

Amir H. Souri, Ph.D.

Atmospheric Chemistry and Dynamics Laboratory, NASA Goddard Space Flight Center, Greenbelt, MD, USA/GESTAR II, Morgan State University, Baltimore, MD, USA

Professional Summary: Results-driven atmospheric scientist and data professional with 10+ years of experience applying advanced quantitative modeling, machine learning, satellite remote sensing, and large-scale data analysis to solve complex geophysical problems. Proven track record as an independent researcher and PI, securing over \$1.4M in competitive grants and authoring 43 peer-reviewed publications (H-index: 24; 50% as lead/equal-contributing author). Expert at translating complex scientific findings into actionable insights. Deep expertise in end-to-end data pipelines, signal and image processing, radiative transfer modeling, atmospheric composition and weather modeling, emissions inversion, and high-performance computing. Combines rigorous critical thinking with creative problem-solving to deliver impactful, publication-quality analysis at scale.

Education

- Ph.D. (2018) Atmospheric Sciences, University of Houston, 2015-2018
Thesis: Constraining NO_x emissions using spaceborne and airborne remotely sensed NO₂ observations
- M.S. (2014) Remote Sensing, University of Tehran, 2011-2014
Thesis: Water vapor modeling and atmospheric corrections on InSAR technique
- B.S. (2011) Civil-Surveying and Geomatics Eng., University of Tehran, 2007-2011
Thesis: Hydrological modeling of precipitation and flood using geostatistical tools

Current Employment

Associate Research Scientist, NASA Goddard Space Flight Center (614)/GESTAR II (Morgan State University)

Work Experience

Associate Research Scientist, NASA Goddard Space Flight Center (614)/GESTAR II (Morgan State University)

Atmospheric Physicist, Harvard-Smithsonian Center for Astrophysics, 2018-2023

Research Assistant, University of Houston, 2015-2018

Technical Skills

Programming: MATLAB, Python, FORTRAN, Linux Shell

Certificates: IBM Data Science Professional Certificate

Models: WRF, GEOS-5, CMAQ, GEOS-Chem, WRF-Chem, MEGAN, WRF-SFIRE, WRF-DA (3D and 4D- var), GEOS-Chem TOMAS, HYSPLIT

Highly-skilled in high performance computing systems (HPC): Compiled, setup, configured, ran numerous libraries, models, scripts, and tools at NASA's Discover and Pleiades, Harvard's Odyssey/Cannon, SAO's Hydra, and UofH's Spock, Maxwell, and Opuntia clusters.

Geospatial & Remote Sensing: satellite and airborne remote sensing, imagery analysis, geolocation correction, geospatial statistics, spatial heterogeneity analysis, geostatistical inverse modeling, raster-based analysis, spatiotemporal environmental datasets

Machine Learning & Analytics: deep neural networks, random forests, interpretable machine learning, regression, time-series analysis, trend analysis, uncertainty quantification, Monte Carlo, Kalman filtering, Bayesian, and inverse modeling

Languages: English (proficient), Persian (mother tongue), Arabic (basic knowledge)

Github: <https://github.com/ahsouri>

Digital Background

Google Scholar: <https://scholar.google.com/citations?user=CyNCGRAAAAAAJ&hl=en>

Owner of ozonerates: www.ozonerates.space

ResearchGate: https://www.researchgate.net/profile/Amir_Hossein_Souri

LinkedIn: <https://www.linkedin.com/in/amirhsouri/>

Twitter: <https://twitter.com/AmirHSouri1>

Personal website: <https://www.ahsouri.com>

Projects and Technical Reports

NASA TEMPO Science Team, 2025-present, Understanding the hourly variation of HCHO and NO₂ columns along with PO₃

NASA ACMAP (2), 2023-present, A joint inversion of NO_x/VOC using multiple satellites

NASA ACMAP (1), 2023-present, PO₃ estimates from space

NASA TOH Estimates from Space, 2023-2024, Enhancing long-term trends of TOH using satellites

EDF's MethaneSAT/MethaneAIR, 2020-2023, OSSEs simulations (synthetic L1 and L2 products), geo-location corrections using computer vision techniques, denoising

NASA Aura (2), 2021-2023, Spatial heterogeneity, satellite-based HCHO/NO₂ ratios

NASA Aura (1), 2019-2021, Application of OMI/OMPS satellites in atmospheric sciences

GIST, 2018, Development of a convective transport scheme for the CMAQ model

NIER, 2017, Integrating surface and satellite observations to provide an optimal estimate of surface distribution of particulate matters

TCEQ, 2016, Biomass burning impacts on air quality in the U.S.: Evidence from the CMAQ model in 2012-2014

AQRP, 2015, Inverse modeling of NO_x emissions in Southeast Texas using OMI NO₂

Awarded Grants

🔴 As PI

- (6) 🔴 Beyond HCHO/NO₂: A Comprehensive Investigation of Hourly-Varying Ozone Production Rates and Their Sensitivities to Weather, Chemistry, and Emissions, 2025-2027, **PI: A.H. Souri**, Co-Is: Sarah Strode, Bryan Duncan, Junhua Liu, TEMPO Science Team, **Amount (total): \$597,000**
- (5) 🔴 Long-term Maps of Satellite-Based Ozone Production Rates using OMI, OMPS, and TROPOMI HCHO and NO₂ Observations via Empirical and Machine Learning Methods: Insights from NASA's Air Quality Campaign, 2023-2025, **PI: A.H. Souri**, Co-I: Gonzalo Gonzalez Abad, ACPMAP-Aura, **Amount (total): \$575,718**
- (4) Improved assessment of recent trends in NO_x and VOC emissions and ozone production sensitivity regimes using satellite data, 2023-2025, PI: Matthew Johnson (NASA AMES), Co-Is: **A.H. Souri**, Rajesh Kumar, ACPMAP-Aura, **Amount (my share): ~\$150,000**
- (3) Remote-Sensing of Surface-Level Ozone Sensitivity to Nitrogen Oxides and Volatile Organic Compounds, 2021-2023, PI: Matthew Johnson (NASA AMES), Co-Is: Sajeev Philip, Rajesh Kumar, **A. H. Souri**, and Jeff Geddes, NASA Aura Science Team, **Amount (my share): \$168,909**
- (2) Algorithm maintenance for SAO standard OMI products (HCHO, BrO, OCIO, etc.), 2020-2023, PI: Kelly Chance (SAO), Co-Is: Xiong Liu, Gonzalo González Abad, Caroline Nowlan, Chris Miller, Raid Suleiman, Helen Wang, and **A. H. Souri**, NASA Aura Science Team, **Amount (total): \$1,091,802**
- (1) 🔴 Corn Sweat: Contribution of Plant Transpiration during Heatwaves, 2019-2020, **PI: A. H. Souri**, Co-I: H. Wang (SAO), Scholarly Studies Awards Grant from the Smithsonian Institution, **Amount (total): \$74,425**

Peer-Reviewed Journals

($n=43$, fraction of leading authorship[🟢] = 50%, H-index: 24)

🔴 Leading author or my contribution is equal to the first author's

🔴 Featured

🟢 Based on the ratio of leading-authored papers to the total; a made-up metric to gauge the capability of being independent.

- (43) Anderson, D.C., Duncan, B.N., **Souri, A.H.**, Liu, J., Strode, S., Ahn, D., 2026. Toward Closing the Hydroxyl Radical (OH) Budget: Assessing the Feasibility and Uncertainties in Constraining primary OH Production From Space. *Journal of Geophysical Research: Atmospheres* 131, e2025JD045499. <https://doi.org/10.1029/2025JD045499>
- (42) 🔴 **Souri, A. H.**, González Abad, G., Duncan, B. N., and Oman, L. D., 2026. Beyond binary maps from HCHO/NO₂: a deep neural network approach to global daily mapping of net ozone production rates and sensitivities constrained by satellite observations (2005–2023), *Atmos. Chem. Phys.*, 26, 809–837, <https://doi.org/10.5194/acp-26-809-2026>
- (41) 🔴 Duncan, B.N., Anderson, D.C., Fiore, A.M., Joiner, J., Krotkov, N.A., Li, C., Millet, D.B., Nicely, J.M., Oman, L.D., St. Clair, J.M., Shutter, J.D., **Souri, A.H.**, Strode, S.A., Weir, B., Wolfe, G.M.,

- Worden, H.M., Zhu, Q., 2024. Opinion: Beyond global means – novel space-based approaches to indirectly constrain the concentrations of and trends and variations in the tropospheric hydroxyl radical (OH). *Atmospheric Chemistry and Physics* 24, 13001–13023.
<https://doi.org/10.5194/acp-24-13001-2024> *Highlighted in ACP*
- (40) **Souri, A.H.**, González Abad, G., Wolfe, G.M., Verhoelst, T., Vigouroux, C., Pinardi, G., Compennolle, S., Langerock, B., Duncan, B.N., Johnson, M.S., 2025. Feasibility of robust estimates of ozone production rates using a synergy of satellite observations, ground-based remote sensing, and models. *Atmospheric Chemistry and Physics* 25, 2061–2086.
<https://doi.org/10.5194/acp-25-2061-2025>
- (39) Chan Miller, C., Roche, S., Wilzewski, J.S., Liu, X., Chance, K., **Souri, A.H.**, Conway, E., Luo, B., Samra, J., Hawthorne, J., Sun, K., Staebell, C., Chulakadabba, A., Sargent, M., Benmergui, J.S., Franklin, J.E., Daube, B.C., Li, Y., Laughner, J.L., Baier, B.C., Gautam, R., Omara, M., Wofsy, S.C., 2024. Methane retrieval from MethaneAIR using the CO₂ proxy approach: a demonstration for the upcoming MethaneSAT mission. *Atmospheric Measurement Techniques* 17, 5429–5454.
<https://doi.org/10.5194/amt-17-5429-2024>
- (38) **Souri, A.H.**, Duncan, B.N., Strode, S.A., Anderson, D.C., Manyin, M.E., Liu, J., Oman, L.D., Zhang, Z., Weir, B., 2024. Enhancing long-term trend simulation of the global tropospheric hydroxyl (TOH) and its drivers from 2005 to 2019: a synergistic integration of model simulations and satellite observations. *Atmospheric Chemistry and Physics* 24, 8677–8701.
<https://doi.org/10.5194/acp-24-8677-2024>
- (37) Anderson, D.C., Duncan, B.N., Liu, J., Nicely, J.M., Strode, S.A., Follette-Cook, M.B., **Souri, A.H.**, Ziemke, J.R., González-Abad, G., Ayazpour, Z., 2024. Trends and Interannual Variability of the Hydroxyl Radical in the Remote Tropics During Boreal Autumn Inferred From Satellite Proxy Data. *Geophysical Research Letters* 51, e2024GL108531.
<https://doi.org/10.1029/2024GL108531>
- (36) Hall, K.R., Wang, H., **Souri, A.H.**, Liu, X., Chance, K., 2024. Ozone Anomalies in Dry Intrusions Associated With Atmospheric Rivers. *Journal of Geophysical Research: Atmospheres* 129, e2023JD039949. <https://doi.org/10.1029/2023JD039949>
- (35) Chong, H., González Abad, G., Nowlan, C.R., Chan Miller, C., Saiz-Lopez, A., Fernandez, R.P., Kwon, H.-A., Ayazpour, Z., Wang, H., **Souri, A.H.**, Liu, X., Chance, K., O’Sullivan, E., Kim, J., Koo, J.-H., Simpson, W.R., Hendrick, F., Querel, R., Jaross, G., Seftor, C., Suleiman, R.M., 2024. Global retrieval of stratospheric and tropospheric BrO columns from the Ozone Mapping and Profiler Suite Nadir Mapper (OMPS-NM) on board the Suomi-NPP satellite. *Atmospheric Measurement Techniques* 17, 2873–2916. <https://doi.org/10.5194/amt-17-2873-2024>
- (34) Conway, E.K., **Souri, A.H.**, Benmergui, J., Sun, K., Liu, X., Staebell, C., Chan Miller, C., Franklin, J., Samra, J., Wilzewski, J., Roche, S., Luo, B., Chulakadabba, A., Sargent, M., Hohl, J., Daube, B., Gordon, I., Chance, K., Wofsy, S., 2024. Level0 to Level1B processor for MethaneAIR.

Atmospheric Measurement Techniques 17, 1347–1362.

<https://doi.org/10.5194/amt-17-1347-2024>

- (33) Chulakadabba, A., Sargent, M., Lauvaux, T., Benmergui, J.S., Franklin, J.E., Chan Miller, C., Wilzewski, J.S., Roche, S., Conway, E., **Souri, A.H.**, Sun, K., Luo, B., Hawthorne, J., Samra, J., Daube, B.C., Liu, X., Chance, K., Li, Y., Gautam, R., Omara, M., Rutherford, J.S., Sherwin, E.D., Brandt, A., Wofsy, S.C., 2023. Methane point source quantification using MethaneAIR: a new airborne imaging spectrometer. *Atmospheric Measurement Techniques* 16, 5771–5785. <https://doi.org/10.5194/amt-16-5771-2023>
- (32) **Souri, A.H.**, Kumar, R., Chong, H., Golbazi, M., Knowland, K.E., Geddes, J., Johnson, M.S., 2023. Decoupling in the vertical shape of HCHO during a sea breeze event: The effect on trace gas satellite retrievals and column-to-surface translation. *Atmospheric Environment* 309, 119929. <https://doi.org/10.1016/j.atmosenv.2023.119929>
- (31) Kwon, H.-A., Abad, G.G., Nowlan, C.R., Chong, H., **Souri, A.H.**, Vigouroux, C., Röhlings, A., Kivi, R., Makarova, M., Notholt, J., Palm, M., Winkler, H., Té, Y., Sussmann, R., Rettinger, M., Mahieu, E., Strong, K., Lutsch, E., Yamanouchi, S., Nagahama, T., Hannigan, J.W., Zhou, M., Murata, I., Grutter, M., Stremme, W., De Mazière, M., Jones, N., Smale, D., Morino, I., 2023. Validation of OMPS Suomi NPP and OMPS NOAA-20 Formaldehyde Total Columns With NDACC FTIR Observations. *Earth and Space Science* 10, e2022EA002778. <https://doi.org/10.1029/2022EA002778>
- (30) Johnson, M.S., **Souri, A.H.**, Philip, S., Kumar, R., Naeger, A., Geddes, J., Judd, L., Janz, S., Chong, H., Sullivan, J., 2023. Satellite remote-sensing capability to assess tropospheric-column ratios of formaldehyde and nitrogen dioxide: case study during the Long Island Sound Tropospheric Ozone Study 2018 (LISTOS 2018) field campaign. *Atmospheric Measurement Techniques* 16, 2431–2454. <https://doi.org/10.5194/amt-16-2431-2023>
- (29) **Souri, A.H.**, Pan, S., Gan, L., Jung, J., Yu, W., Roy, A., Diao, L., Jeon, W., **Souri, A.H.**, Gao, H.O., Choi, Y., 2023. Quantifying the premature mortality and economic loss from wildfire-induced PM_{2.5} in the contiguous U.S. *Science of The Total Environment* 875, 162614. <https://doi.org/10.1016/j.scitotenv.2023.162614>, *Featured in theguardian, CBC, Houston Chronicle*
- (28) **Souri, A.H.**, Johnson, M.S., Wolfe, G.M., Crawford, J.H., Fried, A., Wisthaler, A., Brune, W.H., Blake, D.R., Weinheimer, A.J., Verhoelst, T., Compernelle, S., Pinardi, G., Vigouroux, C., Langerock, B., Choi, S., Lamsal, L., Zhu, L., Sun, S., Cohen, R.C., Min, K.-E., Cho, C., Philip, S., Liu, X., Chance, K., 2023. Characterization of errors in satellite-based HCHO/NO₂ tropospheric column ratios with respect to chemistry, column-to-PBL translation, spatial representation, and retrieval uncertainties. *Atmospheric Chemistry and Physics* 23, 1963–1986. <https://doi.org/10.5194/acp-23-1963-2023>

- (27) Jung, J., Choi, Y., **Souri, A.H.**, Mousavinezhad, S., Sayeed, A., Lee, K., 2022. The Impact of Springtime-Transported Air Pollutants on Local Air Quality With Satellite-Constrained NO_x Emission Adjustments Over East Asia. *Journal of Geophysical Research: Atmospheres* 127, e2021JD035251. <https://doi.org/10.1029/2021JD035251>
- (26) **Souri, A.H.**, Chance, K., Sun, K., Liu, X., Johnson, M.S., 2022. Dealing with spatial heterogeneity in pointwise-to-gridded- data comparisons. *Atmospheric Measurement Techniques* 15, 41–59. <https://doi.org/10.5194/amt-15-41-2022>
- (25) **Souri, A.H.**, Chance, K., Bak, J., Nowlan, C.R., González Abad, G., Jung, Y., Wong, D.C., Mao, J., Liu, X., 2021. Unraveling pathways of elevated ozone induced by the 2020 lockdown in Europe by an observationally constrained regional model using TROPOMI. *Atmospheric Chemistry and Physics* 21, 18227–18245. <https://doi.org/10.5194/acp-21-18227-2021>
- (24) Pouyaei, A., Sadeghi, B., Choi, Y., Jung, J., **Souri, A.H.**, Zhao, C., Song, C.H., 2021. Development and Implementation of a Physics-Based Convective Mixing Scheme in the Community Multiscale Air Quality Modeling Framework. *Journal of Advances in Modeling Earth Systems* 13, e2021MS002475. <https://doi.org/10.1029/2021MS002475>
- (23) **Souri, A.H.**, Nowlan, C.R., González Abad, G., Zhu, L., Blake, D.R., Fried, A., Weinheimer, A.J., Woo, J.-H., Zhang, Q., Chan Miller, C.E., Liu, X., Chance, K., 2020. An Inversion of NO_x and NMVOC Emissions using Satellite Observations during the KORUS-AQ Campaign and Implications for Surface Ozone over East Asia. *Atmospheric Chemistry and Physics* 20, 9837–9854. <https://doi.org/10.5194/acp-2020-220>
- (22) **Souri, A.H.**, Choi, Y., Kodros, J.K., Jung, J., Shpund, J., Pierce, J.R., Lynn, B.H., Khain, A., Chance, K., 2020. Response of Hurricane Harvey’s rainfall to anthropogenic aerosols: A sensitivity study based on spectral bin microphysics with simulated aerosols. *Atmospheric Research* 242, 104965. <https://doi.org/10.1016/j.atmosres.2020.104965>
- (21) **Souri, A.H.**, Wang, H., Abad, G.G., Liu, X., Chance, K., 2020. Quantifying the Impact of Excess Moisture From Transpiration From Crops on an Extreme Heat Wave Event in the Midwestern U.S.: A Top-Down Constraint From Moderate Resolution Imaging Spectroradiometer Water Vapor Retrieval. *Journal of Geophysical Research: Atmospheres* 125, e2019JD031941. <https://doi.org/10.1029/2019JD031941>
- (20) **Souri, A.H.**, Nowlan, C.R., Wolfe, G.M., Lamsal, L.N., Chan Miller, C.E., Abad, G.G., Janz, S.J., Fried, A., Blake, D.R., Weinheimer, A.J., Diskin, G.S., Liu, X., Chance, K., 2020. Revisiting the effectiveness of HCHO/NO₂ ratios for inferring ozone sensitivity to its precursors using high resolution airborne remote sensing observations in a high ozone episode during the KORUS-AQ campaign. *Atmospheric Environment* 117341. <https://doi.org/10.1016/j.atmosenv.2020.117341>
- (19) Jung, J., **Souri, A.H.**, Wong, D.C., Lee, S., Jeon, W., Kim, J., Choi, Y., 2019. The Impact of the Direct Effect of Aerosols on Meteorology and Air Quality Using Aerosol Optical Depth

- Assimilation During the KORUS-AQ Campaign. *Journal of Geophysical Research: Atmospheres* 124, 8303–8319. <https://doi.org/10.1029/2019JD030641>
- (18) 🌟 Kochanski, A.K., Mallia, D.V., Fearon, M.G., Mandel, J., **Souri, A.H.**, Brown, T., 2019. Modeling Wildfire Smoke Feedback Mechanisms Using a Coupled Fire-Atmosphere Model With a Radiatively Active Aerosol Scheme. *Journal of Geophysical Research: Atmospheres* 124, 9099–9116. <https://doi.org/10.1029/2019JD030558>, *Highlighted in JGR: Atmospheres, Featured in EOS, Science Daily, and Phys.org*
- (17) Wang, H., **Souri, A.H.**, González Abad, G., Liu, X., Chance, K., 2019. Ozone Monitoring Instrument (OMI) Total Column Water Vapor version 4 validation and applications. *Atmospheric Measurement Techniques* 12, 5183–5199. <https://doi.org/10.5194/amt-12-5183-2019>
- (16) Gonzalez Abad, G., **Souri, A.H.**, Bak, J., Chance, K., Flynn, L.E., Krotkov, N.A., Lamsal, L., Li, C., Liu, X., Miller, C.C., Nowlan, C.R., Suleiman, R., Wang, H., 2019. Five decades observing Earth's atmospheric trace gases using ultraviolet and visible backscatter solar radiation from space. *Journal of Quantitative Spectroscopy and Radiative Transfer* 238, 106478. <https://doi.org/10.1016/j.jqsrt.2019.04.030>
- (15) Kotsakis, A., Choi, Y., **Souri, A.H.**, Jeon, W., Flynn, J., 2019. Characterization of Regional Wind Patterns Using Self-Organizing Maps: Impact on Dallas–Fort Worth Long-Term Ozone Trends. *J. Appl. Meteor. Climatol.* 58, 757–772. <https://doi.org/10.1175/JAMC-D-18-0045.1>
- (14) 🌟 **Souri, A.H.**, Choi, Y., Pan, S., Curci, G., Nowlan, C.R., Janz, S.J., Kowalewski, M.G., Liu, J., Herman, J.R., Weinheimer, A.J., 2018. First Top-Down Estimates of Anthropogenic NO_x Emissions Using High-Resolution Airborne Remote Sensing Observations. *Journal of Geophysical Research: Atmospheres* 123, 3269–3284. <https://doi.org/10.1002/2017JD028009>
- (13) Jeon, W., Choi, Y., **Souri, A.H.**, Roy, A., Diao, L., Pan, S., Lee, H.W., Lee, S.-H., 2018. Identification of chemical fingerprints in long-range transport of burning induced upper tropospheric ozone from Colorado to the North Atlantic Ocean. *Science of The Total Environment* 613–614, 820–828. <https://doi.org/10.1016/j.scitotenv.2017.09.177>
- (12) 🌟 **Souri, A. H.**, Choi, Y., Jeon, W., Kochanski, A.K., Diao, L., Mandel, J., Bhave, P.V., Pan, S., 2017. Quantifying the Impact of Biomass Burning Emissions on Major Inorganic Aerosols and Their Precursors in the U.S. *Journal of Geophysical Research: Atmospheres* 122, 12,020-12,041. <https://doi.org/10.1002/2017JD026788>
- (11) 🌟🌟 **Souri, A. H.**, Choi, Y., Jeon, W., Woo, J.-H., Zhang, Q., Kurokawa, J., 2017. Remote sensing evidence of decadal changes in major tropospheric ozone precursors over East Asia. *Journal of Geophysical Research: Atmospheres* 122, 2474–2492. <https://doi.org/10.1002/2016JD025663>, *Featured in JGR and NSM.*
- (10) Diao, L., Choi, Y., Czader, B., Li, X., Pan, S., Roy, A., **Souri, A.H.**, Estes, M., Jeon, W., 2016. Discrepancies between modeled and observed nocturnal isoprene in an urban environment and

- the possible causes: A case study in Houston. *Atmospheric Research* 181, 257–264.
<https://doi.org/10.1016/j.atmosres.2016.07.009>
- (9) Jeon, W., Choi, Y., Percell, P., **Souri, A.H.**, Song, C.-K., Kim, S.-T., Kim, J., 2016. Computationally efficient air quality forecasting tool: implementation of STOPS v1.5 model into CMAQ v5.0.2 for a prediction of Asian dust. *Geoscientific Model Development* 9, 3671–3684.
<https://doi.org/10.5194/gmd-9-3671-2016>
- (8) ♣ **Souri, A.H.**, Choi, Y., Li, X., Kotsakis, A., Jiang, X., 2016. A 15-year climatology of wind pattern impacts on surface ozone in Houston, Texas. *Atmospheric Research* 174–175, 124–134.
<https://doi.org/10.1016/j.atmosres.2016.02.007>
- (7) ♣ **Souri, A.H.**, Choi, Y., Jeon, W., Li, X., Pan, S., Diao, L., Westenbarger, D.A., 2016. Constraining NO_x emissions using satellite NO₂ measurements during 2013 DISCOVER-AQ Texas campaign. *Atmospheric Environment* 131, 371–381. <https://doi.org/10.1016/j.atmosenv.2016.02.020>
- (6) Diao, L., Roy, A., Czader, B., Pan, S., Jeon, W., **Souri, A.H.**, Choi, Y., 2016. Modeling the effect of relative humidity on nitrous acid formation in the Houston area. *Atmospheric Environment* 131, 78–82. <https://doi.org/10.1016/j.atmosenv.2016.01.053>
- (5) Pan, S., Choi, Y., Roy, A., Li, X., Jeon, W., **Souri, A.H.**, 2015. Modeling the uncertainty of several VOC and its impact on simulated VOC and ozone in Houston, Texas. *Atmospheric Environment* 120, 404–416. <https://doi.org/10.1016/j.atmosenv.2015.09.029>
- (4) ♣ Choi, Y., **Souri, A.H.**, 2015. Chemical condition and surface ozone in large cities of Texas during the last decade: Observational evidence from OMI, CAMS, and model analysis. *Remote Sensing of Environment* 168, 90–101. <https://doi.org/10.1016/j.rse.2015.06.026>
- (3) ♣ Sharifi, M.A., **Souri, A.H.**, 2015. A hybrid LS-HE and LS-SVM model to predict time series of precipitable water vapor derived from GPS measurements. *Arab J Geosci* 8, 7257–7272.
<https://doi.org/10.1007/s12517-014-1716-0>
- (2) ♣ **Souri, A.H.**, Vajedian, S., 2015. Dust storm detection using random forests and physical-based approaches over the Middle East. *J Earth Syst Sci*, 124, 1127–1141.
<https://doi.org/10.1007/s12040-015-0585-6>
- (1) ♣ Choi, Y., **Souri, A.H.**, 2015. Seasonal behavior and long-term trends of tropospheric ozone, its precursors and chemical conditions over Iran: A view from space. *Atmospheric Environment* 106, 232–240. <https://doi.org/10.1016/j.atmosenv.2015.02.012>

Professional Memberships, Awards, Honors

American Geophysical Union

American Meteorological Society

TEMPO Group Achievement Award, 2020, Awarded by NASA

Outstanding Academic Achievement in Atmospheric Sciences, 2017, University of Houston: for maintaining high GPA and publishing numerous papers during the academic year.

Outstanding Academic Achievement in Atmospheric Sciences, 2016, University of Houston: for maintaining a high GPA and publishing numerous papers during the academic year.

Presidential Fellowship, 2015, University of Houston: for having a strong CV among Ph.D. applicants.

Professional Community Service

Proposals Review Panel: NASA

Journal Article Reviewer (55 papers): *Nature Communication, Geophysical Research Letter, Journal of Geophysical Research: Atmospheres, Atmospheric Chemistry and Physics, Atmospheric Environment, Atmospheric Research, Environmental Science and Technology, Scientific Reports, Remote Sensing, Remote Sensing Letters, International Journal of Remote Sensing, Asia-Pacific Journal of Atmospheric Sciences, Elementa: Science of the Anthropocene, Atmospheric Pollution Research, Arabian Journal of Geosciences, Resources, Conservation, and Recycling.*

Conferences, Meetings, and Symposia

• Invited

Souri, A. et al., Classification of Daylight HCHO Hourly Variability Across North America and Comparison Against WRF-CMAQ: Insights from TEMPO's First Growing Season in 2024, TEMPO/ACX DART meeting, Iowa City, Iowa, June 2026

Souri, A., Gonzalez Abad, G., Duncan, B., and Oman, L.: Two Decades from Space: Satellite-Constrained Parameterization Delivers Computationally Efficient Global Ozone Production Rates and Sensitivity Records, EGU General Assembly 2026, Vienna, Austria, 3–8 May 2026, EGU26-3172, <https://doi.org/10.5194/egusphere-egu26-3172>, 2026.

Johnson, M.S., Jung, J., **Souri, A.H.**, Kumar, R., 2025. Improved Assessment of Recent Trends in NO_x and VOC Emissions and Ozone Production Sensitivity Regimes Using Satellite Data (Invited Presentation). Presented at the 105th AMS Annual Meeting, New Orleans.

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Bryan Duncan, NASA GSFC: bryan.n.duncan@nasa.gov

Matthew Johnson, NASA AMES: matthew.s.johnson@nasa.gov

Gonzalo Gonzalez Abad, SAO: ggonzalezabad@cfa.harvard.edu

Caroline Nowlan, SAO: cnowlan@cfa.harvard.edu

Steven Wofsy, Harvard University: swofsy@seas.harvard.edu

Yunsoo Choi, UofH: ychoi6@uh.edu