

R. BRADLEY PIERCE

PhD — Physical Scientist Leader

Scientific leader with 20+ years of experience leading large-scale research efforts with multidisciplinary teams. Extensive experience with observation, analysis, and prediction of the chemistry and dynamics of the Earth's atmosphere using a broad range of observational systems and theoretical approaches. Sharp communicator, skilled at leading geographically diverse scientific and technical teams while managing research activities and programs to meet national goals and uncovering new research and funding opportunities.

EDUCATION

Doctor of Philosophy (PhD) in Meteorology — University of Wisconsin-Madison, WI

Master of Science (MS) in Meteorology — University of Wisconsin-Madison, WI

Bachelor of Science (BS) in Physics — University of Wisconsin-River Falls, WI

Bachelor of Science (BS) in Mathematics — University of Wisconsin-River Falls, WI

PROFESSIONAL EXPERIENCE

NOAA/NESDIS, Center for Satellite Applications and Research (STAR), Madison, WI May 2007 – Present
Cooperative Institute for Meteorological Satellite Studies (CIMSS)

Physical Scientist, Advanced Satellite Products Branch | Principal Investigator

Lead large-scale scientific research efforts/projects and provide vision for research while accommodating diverse stakeholders, range of activities/research within the physical sciences to match national goals, and research initiatives. Accountable for success of projects and administrative functions of day-to-day activities. Establish and implement policies, procedures, short- and long-term research, and outreach goals; address and manage funding and budgets. Communicate and present to stakeholders progress, activities/tasks, and opportunities.

- Led design, development, and utilization of Real-time Air Quality Modeling System (RAQMS), a global meteorological and chemical modeling system developed for assimilating satellite observations of atmospheric chemical and aerosol composition and predicting global air quality.
 - RAQMS has been used for numerous NASA, NOAA, and NSF airborne field campaigns, regional air quality impact studies, and international assessment activities. RAQMS chemistry is currently being adapted for operational chemical weather prediction.
- Honored to contribute to operational satellite programs with NOAA Administrator's Award in 2016 for: *"providing robust, real-time, simulated data of the next generation geostationary satellite imagers, reducing risk in post-launch operations."*
 - Oversaw development and delivery of real-time simulated geostationary satellite observations for use in end-to-end testing of the NOAA GOES-R Ground System and National Weather Service Advanced Weather Interactive Processing System (AWIPS) prior to launch of the NOAA GOES-16 satellite.
- Designed, developed, and executed first satellite-based, global chemical and aerosol reanalysis attempted within US; reanalysis provided comprehensive dataset describing global distribution of trace gases and aerosols for assessing global air quality.
 - Served as development path for operational chemical and aerosol assimilation/forecasting within the US by following the path established by the Copernicus Atmosphere Monitoring Service, now operational at European Center for Medium Range Weather Forecasting (ECMWF).
- Served as Lead Scientist/Project Manager on 6 and Co-lead on 2 major projects totaling \$7M+.
- Member of 7 NASA Science Teams, 7 NOAA, EPA Working Groups, and 3 NASA/NOAA Steering Committees.
- Advised 4 PhD students and 2 MS students as Research Advisor, and committee member for PhD students.

Physical Scientist, Advanced Satellite Products Branch | Principal Investigator —STAR Continued

- Directed team of 40+scientists from NASA, NOAA, EPA, UW-Madison, University of Iowa, University of Minnesota, Wisconsin Department of Natural Resources (WDNR), and Lake Michigan Air Directors Consortium (LADCO) in planning and execution of 2017 Lake Michigan Ozone Study (LMOS2017).
— Designed campaign to collect field measurements to improve LADCO and EPA modeling in support of State Implementation Planning and addressed persistent violations of the ozone National Ambient Air Quality Standard in the coastal communities around Lake Michigan.
- Co-Led team of NASA, NOAA, NSF, and University scientists in conducting chemical Observation System Simulation Experiments (OSSEs); demonstrated impact of assimilation of hyper-spectral geostationary ozone retrievals on regional air quality predictions in support of NASA's GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Mission Studies –one of the earth observation missions recommended by Nat'l Research Council 2007 Decadal Survey.
— Presented results at international Chemical OSSE workshop hosted by ECMWF.

Major Projects: Served as Scientific Project Lead (Lead) or Scientific Co-Lead (Co-lead).

- **Lead:** Proxy Data for Real-time GOES-R Advanced Baseline Imager (ABI) algorithm testing and ground system validation;9-member team from UW-Madison SSEC; **Total Funding** (FY10-FY16) \$2.4M; **Funding Source:** NOAA GOES-R Algorithm Working Group.
- **Co-lead:** GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Urban Observation System Simulation Experiment (OSSE) activities; 8-member team geographically dispersed at UW-Madison SSEC, NASA Jet Propulsion Laboratory (JPL), NASA Goddard Space Flight Center, National Center for Atmospheric Research (NCAR), NASA Ames Research Center, and University of Alabama-Huntsville;**Total Funding:**(FY13-FY18) \$1.27M;**Funding Source:** NASA GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Mission Studies.
- **Lead:** 2017 Lake Michigan Ozone Study (LMOS 2017);Team: 40+ participants–principle investigators from NASA, NOAA, EPA, UW-Madison, UW-Eau Claire, University of Iowa, University of Northern Iowa, University of Minnesota, Scientific Aviation; **Stakeholders:** Lake Michigan Air Directors Consortium (LADCO), WI Department of Natural Resources, IL Environmental Protection Agency, MI Department of Environmental Quality, Electric Power Research Institute; **Total Funding:**(FY17) \$1.3M; **Funding Sources:** NOAA GOES-R Program Office, NASA Airborne Science and GEOstationary Coastal and Air Pollution Events (GEO-CAPE) Mission Studies, EPA Office of Research and Development, National Science Foundation (University Research Groups), and Lake Michigan Air Directors Consortium, Electric Power Research Institute.
- **Lead:** Development of reduced troposphere/stratosphere chemistry algorithms for the NOAA Next Generation Global Prediction System (NGGPS);4-member team from UW-Madison SSEC, NOAA Environmental Modeling Center (EMC) Collaboratorand EMC contract support; **Total Funding:** (FY16-FY18) \$775K; **Funding Source:** NOAA Office of Oceanic and Atmospheric Research (OAR) Research Transition Acceleration Program (RTAP).
- **Lead:** Aura Chemical Reanalysis in support Air Quality Applications; 2-member team; **Total Funding:** (FY14-FY16) \$424K; **Funding Source:** NASA Applied Science Program.
- **Lead:** High Resolution Trajectory-Based Smoke Forecasts using VIIRS Aerosol Optical Depth and NUCAPS Carbon Monoxide Retrievals; 4-member team: UW-Madison SSEC and Science and Technology Corporation (STC) plus, 4 collaborators at NOAA National Weather Service, NOAA National Environmental Satellite, Data, and Information Service, EPA, and STC;**Total Funding:** (FY15-17) \$390K; **Funding Source:** NOAA Joint Polar Satellite System Proving Ground and Risk Reduction

Physical Scientist, Advanced Satellite Products Branch | Principal Investigator — STAR Continued

- **Lead:** Tropospheric Emissions: Monitoring of Pollution (TEMPO) Science Team Air Quality Modeling and Data Assimilation; 2-member team—UW-Madison SSEC; **Total Funding:** (FY13-FY21) \$203K; **Funding Source:** NASA Earth Venture Program
- **Co-lead:** Improved National Emissions Inventory NOx emissions using OMI Tropospheric NO2 retrievals and Potential Impacts on Air Quality Strategy Development; 23-member team—principle investigators from UW-Madison Nelson Institute, UW-Madison SSEC, George Mason University, Georgia Tech, US Forest Service, and University of Colorado; **Stakeholders:** NOAA Air Resources Laboratory, NOAA National Weather Service, NOAA Earth Systems Research Laboratory, EPA Office of Air Quality Planning and Standards, Center for Disease Control and Prevention, Lake Michigan Air Directors Consortium; **Total Funding:** (FY17) \$283K; **Funding Source:** NASA Health and Air Quality Applied Science Team (HAQAST)

5-Year CIMSS Funding: Contributed to securing funding and building relations with diverse stakeholders.

- ❓ **FY17: \$827K** (NOAA GOES-R3 \$200K, NOAA GOES-R Product Validation \$105K, NOAA JPSS PGRR \$125K, NOAA AC4 FIREX: \$75K, NOAA RTAP: \$147K, NASA GEO-CAPE: \$75K, NASA HAQAST \$100K)
- ❓ **FY16: \$979K** (NOAA GOES-R AWG Proxy \$445K, NOAA GOES-R3 \$200K, NOAA JPSS PGRR \$125K, NASA Aura Science Team: \$134K, NASA GEO-CAPE: \$75K)
- ❓ **FY15: \$922K** (NOAA GOES-R AWG Proxy: \$593K, NOAA JPSS PGRR \$75K, NASA AQAST: \$44K, NASA Aura Science Team: \$145K, NASA GEO-CAPE: \$65K)
- ❓ **FY14: \$850K** (NOAA GOES-R AWG Proxy: \$593K, NASA AQAST: \$42K, NASA Aura Science Team: \$145K, NASA GEO-CAPE: \$70K)
- ❓ **FY13: \$766K** (NOAA GOES-R AWG Proxy: \$280K, NOAA GOES-R Cal/Val: \$301K, NASA AQAST: \$135K, NASA GEO-CAPE: \$50K)
- ❓ Developed and executed budgets over 8 fiscal years totaling \$6.15M.

NASA Langley Research Center (LaRC), Hampton VA

August 2000 – May 2007

Senior Research Scientist, Atmospheric Science Division

Led and participated in large-scale, national and international research programs. Served on committees and advisory boards, attended professional society affairs, and participated in other public activities representing NASA. Led research projects involving model development, new data analysis techniques, participation in field campaigns, and technology definition and implementation. Established research and outreach goals and objectives. Addressed funding needs, managed budgets, and led teams.

- ❓ Served in lead role in theory team for numerous NASA field missions, which contributed to being honored with 2003 NASA Exceptional Achievement Medal for outstanding contributions to the development of innovative techniques, which enhanced scientific interpretation of airborne measurements of atmospheric constituents.

Selected Individual and Group NASA Awards:

- ❓ NASA LaRC Superior Accomplishment Award for outstanding contributions to the success of the MODIS/AIRNow Intensive demonstration project.
- NASA LaRC Superior Accomplishment Award for outstanding success in establishing leadership roles for Langley in Earth Science Enterprise's national applications area of Aviation Safety, Energy Forecasting, and Air Quality Management.
- ❓ NASA LaRC Superior Accomplishment Award for outstanding performance in the establishment and development of the Infusing satellite Data into Environmental air quality Applications (IDEA) project.
- ❓ NASA LaRC Superior Accomplishment Award for outstanding performance in the development and utilization of the Regional Air Quality Modeling System (RAQMS).
- ❓ NASA Group Achievement Award for the SOLVE Science Team.

Selected Individual and Group NASA Awards — Continued

- ❑ NASA LaRC Superior Accomplishment Award for outstanding contributions during the Transport and Chemical Evolution over the Pacific (TRACE-P) Mission.
- ❑ NASA Group Achievement Award for the INTEX-NA Science Team.
- ❑ NASA Group Achievement Award in recognition of exceptional achievement in developing the highly successful air quality, aviation weather, and energy management applications for the earth science enterprise.

SCIENCE TEAMS | COMMITTEES | WORKING GROUP MEMBERSHIPS

- ❑ Member of the NASA Health and Air Quality Applied Science Team (HAQAST) (2017-Present)
- ❑ Member of the NOAA Next Generation Global Prediction System (NGGPS) Aerosol and Composition Team (2016-Present)
- ❑ Collaborator on UW2020 RECORDS: Reserve Energy Co-Optimization with Real-time Data from Satellites (2016-Present)
- ❑ Member of the NOAA Fire Influence on Regional and Global Environments Experiment (FIREX) Steering Committee (2015-Present)
- ❑ Member of the Lake Michigan Air Directors Consortium (LADCO) 2017 Lake Michigan Ozone Study (LMOS 2017) Steering Group (2015-Present)
- ❑ Member of the NOAA Joint Polar Satellite System (JPSS) Proving Ground (2014-Present)
- ❑ Member of the NASA Tropospheric Emissions: Monitoring of Pollution (TEMPO) Science Team (2013-Present)
- ❑ Member of the Task Force on Hemispheric Transport of Air Pollution Phase 2 (HTAP2) (2012-Present)
- ❑ Member of the NOAA Grid-point Statistical Interpolation (GSI) Review Committee (2012-Present)
- ❑ Member US EPA Stratospheric Intrusion Working Group (2012-Present)
- ❑ Member of the NASA/NOAA Joint Center for Satellite Data Assimilation (JCSDA) Atmospheric Composition Working Group (2010-Present)
- ❑ Member of the NASA Geostationary Coastal Ocean and Air Pollution Events (GEO-CAPE) Science Working Group (2009-Present)
- ❑ Member of the NOAA GOES-R Algorithm Working Group (AWG) (2008-Present)
- ❑ Member of the NASA Air Quality Applied Science Team (AQAAT) (2012-2016)
- ❑ Member of the NASA Aura Science Team (2014-2016)
- ❑ Member of the NSF Tropical Ocean Troposphere Exchange of Reactive halogen species and Oxygenated VOC (TORERO) Science Team (2012)
- ❑ Member of the NOAA Research at the Nexus of Air Quality and Climate Change (CalNex) Science Team (2010)
- ❑ Member of the NOAA Volcanic Ash Working Group (VAWG) Science Team (2009)
- ❑ Member of the NOAA Aerosol, Radiation, and Cloud Processes affecting Arctic Climate (ARCPAC) Science Team (2008)
- ❑ Member of the Committee on Earth Observation Satellites (CEOS) Atmospheric Chemistry Constellation (ACC) Global Fire and Aerosol Forecasting Demonstration (2007-2009)
- ❑ Member of the NOAA Texas Air Quality Study (TEXAQS) Science Team (2006)
- ❑ Member of the NASA Intercontinental Chemical Transport Experiment (INTEX-NA) Science Team (2004-2006)
- ❑ Member of the NASA Transport and Chemical Evolution over the Pacific (TRACE-P) Science Team (2001)
- ❑ Member of the NASA Stratospheric Aerosol and Gas Experiment (SAGE) III Ozone Loss and Validation Experiment (SOLVE) Science Team (2001)

SEMINARS | INVITED LECTURES

- Lecture “High-Resolution IDEA-I VIIRS/NUCAPS trajectory forecasts” at Fall AGU (2016)
- Lecture “JPSS Observations of Intercontinental Pollution and Atmospheric River Transport Processes during the 2016 NOAA El Niño Rapid Response (ENRR) Field Campaign” at Fall AGU (2016)
- Lecture “Regional O3 OSSEs for the GEO-CAPE Mission” at the Second Atmospheric Composition Observation System Simulation Experiments (OSSE) Workshop hosted by ECMWF (2016)
- Lecture “NOAA JPSS and GOES Fire Products” at the WMO International Global Atmospheric Chemistry (IGAC) Interdisciplinary Biomass Burning Initiative (IBBI) workshop (2016)
- Lecture “Development of an Aura Chemical Reanalysis in support Air Quality Applications” at the 2015 AGU Fall meeting (2015)
- Lecture “AQAST NOAA/NESDIS liaison highlights and planning for a future Great Lakes airborne mission” at the 2016 Midwest and Central States Air Quality Workshop (2016)
- Lecture “Satellite data, modeling, and planned field study for better characterising wildfire impacts (FIREX)” at the 2016 Midwest and Central States Air Quality Workshop (2016)
- Lecture “Evaluation of NUCAPS CO Retrieval and High-Resolution Smoke Trajectory Forecasting” at the 2016 NOAA JPSS Annual Meeting (2016)
- Lecture “Real-time aerosol data assimilation experiments during the 2014 FRAPPE/DISCOVER-AQ field mission” at the 2014 AGU Fall meeting (2014)
- Lecture “Real-time depiction of stratospheric intrusions in RAQMS/WRF-Chem” at the Western Region Air Quality Modeling Conference (2014)
- Lecture “Trans-boundary Ozone Pollution: A Global Chemical and Aerosol Data Assimilation Perspective” at the Transboundary Ozone Pollution Conference (2014)
- Lecture “Nested Global and Regional Scale Modeling of the Impacts of Intercontinental Pollution Transport and Stratospheric Intrusion on Surface Air Quality in the Western US” at the Meteorology And Climate Modeling for Air Quality (MAC-MAQ) Conference (2014)
- Lecture “Aerosol/Chemical Data Assimilation” Joint Center for Satellite Data Assimilation Colloquium (2012)
- Seminar “Real-time aerosol data assimilation experiments during the 2014 FRAPPE/DISCOVER-AQ field mission” UW AOS Colloquium (2011)
- Seminar “NOAA ARCPAC field campaign” Valparaiso University Physics Colloquium (2010)
- Seminar “NASA and NOAA airborne field campaigns” for AOS 405 senior student seminar (2010)
- Seminar “Adventures in NASA and NOAA Flight Campaigns” to the AOS 405 Senior Capstone Seminar (2009)
- Seminar “Air quality modeling and aerosol assimilation during the ARCPAC field mission” at the Michigan Technical University Remote Sensing Institute Remote Sensing Seminar Series (2009)
- Lecture “Constituent and Aerosol Assimilation” during the Joint Center for Satellite Data Assimilation Summer Colloquium (2009)
- Seminar “Real-Time Air Quality Modeling (RAQMS) Chemical and Aerosol Assimilation Studies during the 2008 NOAA Aerosol, Radiation and Cloud Processing affecting Arctic Climate (ARCPAC) field mission” at the 6th Annual CoRP Science Symposium (2009)
- Lecture “Forecast Improvement with Solar Occultation and Limb Scatter Data Assimilation” at the 4th International Atmospheric Limb Conference and Workshop (2007)

SEMINARS | INVITED LECTURES CONTINUED

- Seminar “Global Chemical Data Assimilation Studies During 2006 NASA INTEX-B and NOAA TEXAQS field missions” at NOAA Earth Systems Research Laboratory (2007)
- Seminar “Real-time Air Quality Modeling System” at NOAA Atmospheric Chemical Modeling Workshop (2007)
- Seminar “Chemical data assimilation for air quality forecasting” University of Wisconsin-Madison Department of Atmospheric And Oceanic Science Graduate Student Seminar (2007)

SELECTED RECENT PUBLICATIONS — PUBLISHED 100+ RESEARCH ARTICLES DURING CAREER**2017**

- Yates, E. L., Johnson, M. S., Iraci, L. T., Ryoo, J.-M., **Pierce, R. B.**, Cullis, P. D., ... Tanaka, T. (2017). An assessment of ground level and free tropospheric ozone over California and Nevada. *Journal of Geophysical Research: Atmospheres*, 122, 10,089–10,102, <https://doi.org/10.1002/2016JD026266>
- ❓ Langford, A. O.; Alvarex, R. J. II; Brioude, J.; Fine, R.; Gustin, M. S.; Lin, M. Y.; Marchbanks, R. D.; **Pierce, R. B.**; Sandberg, S. P.; Senff, C. J.; Weickmann, A. M., and Williams, E. J. Entrainment of stratospheric air and Asian pollution by the convective boundary layer in the southwestern US. *Journal of Geophysical Research-Atmospheres* v.122, no.2, 2017, pp1312-1337.
- ❓ Huang, M., Carmichael, G. R., **Pierce, R. B.**, Jo, D. S., Park, R. J., Flemming, J., Emmons, L. K., Bowman, K. W., Henze, D. K., Davila, Y., Sudo, K., Jonson, J. E., Tronstad Lund, M., Janssens-Maenhout, G., Dentener, F. J., Keating, T. J., Oetjen, H., and Payne, V. H. (2017), Impact of intercontinental pollution transport on North American ozone air pollution: an HTAP phase 2 multi-model study, *Atmos. Chem. Phys.*, 17, 5721-5750, <https://doi.org/10.5194/acp-17-5721-2017>, 2017.
- P. Zoogman, X. Liu, R.M. Suleiman, W.F. Pennington, D.E. Flittner, J.A. Al-Saadi, B.B. Hilton, D.K. Nicks, M.J. Newchurch, J.L. Carr, S.J. Janz, M.R. Andraschko, A. Arola, B.D. Baker, B.P. Canova, C. Chan Miller, R.C. Cohen, J.E. Davis, M.E. Dussault, D.P. Edwards, J. Fishman, A. Ghulam, G. González Abad, M. Grutter, J.R. Herman, J. Houck, D.J. Jacob, J. Joiner, B.J. Kerridge, J. Kim, N.A. Krotkov, L. Lamsal, C. Li, A. Lindfors, R.V. Martin, C.T. McElroy, C. McLinden, V. Natraj, D.O. Neil, C.R. Nowlan, E.J. O'Sullivan, P.I. Palmer, **R.B. Pierce**, M.R. Pippin, A. Saiz-Lopez, R.J.D. Spurr, J.J. Szykman, O. Torres, J.P. Veefkind, B. Veihelmann, H. Wang, J. Wang, K. Chance (2017), Tropospheric emissions: Monitoring of pollution (TEMPO), In *Journal of Quantitative Spectroscopy and Radiative Transfer*, Volume 186, 2017, Pages 17-39, ISSN 0022-4073, <https://doi.org/10.1016/j.jqsrt.2016.05.008>.
- Kuang, S., M. J. Newchurch, M.S. Johnson, L. Wang, J. Burris, **R. B. Pierce**, E. W. Eloranta, I.B. Pollack, M. Graus, J. de Gouw, C. Warneke, T. B. Ryerson, M. Z. Markovic, J. S., Holloway A. Pour-Biazar, G. Huang, X. Liu, N. Feng (2017), Summertime tropospheric ozone enhancement associated with a cold front passage due to stratosphere-to-troposphere transport and biomass burning: Simultaneous ground-based lidar and airborne measurements, *J. Geophys. Res. Atmos.*, 122, 1293–1311, [doi:10.1002/2016JD026078](https://doi.org/10.1002/2016JD026078).

2016

- Baukabara, et al. (including **Pierce, Bradley**). S4: An O2R/R2O infrastructure for optimizing satellite data utilization in NOAA numerical modeling systems. A step toward bridging the gap between research and operations. *Bulletin of the American Meteorological Society* v.97, no.12, 2016, pp2359–2378.
- ❓ Saide, P. E., G. Thompson, T. Eidhammer, A. M. da Silva, **R. B. Pierce**, and G. R. Carmichael (2016), Assessment of biomass burning smoke influence on environmental conditions for multi-year tornado outbreaks by combining aerosol-aware microphysics and fire emission constraints, *J. Geophys. Res. Atmos.*, 121, [doi:10.1002/2016JD025056](https://doi.org/10.1002/2016JD025056).

SELECTED RECENT PUBLICATIONS — CONTINUED

- Barbara Arvani, **R. Bradley Pierce**, Alexei I. Lyapustin, Yujie Wang, GraziaGhermandi, Sergio Teggi (2016), Seasonal monitoring and estimation of regional aerosol distribution over Po valley, northern Italy, using a high-resolution MAIAC product, *Atmos. Environ.* 141, 106-121, <http://dx.doi.org/10.1016/j.atmosenv.2016.06.037>
- Brunner, J., **Pierce, R. B.**, & Lenzen, A. (2016). Development and Validation of Satellite-Based Estimates of Surface Visibility. *Atmospheric Measurement Techniques*, 9(2), 409-422. [10.5194/amt-9-409-2016]
- Yuzo Miyazaki, Sean Coburn, Kaori Ono, David T. Ho, **R. Bradley Pierce**, Kimitaka Kawamura, Rainer Volkamer: Contribution of dissolved organic matter to submicron water-soluble organic aerosols in the marine boundary layer over the eastern equatorial Pacific. *Atmospheric Chemistry and Physics* 03/2016; DOI:10.5194/acp-2016-164
- L. L. Pan, E. L. Atlas, R. J. Salawitch, S. B. Honomichl, J. F. Bresch, W. J. Randel, E. C. Apel, R. S. Hornbrook, A. J. Weinheimer, D. C. Anderson, S. J. Andrews, S. Baidar, S. P. Beaton, T. L. Campos, L. J. Carpenter, D. Chen, B. Dix, V. Donets, S. R. Hall, T. F. Hanisco, C. R. Homeyer, L. G. Huey, J. B. Jensen, L. Kaser, D. E. Kinnison, T. K. Koenig, J-F Lamarque, C. Liu, J. Luo, Z.J. Luo, D. D. Montzka, J. M. Nicely, **R. B. Pierce**, D. D. Riemer, T. Robinson, P. Romashkin, A. Saiz-Lopez, S. Schauffler, O. Shieh, M. H. Stell, K. Ullmann, G. Vaughan, R. Volkamer, G. Wolfe: The Convective Transport of Active Species in the Tropics (CONTRAST) Experiment. *Bulletin of the American Meteorological Society* 03/2016; DOI:10.1175/BAMS-D-14-00272.1
- Pao Baylon, Daniel A Jaffe, **R Bradley Pierce**, Mae Sexauer Gustin: Inter-annual variability in baseline ozone and its relationship to surface ozone in the western U.S. *Environmental Science & Technology* 02/2016; DOI:10.1021/acs.est.6b00219
- Daniel C. Anderson, Julie M. Nicely, Ross J. Salawitch, Timothy P. Canty, Russell R. Dickerson, Thomas F. Hanisco, Glenn M. Wolfe, Eric C. Apel, Elliot Atlas, Thomas Bannan, Stephane Bauguitte, Nicola J. Blake, James F. Bresch, Teresa L. Campos, Lucy J. Carpenter, Mark D. Cohen, Mathew Evans, Rafael P. Fernandez, Brian H. Kahn, Douglas E. Kinnison, Samuel R. Hall, Neil R.P. Harris, Rebecca S. Hornbrook, Jean-Francois Lamarque, Michael Le Breton, James D. Lee, Carl Percival, Leonhard Pfister, **R. Bradley Pierce**, Daniel D. Riemer, Alfonso Saiz-Lopez, Barbara J.B. Stunder, Anne M. Thompson, Kirk Ullmann, Adam Vaughan, Andrew J. Weinheimer: A pervasive role for biomass burning in tropical high ozone/low water structures. *Nature Communications* 01/2016; 7. DOI:10.1038/ncomms10267

2015

- John T. Sullivan, Thomas J. McGee, Anne M. Thompson, **Robert B. Pierce**, Grant K. Sumnicht, Laurence W. Twigg, Edwin Eloranta, Raymond M. Hoff: Characterizing the Lifetime and Occurrence of Stratospheric-Tropospheric Exchange Events in the Rocky Mountain Region Using High-Resolution Ozone Measurements. *Journal of Geophysical Research Atmospheres* 12/2015; 120(24):n/a-n/a. DOI:10.1002/2015JD023877
- M. Huang, D. Tong, P. Lee, L. Pan, Y. Tang, I. Stajner, **R. B. Pierce**, J. McQueen, J. Wang: Toward enhanced capability for detecting and predicting dust events in the Western United States: the Arizona Case Study. *Atmospheric Chemistry and Physics* 11/2015; 15(21):12595-12610. DOI:10.5194/acp-15-12595-2015
- Wang, S-Y., J.A. Schmidt, S. Baidar, S. Coburn, B. Dix, T.K. Koenig, E.C. Apel, D. Bowdalo, T.L. Campos, E. Eloranta, M.J. Evans, J.P. diGangii, M.A. Zondlo, R-S. Gao, J.A. Haggerty, S.R. Hall, R.S. Hornbrook, D.J. Jacob, B. Morley, **B.R. Pierce**, M. Reeves, P.A. Romashkin, A terSchure, and R. Volkamer, Active and Widespread Halogen Chemistry in the Tropical and Subtropical Free Troposphere, *Proc. Natl. Acad. Sci.*, Published online June 29, 2015, doi: 10.1073/pnas.1505142112.
- Langford, A.O., **R. B. Pierce**, and P. J. Schultz (2015), Stratospheric intrusions, the Santa Ana winds, and wildland fires in Southern California, *Geophys. Res. Lett.*, 42, 6091–6097, doi:10.1002/2015GL064964

SELECTED RECENT PUBLICATIONS — CONTINUED

- ❓ Thomas J. Greenwald, **R. Bradley Pierce**, Todd Schaack, Jason Otkin, Marek Rogal, Kaba Bah, Allen Lenzen, Jim Nelson, Jun Li, Hung-Lung Huang: Real-Time Simulation of the GOES-R ABI for User Readiness and Product Evaluation. *Bulletin of the American Meteorological Society* 05/2015; DOI:10.1175/BAMS-D-14-00007.
- ❓ B. Arvani, **R. B. Pierce**, A. I. Lyapustin, Y. Wang, G. Ghermandi, S. Teggi: High spatial resolution aerosol retrievals used for daily particulate matter monitoring over Po valley, northern Italy. *Atmospheric Chemistry and Physics* 01/2015; 15(1):123-155. DOI:10.5194/acpd-15-123-2015
- Saide, P. E., S. N. Spak, **R. B. Pierce**, J. A. Otkin, T. K. Schaack, A. K. Heidinger, A. M. da Silva, M. Kacenelenbogen, J. Redemann, G. R. Carmichael (2015), Central American biomass burning smoke can increase tornado severity in the U.S. *Geophysical Research Letters*, Volume 42, Issue 3, pages 956–965, 16 February 2015 DOI: 10.1002/2014GL062826

2014

- ❓ Rebekka Fine, Matthieu B Miller, Joel Burley, Daniel A Jaffe, **R Bradley Pierce**, Meiyun Lin, Mae Sexauer Gustin: Variability and sources of surface ozone at rural sites in Nevada, USA: Results from two years of the Nevada Rural Ozone Initiative. *Science of The Total Environment* 12/2014; 530. DOI:10.1016/j.scitotenv.2014.12.027
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