and Hafner H.R. (2015) Report of ambient air quality monitoring at Sonora, Nogales. Interim report prepared for the Arizona Department of Environmental Quality, Phoenix, AZ, by Sonoma Technology, Inc., Petaluma, CA, STI-914061-6350, September 11.

## White Papers

- Marrero J.E., Pavlovic N., and Vijayan A. (2022) Site-wide monitoring technologies for methane emissions. White paper prepared for the Electric Power Research Institute (EPRI), Palo Alto, CA, by Sonoma Technology, Petaluma, CA, STI-7825, December 5.
- Coughlin J.G., Pavlovic N.R., and Vijayan A. (2022) Satellite Remote Sensing of Methane. White paper prepared for Electric Power Research Institute (EPRI), Palo Alto, CA by Sonoma Technology, Petaluma, CA, STI-922062-7827, December 2.

Anderson A., Pavlovic N., and Vijayan A. (2022) New insights from methane emissions research. White paper prepared for Electric Power Research Institute (EPRI), Palo Alto, CA by Sonoma Technology, Petaluma, CA, STI-922062-7814, December 2.

## Courses Taught

Pavlovic N., McCarthy M., and Brown S. (2019) Statistics with R. Training course presented to the U.S. Environmental Protection Agency's Clean Air Markets Division, Washington, DC, by Sonoma Technology, Inc., Petaluma, CA, STI-915509-7192, October 23-24.

Pavlovic N. (2019) R statistical software training. Presented to the Hong Kong Environmental Protection Department, Hong Kong, March 6-8, by Sonoma Technology, Inc., Petaluma, CA. STI-919005-7083.

Hafner H.R. and Pavlovic N. (2019) VOC data validation and analysis training. Presented to the Hong Kong Environmental Protection Department, Hong Kong, March 6-8, by Sonoma Technology, Inc., Petaluma, CA. STI-919005-7077.