

Full List of Publications, Presentations, and Formal Reports

Peer-Review Publications

- Kramer, S. J., Besong, K., Potter, B., Charney, J., Huang, S., Fenske, T., and Kirtman, B. (2025). Implications of the Spatiotemporal Sensitivity of Hot-Dry-Windy as a Fire Weather Metric. *Weather and Forecasting*, submitted.
- Kramer, S. J., Potter, B., McClure, C., Benson, N., Huang, S., and Schill, M., (2025). Connecting Research and Operational Needs in the Wildfire Community. *IAWF Communications*, *submitted*.
- Kirtman B.P., Arcodia M.C., Becker E.J., Besong K., Boyd J.S., Daher H., Gifford I., Infanti J., Kaiser J., Kramer S., Larson S.M., Laurindo L.C., Lopez H., Malloy K., Martinez C., Papazian K., Pegion K., Perlin N., Schuler C., Schoenwald V., Siqueira L.S.P., Zavadoff B., and Zhang W. (2025) A simplified-physics atmosphere general circulation model for idealized climate dynamics studies. *Bulletin of the American Meteorological Society*, BAMS-D-24-0196.0191, doi: <https://doi.org/10.1175/BAMS-D-24-0196.1>, 22 Aug. 2025. Available at <https://journals.ametsoc.org/view/journals/bams/aop/BAMS-D-24-0196.1/BAMS-D-24-0196.1.xml>.
- Zare-Harofteh A., Kramer S.J., Huang S., Scarborough C.R., Besong K., Kumar N., Brown T., and Hosseinpour F. (2025) SmokePath Explorer – a data driven smoke management tool to support prescribed fire planning in California, USA. *J. Air Waste Manage.*, 1-21, doi: 10.1080/10962247.2025.2553822, September 5. Available at <https://www.tandfonline.com/doi/full/10.1080/10962247.2025.2553822>.
- Prince S.E., Muskin S.E., Kramer S.J., Huang S., Blakey T., and Rappold A.G. (2024) Smoke on the horizon: leveling up citizen and social science to motivate health protective responses during wildfires. 11(253), doi: 10.1057/s41599-024-02641-1, February 12. Available at <https://www.nature.com/articles/s41599-024-02641-1>.
- Rosenberg A., Hoshiko S., Buckman J.R., Yeomans K.R., Hayashi T., Kramer S.J., Huang S., French N.H.F., and Rappold A.G. (2024) Health Impacts of Future Prescribed Fire Smoke: Considerations From an Exposure Scenario in California. *Earth's Future*, 12(2), doi: 10.1029/2023EF003778, February 7. Available at <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2023EF003778>.
- Kramer S.J., Huang S., McClure C.D., Chaveste M.R., and Lurmann F. (2023) Projected smoke impacts from increased prescribed fire activity in California's high wildfire risk landscape. *Atmospheric Environment*, doi: 10.1016/j.atmosenv.2023.119993, August 2. Available at <https://www.sciencedirect.com/science/article/pii/S1352231023004193>.
- Herbert N., Beckman C., Cannedy C., Cao J., Cho S.-H., Fischer S., Huang S., Kramer S.J., and others (2023) Improving adaptation to wildfire smoke and extreme heat in frontline communities: evidence from a community-engaged pilot study in the San Francisco Bay Area. *Environmental Research Letters*, 18(7), 074026, June 26. Available at <https://dx.doi.org/10.1088/1748-9326/acddf9>.
- Mukherjee A., Huang S., Chaveste M.R., Kramer S.J., Welch K.R., Moody T.J., Talhelm A.F., and Lottes A.M. (2021) Implementation of greenhouse gas benefit quantification for diverse forest management activities in a statewide program. (submitted).

- Kramer S.J. and Kirtman B.P. (2021) Saharan dust transport predictability utilizing a subseasonal experiment (SubX) model. *Journal of Geophysical Research: Atmospheres*, 126(e2020JD033802). Available at <https://doi.org/10.1029/2020JD033802>.
- Kramer S.J., Alvarez C., Barkley A., Colarco P.R., Custals L., Delgado R., Gaston C., Govindaraju R., and Zuidema P. (2020) Apparent dust size discrepancy in aerosol reanalysis in north African dust after long-range transport. *Atmos. Chem. Phys. Discuss.* (Accepted), 1-32, doi: 10.5194/acp-2020-1, February 29. Available at <https://doi.org/10.5194/acp-20-10047-2020>.
- Kramer S.J., Kirtman B.P., Zuidema P., and Ngan F. (2020) Subseasonal variability of elevated dust concentrations over South Florida. *Journal of Geophysical Research: Atmospheres*, 125(6), February 26. Available at <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/2019JD031874>.
- Zuidema P., Alvarez C., Kramer S.J., Custals L., Izaguirre M., Sealy P., Prospero J.M., and Blades E. (2019) Is summer African dust arriving earlier to Barbados? The updated long-term in situ dust mass concentration time series from Ragged Point, Barbados, and Miami, Florida. *Bulletin of the American Meteorological Society*, 100(10), 1981-1986, October 24. Available at <https://doi.org/10.1175/BAMS-D-18-0083.1>.

Presentations, Webinars, and Conference Proceedings

- Kramer, S.J, Besong, K., Fenske, T., Valencia, A., Nash, L., Potter, B., Huang, S., Benson, N., Charney, J. (2026, invited) Subseasonal Predictability of Fire Weather Metrics for Decision Support. Presented at the Weeks 3-4/S2S Monthly Webinar Series hosted by NOAA OAR January 5, 2026.
- Kramer S.J., Kirtman B., and Perlin N. (2025) EPIC's Unified Forecast System Short Range Weather App for Wildland Fire. Presented at the *Unifying Innovations in Forecasting Capabilities Workshop, September 11, Boulder, CO*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Fenske T.M., Valencia A., Nash L.A., Potter B., Kirtman B., Huang S., Benson N.C., and Charney J. (2025, invited) Sub-seasonal predictability of fire weather metrics for decision support. Presented online NIFC Science Friday, June 13, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Potter B., Charney J., Kirtman B., and Huang S. (2025) Implications of hot-dry-windy spatiotemporal sensitivity. Poster presented at the *2025 AMS Denver Summit, Denver, CO, May 13*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Huang S., Fenske T.M., Valencia A., Nash L.A., Benson N.C., Kirtman B., and Potter B. (2025) Subseasonal Predictability of Fire Weather Metrics for Decision Support: The Standardized Fire Weather Research Database. Presented at the *AMS Denver Summit, Denver, CO, May 13*, by Sonoma Technology, Petaluma, CA.
- Kramer S. (2025) SmokePath Explorer transition. Presented to the *California Department of Forestry and Fire Protection, March 12*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Lavezzo T.L., Penfold B.M., Scarborough C.R., Eisinger D.S., Hafner H.R., Brown M., Soga K., Grandy R., Moghaddas J., and Lautenberger C. (2025) High-resolution wildfire evacuation risk assessment for mitigation implementation. Presented at the *105th American Meteorological Society Annual Meeting, New Orleans, LA, January 16*, by Sonoma Technology, Petaluma, CA.
- Huang S., Kramer S.J., Hosseinpour F., Harofteh A.Z., Besong-Cowan K., Scarborough C.R., Brown T., and Kumar N. (2025) Smoke transport and fire weather climatology dashboard for California. Presented at the *105th American Meteorological Society Annual Meeting, New Orleans, LA, January 16*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Huang S., Fenske T.M., Valencia A., Nash L.A., Benson N.C., Kirtman B., and Potter B. (2025) Subseasonal predictability of fire weather metrics for decision support: the

- Standardized Fire Weather Research Database. Presented at the *105th AMS Annual Meeting, New Orleans, LA, January 14*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Potter B., Charney J., Kirtman B., and Huang S. (2025) Implications of Hot-Dry-Windy spatiotemporal sensitivity. Poster presented at the *105th American Meteorological Society Annual Meeting, New Orleans, LA, January 14*, by Sonoma Technology, Petaluma, CA.
- Kramer S., Scarborough C., Lavezzo T., Benson N., Huang S., Besong-Cowan K., Hosseinpour F., Harofteh A.Z., Brown T., and Kumar N. (2025) SmokePath Explorer: a new smoke management tool for California. Virtual webinar presented on January 24, by Sonoma Technology, Petaluma, CA.
- Fenske T., Kramer S., Besong-Cowan K., and Kirtman B. (2024) Solutions for accommodating temporally limited subseasonal-to-seasonal data: using harmonics to generate a climatology. Presented at the *American Geophysical Union Fall Meeting, Washington, D.C., December 12*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Huang S., Fenske T.M., Benson N.C., Kirtman B., and Potter B. (2024) Subseasonal predictability of fire weather metrics for decision support. Presented at the *7th International Fire Behavior and Fuels Conference; Boise, ID, April 18*, by Sonoma Technology, Petaluma, CA.
- Kramer S., Lavezzo T., Penfold B., Scarborough C., Eisinger D., and Hafner H. (2024) High-resolution wildfire evacuation risk assessment for mitigation implementation. Presentation given at the *104th AMS Annual Meeting, Baltimore, MD, January 29*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Huang S., Fenske T.M., and Benson N.C. (2024) Subseasonal predictability of fire weather metrics for decision support. Presentation given at the *104th AMS Annual Meeting, Baltimore, MD, January 30*, by Sonoma Technology, Petaluma, CA.
- Huang S., Hosseinpour F., Kramer S., Harofteh A.Z., Besong-Cowan K., Scarborough C., Brown T., and Kumar N. (2024) Smoke transport and fire weather climatology dashboard for California. Presentation given at the *104th AMS Annual Meeting, Baltimore, Maryland, January 29*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Besong-Cowan K., Huang S., Fenske T.M., Benson N.C., Kirtman B., and Potter B. (2024) Gathering user input for long-term fire weather outlooks. Presentation given at the *7th International Fire Behavior and Fuels Conference, Boise, ID, April 15*, by Sonoma Technology, Petaluma, CA.
- Scarborough C.R., Huang S., Kramer S.J., and Besong-Cowan K. (2024) Wildfire smoke transport probability dashboard. Demonstration given at *ShinyConf 2024, April*, by Sonoma Technology, Petaluma, CA.
- Lavezzo T. and Kramer S. (2024) Pre-Fire Planning for Marin County. Presented for the Marin Wildfire Protection Agency at the MWPA Coastal Webinar, January 19, by Sonoma Technology, Petaluma, CA.
- Kramer S., Huang S., Chaveste M., McClure C., and Lurmann F. (2023) Smoke exposure from prescribed fire and wildfire. Presentation given at the *USDA Forest Service Atmospheric Science R&D Workshop, November 17*, by Sonoma Technology, Petaluma, CA.
- Huang S., Kramer S., Zahn P., and Lavezzo T. (2023) Prescribed fires: latest in science, approaches, challenges, and opportunities. Presented to the California Air Pollution Control Officers Association (CAPCOA) Prescribed Fire Working Group, September 20, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Huang S., Chaveste M.R., McClure C., and Lurmann F. (2023, invited) Public Health Impact of Prescribed Fire (PHIRE) study – baseline and projected prescribed fire smoke exposures in California. Presented online as for the *AGU Atmospheric Science Section Early Career Committee for Science Seminar on Igniting Early Career Wildfire Studies, August 22*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Huang S., Chang S.Y., Huang J., Padula A., and Lurmann F. (2023) Exposure to PM_{2.5} and ozone pollution from wildfire and prescribed fire by demographics in California. Presentation given

- at the *103rd AMS Annual Meeting, Denver, CO, January 12*, by Sonoma Technology, Petaluma, CA, and the University of California, San Francisco, San Francisco, CA.
- Kramer S.J., Huang S., Chaveste M.R., McClure C.D., and Lurmann F.W. (2023) Public Health Impact of Prescribed Fire (PHIRE) study – baseline and projected prescribed fire smoke exposures in California. Presentation given at the *103rd AMS Annual Meeting, Denver, CO, January 11*, by Sonoma Technology, Petaluma, CA.
- Huang S., Kramer S., Chaveste M., McClure C., and Lurmann F. (2022) Public Health Impact of Prescribed Fire (PHIRE) Study – baseline and projected prescribed fire smoke exposures in California. Presented at the *CAL FIRE Forest Health Research Program Grantee Webinar, November 10*, by Sonoma Technology.
- McClure C.D., Kramer S.J., and Hafner H.R. (2022) Two years of CAS Auto-GC PAMS monitoring: successes and challenges in software/hardware implementation, monitoring, and data QC. Presentation given at the *2022 National Ambient Air Monitoring Conference, Pittsburgh, PA, August 25*, by Sonoma Technology, Petaluma, CA. 7696.
- Huang S., Mukherjee A., Chaveste M.R., Kramer S.J., Welch K.R., Moody T.J., Talhelm A.F., and Lottes A.M. (2022) Quantification of greenhouse gas benefits for diverse forest management activities in a statewide program. Presentation given at the *Fire and Climate 2022 Conference, Pasadena, CA, May 24*, by Sonoma Technology, Petaluma, CA, the California Department of Forestry and Fire Protection, Sacramento, CA, and the California Air Resources Board, Sacramento, CA.
- Kramer S.J. and Kirtman B.P. (2022) Saharan dust transport predictability using a subseasonal experiment (SubX) model. Poster presented at the *2022 American Meteorological Society Annual Conference, January 26, 2022, in Houston, TX (virtual)*, by Sonoma Technology, Petaluma, CA.
- Kramer S.J., Huang S., Chaveste M.R., McClure C.D., and Lurmann F.W. (2021) Public Health Impact of Prescribed Fire (PHIRE) Study - baseline and projected prescribed fire smoke exposures in California. Poster presented at the *AGU Fall Meeting, New Orleans, LA, December 13-17*, by Sonoma Technology, Inc., Petaluma, CA.
- Mukherjee A., Huang S., Chaveste M.R., Kramer S.J., Welch K.R., Moody T.J., Talhelm A.F., and Lottes A.M. (2021) Quantification of greenhouse gas benefit for diverse forest management activities in a statewide program. Poster presented at the *AGU Fall Meeting, New Orleans, LA, December 13-17*, by Sonoma Technology, Inc., Petaluma, CA.
- Huang S., Mukherjee A., Chaveste M.R., Kramer S.J., Moody K.R.W.T.J., Talhelm A.F., and Lottes A.M. (2021) Quantification of greenhouse gas benefits for diverse forest management activities in a statewide program. Presented at the *Association for Fire Ecology, November 30 - December 3*, by Sonoma Technology, Inc., Petaluma, CA.
- Huang S., Mukherjee A., Chaveste M.R., Kramer S.J., Moody K.R.W.T.J., Talhelm A.F., and Lottes A.M. (2021) Quantification of greenhouse gas benefits for diverse forest management activities in a statewide program. Presented at the *Society of American Foresters, virtual conference, November 3-6*, by Sonoma Technology, Inc., Petaluma, CA.
- Huang S., Kramer S., Chaveste M., McClure C., and Lurmann F. (2021) Public health impact of prescribed fire (PHIRE) study - baseline and projected prescribed fire smoke exposures in California. Presentation given at the *Community Modeling and Analysis System virtual conference, November 1-5*, by Sonoma Technology, Inc., Petaluma, CA.
- Kramer S.J. and Huang S. (2021) Applications of SubX for air quality, fire, and smoke. Presented at the *2021 Subseasonal Experiment (SubX) Current and Potential Users Forum Section on Public Health and Insurance, August 25*, by Sonoma Technology, Petaluma, CA. STI-7668.
- Kramer S.J., Kirtman B., Zuidema P., and Ngan F. (2020) Predictability of extreme dust events in South Florida. Presentation given at the *American Meteorological Society 100th Annual Meeting, Boston*,

MA, January 15. Available at

<https://ams.confex.com/ams/2020Annual/meetingapp.cgi/Paper/363634>.

Kramer S.J. (2019) Saharan dust variability at Miami, Florida. Presented at the *Rosenstiel School of Marine and Atmospheric Science, Miami, FL, November 6*. Available at <https://youtu.be/8B0vbmOUv8>.

Kramer S.J., Zuidema P., Delgadillo R., Silvia A.d., Alvarez C., Custals L., Barkley A., Gaston C.J., and Prospero J.M. (2018) Comparison of Saharan dust surface mass observations and Lidar in Miami, FL, to the MERRA2 reanalysis. Presentation given at the *American Meteorological Society 98th Annual Meeting, Austin, TX, January 8*. Available at <https://ams.confex.com/ams/98Annual/webprogram/Paper335459.html>.

Formal Reports

McClure C., Anderson A., Beamish J., Besong K., Chaveste M., Gostic C., Kramer S., Scarborough C., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – February 21, 2023. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong K., Chaveste M., Gostic C., Kramer S., Scarborough C., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – July 31, 2023. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong-Cowan K., Chaveste M., Gostic C., Irwin S., Kramer S., Scarborough C., Wang N., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – September 8, 2020. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong-Cowan K., Chaveste M., Gostic C., Kramer S., Scarborough C., Wang N., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – October 25, 2020. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong-Cowan K., Chaveste M., Gostic C., Kramer S., Scarborough C., Wang N., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – September 8-9, 2022. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong-Cowan K., Chaveste M., Gostic C., Kramer S., Scarborough C., Wang N., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – April 11, 2022. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C., Anderson A., Beamish J., Besong-Cowan K., Chaveste M., Gostic C., Kramer S., Scarborough C., Wang N., Zahn P., and Brown S. (2024) Exceptional event demonstration for PM₁₀ exceedances in Clark County, Nevada – February 21, 2022. Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, June.

McClure C.D., Anderson A., Beamish J., Besong K., Chaveste M., Gostic C., Irwin S., Kramer S., Mukherjee A., Ryder O., Scarborough C., Zahn P., and Brown S. (2023) Wildfire atypical event analysis for ozone

attainment demonstration State Implementation Plan (SIP). Final report prepared for the Clark County Department of Environment and Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Petaluma, CA, November.

Lavezzo T., Kramer S., Penfold B., Scarborough C., Eisinger D., Soga K., Zhao B., Comfort L., Grandy R., Sandoval J., Lautenberger C., and Moghaddas J. (2023) Marin County Current Conditions Evacuation Risk Assessment. Final report prepared for Mark Brown at Marin Wildfire Prevention Authority, San Rafael, CA, by Sonoma Technology, Petaluma, CA, September 27.

Kramer S., Lavezzo T., Hafner H., Eisinger D., Soga K., Zhao B., Comfort L., Grandy R., Johnson K., Lautenberger C., and Moghaddas J. (2022) Literature review of the state-of-the-science in wildfire evacuation. Final report prepared for Marin Wildfire Prevention Authority, San Rafael, CA, by Sonoma Technology, Petaluma, CA, October.

Marrero J.E., Schill S.R., and Kramer S. (2022) Kern Oil & Refining Co. Rule 4460 Fenceline Monitoring Q2 Report: April – June 2022. Prepared for Kern Oil & Refining Co., Bakersfield, CA, by Sonoma Technology, Inc., Petaluma, CA, June 29.

Brown S., McClure C., Gostic C., Kramer S., Miller D., Scarborough C., and Wang N. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada – May 9, 2020. Final report prepared for the Clark County Department of Environment and Sustainability, Las Vegas, NV, by Sonoma Technology, Inc., Petaluma, CA, July.

Gostic C., Scarborough C., McClure C., Miller D., Wang N., Kramer S., and Brown S. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada – May 28, 2020. Final report prepared for Clark County Department of Environment & Sustainability Division of Air Quality, Las Vegas, NV, by Sonoma Technology, Inc., Petaluma, CA, June.

Gostic C., Scarborough C., McClure C., Miller D., Wang N., Kramer S., and Brown S. (2021) Exceptional event demonstration for ozone exceedances in Clark County, Nevada – May 6, 2020. Final report prepared for the Clark County Department of Environment and Sustainability, Las Vegas, NV, by Sonoma Technology, Inc., Petaluma, CA, June.

Marrero J.E., Kramer S.J., and Roberts P.T. (2020) Summary of air quality measurements during two years of monitoring near the San Rafael Rock Quarry. Technical memorandum prepared for the Marin County Department of Public Works, San Rafael, CA, by Sonoma Technology, Inc., Petaluma, CA, September 25.