

Curriculum Vitae, Udaysankar S. Nair, 2019

EDUCATION

■ **Name:** Udaysankar S. Nair

■ Academic Degrees

- Ph. D. in Atmospheric Science, 2002: Colorado State University, Dissertation: Climatic impact of lowland deforestation on tropical montane cloud forests in Costa Rica
- M. S. in Meteorology, 1991, South Dakota School of Mines and Technology, Thesis: Modeling and observational study of the 28 June 1989 case from the North Dakota Thunderstorm project.
- B. Tech in Mechanical Engineering, 1988, University of Kerala, Trivandrum, India

■ Professional Employment History

- Associate Professor, Department of Atmospheric Science, University of Alabama in Huntsville, Fall 2015 - current.
- Assistant Professor, Department of Atmospheric Science, University of Alabama in Huntsville, 2011 – 2015.
- Research Scientist III, Earth Science System Center, University of Alabama in Huntsville, 2006-2009.
- Research Scientist, Earth Science System Center, University of Alabama in Huntsville, 2003-2006.
- Adjunct Assistant Professor, Department of Atmospheric Sciences, University of Alabama in Huntsville, 2004-2008.
- Senior Research Associate, Earth Science System Center, University of Alabama in Huntsville, 2001 – 2003.

■ Professional Memberships

- Member: American Meteorological Society
- Member: American Geophysical Union
- Team Member: Center of Excellence for Climate Change Woodland & Forest Health, Murdoch University, Australia

■ Honors and Awards

- Received outstanding student paper award from American Geophysical Union in 2000.
- Article based on Ph. D. dissertation work, published in the October 2001 issue of Science, was selected as one of the ten most important science papers of year 2001 in the areas of Earth Science, Environment and Ecology by Science News.
- NASA Group Achievement Award, 2004: Short Term Prediction Research and Transition Team Activity.
- NASA New Investigator Award, 2006.
- Google Earth Engine Faculty Research Award, 2013
- NSF CAREER Award, 2014

■ Current Support

CAREER: Research on Weather and Climate Impacts of Land Use and Land Cover (LULC), NSF, **PI**, 08/16/2014-08/15/2019, \$748,271.

Disaster Response and Analysis Through Event-Driven Data Delivery (ED3) Technology- Phase II, August 19, 2014 - August 18, 2017, **CoI**, NASA, \$585,000.

Crowdsourced Imagery and Ancillary Observations for Drought Monitoring and Agricultural Applications, Phase I, **CoI**, NASA, \$663,244.

The Great Plains Irrigation Experiment (GRAINEX) for Understanding the Influence of Irrigation on Planetary Boundary Layer and Weather Events, **NSF**, Co-PI, \$268,828.

Atmospheric Aerosol Characterization for High Speed Flight Vehicle Tactical Decision Support, CFDR, U. S. Nair (CoI), CFDR, \$149,000.

Past Support

Micro Sensor Systems Laboratory (MSSL) -- Harnessing Machine-to-Machine

Technology for Environmental Research and Applications, UAH, **PI**, 5/1/2014-5/31/2016, \$49,017

Gap Wind Analysis and Prediction (GAP): Development of Techniques for Forecasting Mountain Gap Winds using Satellite-Derived Wind Fields and MERRA, NASA, **PI** (NESSF), 9/1/2012-8/31/2016, \$90,000.

Community Based Land Cover and Land Use Classification for Forest Conservation, Unrestricted Gift, Google, **PI**, \$35,943.

The impact of deforestation on convective and orographic cloud formation in a complex tropical environment, NASA, **CoI**, 09/01/2002 – 03/31/2005, \$480,000

Near Global Biogeography of Tropical Montane Cloud Forests, NASA, **PI**, 3 months/year, 1/1/2004-12/31/2006, \$300,000.

Use of remotely sensed land and vegetation datasets in numerical models for improved forecasting of near surface meteorology, Mississippi State University, **PI**, 1/1/2006-6/30/2007, \$97,110.

Assessing the Impact of Land Use change on the Regional Climate of the Mississippi Delta Region, Mississippi State University, **PI**, 9/1/2006-8/30/2007, \$75,002.

Radiative Effects of Hygroscopic Aerosols in the Stable Nocturnal Boundary Layer, with Implications for Climate Trends, DOE, **CoI**, 2005-2008.

Influence of Land Use and Landscape Heterogeneity on Cloud Formation and Atmospheric Circulation in Southwest Australia, NSF, **PI**, 11/1/2005-10/31/2009, \$525,560.

Investigation of microclimatic changes associated with tropical forest fragmentation using remote sensing and numerical modeling, NASA, **PI**, 2/1/2006-1/30/2010, \$323,819.

Improved Meteorological Input for Atmospheric Release Decision Support Systems and An Integrated LES Modeling System for Atmospheric Dispersion of Toxic Agents: Homeland Security Applications NASA, **PI**, 4/14/2006-4/14/2011, \$1,400,000.

Forest Structure and Biodiversity on a Steep Geophysical Gradient: The Cloud Forest Lee Margin, NASA, Co-I, 8/1/2006-7/31/2011, \$560,504.

Investigation into the Ecological and Climatic Effects of Past and Present Human Activity in the Central American Region, NASA, **CoI**, 4/1/2008-3/31/2011, 1.2months/year, \$1,192,000.

Environmental Stability of Forest Corridors in the Mesoamerican Biological Corridor Region, **CoI**, 4/1/2007-3/31/2011, \$703,795.

SAM: Smart Assistant for Earth Science Data Mining, NASA, **CoI**, 7/1/2008-6/31/2011, 2 months/year, \$834,377.

DEMAND: DSS Environment for Modeling of Atmospheric Nutrient Deposition, NASA, **PI**, 10/1/2009-09/31/2011, \$400,000.

Diurnal and seasonal variation of mercury species in the Southeast US, Southern Company, **PI**, 9/1/2009-3/31/2011, 0.5 months/year, \$25,000.

CCEP-I: Climate Literacy Partnership in the Southeast (CLIPSE), **Co-PI**, NSF, 1/1/2011-12/31/2012, \$999,994.

Influence of thunderstorm morphology on mercury concentrations in clouds and precipitation, EPRI, **PI**, 10/1/2010-2/28/2012, \$60,146.

Oil spill impact along the Alabama Coastal Areas, Dauphin Island Sea Lab, 2/15/2011-2/14/2012, **PI**, 15K.

Satellite Data Driven Modeling System for Predicting Air Quality and Visibility during Wildfire and Prescribe Burn Events, NASA, **PI**, 8/1/2010-7/31/2012, 4 months/year \$400,000.

Characterization of Northern Gulf Coast Mercury Concentrations for Continental, Marine and Land-Sea-Breeze Flow Regimes, Southern Company, **PI**, 5/01/2012-4/30/2013, \$50,000.

Wireless Sensor Networks for Environmental Monitoring: Development and Applications, UAH, **PI**, 5/1/2012- 5/1/2013, \$56,947.

Disaster Response and Analysis Through Event-Driven Data Delivery (ED3) Technology, **CoI**, NASA, 8/16/2012-8/15/2013, \$155,523.

A scale analysis of relationships between biomass burning and the Oceanic Continents radiation and precipitation environment, NASA, **Co-I**, 1/1/2010-12/31/2014, 1.8 months/year, \$1,965,000 (UAH Subk: 300K).

The effect of absorbing aerosols on Montane Climate using Terra and Aqua data sets, NASA, **PI**, 11/1/2010-10/31/2014, \$559,112.

Atmospheric Boundary Identification and Delineation Experiment III, NSF, **CoPI**, 8/1/2011/-7/31/2014, \$507,340.

Pending Support

NRT: Interdisciplinary Training for Addressing Complex Earth System Science Challenges: Discovery, Research, Education and Decision Making (DREAM), 6/1/2017-5/31/2022, \$3,000,000.

INVITED TALKS

- International Cloud Forest Symposium, 2005
- Workshop on Climate Change and Tropical Cloud Forest Conservation, Costa Rica, 2007
- Purdue University, 2008
- Space Physics Laboratory, Vikram Sarabhai Space Center, India, 2008
- Centre for Earth Science Studies, India, 2010
- Asia Oceania Geosciences Society, Taiwan, 2011
- Kerala University, India, 2012
- Western Kentucky University, 2013
- Kerala State Biodiversity Board, India, 2013

- Colorado State University, Fall of 2014

JOURNAL PUBLICATIONS

- Jeffrey Miller, Udaysankar Nair, Rahul Ramachandran, Manil Maskey, Detection of transverse cirrus bands in satellite imagery using deep learning, *Computers & Geosciences*, Volume 118, 2018.
- Freitag, B. M., Nair, U. S., & Niyogi, D. (2018). Urban modification of convection and rainfall in complex terrain, *Geophysical Research Letters*, **45**, 2507–2515. <https://doi.org/10.1002/2017GL076834>.
- Kaulfus, A. S., U. S. Nair, D. Jaffe, S. A. Christopher and S. Goodrick (2017), Biomass Burning Smoke Climatology of the United States: Implications for Particulate Matter Air Quality, *Environmental Science & Technology*, 2017 51 (20), 11731-11741, DOI: 10.1021/acs.est.7b03292.
- Gong, X., A. Kaulfus, U. S. Nair, D. A. Jaffe, (2017): Quantifying O3 Impacts in Urban Areas Due to Wildfires Using a Generalized Additive Model, *Environmental Science & Technology*, 51 (22), 13216-13223.
- Kaulfus, A. S., U. S. Nair, C. D. Holmes, and W. M. Landing (2017), Mercury Wet Scavenging and Deposition Differences by Precipitation Type, *Environ. Sci. Technol.*, doi:10.1021/acs.est.6b04187.
- Holmes, C. D., N. P. Krishnamurthy, J. M. Caffrey, W. M. Landing, E. S. Edgerton, K. R. Knapp, and U. S. Nair (2016), Thunderstorms Increase Mercury Wet Deposition, *Environ. Sci. Technol.*, 50(17), 9343–9350, doi:10.1021/acs.est.6b02586.
- Niyogi, D., S. Subramanian, U. C. Mohanty, C. M. Kishtawal, S. Ghosh, U. S. Nair, M. Ek, and M. Rajeevan (2016), Perspectives On The Impact Of Land Cover And Land Use Change On The Indian Monsoon Region Hydroclimate, in *Land - Atmospheric Interactions in Asia*, edited by K. P. Vadrevu, T. Ohara, and C. Justice, Springer.
- Griffin, R., Oglesby, R., Sever, T. and **Nair, U.** 2014: Agricultural Landscapes, Deforestation, and Drought Severity, In G. Iannone (ed.), *The Great Maya Droughts in Cultural Context*. Boulder, University Press of Colorado, 448p.
- Mahmood, R., Pielke, R. A., Hubbard, K. G., Niyogi, D., Dirmeyer, P. A., McAlpine, C., Carleton, A. M., Hale, R., Gameda, S., Beltrán-Przekurat, A., Baker, B., McNider, R., Legates, D. R., Shepherd, M., Du, J., Blanken, P. D., Frauenfeld, O. W., **Nair, U. S.** and Fall, S., 2014: Land cover changes and their biogeophysical effects on climate. *Int. J. Climatol.*, **34**, 929–953, doi:10.1002/joc.3736.
- Nair, U. S.**, Wu, Y., Holmes, C. D., Ter Schure, A., Kallos, G., and Walters, J. T., 2013: Cloud-resolving simulations of mercury scavenging and deposition in thunderstorms, *Atmos. Chem. Phys. Discuss.*, **13**, 3575-3611, doi:10.5194/acpd-13-3575-2013.
- Ramachandran, R.; Rushing, J.; Lin, A.; Conover, H.; Xiang Li; Graves, S.; **Nair, U.S.**; Kwo-Sen Kuo; Smith, D.K., 2013: Data Prospecting—A Step Towards Data Intensive Science, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, **6**, 1233-1241, doi: 10.1109/JSTARS.2013.2248133.

- Nair, U. S.**, Y., Wu, J. Walters, J. Jansen, E. S. Edgerton, 2012: Diurnal and seasonal variation of mercury species at coastal-suburban, urban, and rural sites in the southeastern United States, *Atmospheric Environment*, 47, 499-508, ISSN 1352-2310, 10.1016/j.atmosenv.2011.09.056.
- McNider, R. T., G. J. Steeneveld, A. A. M. Holtslag, R. A. Pielke Sr., S. Mackaro, A. Pour-Biazar, J. Walters, **U. Nair**, and J. Christy, 2012: Response and sensitivity of the nocturnal boundary layer over land to added longwave radiative forcing, *J. Geophys. Res.*, **117**, D14106, doi:10.1029/2012JD017578.
- Kala, J., Lyons, T. J., **Nair, U. S.** and Wu, Y. (2012), Large-eddy simulations of surface influences on planetary boundary layer development in southwest Western Australia. *Quarterly Journal of the Royal Meteorological Society.*, doi: 10.1002/qj.1879.
- Pielke Sr., R.A., A. Pitman, D. Niyogi, R. Mahmood, C. McAlpine, F. Hossain, K. Goldewijk, **U. Nair**, R. Betts, S. Fall, M. Reichstein, P. Kabat, and N. de Noblet-Ducoudré, 2011: Land use/land cover changes and climate: Modeling analysis and observational evidence. *WIREs Clim Change* 2011, 2:828.850. doi: 10.1002/wcc.144.
- Fairman, J. G., Jr., **U. S. Nair**, S. A. Christopher, and T. Mölg (2011), Land use change impacts on regional climate over Kilimanjaro, *J. Geophys. Res.*, 116, D03110, doi:10.1029/2010JD014712.
- Nair, U. S.**, Y. Wu, J. Kala, T. J. Lyons, R. A. Pielke Sr., and J. M. Hacker, 2011: The role of land use change on the development and evolution of the west coast trough, convective clouds, and precipitation in southwest Australia, *J. Geophys. Res.*, 116, D07103, doi:10.1029/2010JD014950.
- 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, *J. Geophys. Res.*, 116, D02205, doi:10.1029/2010JD014068.
- Kala, J., Lyons, T. J., **Nair, U. S.**, 2011: Numerical Simulations of the Impacts of Land-Cover Change on Cold Fronts in South-West Western Australia. *Boundary-Layer Meteorology.*, 138: 121-138.
- Ray, D. K., R. A. Pielke Sr., **U. S. Nair**, and D. Niyogi (2010), Roles of atmospheric and land surface data in dynamic regional downscaling, *J. Geophys. Res.*, 115, D05102, doi:10.1029/2009JD012218.
- Kala, J., T. J. Lyons, D. J. Abbs and **U. S. Nair**, 2010: Impacts of Land Cover Change on the Southern Sea Breeze of Southwest Western Australia, *Boundary Layer Meteorology*, **135**, 485-503.
- Anantharaj, V. G., **Nair, U. S.**, Lawrence, P., Chase, T. N., Christopher, S. and Jones, T. (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: 2088–2104. doi: 10.1002/joc.2107.
- Mahmood, R., R. A. Pielke Sr., K. G. Hubbard, D. Niyogi, G. Bonan, P. Lawrence, B. Baker, R. McNider, C. McAlpine, A. Etter, S. Gameda, B. Qian, A. Carleton, A. Beltrán-Przekurat, T. Chase, A. I. Quintanar, J. O. Adegoke, S. Vezhapparambu, G. Connor, S. Asefi, E. Sertel, D. R. Legates, Y. Wu, R. Hale, O. N. Frauenfeld,

- A. Watts, M. Shepherd, C. Mitra, V. G. Anantharaj, S. Fall, R. Lund, A. Nordfelt, P. Blanken, J. Du, H. Chang, R. Leeper, **U. S. Nair**, S. Dobler, R. Deo, J. Syktus, 2008: Impacts of Land Use Land Cover Change on Climate and Future Research Priorities. *Bull. Amer. Meteor. Soc.*, 91,37-46.
- Christopher, S.A., P. Gupta, **U. Nair**, T.A. Jones, S. Kondragunta, Y. Wu, J. Hand, X. Zhang, 2009: Satellite Remote Sensing and Mesoscale Modeling of the 2007 Florida/Georgia Fires, *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing*, 2,163-175
- Junkermann, W., Hacker, J., Lyons, T., and **Nair, U.**, 2009: Land use change suppresses precipitation, *Atmos. Chem. Phys. Discuss.*, 9, 11481-11500.
- Wu, Y, **U. S. Nair**, R. A. Pielke, S. A. Christopher, R. McNider, V. Anantharaj, 2009: Impact of Land Surface Heterogeneity on Mesoscale Atmospheric Dispersion, *Boundary Layer Meteorology*, 133, 367-389, DOI 10.1007/s10546-009-9415-1.
- Kala, J., T.J. Lyons, I.J. Foster, and **U.S. Nair**, 2009: Validation of a Simple Steady-State Forecast of Minimum Nocturnal Temperatures. *J. Appl. Meteor. Climatol.*, 48, 624–633.
- Ray, D. K., R. A. Pielke, Sr., **U. S. Nair**, R. M. Welch, and R. O. Lawton, 2009: Importance of land use versus atmospheric information verified from cloud simulations from a frontier region in Costa Rica, *J. Geophys. Res.*, 114, D08113, doi:10.1029/2007JD009565.
- Berendes, T. A., J. R. Mecikalski, W. M. MacKenzie, Jr., K. M. Bedka, and **U. S. Nair** (2008), Convective cloud identification and classification in daytime satellite imagery using standard deviation limited adaptive clustering, *J. Geophys. Res.*, 113, D20207, doi:10.1029/2008JD010287.
- Lyons, T. J., **U. S. Nair** and I. J. Foster, 2008: Clearing enhances dust devil formation, *Journal of Arid Environments*, 72(10), 1918-1928.
- Nair, U. S.**, S. Asefi, R. M. Welch, D. K. Ray, R. O. Lawton, V. S. Manoharan, M. Mulligan, T. L. Sever, D. Irwin, A. Pounds, 2008: Biogeography of tropical montane cloud forests, 2: Mapping of Orographic Cloud Immersion, *J. Appl. Meteor. Climate*, 47 (8), 2183.
- Welch R. M., S. Asefi, J. Zeng, **U. S. Nair**, Q. Han, R. O. Lawton, D. K. Ray and V. S. Manoharan, 2008: Biogeography of tropical montane cloud forests, 1: Remote sensing of cloud base heights, *J. Appl. Meteor. Climate*, 47 (4), 960-975
- Pielke Sr., R.A., D. Stokowski, J.-W. Wang, T. Vukicevic, G. Leoncini, T. Matsui, C. Castro, D. Niyogi, C.M. Kishtawal, A. Biazar, K. Doty, R.T. McNider, **U. Nair**, and W.K. Tao, 2007: Satellite-based model parameterization of diabatic heating. *EOS*, 88, No. 8, 20 February, 96-97.
- 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, *J. Geophys. Res.*, 112, D09117, doi:10.1029/2006JD00750.
- Pielke, R.A. Sr., J. Adegoke, A. Beltran-Przekurat, C.A. Hiemstra, J. Lin, **U.S. Nair**, D. Niyogi, and T.E. Nobis, 2007: An overview of regional land use and land cover impacts on rainfall. *Tellus B*, 59,587-601.
- Jedlovec, G, **U. S. Nair**, S. Haines, 2006: Tornado damage track assessment with NASA EOS Data, *Weather and Forecasting*, 21,249-267.

- Ray, Deepak K, Ronald M. Welch, Robert O. Lawton, and **U. S. Nair**, 2006: Dry Season Clouds and Rainfall in Northern Central America: Implications for the Mesoamerican Biological Corridor. *Global & Planetary Change*, 54; 150-162.
- Pielke Sr., R.A., T. Matsui, G. Leoncini, T. Nobis, **U. Nair**, E. Lu, J. Eastman, S. Kumar, C. Peters-Lidard, Y. Tian, and R. Walko, 2006: A new paradigm for parameterizations in numerical weather prediction and other atmospheric models. *National Wea. Digest*, 30, 93-99.
- Ray, D. K., **U. S. Nair**, R. O. Lawton, R. M. Welch, and R. A. Pielke Sr., 2006: Impact of land use on Costa Rican tropical montane cloud forests: Sensitivity of orographic cloud formation to deforestation in the plains, *J. Geophys. Res.*, **111**, D02108, doi:10.1029/2005JD006096.
- Wang, J., S.A. Christopher, **U. S. Nair**, J.S. Reid, E.M. Prins, J. Szykman, J. Hand, 2006: Mesoscale transport of Central American Transport to the United States, Part 1: Top Down Assessment of Emission Strength and Diurnal Variation Impacts, *J. Geophys. Res.*, 111, D05S17, doi:10.1029/2005JD006416.
- Rushing J. A., R. Ramachandran, **U. S. Nair**, S. G., Graves, R. M. Welch, A. Lin, 2005: ADaM: A Data Mining Toolkit for Scientists and Engineers, *Computers & Geosciences*, 31, 607-618.
- Wang, J., **U. Nair**, and S.A. Christopher, 2004: GOES-8 Aerosol Optical Thickness Assimilation in a Mesoscale Model: Online Integration of Aerosol Radiative Effects, *J. Geophysical Research-Atmospheres*, 109, No. D23, D23203 04.
- Ray D. K., **U. S. Nair**, R. M. Welch, Q. Han, J. Zeng, W. Su, T. Kikuchi and T. J. Lyons, 2003: Effects of land use in Southwest Australia. 1: Observations of cumulus cloudiness and energy fluxes. *J. Geophys. Res.*, 108, NO. D14, 4414, doi:10.1029/2002JD002654.
- Nair U. S.**, R. O. Lawton, R. M. Welch, R. A. Pielke.Sr., 2003: Impact of land use on tropical montane cloud forests: 1. Sensitivity of cumulus cloud field characteristics to lowland deforestation., *J. Geophys. Res.*, **108**, NO. D7, 4206, doi:10.1029/2001JD001135.
- Lawton, R. O., **U. S. Nair**, R. A. Pielke, R. M. Welch, 2001: Climatic impact of tropical lowland deforestation on nearby montane cloud forests. *Science*, **294**, 584-587.
- Nair U. S.**, R. Weger, K.-S. Kuo and R. M. Welch, 1998: Clustering, randomness and regularity in cloud fields. 5: The nature of regular cumulus cloud fields. *J. Geophys. Res.*, **103**, 11,363 - 11380.
- Nair U. S.**, M. R. Hjelmfelt and R. A. Pielke Sr., 1997: Numerical simulation of the 9-10 June 1972 Black Hills Storm using CSU RAMS. *Mon. Wea. Rev.*, **125**, 1753-1766.
- R. A. Pielke, L. R. Bernardet, P. J. Fitzpatrick, R. F. Hertenstein, A. S. Jones, X. Lin, J. E. Nachamkin, **U. S. Nair**, J. M. Papineau, G. S. Poulos, M. H. Savoie and P. L. Vidale, 1995: Standardized test to evaluate numerical weather prediction algorithms. *Bull. Amer. Meteor. Soc.*, **76**, 46-48.

BOOK CHAPTERS

- Nair U. S.**, D. K. Ray, R. O. Lawton, R. M. Welch, R. A. Pielke Sr., and J. Calvo. 2010: Impact of deforestation on orographic cloud formation in a complex tropical

- environment. 217-227, In: Mountains in the Mist, Science for conserving and managing Tropical Montane Cloud Forest. L.A. Bruijnzeel, J.Juvik, F.N. Scatena, L.S. Hamilton and P. Bubb (Eds.), Cambridge University Press, 750p.
- Lawton, R. O., **U. S. Nair**, D. K. Ray, A. Regmi, A. Pounds, and R. M. Welch, 2010: Quantitative measures of immersion in cloud and the biogeography of cloud forest, 538-548, In: Mountains in the Mist, Science for conserving and managing Tropical Montane Cloud Forest. L.A. Bruijnzeel, J.Juvik, F.N. Scatena, L.S. Hamilton and P. Bubb (Eds.), Cambridge University Press, 750p.
- Griffin, R., Oglesby, R., Sever, T. and **Nair, U.** 2014: Agricultural Landscapes, Deforestation, and Drought Severity, In G. Iannone (ed.), The Great Maya Droughts in Cultural Context. Boulder, University Press of Colorado, 448p.

CONFERENCE PRESENTATIONS

- Nair, U. S.**, C. D. Holmes, Y. Wu, A. Ter Schure, G. Kallos, J. Walters, A. Kaulfus, 2014: Simulating Mercury Scavenging and Deposition in Thunderstorms, EPRI-Southern Company Mercury Research Synthesis Workshop, 8-9, January 2014.
- Nair U. S.**, R. Ramachandran and A. Word-Allbritton, 2014: Inductive Approach to Teaching of Dynamic Meteorology: Use of Thought Experiments and Technology Driven Science Inquiry, American Meteorological Society Annual Meeting, 2-6 February 2014, Atlanta, Georgia.
- Nair, U. S.**; and J. G. Fairman Jr., S. Cantonwine, J. S. Reid, and S. Christopher, 2013: Land use change impacts on cloud and precipitation formation in the coastal regions of Sarawak, Malaysia, American Meteorological Society Annual Meeting, 5-10 January 2013, Austin Texas.
- McNider, R. T.; G. Steeneveld; B. Holtslag; R. A. Pielke; S. Mackaro; **U. S. Nair**; A P. Biazar; J. R. Christy; J. Walters, 2012: Response and Sensitivity of the Nocturnal Boundary Layer Over Land to Added Longwave Radiative Forcing, American Geophysical Union Fall meeting, 3-7 December 2012, San Francisco, CA.
- Fairman, J. G., **U. S. Nair**, S. A. Christopher, The Meteorology of Kilimanjaro Over One Year At One Kilometer, American Meteorological Society, Annual Meeting, 22-26 January, 2012, New Orleans, U. S. A.
- Fairman, J. G., **U. S. Nair**, S. A. Christopher, Annual Land Cover Change Impacts on Mount Kilimanjaro, American Meteorological Society, Annual Meeting, 22-26 January, 2012, New Orleans, U. S. A.
- Nair U. S.**; Ken Keiser; Yuling Wu; Manil Maskey; Denise Berendes; Patrick Glass; Abhijaya Dhakal; Sundar A. Christopher, 2012: Satellite data driven modeling system for predicting air quality and visibility during wildfire and prescribed burn events, American Geophysical Union Fall meeting, 3-7 December 2012.
- Carroll, J; K. S. McNeal, C. C. Williams, J. O. Paz, H. Cho, **U. S. Nair**, J. Geroux, C. Guthrie, K. Wright, J. Hill, Creating a Library of Climate Change Education Resources for Audiences in the Southeast United States, American Geophysical Union, Annual Meeting, 5-9 December, 2011, San Francisco, U. S. A.
- D. Rutherford, K. S. McNeal, R. Smith, D. Hare, **U. S. Nair**, Creating a Partnering Community Aimed to Foster Climate Literacy in the Southeastern United States,

- American Geophysical Union, Annual Meeting, 5-9 December, 2011, San Francisco, U. S. A.
- M. Maskey, E. Yang, S. A. Christopher, K. Keiser, **U. S. Nair**, S. J. Graves, How Clean is your Local Air? Here's an app for that, American Geophysical Union, Annual Meeting, 5-9 December, 2011, San Francisco, U. S. A.
- Nair U. S.**, Regional climate forcing impacts on convection in tropical mountain environments, Asia Oceania Geophysical Society, 8-12 August, 2011, Taipei, Taiwan.
- Nair, U. S.**, Y. Wu, C. D. Holmes, A. ter Schure, J. Walters, J. Jansen and E. Edgerton, Impact of thunderstorm morphology on mercury deposition, The 10th International Conference on Mercury as a Global Pollutant (ICMGP), 24-29 July 2011, Halifax, Nova Scotia.
- Wu, Y., **U. S. Nair**, C. D. Holmes, A. ter Schure, J. Walters, J. Jansen and E. Edgerton, Impact of Thunderstorm Morphology on Mercury Deposition, American Meteorological Society, Annual Meeting, 22-26 January, 2012, New Orleans, U. S. A.
- Wu Y. **U. S. Nair**, J. Walter, J. Jansen, E. Edgerton, 2010: Diurnal and seasonal variation of mercury species in the southeastern United States, 90th AMS Annual meeting, Atlanta, GA.
- Anantharaj, V, **U. S. Nair**, A. Song, L. Wasson, S. Christopher, P. J. Fitzpatrick, R. King, 2008: Numerical model simulations of regional weather and climate impacts due to changes in historical landuse in lower Mississippi river valley, 88th AMS Annual Meeting, New Orleans, LA.
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