

SUNDAR A. CHRISTOPHER

*Professor, Department of Atmospheric Science
Director, Institute of Remote Sensing of Applications
The University of Alabama in Huntsville*

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EDUCATION

Ph. D. (Atmospheric Science), Colorado State University, 1995
M.A. (Industrial/Organizational Psychology), University of Alabama in Huntsville, 2002
M.S. (Meteorology), South Dakota School of Mines and Technology, 1989
B.E. (Mechanical Engineering), PSG College of Technology-Madras University, India, 1985

PROFESSIONAL EXPERIENCE

The University of Alabama in Huntsville (UAH)

Professor, 2007-Current

Director, Institute of Remote Sensing Applications, 2010-Current

Dean, College of Science, 2014-2019

Chair, Department of Atmospheric Science, 2010-2014

Associate Director, Earth System Science Center, 2007-2014

Associate Professor, 2001-2007

Assistant Professor, 1997-2001

South Dakota School of Mines and Technology

Assistant Professor (1995-1997)

Research Scientist (1994-1995)

ADMINISTRATIVE LEADERSHIP

Director, Institute of Remote Sensing Applications (IRSA), 2010-current

- Currently manage a multi-million dollar effort for NASA MSFC called Interagency Implementation for Advanced Concepts (IMPACT) with a research team of more than 25 scientists.
- Work with federal agencies to conduct research on air quality and climate
- Develop initiatives to increase funding for the Earth System Science Center at UAH.
- Develop interdisciplinary research ideas in Earth and Atmospheric Science for current and next generation of scientists and early career professionals.

Dean, College of Science, 2014-2019

- Provided leadership for seven departments with undergraduate and graduate programs
- Managed fiscal affairs of college with a \$15M+ budget
- Developed initiatives for increasing recruitment and retention of students

- Hired and retained diverse faculty
- Raised funds for College
- Developed student success initiatives
- Led research initiatives for the College

Specific achievements include

- Managed increased enrollment of undergraduate and graduate students
- Developed and implemented a successful collaborative learning framework for increasing student success
- Increased giving for College
- Worked with NASA partners to increase research collaborations and funding
- Developed and implemented a First Year Experience Course for incoming freshmen to increase student retention
- Led the search process for a successful College of Business Dean Search
- Increased retention and persistence rate of students

*As Dean there are numerous external and internal committee membership appointments including Member, Internal Huntsville Hospital Review Board
University Representative, USRA
University Member, National Center for Atmospheric Research (NCAR)*

Chair, Department of Atmospheric Science, 2010-2014

- Provided leadership for a department that offers a B.S. and M.S. in Earth System Science and a M.S. and Ph. D. in Atmospheric Science.
- Lead full-time and affiliate faculty members, along with approximately 75 undergraduate and 60 graduate students.
- Manage a department in a collaborative environment with NASA's Earth Sciences, the National Weather Service, USRA, and multiple laboratories, which are all housed at the National Space Science and Technology Center.
- Recruit and mentor new faculty members.
- Oversaw the department's doubling of undergraduate and graduate student enrollments since my appointment as chair.
- Balance the increasing student numbers with raising quality of curriculum at both undergraduate and graduate levels.
- Develop and implement clear and comprehensive policy guidelines for the department to ensure quality, consistency, and equity for students and faculty.
- Led the start a new graduate (M.S.) program in Earth System Science that emphasizes a research- to-decision-making paradigm by engaging departments in various colleges, including Liberal Arts, Sciences, Engineering, Business, and Nursing.
- Led the efforts to develop a memorandum of understanding between Baron Services and UAH.

Specific achievements include:

- Undergraduate and graduate curriculum development: Eliminated wasteful outsourcing by restructuring courses and scheduling thereby optimizing faculty workloads.
- Fund raising: Started a mechanism for corporate sponsors and friends of the department to give for departmental initiatives and student professional development.
- Raising visibility: Started an annual reception for alumni, faculty, staff and friends of the department at the American Meteorological Society convention.
- Recruitment and branding: Designed and developed student-led open houses for recruitment and promotional materials that illustrate our culture of excellence.
- Corporate Internships for students: Developed relationships with local industry partners that provided internship opportunities for students.
- Corporate sponsorships: Created a mechanism and worked with faculty to develop corporate sponsorship for showcasing research instrumentation at annual conventions.
- Departmental internship: Worked with Dean and Provost and created a GIS/Remote Sensing internship in the department.
- Research abroad program: Developed a research and study abroad program that enables students to conduct research in Panama by collaborating with several organizations in Panama such as CATHALAC.
- New graduate student initiatives: Developed the first graduate student supervised teaching program for senior PhD students interested in developing a teaching portfolio towards an academic career.
- Community service: Developed the first high school GIS/Remote Sensing program for teachers and AP students.

Associate Director, Earth System Science Center (ESSC) (2007-2014)

- Assist the ESSC Director in infrastructure and personnel management.
- Develop vision for new research opportunities.
- Facilitate submission of proposal process for center researchers.
- Serve as liaison between academic department and research center.
- Engage NOAA, NASA, USRA partners at the National Space Science and Technology Center to work on collaborative projects.
- Work with UAH Office of Vice President of Research and NASA's leadership to facilitate research funding through cooperative agreements.
- Communicate success of the center to various stake holders.

OTHER PROFESSIONAL EXPERIENCE:

Visiting Scientist, United Kingdom Meteorological Office (Summer 2012, 2011, 2008, 2006)

Visiting Scientist, Rostock University, Rostock, Germany (Summer 2012)

Visiting Scientist, Space & Naval Warfare Systems Command, San Diego, CA (Summer 2001)

Visiting Scientist, CIRA/CSU, Colorado State University, Fort Collins, CO (Summer 2000)

DISTINCTIONS

Group Achievement Award (CERES), 2007, NASA

Research and Creative Achievement Award, 2006, UAH

Gordon Godfrey Fellowship, 2004-2005, University of New South Wales, Sydney, Australia

New Investigator Award, 1996-1999, NASA
Fellowship in Global Climate Change Research, 1992-1993, NASA
Satellite and Other Science Team Selection (MODIS, CERES, ERBE, TOMS, SCARAB,
NASA IDS, CALIPSO, GACP)
Chair, NASA GEWEX Aerosol Panel
Member, Climate Change Science Panel

PROFESSIONAL MEMBERSHIPS

American Meteorological Society
American Association for the Advancement of Science
American Geophysical Union

COURSES TAUGHT

Satellite Remote Sensing I	Atmospheric Radiative Transfer
Satellite Remote Sensing II	Critical Thinking Skills for Satellite Applications
Professional Development	First Year Experience for Freshmen
Aerosol Remote Sensing	Data Fusion for Climate and Air Quality Applications
GIS and Remote Sensing	Physical Climatology
	First year Experience (FYE)

STUDENTS MENTORED

Ph. D.: Zhixin Xue, Ian Chang, Nan Feng, Pawan Gupta, Aaron Naeger, Falguni Patadia, Jun Wang, Jianglong Zhang.

M.S.: Melinda Pullman, Rebecca Kollmeyer, Garrett Layne, Zhixin Xue, Ian Chang, Eric Dobbs, Jonathan Fairman, Nan Feng, Africa Flores, Pawan Gupta, Praju K., Sandy LaCorte, Shay Liu, Falguni Patadia, Priya Pillai, Danqing Qi, Amit Seth, Madhur Sud, Steve Supercynski, Jun Wang, Rohan Zanje, Jianglong Zhang, Kristine Barbieri

B.S.: David Ashley, Sarah Barbre, Casey Calamaio, Zac Langford, Zachary Mahafza

SERVICE AT UAH

Faculty Senate	Representative, NASULGC
University Research Council	
CATHALAC Investment Board	Strategic Planning Committee for Research
Rostock Investment Board	Committee for Dean Evaluation
Committee for STEM Initiatives	Interview committee for VP for Research
Executive Council of Chairs	Interview committee for Provost

Strategic Planning and Hiring Committee
Promotion and Tenure Committee

Search Committee for Graduate Dean

EXTERNAL SERVICE

Associate Editor, Journal of Applied Meteorology and Climatology
Expert reviewer, Climate Change Science Panel
Climate Change Science Program (CCSP) panel - Aerosols and Climate
Member, University Working Group Langley DAAC
Editorial Board, Science domain *International*, British J. of Environment and Climate Change
Proposal Reviewer for National Science Foundation, NASA, DOE, Canadian Space Agency,
Qatar National Foundation, United Kingdom proposals and Australian Research Council
Reviewer for various journals including J. of Applied Meteorology, Geophysical Research,
Science, Nature, International J. Remote Sensing, Remote Sensing of Environment, Air and
Waste Management Association, IEEE, Atmospheric Research
External Reviewer for UMBC Physics department

INVITED TALKS

American Meteorological Society, Annual Conference
American Meteorological Society, Annual Student Conference
American Association for Aerosol Research
American Geophysical Union, Annual Conference at various sessions
Graz Symposium on Space Sciences, Graz, Austria
World Federation of Scientists, Erice, Sicily
Goddard Space Flight Center
Osher Institute of Lifelong Learning
University of Wisconsin, Madison
University of Nebraska, Lincoln
Colorado State University, Fort Collins
Australian Meteorological Society
United Kingdom Meteorological Office
University of New South Wales Sydney
National Remote Sensing Agency, India
American Association for Aerosol Research
Indian Institute of Science, Bangalore, India
University of Wisconsin, Madison
Texas A&M
National Remote Sensing Agency, India
Lead presenter for American Geophysical Union press conference in San Francisco.
Session chair for multiple sessions at the American Geophysical Union AGU conferences

GRANTS AND CONTRACTS

Over \$30M in grants and contracts. Available upon request.

BOOK(S)

Christopher, S.A. (2011), *Navigating Graduate School and Beyond, A Career Guide for Graduate Students and a Must Read for Every Advisor*. American Geophysical Union, available through Wiley.

Christopher, S.A. (2019), *Navigating Tenure and Beyond : A Guide for Early Career Faculty*, Chicago Press.

BOOK CHAPTERS

Christopher, S.A. (2012), Satellite Remote Sensing of Global Air Quality. N. Bin (Ed.), In *Environmental Remote Sensing and systems Analysis* (pp. 479-489). Boca Raton, FL: CRC Press.

Christopher, S.A. and Caudill, K. (2012), Preparing Young faculty advisers of graduate research assistants, *In Department Chair*, 23 Jul 2012, DOI: 10.1002/dch.20047, Wiley.

Christopher, S.A., D.V. Kiche, and R. M. Welch (1996), AVHRR and ERBE investigations of biomass burning in the tropics, *Global Biomass Burning*, Ed, J.S. Levine, MIT Press.

PEER-REVIEWED JOURNAL PAPERS (conference papers are not listed)

1. Pullman, M., M. Maskey, R. Ramachandran, S.A. Christopher, I. Gurung, 2019: Applying Deep Learning to Hail Detection: A Case Study, *IEEE Trans. on Geoscience and Remote Sensing*, in press.
2. Contreras, A., J. Zhang, J. Reid, and, S.A. Christopher, A Study of the Longer Term Variation of Aerosol Optical Thickness and Direct Shortwave Aerosol Radiative Effect Trends Using MODIS and CERES, *Atmos. Chem. Phys.*, 17, 13849–13868, 2017 <https://doi.org/10.5194/acp-17-13849-2017>
3. Kaulfus, A. S., U. Nair, D. A. Jaffe, S. Christopher, and S. Goodrick, 2017: Biomass burning smoke climatology of the United States: Implications for particulate matter air quality. *Environ. Sci. Technol.*, doi:10.1021/acs.est.7b03292
4. Chang, Y.Y., S.A. Christopher, The impact of the vertical distribution of absorbing aerosols and clouds on the direct radiative forcing and radiative heating rates, *Quarterly Journal of the Royal Meteorological Society*, 143(704), 1395–1405. <https://doi.org/10.1002/qj.3012> .
5. Chang, Y.Y., and S.A. Christopher, Identifying Aerosols above Clouds using the Spinning Enhanced Visible and Infrared Imager, *IEEE Transactions on Geoscience and Remote Sensing*, 54(6), 3163-3173, 2016

6. Feng, N., and S. A. Christopher (2015), Measurement-based estimates of direct radiative effects of absorbing aerosols above clouds. *J. Geophys. Res. Atmos.*, 120, 6908–6921. doi: [10.1002/2015JD023252](https://doi.org/10.1002/2015JD023252).
7. Guo, Y., N. Feng, S.A. Christopher, S. Hong, P. Kong, Estimation of fine particulate matter air quality over Beijing using satellite measurements, *International Journal of Remote Sensing*, 35(17), 2014
8. Feng, N., and S.A. Christopher, Clear sky direct radiative effects of aerosols over Southeast Asia based on satellite observations and radiative transfer calculations, 152, 333-344, 2014.
9. Christopher, S. A. (2014), Simulation of GOES-R ABI aerosol radiances using WRF-CMAQ: a case study approach, *Atmospheric Chemistry and Physics Discussions*, 13, 18713-18748, doi:10.5194/acpd-13-18713-2014.
10. Naeger, A. R. and S. A. Christopher (2014), The identification and tracking of volcanic ash using the Meteosat Second Generation (MSG) Spinning Enhanced Visible and Infra-Red Imager (SEVIRI), *Atmospheric Measurement Techniques Discussions*, 6, 5577-5619.
11. Patadia, F., and S.A. Christopher (2014), Assessment of Smoke Shortwave Radiative Forcing using Empirical Angular Distribution Models, *Remote Sensing of Environment*, 140, 233-240.
12. Naeger, A. R., S. A. Christopher, R. Ferrare, and Z. Liu (2013), A new technique using infrared satellite measurements to improve the accuracy of the CALIPSO cloud-aerosol discrimination method, *IEEE Transactions on Geoscience and Remote Sensing*, 51(1), 642-653.
13. Fisher, A., A. Frendi, and S. A. Christopher (2013), Using satellite remote sensing to monitor rocket launch induced pollution, *International Journal of Remote Sensing*, 34(1), 60-72.
14. Feng, N., and S. A. Christopher (2013), Satellite and surface-based remote sensing of Southeast Asian aerosols and their radiative effects, *Atmospheric Research*, 122, 544-554.
15. Reid, J. S., et al. (2013), Observing and understanding the Southeast Asian aerosol system by remote sensing: An initial review and analysis for the Seven Southeast Asian Studies (7SEAS) program, *Atmospheric Research*, 122, 403-468.
16. Huff, A. K., R. M. Hoff, S. Kondragunta, H. Zhang, P. Ciren, C. Xu, S. Christopher, E. S. Yang, and J. Szykman (2012), The NOAA air quality proving ground: Preparing the air quality community for next-generation products from the GOES-R satellite, *EM: Air and Waste Management Association's Magazine for Environmental Managers* (November), 32-37.
17. Superczynski, S. D., and S. A. Christopher (2011), Exploring land use and land cover effects on air quality in Central Alabama using GIS and remote sensing, *Remote Sensing*, 3(12), 2552-2567.

18. Haywood, J. M., et al. (2011), Motivation, rationale and key results from the GERBILS Saharan dust measurement campaign, *Quarterly Journal of the Royal Meteorological Society*, 137(658), 1106-11.
19. Christopher, S. A. (2011), Satellite remote sensing methods for estimating clear Sky shortwave Top of atmosphere fluxes used for aerosol studies over the global oceans, *Remote Sensing of Environment*, 115(12), 3002-3006.
20. Christopher, S. A., P. Gupta, B. Johnson, C. Ansell, H. Brindley, and J. Haywood (2011), Multi-sensor satellite remote sensing of dust aerosols over North Africa during GERBILS, *Quarterly Journal of the Royal Meteorological Society*, 137(658), 1168-1178.
21. Johnson, B. T., M. E. Brooks, D. Walters, S. Woodward, S. Christopher, and K. Schepanski (2011), Assessment of the Met Office dust forecast model using observations from the GERBILS campaign, *Quarterly Journal of the Royal Meteorological Society*, 137(658), 1131-1148.
22. Patadia, F., S. A. Christopher, and J. Zhang (2011), Development of empirical angular distribution models for smoke aerosols: Methods, *Journal of Geophysical Research*, 116(D14), D14203.
23. Fairman, J. G., Jr., U. S. Nair, S. A. Christopher, and T. Mölg (2011), Land use change impacts on regional climate over Kilimanjaro, *Journal of Geophysical Research*, 116(D3), D03110.
24. Jones, T. A., and S. A. Christopher (2011), A reanalysis of MODIS fine mode fraction over ocean using OMI and daily GOCART simulations, *Atmospheric Chemistry and Physics Discussions*, 11(12), 5805-5817.
25. Christopher, S. A. (2011), Satellite remote sensing methods for estimating clear Sky shortwave Top of atmosphere fluxes used for aerosol studies over the global oceans, *Remote Sensing of Environment*, 115(12), 3002-3006.
26. Yang, E.-S., S. A. Christopher, S. Kondragunta, and X. Zhang (2011), Use of hourly Geostationary Operational Environmental Satellite (GOES) fire emissions in a Community Multiscale Air Quality (CMAQ) model for improving surface particulate matter predictions, *Journal of Geophysical Research*, (D4), D04303.
27. Jones, T. A., and S. A. Christopher (2011), A multi-sensor approach for assessing the impacts of ultraviolet-absorbing aerosols on top of atmosphere radiative fluxes, *International Journal of Remote Sensing* 32(16), 4659-4682.
28. Nair, U. S., R. McNider, F. Patadia, S. A. Christopher, and K. Fuller (2011), Sensitivity of nocturnal boundary layer temperature to tropospheric aerosol surface radiative forcing under clear-sky conditions, *Journal of Geophysical Research*, 116(D2), D02205.
29. Christopher, S. A., and P. Gupta (2011), Satellite Remote Sensing of Particulate Matter Air Quality: The Cloud-Cover Problem, *Journal of the Air & Waste Management Association*, 60(5), 596-602.

30. Christopher, S. A., and P. Gupta (2010), Satellite remote sensing of particulate matter air quality: The cloud-cover problem, *Journal of the Air & Waste Management Association*, 60(5), 596-602.
31. Jones, T. A., and S. A. Christopher (2010), Satellite and Radar Remote Sensing of Southern Plains Grassfires: A case study, *Journal of Applied Meteorology and Climatology*, 49(10), 2133-2146.
32. Jones, T. A., and S. A. Christopher (2010), Statistical properties of aerosol-cloud-precipitation interactions in South America, *Atmospheric Chemistry and Physics*, 10(5), 2287-2305.
33. Anantharaj, V. G., U. S. Nair, P. Lawrence, T. N. Chase, S. Christopher, and T. Jones (2010), Comparison of satellite-derived TOA shortwave clear-sky fluxes to estimates from GCM simulations constrained by satellite observations of land surface characteristics, *International Journal of Climatology*, 30(13), 2088-2104.
34. Jones, T. A. (2010), Assessment of Temperature and Humidity Changes Associated With the September 2009 Dust Storm in Australia, *Geoscience and Remote Sensing Letters, IEEE, PP(99)*, 268-272.
35. Jones, T. A., and S. A. Christopher (2010), Satellite and Radar Observations of the 9 April 2009 Texas and Oklahoma Grassfires, *Bulletin of the American Meteorological Society*, 91(4), 455-460.
36. Wu, Y. L., U. S. Nair, R. A. Pielke, R. T. McNider, S. A. Christopher, and V. G. Anantharaj (2009), Impact of Land Surface Heterogeneity on Mesoscale Atmospheric Dispersion, *Boundary-Layer Meteorology*, 133(3), 367-389.
37. Yang, E.-S., P. Gupta, and S. A. Christopher (2009), Net radiative effect of dust aerosols from satellite measurements over Sahara, *Geophysical Research Letters*, 36(18), L18812.
38. Gupta, P., and S. A. Christopher (2009b), Particulate matter air quality assessment using integrated surface, satellite, and meteorological products: 2. A neural network approach, *Journal of Geophysical Research*, 114(D20), D20205.
39. Reid, J. S., et al. (2009), Global monitoring and forecasting of biomass-burning smoke: Description of and lessons from the fire locating and modeling of burning emissions (FLAMBE) Program, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2(3), 144-162.
40. Jones, T. A., S. A. Christopher, and W. Petersen (2009b), Dual-Polarization Radar Characteristics of an Apartment Fire, *Journal of Atmospheric and Oceanic Technology*, 26(10), 2257-2269.
41. Gupta, P., and S. A. Christopher (2009b), Particulate matter air quality assessment using integrated surface, satellite, and meteorological products: 2. A neural network approach, *J. Geophys. Res.*, 114(D20), D20205.
42. Patadia, F., E.-S. Yang, and S. A. Christopher (2009), Does dust change the clear sky top of atmosphere shortwave flux over high surface reflectance regions?, *Geophysical Research Letters*, 36(15), L15825.

43. Christopher, S. A., P. Gupta, U. Nair, T. A. Jones, S. Kondragunta, Y. L. Wu, J. Hand, and X. Y. Zhang (2009), Satellite Remote Sensing and Mesoscale Modeling of the 2007 Georgia/Florida Fires, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2(3), 163-175.
44. Jones, T. A., and S. A. Christopher (2009), Injection Heights of Biomass Burning Debris Estimated From WSR-88D Radar Observations, *IEEE Transactions on Geoscience and Remote Sensing*, 47(8), 2599-2605.
45. Jones, T. A., S. A. Christopher, and J. Quaas (2009), A six year satellite-based assessment of the regional variations in aerosol indirect effects, *Atmos. Chem. Phys.*, 9(12), 4091-4114.
46. Jones, T. A., S. A. Christopher, and W. Petersen (2009), Dual-Polarization Radar Characteristics of an Apartment Fire, *Journal of Atmospheric and Oceanic Technology*, 26(10), 2257-2269 2010
47. Myhre, G., et al. (including S.A. Christopher) (2009), Modelling of chemical and physical aerosol properties during the ADRIEX aerosol campaign, *Quarterly Journal of the Royal Meteorological Society*, 135(638), 53-66 2010
48. Myhre, G., et al (including S.A. Christopher). (2009), Modelled radiative forcing of the direct aerosol effect with multi-observation evaluation, *Atmospheric Chemistry and Physics*, 9(4), 1365-1392.
49. Patadia, F., E.-S. Yang, and S. A. Christopher (2009), Does dust change the clear sky top of atmosphere shortwave flux over high surface reflectance regions?, *Geophysical Research Letters*, 36(15), L15825.
50. Radhi, M., M. A. Box, G. P. Box, P. Gupta, and S. A. Christopher (2009), Evolution of the optical properties of biomass-burning aerosol during the 2003 southeast Australian bushfires, *Appl. Optics*, 48(9), 1764-1773.
51. Reid, J. S., et al (including S.A. Christopher). (2009), Global Monitoring and Forecasting of Biomass-Burning Smoke: Description of and lessons from the Fire Locating and Modeling of Burning Emissions (FLAMBE) Program, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2(3), 144-162.
52. Wu, Y. L., U. S. Nair, R. A. Pielke, R. T. McNider, S. A. Christopher, and V. G. Anantharaj (2009), Impact of Land Surface Heterogeneity on Mesoscale Atmospheric Dispersion, *Boundary-Layer Meteorology*, 133(3), 367-389.
53. Yang, E.-S., P. Gupta, and S. A. Christopher (2009), Net radiative effect of dust aerosols from satellite measurements over Sahara, *Geophysical Research Letters*, 36(18), L18812.
54. Bellouin, N., A. Jones, J. Haywood, and S. A. Christopher (2008), Updated estimate of aerosol direct radiative forcing from satellite observations and comparison against the Hadley Centre climate model, *Journal of Geophysical Research-Atmospheres*, 113(D10), D10205.
55. Christopher, S. A., and T. A. Jones (2008a), Dust Radiative Effects Over Global Oceans, *Geoscience and Remote Sensing Letters, IEEE*, 5(1), 74-77.

56. Christopher, S. A., and T. A. Jones (2008b), Sample Bias Estimation for Cloud-Free Aerosol Effects Over Global Oceans, *Geoscience and Remote Sensing, IEEE Transactions on*, 46(6), 1728-1732.
57. Christopher, S. A., and T. A. Jones (2008c), Short-wave aerosol radiative efficiency over the global oceans derived from satellite data, *Tellus Series B-Chemical and Physical Meteorology*, 60(4), 636-640.
58. Christopher, S. A., P. Gupta, J. Haywood, and G. Greed (2008), Aerosol optical thicknesses over North Africa: 1. Development of a product for model validation using Ozone Monitoring Instrument, Multiangle Imaging Spectroradiometer, and Aerosol Robotic Network, *Journal of Geophysical Research*, 113(D23), D00C04.
59. Greed, G., J. M. Haywood, S. Milton, A. Keil, S. Christopher, P. Gupta, and E. J. Highwood (2008), Aerosol optical depths over North Africa: 2. Modeling and model validation, *Journal of Geophysical Research*, 113(D23), D00C05.
60. Gupta, P., and S. A. Christopher (2008a), Seven year particulate matter air quality assessment from surface and satellite measurements, *Atmospheric Chemistry and Physics*, 8(12), 3311-3324.
61. Gupta, P., and S. A. Christopher (2008b), An evaluation of Terra-MODIS sampling for monthly and annual particulate matter air quality assessment over the Southeastern United States, *Atmospheric Environment*, 42(26), 6465-6471.
62. Gupta, P., F. Patadia, and S. A. Christopher (2008), Multisensor Data Product Fusion for Aerosol Research, *Geoscience and Remote Sensing, IEEE Transactions on*, 46(5), 1407-1415.
63. Haywood, J. M., et al. (2008), Overview of the Dust and Biomass-burning Experiment and African Monsoon Multidisciplinary Analysis Special Observing Period, *Journal of Geophysical Research*, 113(D23), D00C17.
64. Jones, T. A., and S. A. Christopher (2008), Seasonal variation in satellite-derived effects of aerosols on clouds in the Arabian Sea, *Journal of Geophysical Research*, 113(D9), D09207.
65. Jones, T. A., and S. A. Christopher (2008), Multispectral Analysis of Aerosols Over Oceans Using Principal Components, *Geoscience and Remote Sensing, IEEE Transactions on*, 46(9), 2659-2665.
66. Patadia, F., P. Gupta, and S. A. Christopher (2008), First observational estimates of global clear sky shortwave aerosol direct radiative effect over land, *Geophysical Research Letters*, 35(4), L04810.
67. Christopher, S. A., and T. Jones (2007), Satellite-based assessment of cloud-free net radiative effect of dust aerosols over the Atlantic Ocean, *Geophysical Research Letters*, 34(2), L02810.
68. Greenwald, T.J., T.L'Ecuyer, and S.A. Christopher (2007), Global error characteristics of microwave-based estimates of cloud liquid water path, *Geophysical Research Letters*, L22807, doi:10.1029/2007GL031180, 2007

69. Gupta, P., S. A. Christopher, M. A. Box, and G. P. Box (2007), Multi year satellite remote sensing of particulate matter air quality over Sydney, Australia, *International Journal of Remote Sensing*, 28(20), 4483-4498.
70. Jones, T. A., and S. A. Christopher (2007), Is the top of atmosphere dust net radiative effect different between Terra and Aqua?, *Geophysical Research Letters*, 34(2), L02812.
71. Jones, T. A., and S. A. Christopher (2007), MODIS derived fine mode fraction characteristics of marine, dust, and anthropogenic aerosols over the ocean, constrained by GOCART, MOPITT, and TOMS, *Journal of Geophysical Research*, 112(D22), D22204.
72. Nair, U. S., D. K. Ray, J. Wang, S. A. Christopher, T. J. Lyons, R. M. Welch, and R. A. Pielke, Sr. (2007), Observational estimates of radiative forcing due to land use change in southwest Australia, *Journal of Geophysical Research*, 112(D9), D09117.
73. Christopher, S. A., J. Zhang, Y. J. Kaufman, and L. A. Remer (2006), Satellite-based assessment of top of atmosphere anthropogenic aerosol radiative forcing over cloud-free oceans, *Geophysical Research Letters*, 33(15), L15816.
74. Gupta, P., S. A. Christopher, J. Wang, R. Gehrig, Y. Lee, and N. Kumar (2006), Satellite remote sensing of particulate matter and air quality assessment over global cities, *Atmospheric Environment*, 40(30), 5880-5892.
75. Wang, J., and S. A. Christopher (2006), Mesoscale modeling of Central American smoke transport to the United States: 2. Smoke radiative impact on regional surface energy budget and boundary layer evolution, *Journal of Geophysical Research*, 111(D14), D14S92.
76. Wang, J., S. A. Christopher, U. S. Nair, J. S. Reid, E. M. Prins, J. Szykman, and J. L. Hand (2006), Mesoscale modeling of Central American smoke transport to the United States: 1. "Top-down" assessment of emission strength and diurnal variation impacts, *Journal of Geophysical Research*, 111(D5), D05S17.
77. Yu, H., et al. (2006), A review of measurement-based assessments of the aerosol direct radiative effect and forcing, *Atmospheric Chemistry and Physics* 6(3), 613-666.
78. Anderson, T. L., et al. (2005), An "A-Train" Strategy for Quantifying Direct Climate Forcing by Anthropogenic Aerosols, *Bulletin of the American Meteorological Society*, 86(12), 1795-1809.
79. Ramachandran, R., S. A. Christopher, S. Movva, X. Li, H. T. Conover, K. R. Keiser, S. J. Graves, and R. T. McNider (2005), Earth Science Markup Language: A solution to address aata format heterogeneity problems in atmospheric sciences, *Bulletin of the American Meteorological Society*, 86(6), 791-794.
80. Reid, J. S., T. F. Eck, S. A. Christopher, R. Koppmann, O. Dubovik, D. P. Eleuterio, B. N. Holben, E. A. Reid, and J. Zhang (2005), A review of biomass burning emissions part III: intensive optical properties of biomass burning particles, *Atmospheric Chemistry and Physics* 5(3), 827-849.

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