

Eric M. Wilcox

Associate Research Professor, Climatology

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Research Interests

Dr. Wilcox's research addresses the interactions among aerosols, clouds, and precipitation towards a goal of improved understanding of precipitation, cloud variability and radiative forcing of climate at regional scales. This work relies on satellite and in-situ observations, as well as simulations with numerical models of the atmosphere and climate.

Dr. Wilcox manages DRI's atmospheric modeling group, which implements a wide range of numerical models, including fine-resolution atmospheric models for regional climate studies and applied research in water resources and renewable energy projects, air quality and chemistry models, and global coupled ocean/atmosphere climate models. Dr. Wilcox is also atmospheric research lead for DRI's Naval Earth Sciences and Engineering Program applying a range of measurements and models to the needs of the Navy, including targeted operational weather forecasting, weather observation optimization, particle dispersion modeling and applied atmospheric optics modeling. Dr. Wilcox teaches atmospheric physics and atmospheric modeling at the University of Nevada, Reno. He is an Associate Director of the Nevada NASA Space Grant Consortium, an Associate Editor of the Journal of the Atmospheric Sciences, and he serves as a member representative to the University Corporation for Atmospheric Research (UCAR) on behalf of the Nevada System of Higher Education.

Professional Positions Held

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| 2013 – present | Associate research professor, Desert Research Institute, Reno, NV. |
| 2011 – present | Graduate faculty, Interdisciplinary Atmospheric Science Program, Department of Physics, University of Nevada, Reno, NV. |
| 2010 – 2013 | Assistant research professor, Desert Research Institute, Reno, NV. |
| 2005 – 2010 | Physical scientist, National Aeronautics and Space Administration (NASA) Goddard Space Flight Center, Greenbelt, MD. |
| 2003 – 2005 | Visiting fellow of the NOAA Postdoctoral Program in Climate and Global Change, Princeton University Dept. of Geosciences Program in Atmospheric and Oceanic Sciences, and NOAA Geophysical Fluid Dynamics Laboratory, Princeton, NJ. |
| Spring 2005 | Adjunct instructor, Montclair State University Department of Earth and Environmental Studies, Montclair, NJ. |
| 2002 – 2003 | Postgraduate research atmospheric physicist, Center for Atmospheric Sciences, Scripps Institution of Oceanography, University of California, San Diego. |
| 1996 – 2002 | Graduate student researcher, Center for Atmospheric Sciences, Scripps Institution of Oceanography, University of California, San Diego. |

Education

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| 2002 | Ph.D. Oceanography, Scripps Institution of Oceanography, University of California, San Diego. |
| 1995 | B.S. Physics, University of California, San Diego. |

Teaching

- Fall 2015, 2017 ATMS 746: Atmospheric modeling, University of Nevada, Reno, Dept. of Physics.
- Fall 2011 - 2014, 2016 ATMS 411/611: Atmospheric physics, University of Nevada, Reno, Dept. of Physics.
- Spring 2005 PHMS 210: Introduction to Marine Science, Montclair State University Dept. of Earth and Environmental Studies, Montclair, NJ.
- Spring 2003 Teaching assistant, SIO 217C: Atmospheric and Climate Science III, Scripps Institution of Oceanography, University of California, San Diego.
- Fall 1999 Teaching assistant, SIO 202: Climate and Climate Change, Scripps Institution of Oceanography, University of California, San Diego.

Advising

Marco Giordano (Ph.D., current); Lan Gao (Ph.D., 2018); Yunpeng Shan (Ph.D., 2018); Farnaz Hosseinpour (Ph.D., 2017); Yazeed Alsubhi (M.S., 2016); Kimberly Tran (high school intern, 2017-2018); James Condie (undergrad intern, 2016); Brandon Cottom (undergrad intern, 2009); Ryan Smith (high school intern, 2007-2008); Cody Fritz (undergrad intern, 2007). Serving or have served on 12 additional Ph.D. committees and 1 additional M.S. committee.

Field Campaigns

- Winter, 2012 Co-P.I. CARDEX, Maldives Climate Observatory, Hanimaadhoo Island, Republic of the Maldives. Uninhabited aerial vehicle and surface observations of aerosol-cloud interactions in trade wind cumulus clouds.
- Fall, 2008 VOCALS-Rex, Chile. Airborne remote sensing measurements of cloud microphysics.
- Summer 2008 ARCTAS joint deployment with Calif. Air Resources Board, California. Airborne remote sensing measurements of aerosols and the ocean surface reflectance.
- Spring, 2004 Cloud Indirect Forcing Experiment (CIFEX), Northeast Pacific Ocean. Co-directed an airborne research experiment investigating aerosol-cloud interactions in mid-latitude oceanic low cloud systems. Principal flight scientist for six research flights in U. Wyoming King Air aircraft.
- Winter, 1999 Indian Ocean Experiment (INDOEX), Kaashidhoo Climate Observatory, Republic of Maldives. Conducted radiosonde and surface radiative flux measurements.

Awards

- 2016 Graduate Advisor of the Year, Desert Research Institute
- 2007 NASA GSFC Laboratory for Atmospheres scientific recognition peer award.
- 2003 - 2005 NOAA Climate and Global Change Postdoctoral Fellowship (approx. \$50,000/year).
- 2001 Best Student Poster Award, 11th American Meteorological Society Conference on Satellite Meteorology and Oceanography.
- 1998 Universities Space Research Association/NASA Graduate Student Summer Program Fellowship, Goddard Space Flight Center, Maryland.
- 1994 University of California President's Undergraduate Research Fellowship.

Peer-Reviewed Publications

Shan, Y., **E. M. Wilcox**, L. Gao, L. Lin, D. L. Mitchell, Y. Yin, T. Zhao, L. Zhang, H. Shi and M. Gao, Evaluating and improving multi-moment cloud microphysics schemes: Parameter-solving methods for the gamma size distribution function, *J. Atmos. Sci.*, accepted pending revision, 2019.

Spencer, R. S., R. C. Levy, L. A. Remer, S. Mattoo, D. L. Hlavka, G. T. Arnold, S. E. Platnick, A. Marchak, and **E. M. Wilcox**, Exploring aerosols near clouds with high-spatial-resolution aircraft remote sensing during SEAC⁴RS, *J. Geophys. Res.*, 124, doi: 10.1029/2018JD028989, 2019.

Xu, X., J. Wang, J. Zeng, W. Hou, K. G. Meyer, S. E. Platnick, and **E. M. Wilcox**, A pilot study of shortwave spectral fingerprints of smoke aerosols above liquid clouds, *J. Quant. Spectroscopy and Radiative Transfer*, 221, 38-50, doi:10.1016/j.jqsrt.2018.09.024, 2018.

Mejia, J. F., D. Koraćin, and **E. M. Wilcox**, Effect of Coupled GCM SST Biases on Simulated Climate of the Western U.S., *Intl. J. Climatol.*, 1-19, doi:10.1002/joc.5817, 2018.

Mejia, J. F., M. Giordano, and **E. M. Wilcox**, Conditional Summertime Day-Ahead Solar Irradiance Forecast, *Solar Energy*, 163, 610-622, doi: 10.1016/j.solener.2018.01.094, 2018.

Wilcox, E. M., Multi-spectral remote sensing of sea fog with simultaneous passive infrared and microwave sensors, in *Marine Fog: Challenges and Advancements in Observations, Modeling, and Forecasting*, D. Koraćin and C. Dorman, eds., Springer Intl., 511-526, 2017.

Wilcox, E. M., R. M. Thomas, P. S. Praveen, K. Pistone, F. A.-M. Bender, and V. Ramanathan, Black carbon solar absorption suppresses turbulence in the atmospheric boundary layer, *Proc. Nat. Acad. Sci.*, 113, 11794-11799, 10.1073/pnas.1525746113, 2016.

Ichoku, C., L. T. Ellison, K. E. Willmot, T. Matsui, A. K. Desfuli, C. K. Gatebe, J. Wang, **E. M. Wilcox**, J. Lee, J. Adegoke, C. Okonkwo, J. Bolton, F. S. Policelli, and S. Habib, Biomass burning, land-cover change, and the hydrological cycle in Northern sub-Saharan Africa, *Environ. Res. Lett.*, 11, doi:10.1088/1748-9326/11/9/095005, 2016.

Thompson, D. R., I. B. McCubbin, B. Gao, R. O. Green, A. A. Matthews, F. Mei, K. G. Meyer, S. Platnick, B. Schmid, J. Tomlinson and **E. M. Wilcox**, Characterization of liquid and ice clouds with shortwave infrared imaging spectroscopy, *J. Geophys. Res.*, 121, 9174-9190, doi:10.1002/2016JD024999, 2016.

C.E. Chung, A. Lewinschal, A. and **E. M. Wilcox**, Relationship between low-cloud presence and the amount of overlying aerosols, *Atmos. Chem. Phys.*, 16, 5781-5792, doi:10.5194/acp-16-5781-2016, 2016.

Pistone, K., P. Praveen, R. Thomas, V. Ramanathan, **E. M. Wilcox** and F. Bender, Observed correlations between aerosol and cloud properties in an Indian Ocean trade cumulus regime, *Atmos. Chem. and Phys.*, 16, 5203-5227, doi:10.5194/acp-16-5203-2016, 2016.

Hosseinpour, F. and **E. M. Wilcox**, Aerosol interactions with African/Atlantic climate dynamics. *Environ. Res. Lett.*, 9, doi:10.1088/1748-9326/9/7/075004, 2014.

Gatebe, C. K., C. Ichoku, R. Poudyal, M. Roman, and **E. M. Wilcox**, Surface albedo darkening from wildfires in Northern Sub-Saharan Africa. *Environ. Res. Lett.*, 9, doi:10.1088/1748-9326/9/6/065003, 2014.

Koraćin D., C. Dorman, J. Lewis, J. Hudson, **E. M. Wilcox**, and A. Torregrosa, Marine Fog: A Review. *Atmos. Res.*, 143, 142-175, doi: 10.1016/j.atmosres.2013.12.012, 2014.

Chakrabarty, R., M. Garro, **E. M. Wilcox**, and H. Moosmüller, Strong Radiative Heating due to Wintertime Black Carbon Aerosols in the Brahmaputra River Valley. *Geophys. Res. Lett.*, 39, L09804, doi:10.1029/2012GL051148, 2012.

Wilcox, E. M., Direct and semi-direct radiative forcing of smoke aerosols over clouds. *Atmos. Chem. Phys.*, 12, 139-149, doi: 10.5194/acp-12-139-2012, 2012.

Gatebe, C. K., **E. M. Wilcox**, R. Poudyal, and J. Wang, Effects of ship wakes on ocean brightness and radiative forcing over ocean. *Geophys. Res. Lett.*, 38, L17702, doi:10.1029/2011GL048819, 2011.

Wilcox, E. M., Stratocumulus cloud thickening beneath layers of absorbing smoke aerosol. *Atmos. Chem. Phys.*, 10, 11769-11777, doi:10.5194/acp-10-11769-2010, 2010.

- Wilcox, E. M.**, K. M. Lau, and K.-M. Kim, A Northward Shift of the North Atlantic Ocean Intertropical Convergence Zone in Response to Summertime Saharan Dust Outbreaks. *Geophys. Res. Lett.*, **37**, L04804, doi:10.1029/2009GL041774, 2010.
- Y. C. Sud, **E. M. Wilcox**, K. M. Lau, G. K. Walker X.-H. Liu, A. Nenes, D. Lee, K.-M. Kim, Y. Zhou, and P. S. Bhattacharjee, Sensitivity of Boreal-Summer Circulation and Precipitation to Atmospheric Aerosols in Selected Regions, Part I: Africa and India. *Annales Geophysicae*. **27**, 3989-4007, 2009.
- Wilcox, E. M.**, Y. C. Sud, and G. Walker, Sensitivity of Boreal-Summer Circulation and Precipitation to Atmospheric Aerosols in Selected Regions, Part II: The Americas. *Annales Geophysicae*. **27**, 4009-4021, 2009.
- Wilcox, E. M.**, Harshvardhan, and S. Platnick, Estimate of the Impact of Absorbing Aerosol over Cloud on the MODIS Retrievals of Cloud Optical Thickness and Effective Radius Using Two Independent Retrievals of Liquid Water Path, *J. Geophys. Res.*, **114**, D05210, doi:10.1029/2008JD010589, 2009.
- Wilcox, E. M.** and L. J. Donner, The Frequency of Extreme Rain Events in Satellite Observations and an Atmospheric General Circulation Model. *J. Climate*, **20**, 53-69, 2007.
- Wilcox, E. M.**, G. Roberts, and V. Ramanathan, Influence of aerosols on the shortwave cloud radiative forcing from north Pacific Oceanic Clouds: Results from the Cloud Indirect Forcing Experiment (CIFEX). *Geophys. Res. Lett.*, **33**, L21804, doi:10.1029/2006GL027150, 2006.
- Wilcox, E. M.** and V. Ramanathan, The Impact of Observed Precipitation upon the Transport of Aerosols from South Asia. *Tellus* **56B**, 435-450, 2004.
- Wilcox, E. M.**, Spatial and Temporal Scales of Precipitating Tropical Cloud Systems in Satellite Imagery and the NCAR CCM3. *J. Climate*, **16**, pp. 3545-3559, 2003.
- Wilcox, E. M.** and V. Ramanathan, Scale Dependence of the Thermodynamic Forcing of Tropical Monsoon Clouds: Results from TRMM Observations. *J. Climate*, **14**, pp. 1511-1524, 2001.
- Hellman, F., M. Q. Tran, A. E. Gebala, **E. M. Wilcox** and R. C. Dynes, Metal-Insulator Transition and Giant Negative Magnetoresistance in Amorphous Magnetic Rare Earth Silicon Alloys. *Phys. Rev. Lett.*, **77**, pp. 4652-4655, 1996.

Books

Wilcox, E. M. *Clouds*, Duncan Baird Publishers, London, U.K., 2008. A general interest descriptive book about clouds including a technical glossary.

Other publications

- Mejia, J. F., **E. M. Wilcox**, S. Rayne, and E. Mosadegh, *Vehicle Miles Traveled Review*, prepared for the Lake Tahoe Science Advisory Council Threshold Update and the Lake Tahoe Regional Planning Authority, July 2018.
- Ramanathan, V., R. M. Thomas, H. V. Nguyen, **E. M. Wilcox**, F. Bender, and K. Pistone, *Cloud Aerosol Radiative Forcing Dynamics EXperiment. Field project overview document*. Available at: http://www-ramanathan.ucsd.edu/files/CARDEX_prop_rev_Jun_2011.pdf, 2011.
- Koračin D., J. K. Koračin, A. Gertler, T. McCord, A. Jericevic, J. Mejia and **E. M. Wilcox**, Ozone modeling system and emission control strategies for the Lake Tahoe basin, prepared for the USDA Forest Service Pacific Southwest Research Station, 2014.
- Wilcox, E. M.**, Spatial and Temporal Scales of Precipitating Tropical Cloud Systems. Ph.D. Dissertation, University of California, San Diego, 2002.

Research grants

"A Comprehensive Data Record of Marine Low-level and Deep Convective Cloud Systems Using an Object-Oriented Approach", NASA MEASUREs Program, 2018-2023 \$130K/year (PI: T. Yuan, U. Maryland Baltimore Co.) 0.2 FTE as **Co.-I.**

"A Study of Atmospheric Heating by Black Carbon Aerosols and its Impacts", NASA Science of Terra, Aqua and Suomi NPP Program, 2018-2020 \$250/year 0.25 FTE as **P.I.**

"Toward Rapid development of Novel Instrumentation for Aerosols and Clouds in the Sparsely Observed Basin and Range", DRI Foundation's Innovation Research Program, 2018-2019 \$35K 0.05 FTE as **P.I.**

"Development of a Multi-Spectral Irradiance Monitor for Rapid Deployment Aerosol Measurement in Complex Terrains", NASA EPSCoR Research Infrastructure, 2016-2017 \$100K 0.1 FTE as **P.I.**

"Studying aerosol/cloud fields using MAS data from SEAC4RS and previous field campaigns", NASA Atmospheric Composition Program, 2014-2017, Total award amount \$142K/year (PI: R. Levy, NASA GSFC), 0.1 FTE as **Co.-I.**

"Amplified study of the interactions and feedbacks between biomass burning and water cycle dynamics across the northern sub-Saharan African region", NASA Interdisciplinary Sciences Program, 2014-2016. Total award amount \$1.5M (PI: C. Ichoku, NASA GSFC), 0.2 FTE as **Co.-I.**

"Sierra Snow and Inter-Continental Dust Transport: A Test of the IBM PureData System for Large-Volume Satellite Data Analytics" Desert Research Institute internal project development fund, 2013, total award amount: \$17K, 0.1 FTE as **P.I.**

"Characterization of North Africa Aerosols and Precipitation Patterns Influencing Egyptian Climatology" USAID US-Egypt Board on Scientific and Technological Cooperation grant administered by US Dept. of Agriculture, 2012-2014. Total award amount: \$250K (PI: S. Habib, NASA GSFC) 0.1 FTE as **Co.-I.**

"Integrating NASA Earth Science Data into Secondary-level STEM Education" Nevada NASA Space Grant Consortium, 2011-2012. Total award amount: \$12,500 (PI: T. Wall, Desert Research Institute) 0.05 FTE as **Co.-P.I.**

"A multi-spectral approach to evaluating the response of deep organized convection to aerosols". NASA Science of Terra and Aqua Program, 2011-2014. Total award amount: \$170K/year, 0.5 FTE as **P.I.**

"Impacts of free-tropospheric smoke and humidity on the interactions between stratocumulus clouds and aerosols". NASA Radiation Sciences Program, 2010-2011. Total award amount: \$62K. 0.4 FTE as **P.I.**

"Interactions and feedbacks between biomass burning and water cycle dynamics across the northern sub-Saharan African region". NASA Interdisciplinary Sciences Program, 2011-2014 (PI: C. Ichoku, NASA GSFC), 0.2 FTE as **Co.-I.**

"Multispectral Scanner for BRDF, Albedo, Clouds and Aerosols: MSBACA", NASA GSFC Internal Research and Development program, 2009-2010. Total award amount: \$145K. 0.1 FTE as **P.I.**

"Microphysical and Radiative Parameterizations of Aerosol-Cloud Interactions for Assessing Aerosol-Climate Connections with NASA GEOS-5 GCM Simulations". NASA Modeling and Analysis Program, 2009-2012; (PI: L. Oriaopoulos, NASA GSFC). Total award amount: \$250K/year, 0.2 FTE as **Co.-I.**

"Understanding Constraints on Aerosol-Cloud Interactions in A-Train Observations", NASA EOS Terra/Aqua/Acrimsat Research program, 2008-2010. Total award amount: \$175K/year; 0.5 FTE as **P.I.**

"Aerosol-Monsoon Water Cycle Interactions", NASA Interdisciplinary research; 2007-2010; (PI: K. M. Lau, NASA GSFC). Total award amount: \$600K/year; 0.2 FTE as **Co.-I.**

"Multiple factors affecting the Africa Easterly Jet and Cyclogenesis over the Tropical Atlantic". NASA AMMA program, 2006-2009 (PI: K. M. Lau, NASA GSFC). Total award amount: \$250K/year, 0.2 FTE as **Co.-I.**

"The Cloud Indirect Forcing Experiment (CIFEX)", NSF deployment of U. Wyoming King Air, 2004 (PI: V. Ramanathan, UCSD), Total award amount: \$165K. Role: **Co.-PI.**

Invited Lectures

"Batteries included", Science Distilled public lecture series, Reno, NV April 26, 2017.

"Semi-direct effects of black carbon aerosols on low clouds: Mechanisms for climate cooling", Aerosols and Clouds: Connections from the Laboratory to the Field to the Globe, Telluride Science Research Center Conference, Telluride, CO, June 30, 2016.

"Semi-direct Effects of Aerosols on Low Clouds: Mechanisms for Climate Cooling by Black Carbon Aerosols", Invited talk in the 8th Symposium on Aerosol–Cloud–Climate Interactions at the American Meteorological Society Annual Meeting, New Orleans, LA, January 12, 2016.

"Observations of aerosol semi-direct effects at multiple scales". Invited talk in session A06: Impact of Tropospheric Aerosol on Global and Regional Climate at 2013 American Geophysical Union Meeting of the Americas, Cancún, Mexico, May 17, 2013.

"Physical connections between atmospheric visibility and regional climate change", Plenary session Air and Waste Management Association Visibility and Air Pollution Meeting, Whitefish, MT September 25, 2012.

"Integrated observations from MODIS and the A-Train for understanding aerosol effects on the environment", Plenary session 2012 NASA MODIS Science Team Meeting, Silver Spring, MD May 8, 2012.

"Sooty action at a distance: Remote effects of soot and dust on clouds and climate", University of Nevada, Reno, Dept. of Physics Colloquium, Reno, NV, September 30, 2011.

"Aerosols near clouds: the response of clouds and convection to aerosol heating", 2011 Gordon Research Conference on Radiation and Climate, Colby College, Waterville, ME, July 12, 2011.

"Aerosol direct and indirect effects over the Southeast Atlantic Ocean", Workshop on Coupled Ocean-Atmosphere-Land Processes in the Tropical Atlantic, sponsored by CLIVAR, University of Miami, March 23-25, 2011.

"The relative effects of greenhouse gas and aerosol forcing on mountain glacier melt in the Himalaya", NASA Goddard Space Flight Center, Greenbelt, MD, December 1, 2010.

"Climate model predictions of changes in extreme rain events and satellite observations of cumulus convection", Desert Research Institute, Reno, NV, November 8, 2009.

"Strategies for testing model parameterization of aerosol-cloud interactions for global models", 8th international Aerocom workshop, Princeton NJ, October 7, 2009.

"NASA Satellite Data for Disaster and Water Resources Management and Science", The Global Water Initiative workshop: Implications of regional climate variability on water resources in Africa. University of Cambridge, UK, September 21-23, 2009.

"Satellite observations of deep cumulus convection and GCM predictions of changes in extreme rain events", California Institute of Technology, NASA Jet Propulsion Laboratory, and UCLA Dept. of Atmospheric and Oceanic Science, October 7-10, 2008.

"NASA: Not Just Sending Astronauts into Space. Looking Back at the Home Planet", Squaw Valley Institute, Olympic Valley CA, July 10, 2007.

"Testing Climate Model Representations of Atmospheric Physics using Satellite and Aircraft Observations". University of Wyoming Dept. of Atmospheric Science, October 21, 2004.

"Rainfall, Convection and Aerosol Transport in Climate Models and Satellite Observations". NASA Goddard Space Flight Center, Greenbelt Maryland, August 31, 2004.

"How Well Do Global Climate Models Simulate Rain?" 2004 NOAA/UCAR Climate and Global Change Summer Institute, Steamboat Springs, Colorado, July 20, 2004.

“Spatial Scales of Tropical Cloud Systems and Their Impact on the Atmospheric Environment”. Geophysical Fluid Dynamics Laboratory, Princeton University, January 23, 2003.

“Satellite Observations of the Spatio-Temporal Scales of Tropical Cloud Systems: Implications for the Parameterization of Aerosol Scavenging”. Max Planck Institute for Chemistry, Mainz Germany, May 29, 2002.

Selected Conference Proceedings

Wilcox, E. M., Tianle Yuan, and Derek Posselt, Deep convective cloud system size and structure: A quantitative study of the forcing by atmospheric thermodynamics and modification by aerosols, 93rd American Meteorological Society Annual Meeting, Austin TX, January 2013.

Wilcox, E. M., R. M. Thomas, P. S. Praveen, K. Pistone, F. Bender, Y. Feng, V. Ramanathan, Moisture dynamics in the cloudy and polluted tropical atmosphere: The Cloud Aerosol Radiative Forcing Dynamics Experiment (CARDEX), 93rd American Meteorological Society Annual Meeting, Austin TX, January 2013.

Hosseinpour, F. and **E. M. Wilcox**, Large-Scale Interactions of African Smoke and Dust Aerosols with Tropical/Subtropical Atmospheric Circulations and Precipitation, 93rd American Meteorological Society Annual Meeting, Austin TX, January 2013.

Wilcox, E. M., R. M. Thomas, P. S. Praveen, K. Pistone, F. Bender, Y. Feng, V. Ramanathan, Moisture dynamics in the cloudy and polluted tropical atmosphere: The Cloud Aerosol Radiative Forcing Dynamics Experiment (CARDEX), American Geophysical Union Fall Meeting, San Francisco California, December 2012.

Hosseinpour, F. and **E. M. Wilcox**, Mechanisms of African Aerosol-Climate Interactions and their Forcing on Dynamical Systems, American Geophysical Union Fall Meeting, San Francisco California, December 2012.

P. S. Praveen, V. Ramanathan, **E. M. Wilcox**, R. M. Thomas, K. Pistone, F. Bender, Source specific aerosol radiative heating over tropical Indian Ocean during Cloud Aerosol Radiative Forcing Dynamics Experiment (CARDEX), American Geophysical Union Fall Meeting, San Francisco California, December 2012.

Y. Feng, V. R. Kotamarthi, A. Jefferson, **E. M. Wilcox**, R. M. Thomas, P. S. Praveen, K. Pistone, F. Bender, V. Ramanathan, Observation-constrained Estimation of Aerosol Climate Impacts over S Asia, American Geophysical Union Fall Meeting, San Francisco California, December 2012.

R. M. Thomas, P. S. Praveen, **E. M. Wilcox**, K. Pistone, F. Bender, V. Ramanathan, First UAV Measurements of Entrainment Layer Fluxes with coupled cloud property measurements, American Geophysical Union Fall Meeting, San Francisco California, December 2012.

C. Ichoku, C. Gatebe, J. Bolton, F. Policelli, S. Habib, J. Lee, J. Adegoke, J. Wang, **E. M. Wilcox**, Possible links between biomass burning and the water cycle in Northern sub-Saharan Africa, American Geophysical Union Fall Meeting, San Francisco California, December 2012.

Yuan, T., L. Oreopoulos, L. Remer, **E. Wilcox**, Cloud statistics and organization from Calipso, CloudSat, and MODIS. CloudSat/Calipso science team meeting, Montreal Canada, June 2011.

Wilcox, E. M., T. Yuan, D. Posselt, Understanding the effects of aerosols on deep convective clouds. MODIS science team meeting, U. Maryland, May 2011 (talk).

Wilcox, E. M., The relative impacts of greenhouse gas and aerosol climate forcing on mountain glacier melt at the third pole. American Geophysical Union Fall Meeting, San Francisco California, December 2010 (talk).

Wilcox, E. M., Effects of African smoke and dust on clouds and climate. NASA International Symposium on the A-Train Satellite Constellation, New Orleans LA, October 2010.

Loeb, N. G., S. Kato, W. Su, F. G. Rose, W. Sun, D. A. Rutan, and **E. M. Wilcox**, Impacts of clouds and aerosols on Earth’s radiation budget through synergistic use of A-Train observations. NASA International Symposium on the A-Train Satellite Constellation, New Orleans LA, October 2010 (Plenary talk).

Wilcox, E. M., Response of marine stratocumulus clouds to African savannah burning, American Meteorological Society 13th Conference on Cloud Physics and 13th Conference on Atmospheric Radiation,

Portland OR, June 2010 (Joint session talk).

Wilcox, E. M., Harshvardhan, Platnick, S., Response of marine subtropical Atlantic stratocumulus clouds to smoke from African savannah burning. American Geophysical Union Fall Meeting, San Francisco California, December 2009.

Wilcox, E. M., R. Smith, Aerosol forcing at the surface and the hydrological cycle of the Amazon. American Geophysical Union Fall Meeting, San Francisco California, December 2008.

Wilcox, E. M., K. M. Lau, K.-M. Kim, and O. Reale, The potential influence of Saharan dust on the latitude and intensity of the Atlantic ITCZ. American Geophysical Union Fall Meeting, San Francisco California, December 2007.

Wilcox, E. M., Y. C. Sud, and D. Lee, Aerosol-Cloud Interactions in Observations and a Parameterization Designed for Global Climate Models. American Geophysical Union Fall Meeting, San Francisco California, December 2006.

Wilcox, E. M., G. Roberts, V. Ramanathan, Y. Sud, G. Walker, and D. Lee, Aerosol indirect forcing in observations and single-column model simulations. American Meteorological Society Conference on Clouds and Atmospheric Radiation, Madison Wisconsin, July 2006.

Wilcox, E. M., G. Roberts, G. Mauger, O. Hadley, and V. Ramanathan, Springtime Aerosol Indirect Forcing Across the North Pacific Ocean. American Geophysical Union Fall Meeting, San Francisco California, December 2005.

Wilcox, E. M., G. Mauger, O. Lariviere, G. Roberts, V. Ramanathan, and S. Haimov, Radiative Forcing of North Pacific Cloud Systems Under the Influence of Asian Aerosols, 7th Conference on Atmospheric Chemistry, American Meteorological Society Annual Meeting, San Diego California, January 2005.

V. Ramanathan, G. Roberts, **E. Wilcox**, G. Mauger, O. Lariviere, G. Carmichael, S. Haimov, C. Schmitt, Y. Tang, Long-Range Transport of Aerosols and Dust and their Impact on Clouds and Radiative Forcing over the Pacific Ocean, American Geophysical Union Western Pacific Geophysics Meeting, Honolulu Hawaii, August 2004.

Wilcox, E. M., Instantaneous Rain Rates in Satellite Observations and a General Circulation Model. American Geophysical Union Fall Meeting, San Francisco California, December 2003.

Wilcox, E. M. and V. Ramanathan, Application of Satellite Precipitation Measurements in a Study of Aerosol Removal Rates. 5th Conference on Atmospheric Chemistry: Gases, Aerosols, and Clouds, 2003 American Meteorological Society Annual Meeting, Long Beach California, February 2003.

Wilcox, E. M. and V. Ramanathan, Sensitivity of Aerosol Amount to the Spatial and Temporal Distribution of Precipitation. American Geophysical Union Fall Meeting, San Francisco California, December 2002.

Wilcox, E. M., The Use of TRMM Data for Validating General Circulation Model Parameterizations of Clouds and Precipitation. NASA Tropical Rainfall Measuring Mission (TRMM) International Science Conference, Honolulu Hawaii, July 2002.

Wilcox, E. M., Temporal Scales of the Areal Coverage and Precipitation of Monsoonal Convective Cloud Systems over the Tropical Indian Ocean. 11th American Meteorological Society Conference on Satellite Meteorology and Oceanography, Madison Wisconsin, October 2001.

Media Coverage

Nature Geoscience: <http://www.nature.com/ngeo/journal/v3/n3/full/ngeo819.html>

Time Magazine:

<http://www.time.com/time/health/article/0,8599,1938379,00.html>

http://www.time.com/time/specials/packages/article/0,28804,1929071_1929070_1945667,00.html

New Scientist Magazine:

<http://www.newscientist.com/article/mg21128265.600-foamy-wakes-cool-the-world-ships-dont.html>

Professional Activities

DRI Faculty Senator (2018 - present)
Associate Director, Nevada NASA Space Grant Consortium (2015 - present)
Associate Editor, Journal of the Atmospheric Sciences (2013 - present)
Member representative for the Nevada System of Higher Education to the University Corporation for Atmospheric Research (2011 - present)
Member Nevada NASA Technical Advisory Committee (2016 - present)
Member of the NASA MODIS Science Team (2008 – 2014, 2018 - present)
Member of the Users Working Group for the NASA Level-1 Atmosphere Archive & Distribution System (2018 – present)
Convener of multiple sessions, American Geophysical Union Fall Meeting, December 2011, 2012 and 2013.
Reviewer of manuscripts for Journal of Climate, Nature Geoscience, Quarterly Journal of the Royal Meteorological Society, Proceedings of the National Academy of Sciences, Atmospheric Chemistry and Physics, Geophysical Research Letters, Journal of Geophysical Research - Atmospheres, Atmospheric Research, Atmospheric Measurement Techniques, Remote Sensing of Environment, Applied Optics.
Reviewer of proposals for NSF, NASA, DOE, and NOAA Office of Global Programs, Israel Science Foundation, Netherlands Organization for Scientific Research, and Chilean National Science and Technology Commission.
Associate Editor, Journal of the Environment and Development (1998)
Scientific judge: National Ocean Sciences Bowl regional and national competition (2003)
Scripps Inst. Oceanography Ad-hoc Student Committee for Faculty Evaluations (1996 - 1999)
Climate Sciences student representative: Scripps Inst. Oceanography Student Committee (1996 - 1999)
Member of the American Meteorological Society
Member of the American Geophysical Union

Extracurricular Activities

Commissioner, NV Commission for Persons Who are Deaf, Hard of Hearing or Speech Impaired (2018 – present)
President, Board of directors, Nevada Hands & Voices (2016 - present)
Director, Board of directors, Nevada Hands & Voices (2014 - present).

Over 15 years national and international sailing competition:
1997, 1998, 1999 and 2005 Snipe yachting class US national champion.
1997, 1999, 2001 and 2009 US national team member: Snipe yachting class World Championship.
1994-1995 team captain: U.C. San Diego Sailing Team.