**Curriculum Vitae**

**Dr. J. Marshall Shepherd**

**University of Georgia**

Associate Dean for Research, Scholarship, and Partnerships, Franklin College of Arts and Sciences (UGA)

Georgia Athletic Association Distinguished Professor of Geography and Atmospheric Sciences

Director, UGA Atmospheric Sciences Program

Associate Director for Climate and Outreach, Institute for Resilient Infrastructure Systems

**Other Affiliations**

Host, Weather Channel Weather Geeks

Senior Contributor, Forbes

**Member**, National Academy of Sciences, National Academy of Engineering, and the American Academy of Arts and Sciences (*Elected to all three in 2021, 1st UGA Professor in history to achieve this honor*)

**Other Affiliations/Titles:** UGA Water Resources Faculty, College of the Environment, and the UGA Initiative for Climate and Society, Georgia Climate Project

**Tenure Status:** Tenured (2009)

**Graduate Faculty Status:** Appointed to Full Graduate Faculty at University of Georgia, March 2006

Appointed to Graduate Faculty at Purdue University, July 2008

**Highest Degree:** Ph.D. Physical Meteorology, Florida State University, Tallahassee, Florida, 1999

M.S. Physical Meteorology, Florida State University, Tallahassee, Florida, 1993

B.S. Meteorology, Florida State University, Tallahassee, Florida, 1991

**Academic Positions**

August 2011-Present Full Professor, Georgia Athletic Association Distinguished

Professor of Geography

Director, Atmospheric Sciences Program, University of Georgia

January 2017-May 2018 Associate Head, Department of Geography

January 2006-2011 Associate Professor, University of Georgia

**Other Professional Employment**

1991-1992 Meteorological Technician, NOAA-NWS, Tallahassee, Florida.

1991-1993 Consulting Meteorologist, Metropolitan Weather Solvers, Tallahassee, Florida.

1991-1993 Research Assistant, Mesoscale Meteorology Group, Florida State University,

Tallahassee, Florida.

1993-1993 Research Meteorologist, Science Systems and Applications, Inc., Lanham, Maryland.

1993-2005 Research Meteorologist, NASA Goddard Space Flight Center, Greenbelt Maryland. (including GPM

Deputy Project Scientist and a 1-year Detail at NASA Headquarters,)

**RESEARCH AREAS AND EXPERTISE**

My research seeks to understand aspects of Earth’s hydrometeorological and hydroclimate system (i.e. cloud systems, thunderstorms, hurricanes, precipitation) using advanced satellites, experimental aircraft, radars, and sophisticated computer models. I also explore the physical, human, and socio-economic aspects of extreme weather and global climate change. I am also interested in innovative strategies to infuse research data into applications, outreach, and instructional communities. My research group at UGA is called the Applied Hydrometeorology and Urban Climate Lab (<https://geog.franklin.uga.edu/research/lab/applied-hydrometeorology-and-urban-climate-lab>).

**Urbanization and the Weather-Hydroclimate System**: The overarching goal is to characterize possible urban-related (land cover, anthropogenic heating, and pollution) influences on spatio-temporal variability in the hydroclimate and to pose sound physical explanations for such interactions using in-situ and remote sensing data and numerical models.

**Tropical Precipitating Systems:** The overarching research goal is to characterize and quantify precipitation within tropical precipitating systems. An extension of this research examines whether the contribution of tropical cyclones is changing in response to natural or anthropogenic climate change.

**Extreme Weather and Climate Events:** The goal of this research is to examine the relationship between extreme climate events and extreme manifestations of weather. This is a fertile area of research as the Inter-governmental Panel on Climate Change continues to project increased frequency and/or intensity of extreme water cycle events.

**Climate Vulnerability:** The goal of this research is to quantify current and future vulnerability of human populations, particularly under-represented groups, to long-term and episodic climate change events. This research was stimulated via a partnership with the USDA Forest Service.

**Innovative Applications of Physical Geographic and Climate Data:** This track encompasses a wide variety of research interests related to integrating weather and climate data/analysis into decision support systems and societal applications. Examples of this work include funding by the U.S. Forest Service (USFS) to explore the socio-political, weather, air quality, and health implications swirling around the long-running conflict between residents of the Newton community in Gainesville, Georgia and industrial pollutant sources. Other projects investigate the complex coupled human-natural system in urban environments and implications for public health. Recent projects have also explored the use of Multi-User Virtual Environments to teach Geosciences and expose minorities to STEM.

**Diversity in the Atmospheric Sciences:** Numerous activities and a grant from the National Science Foundation have forged a new area that straddles education and outreach. We are developing innovative strategies for broadening the exposure of under-represented groups to climate science.

**SUMMARY OF KEY LEADERSHIP POSITIONS**

During my career, I have exhibited key leadership positions at the International and National Levels. A sample of my leadership activities includes:

**2023 – Present, Associate Dean for Research, Scholarship, and Partnership, University of Georgia, Franklin College of Arts and Sciences:** In this role, I lead the strategic development of a large, complex, multidisciplinary research ecosystem within the largest college at the University of Georgia. My portfolio also includes growing research expenditures, elevating the stature of our research and scholarship, developing strategies to increase external recognition, and building new partnerships. The Franklin College of Arts and Sciences has five divisions: Humanities, Life Sciences, Physical and Mathematical Sciences, Social and Behavioral Sciences, and Arts.

**2011 – Present, Director, Atmospheric Sciences Program, University of Georgia (Current):** In this role, I direct the AMS and Federally-credential atmospheric sciences program. The program addresses the needs of students interested in studying meteorology or climate science. Under my leadership, the University of Georgia became the 78th membership of the University Corporation for Atmospheric Research (UCAR) and a member of the WSI National Lightning Network. From 2008-2015, our program faculty has attracted over $12 million dollars in extramural grants, contributed over 110 peer-reviewed journals, and provided key experts to the media and nation on weather and climate topics. For example, in February 2013, I briefed the U.S. Senate Committee on Environment and Public Works and in 2015 briefed members of the Congress and White House staff. My colleagues and I are also frequently sought for major media appearances or Opinion Editorials. Our program is also notably regarded on the UGA campus and is well supported by University Administrators, including President Jere Morehead. In 2015, we proposed a new Atmospheric Sciences major at the University of Georgia. The program was approved by the State Board of Regents in August 2016. I also secured the program’s first major donor and endowment. In 2016, we partnered with the Office of Preparedness to make UGA the first SEC member of the WeatherSTEM network. The program now operates a full weathercasting study and a dual-polarimetric X-Band weather radar system. I have been directly engaged in development efforts to secure funding for our program since it does not have a line budget from the University.

**2017-2018 Associate Head, Department of Geography, University of Georgia:** In this role, I served as the deputy administrator in the Department and an ex-officio member of the departmental advisory committee. My responsibilities included scheduling departmental courses, managing faculty teaching schedules, strategic planning for external awards, and other tasks as designated by the Department Head.

**2017 – Present, Founding partner, Georgia Climate Project:** In this role, we helped found and build a consortium in the state of Georgia focused on climate science and solutions in a non-partisan, academic approach. Secured funding from the Ray C. Anderson Foundation, in two rounds, to build the network.

**2018-2021 University of Georgia Lead PI, Drawdown Georgia:** In this role, I serve as the lead administrator for a large multi-institutional project funded by the Ray C. Anderson Foundation. The project is an ambitious effort to quantify carbon drawdown solutions for the state of Georgia. I lead the UGA research effort and serve on the broader project core team.

**President of the American Meteorological Society (2013):** The American Meteorological Society is one of the leading professional societies in the world, dedicated to weather, climate, and related sciences. As President of the organization, I was elected by the nearly 14,000 members and preside over the AMS Executive Council and Executive Committee, which oversees the organization and its multi-million-dollar budget and portfolio. I also provided vision and leadership on issues of the day facing the weather, climate, and related communities. AMS publishes several of the highest rated and cited journals in weather and climate fields and is seen as a key broker of information and leadership on weather/climate issues of the day. In this role, I also served as the U.S. representative to the International Federation of Meteorological Societies (IFMS). I also chaired the Executive Council and Executive Committee and led the annual performance review of the Executive Director.

**2017-2020 Chair, NASA Earth Science Advisory Committee:** The NASA Earth Science Advisory Committee is one of the FACA mandated committees that advises the agency. I served as chairman of this committee and facilitated relevant activities in that role.

**2016-2017 SEC Academic Leadership Fellow:** I was selected as one of four faculty leaders at the University of Georgia to participate in the SEC’s Leadership Fellows program. This program selects potential Academic leaders and immerses them within 1-year leadership and higher administration program with peers at UGA and across the SEC schools.

**International and National Advisory Roles:** I currently serve on the National Academes’ Board of Atmospheric Sciences (BASC) and the Space Studies Board. I have served as a member of the Nature Conservancy (Georgia) Board of Trustees, Board of Climate Central, Mothers and Others for Clean Air Partnership Council, NOAA Science Advisory Board, NOAA Climate Working Group, Department of Energy ARM Science Board, NSF Advisory Committee for Environmental Research and Education, NSF Committee of Visitors, Biocomplexity Program, Earth Science Subcommittee of the NASA Advisory Council, Mothers and Others for Clean Air Partnership Council, National Center for Atmospheric Research (NCAR) Director Search Committee, University Space Research Association (USRA) Earth Science Advisory Board, Department of Energy expert panel on Cool Roof Initiative and Climate Change, NASA/NOAA/Howard University Programmatic Advisory Committees and 2 National Academy of Science Studies (i. Implications of Climate Change on National Security and U.S. Naval Operations and ii. Urban Meteorology). I have also served on a World Meteorological Organization advisory committee related to aerosols, clouds, and precipitation and the external review committee for NOAA’s Climate Prediction Center and Hydrometeorological Prediction Center. I was also a contributing author to a chapter in the 2007 IPCC report (AR4). At the University level, I also served on the 2013 UGA Provost Search Committee, the Franklin College of Arts and Sciences Faculty Senate and the Center for Integrative Conservative Research (CICR) Executive Committee.

**Host, Weather Channel WxGeeks** **(Current):** Weather Geeks is a pioneering national Sunday talk show/Podcast by The Weather Channel. The show discusses contemporary weather and climate topics. The show has garnered strong critical reviews and an Award from the American Meteorological Society.

**Ted Talks:** I have delivered three TED X talks that together have over 3 million views. One was featured on the TED website.

**Editorships:** I have served as an editor for both the Journal of Applied Meteorology and Climatology (JAMC) and Geography Compass. I have also served as the Climatology Editor for the Wiley/Association of American Geographers (AAG) Encyclopedia of Geography and the Associate Editor for Weather at the IEEE-sponsored Earthzine.

**Former Deputy Project Scientist, NASA Global Precipitation Measurement (GPM) Mission:** While at NASA Goddard Space Flight Center, I served as the Deputy Project Scientist on a major NASA mission seeking to measure precipitation from space. GPM will improve weather, climate, and hydrological forecasting and is slated for a 2014 launch date. In this role, I was a part of the scientific leadership team that interfaced with the engineers, NASA Headquarters staff, and international partners. GPM is an approximately $1 billion dollar mission in aggregation.

**INSTRUCTION AND CONTINUING EDUCATION**

Courses taught in support of general physical geography curriculum within the Department of Geography and the Atmospheric Sciences Certificate program.

**a. Description of Existing Courses Taught**

**GEOG 1112 (plus Honors Section (GEOG2120) occasionally). Introduction to Weather and Climate.** 3 hours. Atmospheric composition and structure, clouds, precipitation, and atmospheric motion and winds. Organized weather systems, including air masses, fronts, and severe weather. Discussion of global climates includes circulation, wind systems, climate classification, and climate change. Typical enrollment: 88 to 300 students.

**HON 1990H Honors College Seminar.** 1 hour. Joint course with Warnell School of Forestry and Natural Resources. The course was a survey course on climate change and migratory birds and a pre-cursor to a course series funded by NASA (Shepherd as a co-Investigator).

**ATSC/GEOG 4140/6140. Satellite Meteorology/Climatology.** 3 hours. Application of satellite remote sensing in meteorology and climatology. Applications include clouds, atmospheric water vapor and precipitation, the Earth's radiation budget, sea and land surface temperatures. Typical enrollment: 15 to 25 students.

**GEOG 8120. Seminar in Climatology.** 3 hours. Advanced topics in physical climatology such as climate change, microclimatology, urban climatology or synoptic climatology. Specific topics may vary. Topics that have covered include urban climate systems, cooling trends in the southeastern United States, climate policy, tropical meteorology, and Superstorm Sandy. Typical enrollment: 7 to 15 students.

**GEOG 8290. Directed Problems in Physical Geography.** 1-3 hours. Repeatable for maximum 9 hours credit. Advanced problems in physical geography. Topics vary.

**GEOG 7000. Master's Research.** 1-9 hours. Repeatable for maximum 45 hours credit. Research while enrolled for a master's degree under the direction of faculty members.

**GEOG 7005. Graduate Student Seminar.** 3 hours. Repeatable for maximum 45 hours credit. Advanced supervised experience in an applied setting.

**GEOG 7300. Master's Thesis.** 1-9 hours. Repeatable for maximum 45 hours credit. Thesis writing under the direction of the major professor. Non-traditional format: Independent research and thesis preparation.

**GEOG 9005. Doctoral Graduate Student Seminar.** 3 hours. Advanced supervised experience in an applied setting. This course may not be used to satisfy a student's approved program of study.

**b. Description of Courses Established by M. Shepherd**

**ATSC/GEOG 4160/6160. Applied Climatology in the Urban Environment.** 3 hours. (New Course Using Modification to existing Applied Climatology Course Name and Number). The interaction of the urban environment with the Earth’s climate system including weather, climate, hydrology, carbon cycle, nitrogen cycle, and societal activities. The course also provides an opportunity for students to participate in an urban climate field experiment. Typical enrollment: 15 to 25 students.

**ATSC/GEOG 4170/6170. Mesoscale/Radar Meteorology and Climatology**. 2 hours + 2 hour lab. (New course, Spring 2010). Fundamental theory, analysis, and exercises on mesoscale weather phenomena and principles of radar meteorology. A major topical focus will be thunderstorms, mesoscale convective systems, and tornadic supercells. This course fills a gap in our Atmospheric Sciences Certificate curriculum. Our Atmospheric Sciences Certificate already meets major community benchmarks of the National Weather Service and AMS, but feedback from students and faculty establish the need for a course that addresses fundamentals of radar meteorology and mesoscale processes. Typical enrollment: 15 to 25 students.

**Odyssey Seminar. Studying the Earth From the Perspective of Space**. 1 hour. Freshman seminar examining all aspects of Earth system science from the perspective of space. The course will expose freshmen to current topics, methods, and discussion and integrate a significant writing component.

**ATSC/GEOG 3135. Hidden Figures in Atmospheric Sciences.** 3 hours. Dr. John Knox and I proposed this course and received funding from the Franklin College of Arts and Sciences. It explores the hidden figures of atmospheric sciences from the perspective of race, culture, gender, and disabilities. The course also meets UGA’s multicultural requirement.

**c. Other Instructional and Teaching Contributions**

**Climatology Laboratory:** Key organizer and developer of new laboratory space acquired by the Department of Geography to support the growing climate group. The space includes 6-8 computer workstations, a projection and display system for weather discussions and lectures, a flat-screen monitor, and storage space for field equipment and demonstration kits. The lab has been an invaluable resource for instruction, graduate defenses, student community building, and research collaboration meetings.

**Teaching Evaluations:**  The department uses a scoring system ranging from 1 to 5 points, with a score of 1 being the best score possible, 3 being an average score, and 5 being the worst score possible. This evaluation form changed in 2001 and now asks students to evaluate instructors in eight areas related to teaching effectiveness. My ratings are consistently at or near 1.0.

**Innovative strategies:** Through funding from the Franklin College of Arts and Sciences (2020), Dr. John Knox and I proposed a course that explores the hidden figures of atmospheric sciences from the perspective of race, culture, gender, and disabilities. The course also meets UGA’s multicultural requirement.

Through funding from the UGA Office of STEM (2015), we developed innovative strategies to use Multi-User Virtual Environments to teach Geosciences concepts. This project evolved into an NSF ITEST proposal involving Geography, Anthropology, and the College of Education.

Through funding from the Northeast Georgia Partnership for Reform in Science and Math (PRISM), I developed inquiry-based modules and lessons based on a realistic climate modeling system called EdGCM. These lessons are now an integral part of the instructional format of the Introduction to Weather and Climate laboratory (GEOG1112L). In developing these modules, we used the concept of today’s students as “digital natives” and argued that learning tools must leverage their comfort level and exposure to new digital media.

Co-PI on a NASA-funded effort in the Warnell School of Forestry to create a three-course sequence on aspects of observing and modeling climate change-migratory bird relationships. We developed a prototype Honors (HON 1990H) course that was team-taught for the first time in Spring 2010.

In 2006-2007, the AMS Online Weather Course, Module, and Tools were also introduced to the Geography Department’s resources.

Founded Weather-Climate Science Chat Series with Alcova Elementary School (Gwinnett County) in 2013, <http://www.gwinnettdailypost.com/news/2013/nov/13/alcova-fourth-graders-video-conference-with/>

(With Dr. John Knox) Developed an nationally-innovative graduate seminar course on Superstorm Sandy only a few weeks after the hurricane affected parts of the United States in the Fall of 2012. Their course was taught in the Spring of 2013 and was arguably the only course of its kind. The course was also completely blogged by both instructors: http://deconstructingsuperstormsandy.blogspot.com

**Instructional Resources:** Through my funded research, Department of Geography instructional resources/capacity were augmented with the renewal of the Idrisi Taiga software system (4/09) and the acquisition of a Dustrak air quality monitor to support micrometeorological studies (2008). We have also acquired a Thermal IR gun and secured funding for a fully functioning weather studio and weather radar, respectively.

**SUMMARY OF DEVELOPMENT ACTIVITIES**

* 50% of $150,000 for purchase for joint UGA – GT X-Band Radar System (engaged key donors)
* Attracted $20,000 in donations from the Ray C. Anderson Foundation for the Atmospheric Sciences Program
* Assisted in fundraising for $20,000 WSI Max Weather Production System including leveraged access to key Foundation and Private Sector donors (including a contribution from the Ray C. Anderson Foundation on behalf of Dr. Shepherd’s work).
* Secured 1st endowed donation for UGA Atmospheric Sciences Program
* Developed UGA Atmospheric Sciences Program Alumni Council

**1. RECOGNITION AND OUTSTANDING ACHIEVEMENTS**

2023 Environmental Law Institute Environmental Achievement Award

2022 Southeastern Conference (SEC) Professor of the Year

2022 *Georgia Trend* Magazine 100 Most Influential Georgians

2022 UCAR/NCAR Walter Orr Roberts Distinguished Lecturer

2021 AGI Award For Public Engagement in The Geosciences

2021 Elected to the National Academy of Sciences

2021 Elected to the American Academy of Arts and Sciences

2021 Elected to the National Academy of Engineers

2021 Friends of the Planet, National Council of Science Educators

2020 AAAS Mani L. Bhaumik Award for Public Engagement With Science

2019 AGU Climate Communication Prize

2018 University of Florida Journalist in Residence (November)

2018 UGA 1st Year Odyssey Seminar Teaching Award

2018 AMS Helmut E. Landsberg Award

2017 ESRI GIS Paper of the Year (shared award)

2017 AMS Charles Franklin Brooks Award

2016 Selected as SEC Academic Leadership Development Program Fellow

2016 Florida State University, Spring Undergraduate Commencement Speaker

2015 Florida State University, Graduate Made Good (Highest Alumni Honor)

2015 AAG Excellence In Media Award

2015 Franklin College of Arts and Sciences General Sandy Beaver Award for Excellence in Teaching

2015 American Meteorological Society-National Weather Association C.L. Chandler Award to WxGeeks Team (shared with Weather Channel colleagues) for outstanding contributions to the community

2014 Distinguished UGA Athletic Association Professor in the Social Sciences Departments

2014 Captain Planet Foundation Protector of the Earth Award

2013 UGA Athletic Association Professor in the Social Sciences Departments

2011 Franklin College of Arts and Sciences Excellence in Diversity Leadership Award

2011 Promoted to Full Professor at the University of Georgia

2011 Received the AMS Charles Anderson Award

2011 Outstanding Alumni Award, FSU Black Alumni Association

2010 Awarded tenure at the University of Georgia

2010 Nominated to attend 2010 UGA Teaching Academy Faculty Symposium

2009 Inducted as a Fellow of the American Meteorological Society\*\*

2007 Contributing Author to Nobel Prize Winning IPCC AR4\*\*

2005 Black Enterprise Magazine “Hot List”

2005 Network Journal Magazine “Forty under 40” recipient

2004 Recipient of Presidential Early Career Award for Scientists and Engineers (**PECASE**)\*\*

2004 NASA.GSFC Group Award for Contributions to the JASON Project

2004 Special Act Award (NASA OES)

2003 Peer Award for Scientific Research

2002 Recipient of NASA New Investigator Program Award

2001 Laboratory for Atmospheres Outreach Award

2001 NASA/GSFC Group Achievement Award

2001 Special Act Award for superior performance of a special act (Horizon team)

2001 Special Act Award for superior performance of a special act (Outreach Initiatives)

NASA Performance. (FY03,FY00,FY98,FY97,FY96,FY95,FY94)

1999 1st African American to receive PhD in Meteorology from Florida State University\*\*

1999 NASA/GSFC Special Act Award for superior performance

1999 NASA/GSFC Group Achievement Award-AGS Imager Team

1987-1993 American Meteorological Society (AMS)/TRW Industry Fellow

National Science Foundation (NSF) Fellow Competition (Honorable Mention)

Dolores Auzene Fellow (FSU).

Leslie N. Wilson Assistantship Recipient (FSU)

National Achievement Scholar

American Geological Institute Scholar

Chi Epsilon Pi Meteorology Honorary

Omicron Delta Kappa National Honorary

Who's Who Among College Students

Outstanding College Student of America

1990 National Collegiate Forecast Winner (Burlington, VT period).

1987 High School Valedictorian, Cherokee High School

**SCHOLARLY ACTIVITIES**

**2. PUBLICATIONS**

\* Stringent Peer Review, \*\*Invited and/or Carry Prestige and Recognition

Current or former students (*italics*)

**Books Authored or Co-Authored**

2023 National Academies of Sciences, Engineering, and Medicine. *Compounding Disasters in Gulf Coast Communities, 2020-2021 Impacts, Findings, and Lessons Learned* ((includes **J.M. Shepherd as an author)**. Compounding Disasters Consensus Study Committee. Gulf Health and Resilience Board. Gulf Research Program. National Academies Press. Washington, DC (In review)

2023 American Academy of Arts and Sciences, Commission on Accelerating Climate Action. Proven Principles of Effective Climate Change Communication. https://www.amacad.org/publication/proven-principles-effective-climate-change-communication

2020 **Shepherd, J.M.,** *The Race Awakening of 2020: A 6 Step Guide for Moving Forward*. Self-Published at KDP Amazon.

2020 Shepherd, A., and **M. Shepherd**, *40 Days, 40 Nights: Daily Takes (and Lessons) From A Suburban*

*Family in Coronavirus "Quarantine*. Self-Published at KDP Amazon

2016 National Academies of Sciences, Engineering, and Medicine. 2016. *Attribution of Extreme Weather*

*Events in the Context of Climate Change* (includes **J.M. Shepherd as an author**). Washington, DC: National Academies Press. DOI: 10.17226/21852.

2014 Bortz, F. and **J.M.** **Shepherd**, 2014: *Dr. Fred’s Neighborhood Weather Watch*. McGraw-Hill Publishers.

98 pp. 2nd Edition.

2012 National Research Council Committee on Urban Meteorology, 2012: *Urban Meteorology: Scoping the*

*problem, Defining the Need* (includes **J.M. Shepherd as author**). The National Academies Press, Washington, D.C. http://www.nap.edu/catalog.php?record\_id=13328.

2011 National Research Council Committee on National Security Implications of Climate Change for U.S. Naval

Forces (includes **J.M. Shepherd as author**), 2011: *National Security Implications of Climate Change for U.S. Naval Forces*. The National Academies Press, Washington, D.C., 226 pp. <http://www.nap.edu/catalog.php?record_id=12914>

2000 Bortz, F. and **J.M.** **Shepherd**, 2000: *Dr. Fred’s Neighborhood Weather Watch.* McGraw-Hill Publishers.

98 pp.

**Books Edited or Co-Edited**

**Chapters in Books**

2023 **Shepherd, J.M.,** S. Holloway, J. Shannon, S. Markley, and Y. Wei, 2022: Assessment of race, urban heat, and redlining in the Atlanta metropolitan area. Climate Change and Health Justice: Applying an equity approach. Eds. D. Dawes, M. Standifer, C. Amador, and S. Johnson. Johns Hopkins University Press (In Press).

2022 **Shepherd, J.M.,** 2022: The Weather-Climate Gap and The Black Community. *The Black Agenda*. Edited by Anna Gifty Opoku-Agyeman. St. Martin’s Press, 288 pp.

2021 **Shepherd, J.M.,** 2021: Foreword for *Forest as Fuels*. Lexington Books, 253 pp.

2021 Shultz, J. M., J. P. Kossin, **J. M. Shepherd**, C. Ettman, J. M. Ransdell, G. V. Desir, and S. Galea, 2018: Tropical cyclone impacts on island-based populations: The 2017 Atlantic hurricane basin’s perfect storm season. Submitted to the *Oxford Handbook of Complex Disaster Risks*, Shultz, J. M., Rechkemmer, A., Johnson, N. (eds.). New York, NY, Oxford University Press. (In Press)

2017 *Andersen, T*., **and J.M. Shepherd**, 2017: The Brown Ocean Effect: Re-intensification of Landfallling Tropical Cyclones. *Hurricanes and Climate Change*, In: Collins J., Walsh K. (eds) Hurricanes and Climate Change. Springer, Cham. 117-134. doi: https://doi.org/10.1007/978-3-319-47594-3\_5

2016 *Mitra, C*. **and Shepherd, M**., 2016: Urban Precipitation: A global perspective. *The Routledge Handbook*

*of Urbanization and Global Environment Change*. Edited by Karen C. Seto and William Solecki,

Routledge, 581 pp.

2014 **Shepherd, M.** 2014: Space-based measurement of precipitation. Contributed essay in *The Atmosphere,*

*13th Edition* by Frederick Lutgens and Edward Tarbuck, Pearson, 466 pp.

2013 Hossain, F., A.M. Degu, A.T. Woldemichael, W Yigzaw, *C. Mitra*, **J.M. Shepherd**, and AHM Siddique-E Akbor, 2013: Water Resources Vulnerability in the Context of Rapid Urbanization of Dhaka City (a South

Asian Megacity). *Climate Vulnerability.* Ed. Roger Pielke. Elsevier, 1570 pp.

2013 **Shepherd, J.M**., 2013: Impacts of Urbanization on Precipitation and Storms: Physical Insights

and Vulnerabilities. *Climate Vulnerability*. Ed. Roger Pielke. Elsevier, 1570 pp.

2013 Vose, J., T.L. Mote, **J.M. Shepherd**, B. KC, and *C.* Strother, 2013: Framing the future in the southern

United States: Climate, land use and forest conditions. *Climate Change Adaptation and Mitigation*

*Management Options*. Eds. J. Vose and K. Klepzig. Routledge. pp 9-43.

2013 Quattrochi, D. with K. Dow, J. Gaffney, P. Long, S. McNulty, **M. Shepherd**, S. Shuford, and B. Stone 2013: Climate interactions with the built environment in the Southeast USA, in *Climate of the Southeast United States: Variability, Change, Impacts, and Vulnerability*, NCA Regional Inputs Report, Eds. K. Ingram et al. Springer, pp 86-108. DOI: 10.5822/978-1-61091-509-0\_5

2010 **\*\*Shepherd, J.M.**, J.A. Stallins, M. Jin, and T.L. Mote, 2010:  Urban effects on precipitation and

associated convective process. *The Routledge Handbook of Human Ecology*. Eds. Ian Douglas et al. Taylor and Francis Books, 688 pp.

2010**Shepherd, J.M.**, 2010: Essay entitled “Urbanization and its effects on key atmospheric and

surface water cycle.” In *Principles of Water Resources*, 3rd Edition by T. Cech. John Wiley and Sons, Inc.

546 pp.

2010 **\*\*Shepherd, J.M.**, W. Shem, M. Manyin, *L. Hand*, and D. Messen, 2010: Modeling Urban

effects on the precipitation component of the water cycle. Invited chapter for the book: *Geospatial Analysis and Modeling of Urban Environments*. Eds. X. Yao and H. Jaing. Springer Book Series and GIScience, 445 pp.

2008 \**Mitra C*., **Shepherd J.M.**, and Jordan T. R., 2008: Assessment and dynamics of the urban

growth in the city of Kolkata, India. Eds. A.K. Dutt, V. Wadhwa, B. Thakur, and G.M. Pomeroy. *Social Geography for the 21st Century*. (Contract with) Concept Publishing Company. New Delhi.

2008 Reynolds, S., Burian, S., **Shepherd, J.M.**, and Manyin, M., 2008: Chapter 7: Urban induced rainfall modifications on urban hydrologic response. In: *Reliable Modeling of Urban Water Systems*. Edited by W. James et al. Computational Hydraulics International. Guelph, Ontario, CA. pp. 99-122.

2008 \*\*Hou, A.Y., G.S. Jackson, C. Kummerow, and **J.M. Shepherd**, 2008: *The Global Precipitation Measurement Mission. Precipitation: Advances in measurement, estimation, and prediction*. Edited by Silas Michaelides. Springer. 540 pp.

2007 \* and \*\*Lead Authors: Trenberth, K.E., P.D. Jones, P. Ambenje, R. Bojariu, D. Easterling, A.

Klein Tank, D. Parker, F. Rahimzadeh, J.A. Renwick, M. Rusticucci, B. Soden and P. Zhai Contributing Authors: R. Adler (USA), L. Alexander (UK, Australia, Ireland), H. Alexandersson (Sweden), R. Allan (UK), M.P. Baldwin (USA), M. Beniston (Switzerland), D. Bromwich (USA), I. Camilloni (Argentina), C. Cassou (France), D.R. Cayan (USA), E.K.M. Chang (USA), J. Christy (USA), A. Dai (USA), C. Deser (USA), N. Dotzek (Germany), J. Fasullo (USA), R. Fogt (USA), C. Folland (UK), P. Forster (UK), M. Free (USA), C. Frei (Switzerland), B. Gleason (USA), J. Grieser (Germany), P. Groisman (USA, Russian Federation), S. Gulev (Russian Federation), J. Hurrell (USA), M. Ishii (Japan), S. Josey (UK), P. Kållberg (ECMWF), J. Kennedy (UK), G. Kiladis (USA), R. Kripalani (India), K. Kunkel (USA), C.-Y. Lam (China), J. Lanzante (USA), J. Lawrimore (USA), D. Levinson (USA), B. Liepert (USA), G. Marshall (UK), C. Mears (USA), P. Mote (USA), H. Nakamura (Japan), N. Nicholls (Australia), J. Norris (USA), T. Oki (Japan), F.R. Robertson (USA), K. Rosenlof (USA), F.H. Semazzi (USA), D. Shea (USA), **J.M. Shepherd** (USA), T.G. Shepherd (Canada), S. Sherwood (USA), P. Siegmund (Netherlands), I. Simmonds (Australia), A. Simmons (ECMWF, UK), C. Thorncroft (USA, UK), P. Thorne (UK), S. Uppala (ECMWF), R. Vose (USA), B. Wang (USA), S. Warren (USA), R. Washington (UK, South Africa), M. Wheeler (Australia), B. Wielicki (USA), T. Wong (USA), D. Wuertz (USA), 2007: Observations: Surface and Atmospheric Climate Change. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).* Eds. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller. Cambridge University Press, Cambridge. United Kingdom and New York, NY, USA, 235-336.

**Note: The Intergovernmental Panel on Climate Change shared in the Nobel Prize (2007).**

2007 \*\*Imhoff, M., L. Bounani, and **J.M. Shepherd**, 2007: The gray wave. *Our Changing Planet: A View from Space.* Eds. Robin G. Williams, Kim Partington, Claire Parkinson, and Michael D. King. Cambridge University Press. 500 pp.

2007 \*\*Smith, A., G. Asrar, Y. Furuhama, A. Ginati, C. Kummerow, V. Levizzani, A. Mugnai, K. Nakamura, R. Adler, V. Casse, M. Cleave, M. Debois, J. Durning, J. Entin, P. Houser, T. Iguchi, R. Kakar, J. Kaye, M. Kojima, D. Lettenmaier, M. Luther, A. Mehta, P. Morel, T. Nakazawa, S. Neeck, K. Okamoto, R. Oki, G. Raju, **J.M. Shepherd**, E. Stocker, J. Testud, and E. Wood, 2007: *International Global Precipitation Measurement (GPM) program and mission: An overview. Measuring Precipitation from Space - EURAINSAT and the future.* Eds. V. Levizzani, P. Bauer, and F. J. Turk. Springer, 611-653.

**Monographs**

2019 Haupt, S., S. Hanna, M. Askleson, **M. Shepherd**, *M. Fragomeni*, *N. Debbage*, and *B. Johnson*, 2019: *100 Years of Scientific Research at AMS, 100 years of Progress in Applied Meteorology*. Part II: Applications that Address Growing Populations. AMS Monograph, https://journals.ametsoc.org/doi/abs/10.1175/AMSMONOGRAPHS-D-18-0007.1

2018 Haupt, S., B. Kosovic, S. McIntosh, F. Chen, K. Miller**, M. Shepherd**, *M. Williams*, and S. Drobot, 2018: *100 Years of Scientific Research at AMS*, *100 years of Progress in Applied Meteorology*. Part III: Additional Applications. AMS Monograph, <https://doi.org/10.1175/AMSMONOGRAPHS-D-18-0012.1>

2010 **\*\*Shepherd, J.M.**, J.A. Stallins, M. Jin, and T.L. Mote, 2010: Urbanization: Impacts on clouds, precipitation, and lightning. *Monograph on Urban Ecological Ecosystems*. Eds. Jacqueline Peterson and Astrid Volder. American Society of Agronomy-Crop Science Society of America- Soil Science Society of America, 354 pp.

2004 Burian, S.J., **J.M. Shepherd**, and P. Hooshialsadat, 2004: “Urbanization impacts on Houston rainstorms.” *Innovative Modeling of Urban Water Systems*. Monograph 12. Edited by W. James. pp. 1-22.

2003 Tao, W.-K., R. Adler, D. Baker, S. Braun, M.-D. Chou, M. Jasinski, Y. Jia, R. Kakar, S. Lamg, W. K.-M. Lau, B. Lynn, M. Karyampudi, Z.-X. Pu, **J.M. Shepherd**, J. Simpson, D. Starr, Y. Wang, W. Weinman and P. Wetzel, 2003: Regional scale modeling at NASA Goddard Space Flight Center. Recent Research Developments in Atmospheric Science. *Research Signpost*. Volume **2**, 52 pp.

**Journal Articles (Peer-Reviewed)**

2024 McLeod, **J.M. Shepherd**, and M. Appelbaum, 2023: Evidence of cloud and rainfall modification in a mid-sized urban area – a climatological analysis of Augusta, Georgia. *City Interactions and Environment*. (Accepted)

2024 Shakour RL, Mithani Z, Kopp JB, **Shepherd J.M.**, Espinel Z, Nogueira LM, Shultz JM. Safeguarding patients with end stage kidney disease from climate-driven extreme heat and hurricanes. Disaster Med Public Health Prep. 2024

2024 Ortiz AP, Hospedales J, Mendez-Lazaro P, Hamilton W, Rolle LD, **Shepherd J.M.**, Espinel Z, Gay HA, Nogueira LM, Shultz JM. Personal View: Protecting Caribbean patients diagnosed with cancer from compounding disasters. 2024*Lancet Oncol.* (in production)

2024 Shultz JM, Galea S, Espinel Z, Nori-Sarma A, Shapiro LT, Dimentstein K, **Shepherd J.M.**, Nogueira LM. Safeguarding medically high-risk patients from compounding disasters.Lancet Reg Health Am. 2024.

2024 **Shepherd, J.M**., J. Bendix, and M. Urban, 2024: Increasing racial and ethnic diversity in physical geography. *EOS*, https://eos.org/opinions/increasing-racial-and-ethnic-diversity-in-physical-geography

2023 Singh, M. S. Ghosh, H. Kamath, S. Saxena, V. SB, C. Mitra, S. Rao, **J.M. Shepherd**, and D. Niyogi, 2023: Long-term normalized difference urban index (NDUI) data time series for urban studies*. Remote Sensing of the Environment*. Submitted.

2023 Shakour, R., Z. Mithani, J. Koop, **J.M. Shepherd**, Z.Espinel, L. Nogueira, and J. Shultz, 2023: 1

Version Safeguarding Patients with End Stage Kidney Disease from Climate-driven Extreme Heat and Hurricanes, American Journal of Kidney Disease, Submitted.

2023 Xinxin, S., A-L. Yang, **J.M. Shepherd**, and D. Niyogi, 2023: First Global Scale Assessment of Urban Precipitation Anomalies. *Proc. of National Acad. of Sciences*. (Submitted)

2023 *Burke, J.D.* and **J.M. Shepherd**, 2023: The Urban Lightning Effect Revealed with Geostationary Lightning Mapper Observations, *Geophysical Research Letters*. https://doi.org/10.1029/2022GL102272

2023 Drake, J., E. Marty, K. Gandhi, M. Devine, B. Bledsoe, **M. Shepherd**, L. Seymour, C. Fortuin, and C. Montes, 2022: Disasters collide at the intersection of extreme weather and infectious diseases. *Ecology Letters*, https://doi.org/10.1111/ele.14188

2023 Tripati, A. J, **J.M. Shepherd** et al. Centering Equity in the Nation’s Weather, Water and Climate Services. *Environmental Justice*. https://www.liebertpub.com/doi/10.1089/env.2022.0048

2023 **Shepherd, J.M**., 2023: Climate Change Science Is Geography – Why It Must Be Taught at the K-12 level. *The Geography Teacher*. (In Press)

2023 Jackson, R., S. Wenger, B. Bledsoe**, J.M. Shepherd**, et al., 2023: Water Supply, Waste Assimilation, and Low-flow Issues Facing the Southeast Piedmont Interstate-85 Urban Archipelago. *Journal of the American Water Resources Association,* https://doi.org/10.1111/1752-1688.13130

2022 Senay et al. (including **J.M. Shepherd**, 3rd author), 2022: Mental Health and Well-Being for Patients and Clinicians: Proceedings of the Fourth Annual Clinical Climate Change Meeting, January 7, 2022, *J Occup Environ Med*. 2022 Oct 1;64(10):e661-e666. doi: 10.1097/JOM.0000000000002655.

2022 Powell, K., S. Altman, and **J.M. Shepherd**, 2022: Better data collection plans for future natural disaster events. *EOS*, https://eos.org/science-updates/engineering-with-nature-to-face-down-hurricane-hazards

2022 Schultz et al. (including **J.M. Shepherd**), 2022: Climate-driven Atlantic Hurricanes Create Complex Challenges for Cancer Care. *The Lancet Oncology*. S1470-2045(22)00635-0.

  doi: 10.1016/S1470-2045(22)00635-0. Online ahead of print.

2022 *McLeod, J.* and **J.M. Shepherd**, 2022: A Synoptic Framework for Forecasting the Urban Rainfall Effect Using Composite and K-Means Cluster Analyses, *Frontiers in Environmental Science, section Atmosphere and Climate.* [*https://doi.org/10.3389/fenvs.2022.808026*](https://doi.org/10.3389/fenvs.2022.808026)

2022 **Shepherd, J.M.,** 2022: The Curious Relationship Between COVID-19 Lockdowns and Urban Heat Islands. *Geophysical Research Letters*. https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2022GL098198

2022 *Thomas, A*., and **J.M. Shepherd**, 2022: A Machine-Learning Based Tool for Diagnosing Inland Tropical Cyclone Maintenance or Intensification Events*, Frontiers in Earth Sciences*, <https://doi.org/10.3389/feart.2022.818671>

2021 Burian Steven John, Oroza Carlos A**, J.M. Shepherd**, et al. Machine Learning to Characterize Hydro-Climate Impacts and Thresholds to Rainfed Agricultural Productivity. *Authorea.* February 09, 2021.

2021 Wakefield, R., J. Basara, **M. Shepherd**, N. Brauer, J. Furtado, J. Santanello, and R. Edwards, 2021: The Inland Maintenance and Re-intensification of Tropical Storm Bill (2015) Part 1: Contributions of the Brown Ocean Effect. <https://doi.org/10.1175/JHM-D-20-0150.1>

2021 **Shepherd, J.M.,** *A. Thomas*, J. Santanello, J. Yoo, and P. Lawston, 2022: Warm corm structure maintenance over land: A case study analysis of Cyclone Kelvin. *Environmental Research Communication.* https://doi.org/10.1088/2515-7620/abf39a

2021 Brown, M., et.al (including **J.M. Shepherd**), 2021: Translating a Global Emissions Reduction Framework for Sub-National Climate Action: A Case Study from the State of Georgia. *Journal of Environmental Management.* doi: [10.1007/s00267-020-01406-1](https://dx.doi.org/10.1007%2Fs00267-020-01406-1)

2021 *Johnson, B., M. Williams,* and **J.M. Shepherd**, 2021: Urbanization and winter precipitation: a land surface sensitivity analysis for Urban Climate. *Atmosphere,* DOI:10.1016/J.UCLIM.2018.03.003

2020 Johnson, R., D. Hassan, S. Burian, C. Oroza, and **J.M. Shepherd**, 2020: Machine Learning to Characterize Hydro-Climate Impacts and Thresholds to Rainfed Crop Productivity. *Water Resources Research* (Submitted)

2020 *Fragomeni, M.B.A*., Rice, J.L., Rivero, R.G., and **J.M. Shepherd**, 2020: Policy, Then Action: A Co-Production Approach to Understand the Application of Urban Climate Knowledge in Land Use Planning. *Journal of Extreme Events.* [https://doi.org/10.1142/S2345737620500050](https://doi.org/10.1142/S2345737620500050?fbclid=IwAR1HDro7GUCzvIPwAkyUbgCM1rUZVyZQYjueRKvakM1iLNg_Uz5GBCEu5KI)

2020 *Fragomeni, M.B.A*., S. Bernardes, **J.M. Shepherd**, and R. Rivero 2020: A Collaborative Approach to Heat Response Planning: A Case Study to Understand the Integration of Urban Climatology and Land-Use Planning. *Urban Climate*. <https://doi.org/10.1016/j.uclim.2020.100653>

2020 Nelson, D., B. Bledsoe, and **J.M. Shepherd**, 2020: From Hubris to humility: Transcending Original Sin in Hydroclimate Risk Management. *Anthropocene*, <https://doi.org/10.1016/j.ancene.2020.100239>

2020 *KC, Binita*, **M. Shepherd**, A. King, and C.J. Gaither, 2020: Multi-hazard climate risk projections for the United States. *Natural Hazards,* https://doi.org/10.1007/s11069-020-04385-y

2020 Brauer, N. J. Basara, P. Kirstetter, R. Wakefield, C.. Homeyer, J. Yoo, **M. Shepherd**, and J. Santanello, 2020): The Inland Maintenance and Re-intensification of Tropical Storm Bill (2015) Part 2: Tropical Precipitation Microphysics. *Journal of Hydrometeorology.* <https://doi.org/10.1175/JHM-D-20-0151.1>

2020 Yoo, Jinwoong, J. Santanello, **J.M. Shepherd**, S. Kumar, P. Lawton, and *A. Thomas*, 2020: Quantification

of the Land Surface and Brown Ocean Influence on Tropical Cyclone Intensification Over Land. *J. of Hydrometeorology.* [*https://doi.org/10.1175/JHM-D-19-0214.1*](https://doi.org/10.1175/JHM-D-19-0214.1)

2019 Bosma C., D. Wright, Ph.D., P. Nguyen, J. Kossin, D. Herndon, and **J.M. Shepherd**, 2019: An intuitive metric to quantify and communicate tropical cyclone rainfall hazard. *Bulletin of the American Meteorological Society* (AMS). [*https://doi.org/10.1175/BAMS-D-19-0075.1*](https://doi.org/10.1175/BAMS-D-19-0075.1)

2019 Nair., U., Rappin, E., Foshee, E., Smith, W., Pielke Sr., R., Mahmood, R., Case, J., Blankenship, C., **Shepherd, J.M**., Santanello, J., and D. Niyogi, 2019: Influence of Land Cover and Soil Moisture based Brown Ocean Effect on an Extreme Rainfall Event from a Louisiana Gulf Coast Tropical System, *Scientific Reports*. **9**, Article number: 17136, https://www.nature.com/articles/s41598-019-53031-6

2019 *Debbage, N*., and **J.M. Shepherd**, 2019: Determining the influence of urbanization on the spatiotemporal characteristics of runoff and precipitation during the 2009 Atlanta flood using a coupled land surface-atmospheric model. *J. of Hydrometeorology*. *d*[*oi.org/10.1175/JHM-D-18-0010.1*](https://doi.org/10.1175/JHM-D-18-0010.1)

2018 Rudd, M.A., A.F.P. Moore, D. Rochberg, L. Bianchi-Fossati, M.A. Brown, D. D'Onofrio, C.A. Furman, J.

Garcia, B. Jordan, J. Kline, L.M. Risse, P.L. Yager, J. Abbinett, M. Alber, J.E. Bell, C. Bhedwar, K.M. Cobb, J. Cohen, M. Cox, M. Dormer, N. Dunkley, H. Farley, J. Gambill, M. Goldstein, G. Harris, M. Hopkinson, J.-A. James, S. Kidd, P. Knox, Y. Liu, D.C. Matisoff, M.D. Meyer, J.D. Mitchem, K. Moore, A.J. Ono, J. Philipsborn, S. Saha, P.J. Schramm, K.M. Sendall, F. Shafiei, **M. Shepherd**, V. Sims, J. Teebken, and A.N. Worley. 2018. Climate research priorities for policy-makers, practitioners, and scientists in Georgia, USA, *Environmental Management*, Volume 62, [Issue 2](https://link.springer.com/journal/267/62/2/page/1), pp 190–209.

2018 *Debbage, N*., and **J. M. Shepherd**, 2018: The influence of urban development patterns on streamflow characteristics in the Charlanta megaregion. *Water Resour. Res*., 54, 3728–3747.

2018 Shultz J.M. **J.M. Shepherd**, I. Kelman, A. Rechkemmher, and S. Galea, 2018: Mitigating tropical cyclone risks and health consequences: urgencies and innovations, *The Lancet: Planetary Health*, Vol. 2, Issue 3, PE103-E104, DOI:<https://doi.org/10.1016/S2542-5196(18)30021-4>

2018 Shultz J.M. J.P. Kossin, **J.M. Shepherd**, Ransdell, R. Walshe, I. Kelman, and S. Galea, 2018: Hurricane

risks, health consequences, and response challenges for small island based populations: Observations from the 2017 Atlantic hurricane season. *Disaster Med Public Health Prep*. <https://doi.org/10.1017/dmp.2018.28>

2017 *Williams, M*., Hawley, Christie M.S., Madden, Marguerite, and **Shepherd, J. M.,** 2017: Mapping the spatio-temporal evolution of irrigation in the Coastal Plain of Georgia, USA. *Photogrammetric Engineering & Remote Sensing.* 83(1): 57-67. 11 p. https://doi.org/10.14358/PERS.83.1.57

2017 *Johnson, B.,* and **J.M., Shepherd,** 2017: An urban-based climatology of winter precipitation in the Northeast United States. *Urban Climate*. DOI:[10.1016/J.UCLIM.2018.03.003](https://doi.org/10.1016/J.UCLIM.2018.03.003)

2017 Grundstein, A., **J.M. Shepherd**, P. Miller, and S. Sarnat, 2017: The Role of Mesoscale-Convective

Processes in Explaining the 21 November 2016 Epidemic Thunderstorm Asthma Event in Melbourne, Australia. *J. Appl. Meteor. and Clim*. [*https://doi.org/10.1175/JAMC-D-17-0027.1*](https://doi.org/10.1175/JAMC-D-17-0027.1)

2017 Niyogi, D., M. Lei, C. Kishtawal, P. Schmid, and **J.M. Shepherd**, 2017: Urbanization impacts on the

summer heavy rainfall climatology over the Eastern United States. *Earth Interactions*. Doi:   
10.1175/EI-D-15-0045.1

2017 *McLeod, J*., **J.M. Shepherd**, and C. Konrad, 2017: Spatio-Temporal Rainfall Patterns Around Atlanta,

Georgia and Possible Relationships to Urban Land Cover. *Urban Climate*, 21, 27-42.

2017 *Debbage, N*., P. Miller, S. Poore, K. Morano, T. Mote, and **J.M. Shepherd**, 2016: A Climatology of

Atmospheric River Interactions with the Southeastern United States Coastline. *Int. J. of Climatology*. doi: 10.1002/joc.5000

2016 Grundstein, A., **J.M., Shepherd**, and S. Duzinski, 2016: Do Inflatable Bounce Houses Pose Heat-Related

Hazards to Children? *Bulletin of the American Meteorological Society.* http://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-16-0103.1

2016 **Shepherd, J.M**., S. Burian, C. Lui, and S. Bernardes, 2016: Satellite Precipitation Metrics To Study The

Energy-Water-Food Nexus within the Backdrop of an Urbanized Globe. *Earthzine*, <http://earthzine.org/2016/05/31/satellite-precipitation-metrics-to-study-the-energy-water-food-nexus->within-the-backdrop-of-an-urbanized-globe/

2016 **Shepherd, J.M**., and P. Knox, 2016: The Paris COP21 Climate Conference: What Does It Mean for the

Southeast? *Southeastern Geographer*, https://muse.jhu.edu/article/622282

2016 Johnson Gaither, C., D. Himmelfarb, S. Hitchner, J. Schelhas**, J.M. Shepherd**, and *B. KC*, 2016. “Where

the sidewalk ends”: examining the potential for climate change mitigation in Atlanta’s cascade community, *City and Society*, <https://doi.org/10.1111/ciso.12077>

2016 Sailor, D., **J.M. Shepherd**, S. Sheridan, B. Stone, L. K Kalkstein, A. Russell, J. Vargo, and *T. Andersen*,

2016: Improving Heat-Related Health Outcomes in an Urban Environment with Science-based Policy.

*Sustainability*, 8, 1015; doi:10.3390/su8101015

2016 *Schroeder, A*., J. Basara, **J.M. Shepherd**, and S. Nelson, 2016: Insights into atmospheric contributors to urban flash flooding across the United States using an analysis of rawinsonde data and associated calculated parameters*. J. of Appl. Meteor. and Clim*. *DOI:* [*10.1175/JAMC-D-14-0232.1*](http://dx.doi.org/10.1175/JAMC-D-14-0232.1)

2015 *Debbage, N*., B. Bereitschaft, and **J.M. Shepherd**, 2015: Sensitivity of spatial metrics to land use classification scheme when assessing urban sprawl among large U.S. metropolitan areas. *Applied Spatial Analysis and Policy*. 1-29. doi: [10.1007/s12061-016-9190-6](http://dx.doi.org/10.1007/s12061-016-9190-6)

2015 **Shepherd, J.M**., and *B. KC*, 2015: Climate Change and African Americans in the United States. *Geography Compass*, 9/11, 579-591,10.1111/gec3.12244

2015 *Debbage, N*., and **J.M. Shepherd**, 2015: The urban heat island effect and city contiguity. *Computers, Environment and Urban Systems*. Volume 54, November 2015, 181–194

2015 *KC, Binita*, **J.M. Shepherd**, and C. Johnson, 2015: Climate change vulnerability assessment in Georgia.

*Applied Geography*, DOI: 10.1016/j.apgeog.2015.04.007

2015 Shultz, J., **J.M. Shepherd**, R. Bagrodia, and Z. Espinel, 2015: Tropical cyclones in a year of rising global

temperatures and a strengthening El Niño *Disaster Health*, Vol 2, Issue 3-4, 151-162

2015 Bounaoua, L., P. Zhang, G. Mostovoy, K. Thome, J. Masek, M. Imhoff, **J. M. Shepherd**, D. Quattrochi, J. Santanello, J. Silva, R. Wolfe, and A. Toure: 2015 Impact of urbanization on US surface climate. *Env. Research Letters*, **10(8)**, DOI: 10.1088/1748-9326/10/8/084010

2015 *Williams, M*., S. Goodrick, A. Grundstein, and **J.M. Shepherd**, 2015: Comparison of Dew Point Temperature Estimation Methods in Southwestern Georgia. *Physical Geography*, 36, 255-266.

2015 Mattingly, K.S., *J.T. McLeod*, J.A. Knox, **J.M. Shepherd**, and T. L. Mote, 2015: A climatological

assessment of Greenland blocking conditions associated with the track of Hurricane Sandy and historical North Atlantic hurricanes. ​ *International Journal of Climatology*. **35**, 746-760.

2014 **Shepherd, J.M.**, A. Grundstein, and T. Mote, 2014: An analysis of seasonal biases in satellite and reanalysis rainfall products in the Savannah River Basin. *Physical Geography*, 35(3). DOI: 10.1080/02723646.2014.887428

2014 Chang, I., M. Bentley, and **J.M. Shepherd,** 2014: A global climatology of extreme rainfall events in the inner core of intense tropical cyclones, *Physical Geography*, Vol 35, 478-496.

2014 *Debbage, N*., N. Gonsalves, **J.M. Shepherd** and J. Knox, 2014: Superstorm Sandy and Voter Vulnerability in the 2012 US Presidential Election: A Case Study of New Jersey and Connecticut. *Environmental Hazards*, **13**, 181-199.

2014 Gustafson, S., N. Heynen, J. Rice, Gragson, **J.M. Shepherd**, and C. Strother, 2014: Megapolitan Political Ecology and Urban Metabolism in Southern Appalachia. *Professional Geographer*. **66**,

DOI:10.1080/00330124.2014.905158

2014 Maier, G., A. Grundstein, W. Jang, C. Li, L. Naeher, and **J.M. Shepherd**, 2014: Assessing the

performance of a vulnerability index during oppressive heat across Georgia. *Weather, Climate, and Society*, doi: http://dx.doi.org/10.1175/WCAS-D-13-00037.1

2014 Mahmood, R.; R. Pielke, Sr., K. Hubbard, D.Niyogi, P. Dirmeyer, C. McAlpine, A. Carleton, R. Hale, S. Gameda, A. Beltrán-Przekurat, B. Baker, R. McNider, D. Legates, **J.M.** **Shepherd**,J. Du, P. Blanken, O. Frauenfeld, U. Nair, and S. Fall, 2014: Land cover changes and their biogeophysical effects on climate *Int. J. Climatol.* 10.1002/joc.3736

2013 **Shepherd, J.M**., *T. Anderson*, L. Bounoua, A. Horst, C. Mitra, and C. Strother, 2013: Urban Climate Archipelagos: A new framework for urban-climate interactions. IEEE E*arthzine,* published online at *http://www.earthzine.org/2013/11/29/urban-climate-archipelagos-a-new-framework-for-urban-impacts-on-climate/*

2013 *Andersen, T*., and **J.M. Shepherd**, 2013: A global spatiotemporal analysis of inland tropical cyclone

maintenance or intensification. *Int. J. of Clim.*, DOI: 10.1002/joc.3693. **Note: Featured in NASA Press Release.**

2013 *Andersen, T*., and **J.M. Shepherd**, 2013: Floods in a changing climate. *Geography Compass.* **7**, I, 95–115.

2013 *Andersen, T*., D.E. Radcliffe, and **J.M. Shepherd**, 2013: Quantifying Surface Energy Fluxes in the Vicinity of Inland-Tracking Tropical Cyclones. *Journal of Applied Meteorology and Climatology*, J. Appl., 52, 2797–2808.

2012 **Shepherd, J.M.**, 2012: What we can learn from the satellite-based rainfall footprint of Superstorm Sandy:

a preliminary synopsis. Earthzine. <http://www.earthzine.org/2012/12/16/what-we-can-learn-from-the->

satellite-based-rainfall-footprint-of-superstorm-sandy-a-preliminary-synopsis/

2012 Shem, W., T.L. Mote, and **J.M. Shepherd**, 2012: Validation of Narccap climate products for forest resource applications in the southeast United States. *Atmospheric Science Letters*, 13,DOI: 10.1002/asl.395

2012 Hossain, F., A. Degu, A. Woldemicahel, W. Yigzaw, S. Burian, D. Niyogi, **J.M. Shepherd**, and R. Pielke,

Sr., 2012: Climate Feedback–Based provisions for dam design, operations, and water management in the 21st century. *J. of Hydrologic Engineering*, 1-14.

2012 *Zhao, F*., and **J.M. Shepherd**, 2012: Precipitation Changes near Three Gorges Dam, China. Part I: A Spatiotemporal Validation Analysis. *J. Hydrometeor*, 13, 735–745. doi: <http://dx.doi.org/10.1175/JHM-D-11-061.1>

2012 *Carter, W.M*., **J.M. Shepherd**, S. Burian, and I. Jeyachandran, 2012: Integration of lidar data into a coupled mesoscale-land surface model: A theoretical assessment of sensitivity of urban-coastal mesoscale circulations to urban canopy. *Journal of Atmospheric and Oceanic Technology.* doi: <http://dx.doi.org/10.1175/2011JTECHA1524.1>

2011 *Mitra, C****.****,* **J.M. Shepherd** and T. Jordan, 2011: On the relationship between the pre-monsoonal rainfall climatology and urban land cover dynamics in Kolkata city, India. *International Journal of Climatology, DOI: 10.1002/joc.2366*

2011 **Shepherd, J.M.**, 2011: Carbon, Climate Change, and Controversy. **Animal Frontiers**, Vol. 1, http://www.animalfrontiers.org/2011/Vol1/003.pdf

2011 **Shepherd**, **J.M.**, and T.L. Mote, 2011: Can Cities Create Their Own Snowfall?: What observations are

required to find out? Earthzine, Special Urban Monitoring Theme Issue. http://www.earthzine.org/2011/09/06/can-cities-create-their-own-snowfall-what-observations-are-required-to-find-out/

2011 **Shepherd**, **J.M.,** T.L. Mote, S. Nelson, S. McCutcheon, P. Knox, M. Roden, and J. Dowd, 2011: An

overview of synoptic and mesoscale factors contributing to the disastrous Atlanta flood of 2009, *Bull. of*

*the Am. Meteor. Soc.* 92, 861-870.doi: 10.1175/2010BAMS3003.1*.* **Note:** **UGA issued a press release on this paper.***.*

2011Niyogi, P. Pyle, M. Lei, S.Arya, C. Kishtawal, **J.M. Shepherd**, F. Chen, and B. Wolfe, 2011: Urban

modification of thunderstorms: Urban Modification of Thunderstorms - An Observational Storm Climatology and Model Case Study for the Indianapolis Urban Region.*. J. of Appl. Meteor. and Clim*.,**50**, 1129-1144.

2011 Hossain\*, F. A. M. Degu\*, D. Niyogi, S. Burian**, J.M. Shepherd**, R. Pielke Sr.(2011). Climate Feedback-based Considerations to Dam Design, Operations and Water Management in the 21st Century, ASCE J. Hydrologic Engineering, doi:10.1061/(ASCE)HE.1943-5584.0000541

2011 *Andersen, T.,* and **J.M. Shepherd**, 2011: Seasonal predictability of tornadic activity using antecedent soil

moisture conditions. *Earthzine,* <http://www.earthzine.org/2011/06/10/seasonal-predictability-of-tornadic> activity-using-antecedent-soil-moisture-conditions/

2011 *Mitra, C****.****,* T. Jordan, and **J.M. Shepherd**, 2011: Growth of Kolkata, India-Past, present, and future: a

synergistic analysis using cartographic, GIS, remote sensing, and cellular automata modeling. *Professional Geographer,* [***https://doi.org/10.1002/joc.2366***](https://doi.org/10.1002/joc.2366)

2011 Degu, A.M., F. Hossain, D. Niyogi, R. Pielke, **J.M. Shepherd**, N. Voisin, and T. Chronis, 2011: The influence of large dams on surrounding climate and precipitation patterns. *Geophysical Research Letters*, Vol. 38, doi: 10.1029/2010GL046482.

2010 **Shepherd, J.M.**, W.M. Carter, M. Manyin, D. Messen, and S. Burian, 2010: The impact of urbanization on current and future coastal convection: A case study for Houston. *Environment And Planning B ,* **37***,* 284-304.

2010 Jin, M., **J.M. Shepherd**, and W. Zheng, 2011: Urban Surface Temperature Reduction via the Urban Aerosol Direct Effect: A Remote Sensing and WRF Model Sensitivity Study. *Advances in Meteorology*, vol**. 2010**, Article ID 681587, 14 po. 2010. doi:10.1155/2010/681587.

2010 Mahmood, R., R. Pielke Sr., K. Hubbard, D. Niyogi, G. Bonan, P. Lawrence, B. Baker, R. McNider, C. McAlpine, A. Etter, S. Gameda, B. Qian, A. Carleton, A.B.-Przekurat, T. Chase, A. Quintanar, J. Adegoke, S. Vezhapparambu, G. Conner, S. Asefi, E. Sertel, D. Legates, Y. Wu, R. Hale, O. Frauenfeld, A. Watts, **M. Shepherd**, C. Mitra, V. Anantharajan, S. Fall, R. Lund, A. Nordfelt, P. Blanken, J. Du, H. Chang, R. Leeper, U. Nair, S. Dobler, R. Deo, and J. Syjtus, 2010: Impacts of land use land cover change on climate and future research priorities. *Bulletin of the American Meteorological Society*, **91**, 37-46.

2010 Han, W.S., Burian, S.J., and **Shepherd, J.M**. 2010: Assessment of satellite-based rainfall estimates in urban areas in different geographic and climatic regions. *Natural Hazards*, DOI 10.1007/s11069-010-9585-7

2010Stafford, S. G., D.M. Bartels, S. Begay-Campbell, J.L. Bubier, J. C. Crittenden, S.L. Cutter,

J.L.Delaney, T.E. Jordan, A. C. Kay, G.D.Libecap, J.C. Moore, N.N. Rababais, D. Rejeski, O.E. Sala**, J.M. Shepherd**, and J.Travis. 2010: Now Is the Time for Action: Transitions and Tipping Points in Complex Environmental Systems. Environment: Science and Policy for Sustainable

Development, 52: 1, 38-45 Doi: 10.1080/00139150903481882

2010 Jordan, T. E., O. E. Sala, S. G. Stafford, D. M. Bartels, S. Begay-Campbell, J. L. Bubier, J. C.

Crittenden, S. L. Cutter, J. R. Delaney, A. C. Kay, G. D. Libecap, J. C. Moore, N. N. Rabalais, D.

Rejeski, **J. M. Shepherd**, A. Tessier, and J. Travis. Tipping our Science: New NSF Report Recommends Interdisciplinary Approach to Study Natural and Social Systems. *EOS*, 91, 143.

2009 Kishtawal, C., D. Niyogi, M. Tewari, R. Pielke Sr., and M. Shepherd, 2009: Urbanization signature in the observed heavy rainfall climatology over India. *International Journal of Climatology*. DOI: 10.1002/joc.2044.

2009 **\*\*Shepherd, J.M.**, D. Niyogi, and T.L. Mote, 2009: A seasonal-scale climatological analysis

correlating spring tornadic activity with antecedent fall-winter drought in the Southeastern United States. *Environmental Research Letters*. **4**, 7 pp.   doi: [10.1088/1748-9326/4/2/024012](http://dx.doi.org/10.1088/1748-9326/4/2/024012). **Note:** **UGA issued a press release on this paper.**

2009 Seto, K., and **J.M. Shepherd**, 2009: Global urban land-use trends and climate impacts. *Current Opinion in Environmental Sustainability*, doi:10.1016/j.cosust.2009.07.012.

2009 *Hand, L.,* and **J.M. Shepherd**, 2009: An investigation of warm season spatial rainfall variability

in Oklahoma City: Possible linkages to urbanization and prevailing wind. *J. Appl. Meteor. Climatol*. **48**, 251–269.

2009 *Zhou, Y.,* and **J.M. Shepherd**, 2009: Atlanta’s urban heat island under extreme heat conditions. *Natural Hazards*. 10.1007/s11069-009-9406-z, 30 pp.

2009 Lacke, M., T.L. Mote, and **J.M. Shepherd**, 2009: Aerosols and Associated Precipitation Patterns in Atlanta, *Atmospheric Environment*. doi:10.1016/j.atmosenv.2009.04.022.

2009 Durkee, J. D., T. L. Mote, and **J. M. Shepherd**, 2009: The contribution of mesoscale convective complexes to rainfall across subtropical South America. *Journal of Climate*. **22**, 4590-4605.

2009 Chang, H. D. Niyogi, A. Kumar, C. Kishtawal, J. Dudhia, F. Chen, U.C. Mohanty, and **J.M. Shepherd**, 2009: Possible relation between land surface feedback and the post-landfall structure of monsoon depression. *Geophysical Research Letters*, DOI:10.1029/2009GL037781

2008 **Shepherd, J.M.,** and T. Knutson, 2008: Teaching and learning guide for: The current debate on the linkage between global warming and hurricanes. *Geography Compass*. **Vol. 2**. DOI: 10.1111/j.1749-8198.2008.00120.x

2008 Shem, W, and **J.M. Shepherd**, 2009: On the impact of urbanization on summertime thunderstorms in Atlanta: Two numerical model case studies. *Atmospheric Research*. **92**, 172-189.

2008 Jin, M., and **J.M. Shepherd**, 2008: Aerosol relationships to warm season clouds and rainfall at monthly scales over east China: Urban land versus ocean. *J. Geophys. Res*. **113**, D24S90, doi:10.1029/2008JD010276

2008 Grundstein, A., S.E. Sarnat, M. Klein, **J.M. Shepherd**, L. Naeher, T. Mote, and P. Tolbert, 2008: Thunderstorm-associated asthma in Atlanta, Georgia. *Thorax*. doi:10.1136/thx.2007.092882 63;659-660.

2007 **Shepherd, J.M.**, and T. Knutson, 2007: The current debate on the linkage between global

warming and hurricanes. *Geography Compass*. **1** (1). 1–24. doi:10.1111/j.1749-8198.2006.00002.x **Note:** **This paper has consistently been in the top 10 viewed papers online for this journal according to publisher.**

2007 **Shepherd, J. M.**, A. Grundstein, and T. L. Mote, 2007: Quantifying the contribution of tropical cyclones to extreme rainfall along the coastal southeastern United States. *Geophys. Res. Lett*. **34**, L23810, doi:10.1029/2007GL031694. **Note:** **Funding sponsor, NASA, issued a press release on this paper.**

2007 Jin, M., **M. Shepherd**, and C. Peters-Lidard, 2007: Development of a parameterization for simulating the urban temperature hazard using satellite observations in a climate model. *Nat. Hazards*. doi 10.1007/s11069-007-9117-2

2007 Mote, T.L., M.C. Lacke, and **J.M. Shepherd**, 2007: Radar signatures of the urban effect on precipitation distribution: A case study for Atlanta, Georgia. *Geophysical Research Letters*. **34**. L20710, doi:10.1029/2007GL031903

2006 **\*\*Shepherd, J.M.**, 2006: Evidence of urban-induced precipitation variability in arid climate regimes. *Journal of Arid Environments*. 10.1016/j.jaridenv.2006.03.022 **Note:** **UGA and NASA issued a press release on this paper.**

2006 Elaine M. Prins, Christopher S. Velden, Jeffrey D. Hawkins, F. Joseph Turk, Jaime M. Daniels, Gerald J. Dittberner, Kenneth Holmlund, Robbie E. Hood, Arlene G. Laing, Shaima L. Nasiri, Jeffery J. Puschell, **M. Shepherd**, and John V. Zapotocny, 2006: 13th AMS Conference on Satellite Meteorology and Oceanography. *Bull. Amer. Meteor. Soc*. **87**, 633–637.

2005 **Shepherd, J.M.**, 2005: A review of current investigations of urban-induced rainfall and recommendations for the future. *Earth Interactions*. **Vol. 9**. No. 12, 1–27.

2005 Burian, S.J. and **J. M. Shepherd**, 2005: Effects of urbanization on the diurnal rainfall pattern in Houston. *Hydrological Processes*: Special Issue on Rainfall and Hydrological Processes. **19**, 1089-1103.

2005 Jin, M., **M. Shepherd**, and M. D. King, 2005: Urban aerosols and their variations with clouds and rainfall: A case study for New York and Houston. *J. Geophys. Res*. 110, D10S20, doi:10.1029/2004JD005081.

2005 Jin, M., and **M. Shepherd**, 2005: Inclusion of urban landscape in a climate model: How Can Satellite Data Help? *Bulletin of the American Meteorological Society*. **Vol. 86**. No. 5, 681–689.

2004 **Shepherd**, J.M., and M. Jin, 2004: Linkages between the urban environment and Earth’s climate

system. *EOS*. **85**, 227-228.

2004 **Shepherd, J.M.**, L. Taylor, and C. Garza, 2004: A dynamic multi-criteria technique for siting

NASA-Clark Atlanta rain gauge network. *J. of Atm. and Oceanic Technology*. **21**, 1346-1363.

2004 **Shepherd, J.M.**, 2004: "A reply to Diem et al.'s commentary on A recent literature contribution focused on urban-induced rainfall in Atlanta." *J. of Appl. Meteor*. Vol. **43**. 951-957.

2003 **\*\*Shepherd, J.M**., and S.J. Burian, 2003: Detection of urban-induced rainfall anomalies in a major coastal city. *Earth Interactions*. **7**, 1-14. **Note:** **Paper was featured in August 2003 edition of *Time* magazine.**

2002 **\*\*Shepherd, J.M.**, Harold Pierce, and A. J. Negri, 2002: On rainfall modification by major urban areas: Observations from space-borne radar on TRMM. *Journal of Applied Meteorology*. **41**, 689-701.

2001 **Shepherd, J.M.**, Brad S. Ferrier, and Peter S. Ray, 2001: Rainfall morphology in Florida convergence zones: A numerical study. *Monthly Weather Review*. **129**, 177-197.

2001 Michaels, M. **J.M. Shepherd**, S. Aberson, K. Murphy, and H. Friedman, 2001: Survey results of society membership: The face of our profession at the threshold of the new millennium. Bulletin of the American Meteorological Society. *Bull. of Amer. Meteo. Soc.* **82**, 1331-1352.

1996 G.M. Heymsfield, I,J. Caylor, **J.M. Shepherd**, and W.B. Olson, 1996: Structure of Florida Thunderstorms Using High-Altitude Aircraft Radiometer and Radar Observations. *Journal of Applied Meteorology*. **35**, 1736-1762.

**Bulletins or Reports**

2008 *Mitra, C.,* **J.M. Shepherd**, and T. Jordan, 2008: The dynamics of urban growth in Kolkata, India and Potential impacts on pre-monsoon precipitation. Urban Climate News: Quarterly Newsletter of IAUC (International Association of Urban Climate). (Issue 28, Page 11). Available at

<http://www.urban-climate.org/>.

2002 **Shepherd, J.M.**, and E.A. Smith, 2002: Bridging from TRMM to GPM to 3-Hourly Precipitation Estimates. NASA Technical Memorandum-2002-211602-GPM Report 7. Available at NASA/GSFC, 1-7.

2002 **Shepherd, J.M.** and AV. Mehta, 2002: Summary of First GPM Partners Planning Workshop. NASA Conference Publication-2002-210012-GPM Report 1, Available at NASA/GSFC. 1-37.

1993 Paxton, C. and **J.M. Shepherd**, 1993: NOAA Technical Memorandum NWS SR-149 Radar diagnostic parameters as indicators of severe weather in Central Florida. Scientific Services Division-Southern Region, June. 11 pp.

**Abstracts/Peer-Reviewed Conference Proceedings**

2009 **Shepherd, J.M.**, and T.L. Mote, 2009: Urban effects on rainfall variability: Potential implications for Georgia’s water supply. *Proceedings of the 2009 Georgia Water Resources Conference*. 6 pp.

2004 Burian, S.J., P. Hooshialsadat, S. Reynolds, and **J.M. Shepherd**, 2004: “Effect of cities on rainfall and the implications for drainage design.” Critical Transitions in Water and Environmental Resources Management. *Proceedings of the World Water and Environmental Resources Congress*. Edited by G. Sehlke, D.F. Hayes, D.K. Stevens. ASCE. New York, NY.

**Book Reviews**

2014 Review of Pearson Undergraduate Textbook, The Atmosphere: Introduction to Meteorology

2014 Review of Climate Change Chapter of Pearson Undergraduate Textbook, Geosystems

2013 Review of 2 Kid’s Hurricane Books on Katrina and Sandy

2011 Review of Global Climate Change Book by David Kitchen

2010 Review of Understanding Weather and Climate, 5th Edition. Aguado and Burt (June 2010).

**Other Publications**

2023 **J.M. Shepherd**, Various publications in Forbes Science from 2015 to 2022, https://www.forbes.com/sites/marshallshepherd/#5e05fb124c5d.

2021 Gallaudet, T., K. Sullivan, and **J.M. Shepherd**, 2021, Extreme weather demands warp-speed government-private sector response. The Washington Post. https://www.washingtonpost.com/weather/2021/12/19/extreme-weather-private-industry-innovation/https://www.washingtonpost.com/weather/2021/12/19/extreme-weather-private-industry-innovation/

2016 Burian, S., Jha, M., Richard, G., and **J.M. Shepherd**, 2016, Water Sustainability in Cities. 9-module instructional course, Carleton College, INTEGRATE Earth-focused Modules and Courses for the Undergraduate Classroom. http://serc.carleton.edu/integrate/teaching\_materials/water\_cities/lesson1.html

2016 **Shepherd, J.M**, The nation faces vitally important weather challenges as political power transitions.

Washington Post, https://www.washingtonpost.com/news/capital-weather-gang/wp/2016/11/10/the-nation-

faces-vitally-important-weather-challenges-as-political-power-transitions/?utm\_term=.456baba01fab

2016 **Shepherd**, **J.M**., and J. Knox, Commentary on the demise of the National Achievement Scholars program.

Washington Post, <https://www.washingtonpost.com/news/answer-sheet/wp/2016/03/02/you-heard-about->the-diversity-furor-at-the-academy-awards-heres-one-you-didnt-hear-about-but-should-have/

2015 **Shepherd, J.M**. Cutting NASA’s earth science budget is shortsighted and a threat, Washington Post Capital Weather Gang. http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2015/05/01/cutting-nasas-earth-science-budget-is-short-sighted-and-a-threat/

2014 **Shepherd, J.M**., and K. Marshall, 2014: Blacks Don’t Care About Climate Change Fact or Fiction?

Ebony.com. <http://www.ebony.com/news-views/blacks-dont-care-about-climate-change-fact-or->fiction#axzz3Rdgh2LnI

2014 **Shepherd, J.M**., and R. Maue, 2014: The Meaningless Term Superstorm and Why It Should Go Away.

Washington Post Capital Weather Gang. <http://www.washingtonpost.com/blogs/capital-weather->gang/wp/2014/12/16/the-meaningless-term-superstorm-and-why-it-should-go-away/

2014 **Shepherd, J.M**., 2014: 21st Century Jobs and Climate Change: A Curse and Blessing for African

Americans. National Urban League 2014 State of Black America Report: One Nation Underemployed. http://iamempowered.com/soba/2014/home

2014 **Shepherd, J.M**., 2014: National Climate Assessment roll-out Tuesday: With proper translation, rolling

eyes not deserved. <http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2014/05/05/national->

climate-assessment-roll-out-tuesday-with-proper-translation-rolling-eyes-not-deserved/

2014 **Shepherd, J.M**., 2014: Reflecting on MLK's Legacy Through the Lens of Weather and Climate.

Washington Post Capital Weather Gang. <http://www.washingtonpost.com/blogs/capital-weather-gang/wp/2014/01/17/reflecting-on-mlks-legacy-through-the-lens-of-weather-and-climate/>

2013 **Shepherd, J.M**., 2013: Are African Americans More Vulnerable to Climate Change? Ebony.com.

<http://www.ebony.com/news-views/are-african-americans-more-vulnerable-to-climate-change->

352#axzz2ti8GBeH0

2013 **Shepherd, J.M**., 2013: Why African Americans May Be Left Out of the 21st Century Job Market. Ebony.com. http://www.ebony.com/career-finance/why-african-americans-may-be-left-out-of-the-21st-century-job-market-498#axzz2ti8GBeH0

2013 **Shepherd, J.M**., 2013: We need common sense on climate change. Opinion Editorial. CNN.com. http://www.cnn.com/2013/09/26/opinion/shepherd-climate-report/

2013 **Shepherd, J.M.**, T. Yager, J. Porter, and J. Mohan, 2013: Zombie theories and climate change. Opinion Editorial. Athens Banner Herald. http://onlineathens.com/opinion/2013-01-29/spotlight-zombie-theories-and-climate-change

2012 **Shepherd, J.M**., 2012, and J. Knox, 2012: Hurricane Sandy and Climate Change. Project Syndicate. Opinion Editorial. Syndicated to over 100 news outlets worldwide. <http://www.project-syndicate.org/commentary/hurricane-sandy-and-climate-change-by-j--m--shepherd-and-john-knox>

2012 **Shepherd, J.M**., 2012, and J. Knox, 2012: Hurricane Sandy and the waning finances of U.S. Meteorology. Atlanta Journal Constitution Political Insider Blog. Opinion Editorial. http://blogs.ajc.com/political-insider-jim-galloway/2012/10/28/hurricane-sandy-and-the-waning-finances-of-u-s-meteorology/

2012 **Shepherd, J.M**, 2012, and J. Trostel, 2012: Extreme weather and climate change: Caution required but not reckless statements. Washington Post Capital Weather Gang. Special Commentary. <http://www.washingtonpost.com/blogs/capital-weather-gang/post/extreme-weather-and-climate-change-caution-required-but-not-reckless-statements/2012/08/02/gJQAQjcjRX_blog.html>

2012 **Shepherd, J.M**., 2012: Tampa Bay area and Climate Change: Better Pay Attention. Tampa Tribune Opinion Editorial. <http://www2.tbo.com/news/opinion/2012/aug/19/vwopino1-the-tampa-bay-area-and-climate-change-bet-ar-467390/>

2012 **Shepherd, J. M.**, C. Strother, 2012: NSF Coweeta Sponsored work featured in the Franklin Press via the Coweeta Listening Project http://listening.coweeta.uga.edu/articles/ring\_of\_asphalt\_and\_climate\_change

2010Advisory Committee for Environmental Research and Education. 2010.Transitions and Tipping Points in

Complex Environmental Systems. A Report by the NSF Advisory Committee for Environmental Research and Education. 56 pp.

2009 **Shepherd, J.M.**, 2009: Urbanization. Encyclopedia of Climate and Weather, 2nd Edition. Ed. Stephen Schneider, Oxford University Press (Accepted).

2009 **Shepherd, J.M.**, 2009: Atmospheric Remote Sensing. Encyclopedia of Geography. Ed. Barney Warf, Sage Reference (Accepted).

2008 **Shepherd, J.M.** with contributions from T.L. Mote, September 2008: Op-Ed on Hurricane Season: Warming Revs Into Action. *Atlanta Journal-Constitution*.

2007 **Shepherd, J.M**., 2007: Contributor to article on Hole Punch Clouds. *National Geographic* (West Edition), September Issue.

2006 **Shepherd, J.M.**, June 11th, 2006: Op-Ed on Hurricanes and Global Warming, *Atlanta Journal-Constitution.*

2005 **Shepherd, J.M**., 2005: “Can Cities Make Rain?” *Weatherwise* magazine. Volume **58**. No. 5 (September/October Issue).

2003 **Shepherd, J.M.**, D. Herring, J. Halverson, R. Gutro, and G. Huffman, 2003: "The Big Picture.” *Weatherwise*, Vol. **56**, No. 1 (Jan./Feb Issue).

2003 Birk, R., D. Steitz, **and J. M. Shepherd**: 2003: Earth Observation Summit. Earth Observation Magazine. Vol. **12**.

1999 **Shepherd, J.M.**, 1999: Rainfall morphology in semi-tropical convergence zones. Submitted in partial fulfillment (May 1999) of a Doctor of Philosophy in Meteorology at Florida State University, Tallahassee, Florida 32306. 130 pp.

1992 **Shepherd, J.M.**, 1992: A radar reflectivity-based algorithm for tropical cyclone location. Submitted and accepted on Nov. 24th, 1992 in partial fulfillment of a Master's Degree in Meteorology at Florida State University, Tallahassee, Fl. 32306.

**3. GRANTS RECEIVED**

*Current Grants*

01/01/24-05/31/25 (.25 month)

UGA Presidential Interdisciplinary Seed Grant, PI, Rubber-Modified Asphalt- A Potential Urban Heat Island Mitigation Strategy (UGA Budget, $59,800)

09/01/23-08/31/27 (.30 month)

NOAA, Co-PI, Incorporating Principles of Environmental Justice into Forecast Informed Reservoir Operations, a Climate and Flood Adaptation Strategy (UGA Budget, $71,823)

08/01/23-07/31/24, (.00 month/cost share)

USDA, PI, Evaluating the Performance of the Weather Research and Forecast-FastEddy System to

support prescribed fire operations (UGA Budget, $25,000)

09/01/2022-08/30/2024 (0.18 month)

DOE-SRNL, Co-PI, Urban Heat Island Effects on Air and Water Quality in the Augusta Metropolitan Area (UGA Budget, $80,000)

06/01/23-05/30/25 (1 month)

NOAA, Co-PI: Investigating the Role of Land-Surface Conditions on Landfalling Tropical

Cyclones and the Preceding Processes that Influence Antecedent Soil Moisture and Temperature on S2S Timescales (UGA Budget, $449,229)

05/01/2020-05/30/24 (1 month)

NASA, PI: Towards Conceptualization and Predictability: A Multi-scalar Analysis of Urban-Influenced

Hydrometeorological Processes. (UGA Budget, $1,564,139)

01/01/2022-12/31/2023 (0.0 month)

NSF, Co-I [SRS RN: Sustainable and Equitable Urban Stream Corridors: Improving aesthetic, social, water quality, and ecological values of urban watersheds to achieve downstream rural benefits](https://ovpr-grants-prod.ovpr.uga.edu/grants/sd/Rooms/DisplayPages/LayoutInitial?Container=com.webridge.entity.Entity%5BOID%5BF43625C7583511ECEEA2E7DDB8565000%5D%5D). (UGA Budget, $149,981)

07/01/19-06/30/24 (none)

NOAA, Cooperative Institute for Satellite Earth System Studies (CISESS). UGA PI (UGA Budget, up to $1

million)

*Pending Grants*

07/01/24-06/30/29 (none)

NOAA, Cooperative Institute for Satellite Earth System Studies (CISESS). UGA PI (UGA Budget, up to $1

million)

01/01/24 (0.25 month)

NASA, A Deep Learning-Based Resolution-Agnostic and Heterogeneity-Aware SMAP Data Downscaling Framework for Earth System Model Evaluation, Co-I Shepherd (UGA Budget, $921,014)

01/01/24-05/30/26 (1 month)

EPA, Co-PI: Creating Collaborative Community-Centered Monitoring to Address, Wastewater Infrastructure Issues in Social-Ecological-Technical Systems (WiiSE Communities) (UGA Budget, $1.9 million)

*Past Funded Grants*

07/01/2020-07/29/2023

U.S. Department of Army, Engineering With Nature ® Initiative (FP00021076) US Department of Army, W912HZ2020031, *(*UGA Budget*,* $ 2,500,000)

05/01/2020-05/31/2024 (1.0 month)

01/01/2022 – 06/23/23 (1.0 month)

President Morehead’s 2021 Interdisciplinary Seed Grant Program. Developing new storm design criteria for natural hazards planning research and practice. Co-PI. Lead PI. S. Pippin (UGA Budget, $135,052).

01/01/2021-12/30/2022 (0.0 month)

NSF, *SRS RN: Sustainable and Equitable Urban Stream Corridors: Reimagining urban streams to provide social and ecological benefits to urban, suburban and rural communities.* Track 2 – Planning Grant

Co-PI, Rhett Jackson, Brian Bledsoe, Emily Bell, Marshall Shepherd, and Seth Wenger (UGA Budget, $150,000)

07/01/2018-6/30/21 (0.25 month)

NASA, The Impact of Soil and Surface Moisture on Tropical Cyclone Reintensification Over Land. PI. (UGA

Budget, $316,516).

01/01/2021-06/30/2022 (.1 month)

Ray C. Anderson Foundation, Geospatial Tracking to Activate Drawdown Solutions in Georgia. Co-I. (Total Budget. $417,798)

12/15/2020-12/15/2021 (0.0 month)

Franklin College Office of Inclusion and Diversity, Hidden Figures in Atmospheric Sciences, Georgia. Co-I. (Total Budget. $2000)

01/01/2021-01/01/2022 (0.1 month)

UGA Office of Institutional Diversity, Assessment of Race and Heat Vulnerability in the Atlanta Metropolitan Area. PI. (UGA Budget, $9000)

12/15/2020-12/15/2021

UGA OVPR Interdisciplinary Seed Grant, Infectious Disease and Extreme Weather. Co-I (Amount: TBD)

01/01/15-12/31/18 (0.0 month, cost shared)

NASA, USIP, Digital Orbital Analysis of Water Resources for Georgia. Co-I with multiple investigators. PI Mishra. (UGA Budget, 446,218)

01/01/15-12/31/17 (0.0. month, cost share)

USAF/AFRL University Nanosat Program, GeorgiaSat-1. Co-I with multiple investigators. PI Mishra. (UGA

Budget, $147,465)

06/04/18-01/01/19 (0.2 month)

NSF, Planning Grant: Engineering Research Center for Control of Urban Thermal Environment (CUTE). Co-PI

(UGA Budget, $18,506)

05/15/18-04/30/2020 (0.0 month)

Ray C. Anderson Foundation, Georgia Climate Project. Co-PI (UGA Budget, $89,131)

12/03/2018-02/29/20 (1.0 month, cost share)

U.S. DOI/GWRI, Assessing Georgia Water Resources Using Satellite Data and Novel Precipitation Metrics. PI. (UGA Budget, $17,942)

06/01/19-07/31/2020) (0.1 month)

Ray C. Anderson Foundation, Drawdown Georgia via Sub-Award from Georgia Institute of Technology. UGA PI (UGA Budget, $110,241)

08/01/19-07/31/20

UGA Presidential Interdisciplinary Seed Grant, Building a National Center of Excellence for

Nature-Based Infrastructure Solutions (UGA Budget, $147,700)

01/01/20 – 07/01/2020

Office of the Vice President of Research, UGA. Teaming for Interdisciplinary Research Pre-Seed Program, (UGA Budget, $4500)

07/01/2017-6/30/19 (1.0 month)

USFS, Role of Climate in the Appalachian Fire Outbreak. PI. (UGA Budget, $50,000)

01/01/16-12/31/18 (1.0 month)

NASA, The Energy-­‐Water-­‐Food Nexus within the backdrop of an urbanized globe: How Can GPM help? PI. (UGA Budget, $473,358)

03/01/2017-02/28/18 (1.0 month, cost share)

U.S. DOI/GWRI. Quantifying the relative contributions of the physical mechanisms responsible for the Atlanta 2009 Flood. PI Shepherd with Co-I Neil Debbage. (UGA Budget, $40,440)

07/01/12-06/30/16 NSF, RCN-SEES Urban Heat Island Network. Co-I with multiple investigators (UGA Budget,

$25,243).

10/01/2015-9/30/2016 (0.1 month) UGA Office of STEM. Enhancing and Diversifying Geosciences Instruction

Through Popular Gaming Platforms and Multi-user Virtual Environments. Co-I with Suzanne Pilaar Birch,

Jerry Shannon, and Tom Mote. (UGA Budget, $7910)

01/06/2015-01/05/2016 (0.0 month) Franklin College of Arts and Sciences Office of Inclusion and Diversity

Leadership. Co-I with Suzanne Pilaar Birch, Hilda Kurtz, and Jennifer Rice. Diversity in Geography Careers Seminar and Engagement Series (UGA Budget, $3000)

10/07/13-10/6/15 (0.00)

Exploring Water Sustainability in Cities: A Course Module Linking Geoscience, Engineering, and Society, Funded through Carleton University (prime sponsor NSF through a $10 Million Dollar, 5-year grant to Carleton College’s Science Education Resource Center (SERC) is the recipient of a $10 million, five-year National Science Foundation (NSF) grant to create a national STEP Center that will prepare students who can leverage the geosciences to address societal challenges including natural hazards, resource issues, and environmental impacts. The center will conduct project InTeGrate: Interdisciplinary Teaching of Geoscience for a Sustainable Future), PI with Co-PIs M. Jha, M. Shepherd, G. Richard

11/1/2014-10/31/2016 (Initial 2 years funded, ~2.65 M)

NSF, LTER: Multiple Co-Is (UGA Budget, $8,080,620).

01/01/13-12/31/16 (1.0 month)

NASA, Process studies and a new framework for optimizing and managing global urban water systems in the GPM era. PI. (UGA Budget, $455,521)

2012-2015 NASA, Combining satellite data and models to assess the impacts of urbanization on the continental

United States surface climate. Co-I with L. Bounana, M. Imhoff, D. Quattrochi, et al. (UGA Budget, $170,687).

2011-2014Coweeta LTER (NSF/Gragson PI), Urbanization-­Hydroclimate Feedbacks in the Appalachian-

­Piedmont Complex. PI (UGA Budget, $99,000)

2013-2014 Improving Teacher Quality Grants Program, Higher Education Title II Part A, PL – 107 – 110, Higher

Education, Teaching Climate Change Science in Middle and High Schools. Co-I (Budget, $25,600)

2011-2012 NASA, The Brown Ocean Concept: A spatio-temporal and theoretical analysis of re-intensifying tropical

cyclones over land. PI with graduate student Theresa Andersen (UGA Budget, $28,400).

2010-2013, NASA, Influence of Humans on Precipitation Variability, Climate, and the Water Cycle: Preparing for

the GPM era. PI with co-PIs S. Burian and Menglin Jin (UGA Budget, $406,343).

2010-2013, NASA, Using geospatial data and field investigations to monitor effects of climate change on birds

along elevational and latitudinal gradients Co-Investigator with J. Hepinstall, M. Conroy, R. Cooper (UFA Budget, $449,765).

2008-2013, Department of Energy/SRNL, FY 2009-FY2012, Project Title: Integrated Hydrologic/Hydrodynamic

Modeling System for Collection of Pollutant Signatures. Co-Investigator with A. Grundstein (PI), J. Bollinger, T. Mote, T. Rasmussen, and others (UGA Budget, $750,000).

2012 UGA Provost Summer Research Award (UGA Budget, $5000).

2010-2012. U.S. Forest Service, Climate Change and Social Vulnerability in the Southeast U.S and Africa. Principal

Investigator (UGA Budget, $15000).

2009-2012 U.S. Forest Service, Climate Change and Social Vulnerability in the Southeast U.S. Co-Investigator

(UGA Budget, $22000).

2009-2012 National Science Foundation, Creating a Diversity Climate Network (D-ClimNet) to enhance the

climate sciences pipeline of minority students from high school to graduate levels. Co-PI with L. Giroux and M. Raphael (UGA Budget, $58,418).

2007-2011-NASA Headquarters, FY 2006-2009, Impact of Humans on Precipitation Variability. Principal

Investigator with co-investigators S. Burian (University of Utah) and M. Jin (University of Maryland) (UGA Budget, $390,000).

2009-2011-U.S. Forest Service, Regional Climate Simulations of Southern Forests. Co-Investigator with T. Mote

(UGA Budget, 130K).

2009-2011-U.S. Forest Service, Evaluation of WRF Model for SHRMC Activities. Co-Investigator with T. Mote

(UGA Budget, 30K).

2006-2009-NASA, FY 2006-2009, Impact of Humans on Precipitation Variability.  Principal Investigator with

co-investigators S. Burian (University of Utah) and M. Jin (University of Maryland) (UGA Budget, $390,000).

2010-Franklin College, Franklin Visiting Scholars Program. Travel grant for Dr. Dupigny-Giroux (Vermont) to visit

UGA. ($1000).

2008-1010-NASA, Water and Energy Cycle, An observational and modeling study of a rare tornadic storm in a

major central business district: Possible linkages to drought and urban land cover. Principal Investigator with co-Investigator D. Niyogi (Purdue) (UGA Budget, $45,632).

2007-2009-Defense Threat Reduction Agency, FY 2006-2008, Urban Enhancements to Meteorological Modeling

and Observations. Co-Investigator with S. Burian (University of Utah) and M. Jin (University of Maryland) (UGA Budget, $85790).

2008-2009-US Forest Service, Assessing air quality and perceptions of environmental hazards in the Newtown

Community: A prototype UGA-U.S. Forest Service Initiative on environmental justice and green space engagement. Principal Investigator with co-Investigators T. Mote, N. Heynen, and C. Johnson (UGA Budget, $7895).

2006-2007-Northeast Georgia Partnership for Reform in Science and Mathematics (PRISM) 2006-07

Improving Teaching and Learning of Science and Mathematics at the Undergraduate Level, 2006-2007, Enhancing Climate Change Science Education Through Inquiry-Based Concepts and Real-World Simulations Co-Investigator, Robert Hill (UGA COE) ($7790).

2006-2008-NASA Goddard Space Flight Center. Science Support for the Development of The NASA

Global Precipitation Measurement Mission’s Science Implementation Plan and Continuing Precipitation Science Team Activities ($55,000).

2006-2007-NASA Goddard Space Flight Center. Developing a Framework for Understanding the

Titanian Methane Cycle using Remote Sensing Techniques Developed for Studying Earth’s Water Cycle. PI: Dr. Marshall Shepherd (UGA), Co-I: Terence Doiron/GSFC/555, Co-I: Chris Ruf/University of Michigan ($75,000 in FY06 with possible FY07 extension, UGA Budget $5120).

2006-2007-NASA Headquarters. Extension of PECASE funding. The Impact of Urbanization on Climate:

Integrated Modeling to Couple urban growth, land use change and weather-climate ($106,974).

2003-2006-NASA Headquarters. Research Opportunities for Precipitation Measurement Missions:

Understanding the Impact of Urbanization on Short and Long Term Precipitation Variability and Land Surface Hydrologic Processes ($275,000).

2003-2006-NASA NRA-02-OES-05 Research Opportunities for Precipitation Measurement Missions.

The Impact of Precipitation Measurement Missions on Hydrologic and Water Resource Predictions. Co-I with PI C.P. Lidard (GSFC) and CO-I A. P. Georgakakos (Ga. Tech) (Unfunded co-PI).

2003-2005-NASA Headquarters. Impacts of Urban Surfaces on Rainfall Modification using Space-Based

Rainfall Measurement, Numerical Models Simulations, and High-Density Gauge Validation: Science Impact, Applications, and Policy Implications. NASA New Investigator Program (300K/3 Years).

1999-2000-NASA GSFC. “Informal Science Education Supporting Weather Broadcasters On-Air with

TRMM “Mini-Education Supplements” awarded by GSFC Director’s Discretionary Fund (25K per year).

1994-1995- NASA Headquarters. Co-Investigator on proposal with Dr. Gerald Heymsfield and Dr. Brad

Ferrier on research related to remote sensing of tropical mesoscale convective systems.

**4. CONTRIBUTIONS OTHER THAN FORMAL PUBLICATIONS**

*Sessions Convened*

2024Convened and moderated NASEM Tropical Cyclone Weather Communication workshop sessions

2023 Convened urban climate session at 3rd Georgia Climate Conference

2023 Moderated a discussion on climate change with U.S. Vice President Kamala Harris

2022 Organized UGA visit/lecture by EPA Southeastern Region Administrator Daniel Blackman

2021 Hosted a Forum for the U.S. State Department at COP-26 (November)

2021 Briefed Democratic Senate Caucus on Extreme Weather and Compound Events (March)

2021 Co-Organized NEWN Workshop on Pre/Post Disaster and Engineering with Nature (March)

2018 Organized Weather Balloon Launch and Vaisala Corporation Visit for Atmospheric Sciences Students

2017 Co-Organized UGA Eclipse Educational Event at UGA’s Sanford Stadium

2015 Co-convener (with NSF RCN co-PIs) Urban Climate Institute, Athens, Georgia (July)

2015 Co-convener (with Dr. Kim Cobb, Georgia Tech) AAAS Science Communications Workshop (January)

2014 Co-convener 2nd Urban Climate Institute, Atlanta, Georgia as a part of NSF RCN (July)

2014 Co-Organized Franklin Scholars Speaking Engagement with PeachState LSAMP Program. Dr. Calvin Mackie (May)

2014 Co-Organizer (along with Dr. Chandana Mitra), 2014, Urban Weather and Climates: Assessments and

Responses. Urbanization and Global Environmental Change (UGEC) conference. Taipei, Taiwan. (November)

2013 Co-Convener of 1st Urban Climate Institute, Minneapolis, Minnesota as a part of NSF RCN

2011 Co-Organizer, 2012 AMS Session on Hydroclimate Applications of GPM, New Orleans, LA.

2008 Co-Convener of Fall 2008 AGU Union Session on Urbanization and Climate Change.

2006 Co-Convener (along with Dr. Tom Bell of NASA) of Spring American Geophysical Union

session, "Aerosols, Pollution, and Urbanization Effects on Precipitation." Baltimore, MD.

2004 Co-Organizer of AMS Short Course on Satellite Data Assimilation at Annual AMS meeting.

2003 Co-Convener of Fall 2003 AGU Union Session on Urbanization and Climate Change.

*Invited Talks, Special Presentations, Affiliations and Activities (Present to 2006):*

2024 Invited Speaker, NASA Goddard Space Flight Center (February)

2024 Invited Speaker, AMS Annual Meeting (January)

2024 Invited Speaker, NASEM Congressional Fellows (January)

2024 Invited Speaker, Michigan State University Named Lecturer (January)

2024 Invited Speaker, University of Florida – Florida Climate Institute (January)

2023 Invited Speaker, Yale School of the Environment (November)

2023 Invited Speaker, BUEI Youth Summit (November)

2023 Invited Speaker, Virginia Tech (October)

2023 Invited Speaker, Environmental Law Institute Policy Forum (October)

2023 Invited Speaker, Georgia Gwinnett College Commencement Speaker (May)

2023 Invited Speaker, Stanford University (April)

2023 Invited Speaker, Georgia Water Resources Conference (March)

2023 Invited Speaker, Georgia Gwinnett College (February)

2023 Invited Speaker, AMS Bill Hooke Session (January)

2023 Invited Speaker, University of Connecticut, School of Engineering (January)

2022 Invited Speaker, SACS Annual Meeting (December)

2022 Invited Speaker, Atlanta Regional Commission and Metro Water District (December)

2022 Invited Speaker, Rowen (November)

2022 Invited Speaker, Ohio State University Department of Geography (October)

2022 Invited Speaker, UGA Sustainability Office (October)

2022 Invited Speaker, Harvard Symposium (October)

2022 Invited Speaker, NC State Symposium (October)

2022 Invited Keynote Speaker, UGA School of Engineering (September)

2022 Invited Speaker, UGA River Basin Center (September)

2022 Invited Speaker, DOE Sandia National Lab (September)

2022 Invited Speaker, Morehouse University (August)

2022 Invited Speaker, Maryland Environmental Justice and Health Disparities (August)

2022 Invited Speaker, AGU LANDING (June)

2022 Invited Speaker, AMS Chapter, Dallas/Ft. Worth (May)

2022 Invited Speaker, IBM (May)

2022 Invited Speaker, Belmont University (February)

2022 Invited Keynote Speaker, Smart Growth America (January)

2022 Invited Speaker, Clinical Climate Conference (January)

2021 Invited Speaker, U.S. State Department, COP-26 Opening Forum (November)

2021 Invited Lecturer, *Flinders University Ecology, Evolution, & Environment Seminar*series. (October)

2021 Invited Lecturer, National Academies, Gilbert F. White Lecturer (October)

2021 Invited Lecturer, The Graduate Students’ Distinguished Lecturer, Penn State University (October)

2021 Invited Lecturer, Department of Geography, University of Kentucky (October)

2021 Invited Keynote Speaker, Midwest Student Conference on Atmospheric Research, University of Illinois (September)

2021 Invited Speaker, Morgan State University (April)

2021 Invited Speaker, UGARF Board Meeting (April)

2021 Invited Speaker, Flywheel (April)

2021 Invited Speaker, Colorado College (April)

2021 ECU Voyages of Discovery Lecturer (March)

2021 Brazel Lecture, Arizona State University (March)

2021 Invited Panelist, Spelman UHI Webinar (March)

2021 Invited Panelist, CCNY (March)

2021 Invited Speaker and Panelist, UGA Law Red Clay Conference (March)

2021 Invited Speaker, Boston University (March)

2021 Invited Speaker, AAAS Special Session on Urban Climate (March)

2021 Invited Speaker, Riverbasin Center (February)

2021 Invited Speaker, AAAS Panel on urbanization and related processes (February)

2021 Invited Speaker, Reinhardt University, Black History Month Keynote Address (February)

2021 Invited Speaker, TRB Board and Conference (January)

2021 Invited Speaker, Keynote Opening Address, AMS Student Conference (January)

2020 Invited Speaker, Columbia University, Lamont-Doherty (December)

2020 Invited Speaker, University of New Mexico, Atmospheric Sciences Colloquium (December)

2020 Invited Speaker, NASA Goddard Space Flight Center Scientific Colloquium (November)

2020 Invited Speaker, Northern Illinois University Atmospheric and Geographic Sciences Colloquium (November)

2020 Invited Speaker, University of Delaware, (November)

2020 Invited Speaker, Stanford University Class, (October)

2020 Invited Speaker, Georgia State University Geography Class (October)

2020 Invited Keynote Speaker, National Fair Housing Conference (October)

2020 Speaker, Climate Connection Virtual Summit (October)

2020 Invited Speaker, Climate Reality with Al Gore (September)

2020 Invited Speaker, Southface Greenprints Conference (August)

2020 Invited Speaker, NCAR Thompson Series Lecture (July)

2020 Speaker, Gwinnett County Science Fair (February)

2019 Speaker, Georgia Climate Conference, (November)

2019 Invited Keynote Speaker, National SeaGrant Conference, Savannah (October)

2019 Invited Keynote Speaker, VoLo Foundation Conference, Orlando (October)

2019 Witness, Testified before the U.S. Congress House Science Committee (September)

2019 Invited Speaker, University of Indiana, Department of Geography (April)

2019 Invited Speaker, TedX, Ledroit Park/AAAS Workshop (February)

2019 Invited Speaker, Global Change Program, Georgia Tech (February)

2018 Invited Speaker, NASA GSFC Scientific Colloquium (November)

2018 Invited Speaker, SEDAAG in Johnson City, Tennessee (November)

2018 Invited Speaker, University of Florida Climate Communications Workshop (November)

2018 Invited Speaker, HBCU Climate Conference at Xavier University (September)

2018 Invited Speaker, IAUC and AMS Urban Conference, CUNY (August)

2018 Invited Speaker, College of Charleston (April)

2018 Invited Speaker, Emergency Managers Association of Georgia in Savannah (April)

2018 Invited Speaker, President’s Forum AAG Annual Meeting (April)

2018 Invited Speaker, US Science Festival (April)

2018 Invited Speaker, TedX UGA (March)

2018 Invited Speaker, Athens Rotary Club (March)

2018 Invited Speaker, Gwinnett County Science Fair and Host, Awards Ceremony (February)

2018 Invited Speaker, UGA Honors Program Luncheon

2018 Invited Speaker, UGA Founders Week Lecturer (January)

2018 Invited Speaker, Robert Ryan Symposium, AMS Annual Meeting (January)

2017 Invited Speaker, NSTA (December)

2017 Invited Speaker, NASA Smithsonian-IMAX (October)

2017 Invited Speaker, Robock Lecture, University of Wisconsin (September)

2017 Invited Speaker, Young Harris University Lecture (April)

2017 Invited Speaker, Emory University Lecture (March)

2017 Invited Speaker, IRIS Conference (March)

2017 Invited Speaker, Deaton Creek Democratic Party (March)

2017 Invited Speaker, Dillard Symposium of HBCU Climate Change Conference (March)

2017 Invited Speaker, OLLI Session (March)

2017 Invited Speaker, Georgia Water Resources Association (March)

2017 Invited Speaker, George Science Symposium (February)

2016 Invited Speaker, Athens-Clark County Democratic Party ((November)

2016 Invited Speaker, National Weather Association WxFest (September)

2016 Invited Speaker, Southwest Florida Chapter of the American Meteorological Society (April)

2016 Invited Speaker, University of South Florida Geography Department ((April)

2016 Invited Speaker, Congress and National Academy of Science for Extreme Weather Report Roll-Out

(March)

2016 Invited Speaker, University of Missouri, LSSP 2016 (March)

2016 Invited Speaker, SECAPS University of South Alabama (March)

2016 Invited Speaker, AAAS Annual Meeting (February)

2016 Invited Speaker, GOES-R Short Course, Phoenix, AZ (January)

2016 Invited Moderator, U.S. Secretary of Commerce Pritzker and NOAA Administrator Sullivan, AMS Annual

Meeting (January)

2016 Invited Moderator, Value Chain of Weather Panel, AMS Annual Meeting (January)

2015 Invited Speaker, Jackson State University, 40th Anniversary of Meteorology (November)

2015 Invited Speaker, GIPL Clergy Breakfast (November)

2015 Invited Speaker, Southeast Climate Consortium Meeting (October)

2015 Invited Speaker, AAAS 50th Anniversary of Climate Warning to US President (October)

2015 Invited Speaker, PeachState LSAMP Conference (October)

2015 Invited Speaker, EPA International Youth Symposium (September)

2015 Invited Speaker, National Black Nurses Association (July)

2015 Invited Participant, NASA Workshop on Scientific Challenges and Opportunities in the Weather Focus

Area (April)

2015 Attended White House Science Fair (April)

2015 Invited Moderator, White House Champions of Change Event (February)

2015 Invited Keynote Speaker, Georgia Science Teachers Association (February)

2015 Invited AMS 23|5 Speaker, Phoenix, AZ (January)

2015 Invited Panelist, 10th Anniversary WAS\*IS Panel, Phoenix, AZ (January)

2014 Invited Speaker, University of Illinois, Distinguished Ogura Lecture Series (October)

2014 Host, Weather Channel’s Weather Geeks TV Show

2014 Featured as one of 97 Climate Scientists in 97 Hours of Consensus

2014 Invited Speaker, Mothers and Others for Clean Air Luncheon in Atlanta, Georgia (2014)

2014 Invited Speaker, Welcome to the Anthropocene Lecture Series, UGA (2014)

2014 Invited Speaker ICON Graduate Consortium Lecture Series, UGA (2014)

2014 Invited Speaker, Southern Extension Agent Climate Round-up, UGA (September)

2014 Invited Speaker, UGA Office of Institutional Diversity “Celebrate Diversity”, UGA (September)

2014 Numerous Media Appearances for National Climate Assessment Rollout (May)

2014 Invited Speaker, Georgia Aquarium, Earthshare Leadership Breakfast, Atlanta, Georgia (April)

2014 Invited Speaker, Hall County Georgia Earth Day Program (April).

2014 Invited Speaker, Florida State Department of Meteorology, “Soil Moisture Implications for Extreme Weather” (April).

2014 Invited Speaker, Chi Epsilon Pi Banquet, Florida State University (April)

2014 Invited Plenary Speaker, AAG Presidential Forum, Tampa, Florida (April)

2014 Invited Speaker, CICR Sustainability Science Symposium and Workshop, UGA (February)

2014 Participated in White House “We the Geeks” Discussion on the Polar Vortex (January)

http://www.whitehouse.gov/blog/2014/01/08/we-geeks-polar-vortex-and-extreme-weather

2014 Appearance on CNN discussing Winter Weather Extremes (February)

2014 Appearance on CBS Face the Nation discussing Winter Weather Extremes (February)

2014 Appearance on PBS NOVA Episode on Typhoon Haiyan (February)

2014 Hammond Lecturer at University of Tennessee (January)

2013 Appearance on CNN discussing Winter Extreme Weather (December)

2013 Sagan National Lecture, Ohio Wesleyan University (November)

2013 Appearance on PBS NOVA Episode on Superstorm Sandy (October)

2013 Invited Speaker, Joint 2013 EUMETSAT Meteorological Satellite Conference and the 19th American Meteorological Society (AMS) Satellite Meteorology, Oceanography and Climatology Conference, Vienna, Austria (September)

2013 Invited Speaker, European Meteorological Society, Reading UK (September)

2013 Appearance on CBS Face the Nation discussing extreme weather events (Summer)

2013 Invited Speaker, International Forum of Meteorological Societies, Reading UK (September)

2013 Luncheon Speaker, Greenlaw, Georgia State Bar (July)

2013 Short-Course on Climate Change Lecturer, AMS Broadcast Meteorology Conference, Nashville (June)

2013 Plenary Speaker, SE Climate Center Workshop on Decisionmaking and Uncertainty (February)

2013 Guest Speaker, AMS/NWA Local Chapter Meeting: The Urban Rainfall Effect (February)

2013 Senate testimony on climate change to Committee on Public Works and the Environment (February)

2013 UGA Physics Department Colloquium Speaker (January)

2013 APERO Lecturer (January)

2012 Interviewed in numerous media outlets in the wake of Superstorm Sandy (e.g. Time, Popular Mechanics

NPR, Politico, and various local newspapers)

2012 Invited Speaker, Atlanta Botanical Gardens (August), Urbanization and Climate Change in SE.

2011 Invited Speaker at USFS National Climate Assessment Stakeholders meeting, Atlanta, GA (July)

2011 Invited Speaker, Peach State LSAMP Summer Student Orientation, Athens, GA (July)

2011 Invited Assembly Speaker UGA Upward Bound (June). Topic: Climate and Careers

2011 Invited Keynote Luncheon Speaker. “Urban effects on precipitation, storms, and flooding.” Georgia Water Resources Conference, Athens, GA (April)

2011 Invited lecture “Urban effects on precipitation, storms, and flooding.” West Central Florida Chapter of the American Meteorological Society and the University of South Florida’s Department of Geography, Environment and Planning (April)

2011 Invited talk “Extreme urban flooding in the United States: An urban hydrometeorological perspective. AMS Annual Meeting, Conference on Planned and Inadvertent Weather Modification, Seattle, WA. (January)

2010 Invited climate lecture to UGA Peach State Louis Stokes Alliance for Minority Participation Freshman Seminar (July)

2010 Invited climate lecture to Fernbank Science Center Teacher Workshop in Dekalb County, GA (July)

2010 Invited lecture on urban precipitation at Coweeta Summer Symposium, Oslo, NC (June)

2010 Invited Panelist on Urban Climate at 2010 AAG Annual Meeting (April)

2010 Invited keynote speaker on Climate Change, Council of Science Editors Conference, Atlanta, GA. (May)

2009 Invited lecture on Climate Change to Athens Kiwanis Club

2009 Invited panel lecturer at public program at the National Academy of Science in Washington, DC

2008 Invited lecture on Georgia’s Climate Change at Fernbank Museum of Nat. History, Atlanta, GA

2008 Invited lecture on Climate Change at Emmanuel College, Franklin Springs, GA

2008 Invited colloquium speaker, Florida State University, Department of Geography. Tallahassee, FL

2008 Invited Black History Month Speaker, U.S. Forest Service, Athens, GA

2007 Invited by Former GEOG1112 Student to deliver a Motivational Talk at Classic City High

School, Athens, GA

2007 Invited lecture on Human Impacts on the Water Cycle at Duke University (Focus Program),

Durham, NC

2007 Invited lecture at the Symposium on Evolution of Climate Modeling the Prediction of Climate

Change and Science Policy in Boulder, CO

2007 Invited talk for Ohio State University Department of Geography Seminar Series. “How Cities

Affect the Water Cycle.” Columbus, OH

2007 Invited plenary speaker for the BHSI Spring Symposium: Climate, Ecology, and Infectious

Disease. Athens, GA

2007 Invited speaker to Athens-Clarke County Republican Party Monthly Meeting. Topic of

discussion: Climate Change

2006 Invited Speaker at NASA Goddard Space Center Engineering Seminar Series. Greenbelt, MD.

**5. SUPERVISION OF STUDENT RESEARCH**

**Current:**

Master’s Advisor to Mr. Ben Thigpen

Master’s Advisor to Mr. Max Applebaum

Master’s Advisor to Ms. Alexandra Music

**Past:**

Master’s Advisor to Ms. Lindsey Nixon (Graduated in Summer 2023), Employed in private sector consulting

Master’s Advisor to Mr. Jeffery D. Burke (Graduated in December 2022), Employed with GTRI

Doctoral Advisor to Dr. Andrew Thomas, University of Georgia (Graduated in Spring 2021, DOE Postdoctoral

Fellow) Dissertation: Inland intensification of tropical cyclones: Theory, modeling, and climatology.

Doctoral Advisor to Dr. Ansley Long, University of Georgia (Graduated in Summer 2020, NWS)

Dissertation: Using Satellite-Derived Precipitation Measurements to Assess Water Resources on the Navajo Reservation

Doctoral Advisor to Dr. Mariana Alfonso, University of Georgia (Graduated in Fall 2019, Univ. of Connecticut)

Dissertation: When cities plan for heat: A collaborative framework to integrate planning and climate.

Post-Doctoral Advisor to Dr. Theresa Andersen, University of Georgia

Doctoral Advisor to Dr. Brad Johnson, University of Georgia (Graduated in Fall 2018, Florida State University)

Dissertation: The impact of urbanization on regional scale climate and winter precipitation.

Doctoral Advisor to Dr. Neil Debbage, University of Georgia (Graduated in Spring 2018, UT -San Antonio)

Dissertation: Urban flooding vulnerability: A multifaceted comparative assessment of the Charlanta

Megaregion

Doctoral Advisor to Dr. Marcus Williams, University of Georgia (Graduated in Fall 2016, U.S. Forest Service)

Dissertation: The spatio-temporal evolution of irrigation in the Georgia coastal plain: Empirical and modeled effects on the hydroclimate

Doctoral Advisor to Dr. Amanda Schroeder, University of Georgia (Graduated in Summer 2015, NWS)

Dissertation: A spatio-temporal assessment of urban flooding within the United States.

Doctoral Advisor to Dr. Binita KC, University of Georgia (Graduated in 2014, NASA-GSFC)

Dissertation: Spatio-temporal assessment of climate change vulnerability in Georgia

Doctoral Advisor to Dr. Theresa Anderson, University of Georgia (Graduated in August 2013, Kennesaw State)

Dissertation: The “brown ocean” concept: A spatio-temporal and theoretical analysis of intensifying tropical

cyclones over land.

Doctoral Advisor to Dr. Chandana Mitra, University of Georgia (Graduated in May 2012, Auburn University)

Dissertation: The Dynamics of Urban Land Cover Growth in Kolkata, India and Potential Impacts

on Pre-Monsoonal Precipitation: Project Impact or Natural Variation?

Master’s Advisor to Mr. Matt Warren, University of Georgia (Graduated in Spring 2019, Employed with an Alabama GIS company and seeking employment with NGA)

Thesis: The impact of consecutive dry day evolution on the frequency and magnitude of large-scale fires in Southern Appalachia.

Master’s Advisor to Mr. Kelly Harris, University of Georgia (Graduated in Spring 2018, Employed with NYC

transportation consulting firm)

Thesis: An analysis of Atlanta road surface temperatures for the improvement of urban transit

Master’s Advisor to Mr. Neil Debbage (Graduated in Aug 2014, U of GA doctoral program)

Thesis: Quantifying Urban Form Via Spatial Metrics and Its Climatic Implications

Master’s Advisor to Mr. Fang Zhao (Graduated in May 2011, U of MD doctoral program.)

Thesis: Precipitation Changes Near Three Gorges Dam

Master’s Advisor to Ms. Lauren Hand (Graduated in May 2008, employed by Dewberry, Inc.)

Thesis: An Investigation of Warm Season Rainfall Variability in Oklahoma City: Possible Linkages to Urbanization and Prevailing Wind

Master’s Advisor to Ms. Yan Zhou (Graduated in Summer 2008, U of MD doctoral program)

Thesis: Atlanta’s Urban Heat Island under Extreme Heat Conditions and Potential Mitigation Strategies

Master’s Advisor to Mr. Michael Carter (Graduated in Spring 2009, Miss. State Univ. doctoral program)

Thesis: Mesoscale Circulations in the Urban-Coastal Environment: A Modeling Analysis and Assessment of Sensitivity to High Fidelity Representation of the Urban Canopy

Master’s Advisor to Ms. Theresa Anderson (Graduated in Summer 2010, UGA doctoral program)

Thesis: A Climatological Analysis of Drought and Tornadic Activity in the Southeastern U.S.

Post-Doctoral Research Collaborations with Dr. Willis Shem (Currently at DOE/ORNL)

*Served as a member of the following student committees:*

Ms. Sara Jane Kamiski, Ms. Alison Banks, Mr. Syed Asiful Alam, Mr. Fabian Zowam, Ms. Shelby Ingram, Dr. Lori Wachowiz (Graduated), Dr. Castle Williams Doctoral Committee (Graduated), Ms. Flavia Morales’ Doctoral Committee (Graduated), Dr. Paul Schmid’s Doctoral Committee, Purdue University (Graduated), Dr. Kyle Mattingly’s Doctoral Committee (Graduated), Mr. Ian Boatman’s Master’s Committee (Graduated), Mr. Nick Morgan’s Master’s Committee, Mengshui Weng’s Doctoral Committee (Graduated), Mr. Kyle Mattingly’s Master’s Committee (Graduated), Mr. Jordan McCleod’s Master’s Committee (Graduated), Mr. Jared Rackley’s Master’s Committee (Graduated), Ms. Jordan Pesses, Master’s Committee (Graduated), Mr. Craig Ramseyer, Master’s Committee (Graduated), Mr. Pete Campana, Master’s Committee (Graduated), Ms. Laura Becker (Graduated), Mr. Matthew Lacke, Master’s Committee (Graduated), Ms. Elizabeth Smith, Master’s Committee, Montana State University, (Graduated), Mr. Robert Shacklefood’s Master’s Committee (Graduated), Mr. Ian Chang, Master’s Committee, Northern Illinois, Dr. Dean Hardy’s Doctoral Committee (Graduated), Dr. Craig Ramseyer’s Doctoral Committee (Graduated), Dr. Paul Miller’s Doctoral Committee (Graduated), Dr. Victor Gensini’s Doctoral Committee (Graduated), Dr. Lei Ming, Doctoral Committee (Graduated), Purdue University (Graduated), Dr. ByungYun Yang, Doctoral Committee (Graduated), Dr. Matt Hauer’s Doctoral Committee (Graduated), Dr. Sergio Bernardes, Doctoral Committee (Graduated), Dr. Chris Furmhann, Doctoral Committee, University of North Carolina (Graduated), Dr. John Frye, Doctoral Committee, University of Georgia (Graduated), Dr. Joshua Durkee, Doctoral Committee, University of Georgia (Graduated), Dr. Sharon Ashley Doctoral Committee University of Georgia (Graduated), Dr. Sara Vieira Doctoral Committee at Georgia Tech (Graduated), Dr. Khalil Lezzaik’s Doctoral Committee (Graduated), Dr. Dean Hardy’s Doctoral Committee (Graduated).

Served as undergraduate research advisor for projects conducted by Toni Deanon, Alexandra Horst, David Nevius, Kathyrn Boyle, Samuel Shuster, Michael Stewart and Seth Thompson

Science Advisor for 3 NASA DEVELOP Projects from 2005 to 2013 and early student engagement on UGA SmallSat program.

**6. EDITORSHIPS AND EDITORIAL BOARDS**

2018-2020 Climatology Editor, Association of American Geographers (AAG) Encyclopedia of Geography.

2007-2012 Editor, *Journal of Applied Meteorology and Climatology*. A leading journal in the field of

meteorology and climatology and published by the American Meteorological Society.

2011 Guest Editor, *Earthzine* Magazine Spring Special Issue on Extreme Weather

2007-2010 Editor for *Geography Compass.*

2006-2007 Past member of the Editorial Board for *Geography Compass*.

**7. CONVENTION/CONFERENCE PAPERS (present to 2006)**

Key Acronyms: Association of American Geographers (AAG), American Meteorological Society (AMS), American Geophysical Union (AGU), European Geophysical Union (EGU)

\*Refereed paper associated with conference paper

2018 Udaysankar Nair, E. Rappin, E. Foshee, W. Smith, R. A. Pielke Sr., R. Mahmood, J. L. Case, C. B. Blankenship, **J. M. Shepherd**, J. A. Santanello, and D. Niyogi.[Brown Ocean Effect on the Louisiana August 2016 Extreme Flooding Event](https://ams.confex.com/ams/98Annual/meetingapp.cgi/Person/Paper/336225). American Meteorological Society Annual Meeting. Austin, Texas.

2018 Debbage, N., and **Shepherd, J.M**., 2018: Quantifying the relative contributions of the physical mechanisms responsible for the Atlanta 2009 flood. American Meteorological Society Annual Meeting. Austin, Texas.

2018 Long, A., and **Shepherd, J.M**., 2018: Using Satellite-Derived Precipitation Measurements to Assess Water Resources on the Navajo Indian Reservation. American Meteorological Society Annual Meeting. Austin, Texas.

2018 Johnson, Bradford, and **Shepherd, J.M**., 2018: A WRF Model-Based Sensitivity Analysis of Urbanization on Winter Precipitation Type. American Meteorological Society Annual Meeting. Austin, Texas.

2017 Burian, S.J., Jha, M., Richard, G., **Shepherd, J.M**. (2017). “An interdisciplinary learning module on water sustainability in cities.” *American Society for Engineering Education (ASEE) Annual Conference Proceedings*, 25-28 June, 2017, Columbus, OH, USA.

2017 Ahmed, W., Hansen, C.H., Goharian, E**., Shepherd, M.,** Ahmad, S., and Burian, S.J. (2017). "Data management and modeling for addressing the water-energy-food nexus in Pakistan." *ASCE-EWRI World Environmental & Water Resources Congress 2017*, Sacramento, California, USA, May 21-25, 2017.

2017 **Shepherd, J.M**., 2017: Satellite Remote Sensing and the Hydroclimate: Two Specific Examples of Improved Knowledge and Applications, American Geophysical Union, New Orleans, Louisiana.

2017 Johnson, Bradford, and **Shepherd, J.M.**, 2017: The Effects of Urban Clusters on Winter Precipitation, American Meteorological Society, Seattle, Washington.

2017 Debbage, N., and **Shepherd, J. M.**, 2017: Quantifying the relative contributions of the physical mechanisms responsible for the Atlanta 2009 flood. Southeastern Division of the American Association of Geographers Annual Meeting. Starkville, Mississippi.

2017 Debbage, N., and **Shepherd, J.M.**, 2017: The influence of urban development patterns on streamflow characteristics. American Meteorological Society Annual Meeting. Seattle, Washington

2016 **Shepherd, J.M**., A. Grundstein, and J. Knox, 2016: Are Bounce Houses Too Hot? AMS Annual Meeting, 7th Conference on Environment and Health, Phoenix, AZ

2016 Johnson, B., and **J.M. Shepherd**, 2016: Assessing urban impact on winter precipitation type using dual polarization radar, AMS Annual Meeting, 30th Conference on Hydrology, Phoenix, AZ

2015 Jennings, V., Chen, H. Floyd, M., **Shepherd, JM**, Wicker, L., Wolf, K., Zipperer, W. How to Successfully Present Research and Publish in Top Journals. Minorities in Agriculture, Natural Resources, and Related Sciences Annual Conference. 27 March 2015. Houston, TX

2015 Johnson, B., and **M. Shepherd**, Towards the Understanding and development of an urban-influenced climate framework. 95th American Meteorological Society Annual Meeting, Phoenix, AZ, 27th Conference on Climate Variability and Change.

2014 **Shepherd, M**. and S. Bernardes, 2014: Assessing Exposure of Infrastructure and Populations to Extreme Precipitation in the Southeastern United States. Southeastern Division of the AAG (SEDAAG), Athens, Georgia

2014 Andersen, T., **M. Shepherd**, and L. Bounoua, 2014: Using WRF-UCM to assess the impacts of an urban archipelago on weather in the Northeast US. AMS Annual Meeting, Atlanta, Georgia.

2014 KC, B., J. Bell, S. Kethireddy, E. Dobbs, J. Luvall, **J.M. Shepherd**, T. L. Mote, S. Goodrick, 2013. Infusing NASA satellite data to model air-quality for Southeast United States: A wildfire, aerosol transport, and respiratory health case study, 94th American Meteorological Society Annual Meeting, Atlanta, GA.

2014 Andersen, T., **J.M., Shepherd**, and L. Bounoua, 2014: Using WRF-UCM to assess the impacts of an urban archipelago on climate in the Northeast US. Poster. American Meteorological Society 94th Annual Meeting in Atlanta, GA, 11th Symposium on the Urban Environment, February 2-6

2014 Zhao, F., and **J.M. Shepherd**, 2014: Analyzing the Impact of the Three Gorges Reservoir on Local Precipitation with TRMM Satellite Data. 94th American Meteorological Society Annual Meeting, Atlanta, GA.

2014 Bloch, L., M. Faherty, L. Hample, J. Knox, V. Laux, T. Pastuszak, Z. Robbins, and **J.M. Shepherd**, 2014: Birds blown off course: HYSPLIT analysis of Northern Lapwing (NOLA) sightings in Massachusetts following Superstorm Sandy with application to citizen science. Presented at the American Meteorological Society (AMS) Annual Meeting, Atlanta, GA.

2014 Debbage, N. and **Shepherd, J.M**. April 2014. Urban Heat/Dry Islands: The Role of Density and Spatial

Contiguity. Urban Climate and Environment Paper Session (Also Participated in Climate Specialty Group Student Paper Competition). Association of American Geographers Annual Meeting. Tampa Bay, Florida.

2014 Debbage, N. and **Shepherd, J.M**. February 2014. Quantifying Urban Form via Spatial Metrics and its

Climatic Implications. Urban Energy and Water Balances Paper Session. American Meteorological Society Annual Meeting. Atlanta, Georgia.

2014 Debbage, N., Gonsalves, N., **Shepherd, J.M**., and Knox, J. February 2014. Superstorm Sandy and Voter Vulnerability in the 2012 US Presidential Election. Hurricane Sandy and the Built Environment Poster Session. American Meteorological Society Annual Meeting. Atlanta, Georgia.

2013 KC, B., **J.M. Shepherd**, M. Madden, and C. Johnson, 2013. Spatio-Temporal Assessment of Climate Change Vulnerability in Georgia, Invited Speaker in Hollings Marine Laboratory, NOAA, Charleston, SC, October, 2013.

2013 KC, B., **J.M. Shepherd**, and C. Johnson, 2013. Climate Change Vulnerability Assessment in Georgia, Georgia Environmental Conference, Jekyll Island, GA, August, 2013

2013 KC, B., **J.M. Shepherd**, and C. Johnson, 2013. Climate Change Vulnerability Assessment in Georgia

ASPRS Conference, Baltimore, MD, March, 2013

2013 KC, B., J. Bell, S. Kethireddy, E. Dobbs, J. Luvall, **J.M. Shepherd**, T. L. Mote, S. Goodrick, 2013. Infusing NASA satellite data to model air-quality for Southeast United States: A wildfire, aerosol transport, and respiratory health case study, SOFOR GIS Conference, Athens, GA, December, 2013

2013 Applied Climatology Panel, AMS Annual Meeting, Austin Texas. Perspectives on Applied Climatology.

2012 Hossain, F., W. Yigzaw, A. Degu, A.T. Woldemichael, **J.M. Shepherd** and C Mitra, 2012: Remote

Sensing of Water Cycle and Land Use Patters to Understand Water Resources Vulnerability of an Asian Mega City, AGU Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Waikoloa Beach Marriott in Kona, Hawaii, USA, 19 February - 22 February 2012.

2012 **Shepherd, M**., and C. Strother, 2012: The “Ring of Asphalt” and changing precipitation in the Southern Appalachians, Coweeta LTER Summer Meeting, Otto, NC.

2012 Grundstein, A., B. Avant, S. Younger, A. Ignatius, T. Rasmussen, T. Mote, **M. Shepherd**, 2012: A Methodology for Hydrological Modeling in Data Poor Regions using TRMM Precipitation Data and MERRA Reanalysis Meteorological Data. AAG Annual Meeting, 24-28 February, New York, NY.

2012 Rasmussen T.C., A. Grundstein, T. Mote, **M. Shepherd**, A. Ignatius, B. Avant, S. Younger, 2012: Remote Sensing-Based River Fluxes, National Nuclear Security Administration (NA-22), U.S. Department of Energy, Washington D.C., December 1, 2012.

2011 Ignatius, A., A. Grundstein, T. Rasmussen, B. Avant, **M. Shepherd**, T. Mote, 2011: A Methodology for Hydrological Modeling in Data Poor Regions using Satellite-based and Reanalysis Meteorological Data. AAG Annual Meeting, 12-16 April, Seattle, WA.

2010 Ignatius, A., A. Grundstein, T. Rasmussen, T. Mote, and **M. Shepherd**, 2010: Utilizing Satellite-based Reanalysis Precipitation Data in Hydrological Modeling. AGU Annual Meeting, 13-17 December, San Francisco, CA.

2010 Avant, B., A. Ignatius, T. Rasmussen, A. Grundstein, T. Mote, and **M. Shepherd**, 2010: Coupling Tritium Release Data with Remotely Sensed Precipitation Data to Assess Model Uncertainties. AGU Annual Meeting, 13-17 December, San Francisco, CA.

2010 Ignatius, A., A. Grundstein, T. Rasmussen, T. Mote, **M. Shepherd**, J. Knox, J. Bollinger, A. Garrett, D. Hayes, 2010: The use of Merra reanalysis data and satellite-based precipitation estimates in hydrologic modeling. AAG Annual Meeting, 14-18 April, Washington, D.C.

2011 Chang, I., M. Bentley, and **J.M. Shepherd**, 2011: Spatial distributions of rainfall intensity maxima in intense tropical cyclones from the TRMM Multi-satellite precipitation analysis dataset. AGU Annual Meeting, San Francisco, Ca.

2011 Jin, M., R. Dickinson, and **J.M. Shepherd**, 2011: Using MODIS skin temperature to assess urban heat island and biosphere-land interactions, AGU Annual Meeting, San Francisco, CA.

2011 **Shepherd, J.M**., 2011: Current and emerging perspectives on urban hydroclimate interactions. NASA PMM Science Team meeting, Denver, CO (invited).

2011 Ignatius, A., A. Grundstein, T. Rasmussen, B. Avant, **J.M. Shepherd**, and T. Mote, 2011: A methodology for hydrological modeling in data poor regions using satellite-based and reanalysis meteorological data, AAG Annual Meeting, Seattle, WA.

2011 Zhao, F., and **J.M. Shepherd**, 2011: Precipitation changes near Three Gorges Dam. AAG Annual Meeting,

Seattle, WA.

2011 Jin, M., **J.M. Shepherd**, and W. Zheng, 2011: Urban aerosol direct effect on surface temperature. AMS

Annual Meeting, Seattle, WA.

2011 Andersen, T., and **J.M. Shepherd**, 2011: A climatological analysis of drought and tornadic activity in the

southeastern United States, AMS Annual Meeting, Seattle, WA.

2011 Mote, T.L., **J.M Shepherd**, T.K. Anderson, B. KC, C. Ramseyer, 2011: Downscaling: Modeling

global climate change effects locally. The Impact of Climate Change on Tribal Resource Management in the Southeast, Athens, GA.

2010 Shem, W.O., T.L. Mote, and **J.M. Shepherd**, 2010: Validation of NARCCAP climate products

for forest resource applications in the southeast United States, American Meteorological

Society, 18th Conference on Applied Climatology, Atlanta GA.

2010 Shem, W.O., T.L. Mote, and **J.M. Shepherd**. Validation of NARCCAP climate products for

forest resource applications in the southeast United States, 2010: Fall meeting of the

American Geophysical Union, San Francisco, CA.

2010\***Shepherd**, J.M., T.L. Mote, S. Nelson, S. McCutcheon, P. Knox, M. Roden, and J. Dowd, 2010: An

overview of synoptic, mesoscale and urban factors contributing to the disastrous Atlanta flood of 2009, 9th Conference on the Urban Environment, Keystone, CO.

2010 \***Shepherd**, J.M., T.L. Mote, S. Nelson, S. McCutcheon, P. Knox, M. Roden, and J. Dowd, 2010: An

overview of synoptic and mesoscale factors contributing to the disastrous Atlanta flood of 2009, AAG Annual Meeting, Washington, DC.

2010 Ignatius, Amber, A. Grundstein, T. Rasmussen, T. Mote, **M. Shepherd**, J. Knox, J. Bollinger, A. Garrett,

and D. Hayes, 2010: The use of MERRA reanalysis data in hydrologic modeling, AAG Annual Meeting.

Washington, DC.

2010 Ignatius, Amber, A. Grundstein, T. Rasmussen, T. Mote, **M. Shepherd**, 2010: Utilizing Satellite‑based

and Reanalysis Precipitation Data in Hydrological Modeling, AGU Annual Meeting, San Francisco, CA.

2010 Avant, B., Ignatius, Amber, T. Rasmussen, A. Grundstein, T. Mote, **M. Shepherd**, 2010: Coupling Tritium Release Data with Remotely Sensed Precipitation Data to Assess Model Uncertainties, AGU Annual Meeting, San Francisco, CA.

2010 Giroux L., M. Raphael, **M. Shepherd**, and T. Mote, 2010: Attracting and retaining minority students in the

climate sciences - the Diversity Climate Network (D-ClimNet),AAG Annual Meeting.

Washington, DC.

2010 **Shepherd**, J.M., 2010: Global evidence of hydroclimate changes due to urbanization, AMS Annual

Meeting, Atlanta, GA.

2010 Sarnat, S., A. Grundstein, M. Klein**, J. M. Shepherd**, L. Naeher, T. L. Mote, and P. E. Tolbert, 2010: Examining vulnerabilities to thunderstorm-associated asthma in Atlanta, Georgia, AMS Annual Meeting, Atlanta, GA.

2010 Anderson, T., and **J.M. Shepherd**, 2010: A climatological analysis of antecedent drought and spring tornadic activity, AMS Annual Meeting, Atlanta, GA.

2010 Mitra, C., and **J.M. Shepherd**, 2010: Influence of urban land cover dynamics on pre-monsoonal precipitation in Kolkata, India, AMS Annual Meeting, Atlanta, GA.

2010 Shem, W., T.L. Mote, and **J.M. Shepherd**, 2010: Validation of Narccap climate products for forest resource applications in the southeast United States, AMS Annual Meeting, Atlanta, GA.

2010 \*Carter, M., **J. M. Shepherd**, S. Burian, and I. Jeyachandran, 2010: Mesoscale circulations in the urban-coastal environment: a modeling analysis and assessment of sensitivity to high-fidelity representation of the urban canopy, AMS Annual Meeting, Atlanta, GA.

2010 Zhao, F. and **Shepherd, J.M**. Three Gorges dam management: in the face of altered Precipitation. Poster presented at the 2010 Lower Apalachicola-Chattahoochee-Flint (ACF) Water Conference and Summit: Managing reservoirs from a human and Ecological perspective, Bainbridge, Georgia.

2009 \***Shepherd, J. M.**, A. Grundstein, and T. L. Mote, 2009: Quantifying the contribution of tropical

cyclones to extreme rainfall along the coastal southeastern United States. Inland Impacts of Tropical Cyclones Conference. Atlanta, Georgia.

2009 **Shepherd, M.**, S. Burian, and M. Jin, 2009: Can satellite-derived rainfall really detect urban

rainfall anomalies? 89th Annual Meeting. Phoenix, AZ.

2009 \***Shepherd, M.**, D. Niyogi, T.L. Mote, and J. Entin, 2009: A climatological analysis associating

spring tornadic activity with antecedent precipitation and drought in the Southeastern United States. 89th Annual Meeting. Phoenix, AZ.

2009 Burian, S., I. Jeyachandran, **M. Shepherd**, M. Carter, and M. Jin, 2009: Satellite-based

approaches to determine urban characteristics: implications for NUDAPT and modeling. 89th Annual AMS Meeting. Phoenix, AZ.

2009 \*Niyogi, D., **M. Shepherd**, M. Lei, W. Shem, and J. Entin, 2009: An observational and modeling

study of a rare tornadic storm in a major central business district: Possible linkages to drought and

urban land cover. 89th Annual Meeting. Phoenix, AZ.

2009 \*Hand, L., and **J.M. Shepherd**, 2009: An investigation of warm season spatial rainfall variability

in Oklahoma City: Possible linkages to urbanization and prevailing wind. 89th Annual Meeting. Phoenix, AZ.

2009 Mitra C, **J.M. Shepherd**, and T.R. Jordan, 2009: Assessment and dynamics of the urban growth

in the city of Kolkata, India. 89th Annual Meeting. Phoenix, AZ.

2009 \*Zhou, Y., and **J.M. Shepherd**, 2009: Atlanta’s urban heat island under extreme heat conditions.

89th Annual AMS Meeting. Phoenix, Arizona.

2009 Carter, W.M., **J.M. Shepherd**, S. Burian, I. Jeyachandran, and M. Jin, 2009: Mesoscale circulations in the urban environment. 89th Annual AMS meeting. Phoenix, AZ.

2008 \***Shepherd, J.M.**, A. Grundstein, and T. L. Mote, 2008: Quantifying the contribution of tropical

cyclones to extreme rainfall along the coastal southeastern United States. 2008 AAG Annual Meeting. Boston, MA.

2008 **Shepherd, J.M.**, 2008: Urban effects on Precipitation: Revisiting the 5-cities Study. 3rd TRMM International Science Conference. Las Vegas, Nevada.

2008 \***Shepherd, J.M.**, A. Grundstein, and T. L. Mote, 2008: Quantifying the contribution of tropical cyclones to extreme rainfall along the coastal southeastern United States. 88th Annual AMS Meeting. New Orleans, LA.

2008 Han, W., S. Burian, and **J.M. Shepherd**, 2008: Use of TRMM precipitation data to investigate urbanization effects on the water cycle. 3rd TRMM International Science Conference. Las Vegas, Nevada.

2008 Jin, M., **J.M. Shepherd**, and S. Burian, 2008: Urban aerosol effects and their direct effects on

surface temperature. AGU Fall Meeting. San Francisco, CA, USA.

2008 Burian, S., **J.M. Shepherd**, M. Jin, and colleagues, 2008: Urban land surface characterization and aerosol adjustment enhancements to meteorological modeling. 12th Annual GMU Conference on Transport and Dispersion Modeling. Fairfax, VA.

2008 \*Shem, W., and **J.M. Shepherd**, 2008: On the impact of urbanization on summertime thunderstorms in Atlanta: Two numerical model case studies. 2008 AAG Annual Meeting, Boston, MA.

2007 \***Shepherd, J.M.**, A. Grundstein, and T.L. Mote, 2007: Quantifying the contribution of tropical cyclones to extreme rainfall along the coastal southeastern United States. SEDAAG, Charleston, South Carolina.

2007 \***Shepherd, J.M.**, M. Manyin, and D. Messen, 2007: Projected regional climate changes in 2025 Houston due to urban growth. 2nd ICA Workshop on Geospatial Analysis and Modeling. Athens, GA. (Session Chair: Urban Modeling).

2007 \***Shepherd, J.M.**, M. Manyin, and D. Messen, 2007: The impact of current and future urbanization on coastal convective precipitation. AMS Forum: Climate Change Manifested by Changes in Weather. 87th AMS Annual Meeting. San Antonio, TX.

2007 **Shepherd, J.M.**, and T. Mote, 2007: Trends towards wetter hurricane basins. AMS Forum: Climate Change Manifested by Changes in Weather. 87th AMS Ann. Meeting. San Antonio, TX.

2007 Jin, M., **J.M. Shepherd**, L. Remer, et al., 2007: Urban aerosol effects on rainfall and clouds in

USA and China. The Fourth International Ocean-Atmosphere Conference (COAA2007). Qingdao, China.

2007 \*Shem, W., and **J.M. Shepherd**, 2007: Investigating the relationship between urban land use and

precipitating convective systems over the Atlanta region. AMS 7th conference on urban environment. San Diego, California.

2007 Mitra, Chandana, and **J.M. Shepherd**, 2007: Assessment and modeling of urban sprawl in Kolkata. Annual AAG Meeting. San Francisco, California.

2007 Jin, M., and **J.M. Shepherd**, 2007: Urban aerosol impact on surface energy and hydrological

cycles. . AMS Forum: Climate Change Manifested by Changes in Weather. 87th AMS Annual Meeting. San Antonio, TX.

2007 Jin, M. S J Burian, LA Remer, **J.M. Shepherd**, 2007 Urban aerosol effects on surface insolation

and surface temperature. AGU Fall Meeting. San Francisco, CA.

2007 Jin, M. L. Remer, **J.M. Shepherd**, and S. Burian, 2007: Urban aerosol direct effect on surface

skin temperature. A-Train-2007 Symposium. 22-25 October 2007. Lille Grand Palace, France.

2006 \***Shepherd, J.M.**, M. Manyin, and D. Messen, 2006: Projected regional climate changes in 2025 Houston due to urban growth.  Special session called “Impact of Aerosols and Urbanization on Precipitation.” Spring AGU Meeting. Baltimore, MD.

2006 \***Shepherd, J.M.**, M. Manyin, and D. Messen, 2006: Projected regional climate changes in 2025 Houston due to urban growth. AAG Annual Meeting. Chicago, IL.

2006 \***Shepherd, J.M.**, M. Manyin, and D. Messen, 2006: Projected regional climate changes in 2025 Houston due to urban growth. 6th Symposium on the Urban Environment at the 2006 Annual AMS meeting, Special session called “cities as agents of global change.” Atlanta, Georgia.

2006 Niyogi, D., R.A. Pielke, Sr., J. Adegoke, H.I. Chang, T.Chase, E. Douglas,

M. Gupte, C. Marshall, T. Matsui, P.C. Pyle, and **M. Shepherd**, 2006: Considering the role of aerosols and land-atmosphere interactions related to agriculture and urbanization in climate studies. AAG Annual Meeting. Land Cover/Land Use Session. Chicago, IL.

**PUBLIC SERVICE**

2024- Member, National Center for Science Education Board

2023 Member, National Academies' Committee on Advancing Risk Communication with Decision-Makers

for Extreme Tropical Cyclones: Learning from Extreme and Unprecedented Weather Events.

2022- University of Pennsylvania Climate Communication Advisory Committee

2022- AMS Constitutional Committee

2022- National Academy of Sciences, Gulf Research Program, Compound Disasters Study

2021- Gwinnett County Sustainability Commission

2021- National Academy of Sciences Board of Atmospheric Sciences and Climate (BASC)

2021- ASU NASA SCOPE Advisory Committee

2020- Auburn NRT Advisory Committee

2020- Institute for Sustainable Communities Board

2018- Gwinnett County Public Schools Science Fair Advisory Committee

2021-2023 National Academy of Sciences Space Studies Board

2021-2023 Co-Chair, AAAS Commission on Climate Change - Communications

2021-2022 NOAA Priorities of Weather Research Study Team

2020 Chair, AGU Honors, Climate Communication Prize Committee

2021-2021 NOAA NSSL External Review Committee

2017-2020 Chair, NASA Earth Science Advisory Committee

2014-2020 Partnership Council, Mothers and Others Against Air Pollution

2017-2019 Members, NASA Advisory Committee Science Committee

2013-2016 Earth Science Subcommittee of the NASA Advisory Council

2016-2019 NASA Precipitation Measurement Missions Science Team

2016-2019 NASA-JAXA Joint Precipitation Measurement Missions Science Team

2016-2018 AMS Nomination Committee. (Chair, 2017-2018)

2012-2016 Project Associate for Urbanization and Global Environmental Change (UGEC) - an IHDP

Core Project

2015-2016 National Academy of Sciences Panel on Extreme Weather-Climate Change Attribution

2015-2016 Nature Conservancy, Board of Trustees, Georgia

2015 NASA Precipitation Measurement Mission Panel

2012-2016 Past President, American Meteorological Society (AMS) and Executive Council Member

2012-2015 AAAS “What We Know” Panel

2013-2015 Board, Climate Central

2010-2014 AMS Membership Committee

2011-2014 NOAA Science Advisory Board

2012-2014 Department of Energy ARM Science Board

2014 UGEC International Conference Advisory Committee

2013 President of the American Meteorological Society

2013 Search Committee, National Center for Atmospheric Research (NCAR) Director

2011-2012 National Academy of Science Committee on Urban Meteorology.

2010 CENTRA War Game Scenarios on Climate and Security.

Past U.S. Department of Energy Cool Roofs Initiative Review Panel (nominated and selected)

2009-2010 External Review Panel for NOAA Climate Prediction Center/Hydrometerological Prediction

Center.

2009-2012 Past Advisory Committees for Howard University NOAA Center for Atmospheric Sciences and

NASA University Research Center.

2009 Past Member of International Writing Team for the American Meteorological Society Policy Statement

on Inadvertent Weather Modification.

2008-2011 NOAA Climate Working Group (Key external advisory body to NOAA on climate science.

2009-2010 National Academy of Science Panel on Climate Change Effects on U.S. Naval Operations and National Security

2009-2010 NASA Goddard Earth Science Director Search Committee.

2009-2010 2010 Co-Program Chair, American Meteorological Society Annual Meeting, Atlanta, GA.

2006-2009 Member of the American Meteorological Society Executive Council.

2006-2008 Member of the American Meteorological Society Executive Committee.

2005-2008 Team member on World Meteorological Organization (WMO) Panel to assess the effects of

natural and anthropogenic particles on precipitation.

2008-2009 Planning Committee for NASA Symposium on Earth System Science at 20 Years.

2008-2009 External Review Panel for NOAA ISET Program at North Carolina A&T University.

2008 Served on NASA Hurricane Science Program Review Panel.

2007 Member of Atmospheric Science and Climate Literacy (ASCL) Workshop Organizing

Committee.

2006 Invited Panelist to testify before the National Academies of Science Review Panel for the

NASA Applied Sciences Committee.

1999-2009 Reviewer of Manuscripts for AMS Journal of Applied Meteorology and

Climatology, AMS Journal of Hydrometeorology, Professional Geographer, Southeastern Geographer, Atmospheric Environment, Atmospheric Research, JGR-Atmospheres, Earth Interactions, Int. Journal of Climatology, Theoretical and Applied Climatology, Journal of Climate, The Professional Geographer, Geography Compass, Journal of Climate and Geophysical Research Letters, The Open Atmosphere Science Journal, International Journal of Applied Geospatial Research.

1999-2009 Reviewer of Proposals for Israel Science Foundation, Hong Kong Research Council, NASA,

National Science Foundation (Physical Meteorology, Regional Geography, Geosciences Education), Department of Energy, National Oceanic and Atmospheric Administration.

2007-2009 Promotion Reviews for Dr. Menglin Jin (U of MD), Dr. Jeffrey Halverson (UMBC), Xiping

Zeng (UMBC), David Sailor (Portland State).

2004 Chairman of NASA Laboratory for Atmospheres Peer Award Committee.

2003-2006 NASA Precipitation Science Team.

2001-2005 NASA Global Precipitation Measurement Mission (GPM) Deputy Project Scientist.

2002-2008 National Science Foundation Advisory Committee on Environmental Research and Education.

2004 NASA New Investigator Program Review Panel.

2004 Program Committee for 2004 Satellite Meteorology Conference.

2001-2003 Committee of Visitors for the Review of the NSF Biocomplexity in the Environment program.

Past Member of HEAT Inter-agency Planning Committee.

Past NASA Representative to User Requirements Sub-Group for the International Working Group Global Earth Observations.

Past Member NASA/GSFC Water Cycle Advisory Team.

2002-2004 AMS Committee on Satellite Meteorology (2002-2004).

2002 NASA Laboratory for Atmospheres Peer Award Selection Committee (2002).

1993-2005 Numerous NASA Committees: Code 900 DAAC Users Working Group, Technical Review

Committee for Howard University Research Center, Source Evaluation Board (SEB) –Code 912.0 Support Contract Selection, GSFC Committee on Improving Communications with the Center Director, GSFC Committee to Standardize Promotion Criteria for Scientists, Goddard GSRP Fellowship Selection Committee.

1999-2001 Tropical Rainfall Measuring Mission (TRMM) Outreach Scientist (1999-2001).

1996-1998 Past chairman and member of the American Meteorological Society’s Board on Women and

Minorities (member from 1994-1998).

1996-2001 Past chairman of Earth Science Directorate Multicultural Diversity Advisory Council.

**Memberships:** American Meteorological Society (AMS), American Geophysical Union, Association of American Geographers (AAG), International Association for Urban Climate (IAUC), Sigma Xi.

**OTHER SERVICE**

2022 Planning committee for 3rd Georgia Climate Conference

2019 Organized NSF ERC Workshop at UGA

2019 Planning committee for 2nd Georgia Climate Conference

2019 Planning committee for the 2020 AMS meeting

2018- Drawdown Georgia Steering Team

2018- Ray C. Anderson Foundation Climate Advisory “Dream” Team

2015 Helped lead the proposal for new UGA Major in Atmospheric Sciences

2013 Invited Matt Parker (Savannah River National Laboratory) to Geography Colloquium Lecture

2012 Led UGA application process for University Corporation for Atmospheric Research (UCAR)

2010 Invited Dr. Franco Einaudi (NASA) to campus for the Inaugural Climate and Society Lecture

2010 Invited Dr. Lesley Ann Dupigny-Giroux (Vermont) under a Franklin Visiting Scholars Grant

2010 Invited Dr. Sharon Nicholson for Department of Geography Colloquium

2010 Attended UGA Teaching Academy Faculty Symposium (April 2010).

2009 Moderated session on Climate and Rainfall Variability at 2009 Georgia Water Resources

Conference.

2008 Invited by Dean of the Franklin College of Arts and Sciences to attend Faculty Breakfast with

UGA Provost Mace (August 2008).

2007 Invited Presentation to Franklin College Climate Change Advisory Board (October 15, 2007).

*Administrative and University Service:*

2023- Provost External Faculty Honors Working Group

2023- FCAS Promotion and Tenure Committee – Social and Behavioral Sciences

2022- Guongchen Mai Mentor Committee

2022- College of Engineering Fellows Committee

Member Georgia Athletic Association Board (Faculty representative) 2016 – Present

Member, Department of Geography, Diversity and Inclusion Committee 2018 - Present

2022 Met with Chancellor Sonny Perdue On Evaluation of President Morehead

2022 Franklin College of Arts and Science Dean, Search Committee

2022 Chair, Department Renaming Committee

2021 Franklin College of Arts and Science Dean, Search Committee

2021 Chair, Department Renaming Committee

2020 Graduate School Presidential Fellows Committee

Co-PI Small Internal Initiative Funded by UGA Graduate School and Dr. Hilda Kurtz To Increase Department of Geography diversity 2018 - 2020

Chair, Atmospheric Sciences Lecturer Search Committee (2018-2019)

Member, Faculty team solicited for BOR Chancellor Wrigley’s review of President Jere Morehead (2018)

Member, UGA PRAC Committee (2017-2019)

Member of UGA Climate and Society Initiative Steering Committee (Current)

Member, UGA Stem Initiative Committee

Member of the 2013 UGA Provost Search Committee

Member of the Office of the Vice President Distinguished Research Professor Selection Committee (Chair, 2015, Served 2013 to 2015)

Past Member of the CICR Executive Committee

Past Member of Franklin College of Arts and Science Task Force on Diversity and Inclusion

Past Chair, Geography Department 5-Year Planning Committee

Past GEOG1112 Faculty Coordinator

Past Member of Department of Geography Search Committee, GIS and Remote Sensing Faculty Position

Served on Curriculum Committee, Admissions Committee, Academic Standards Committee, Diversity Committee

Past Departmental Website Committee chair

Departmental Colloquium Committee (2008-2009)

Departmental Advisory Committee (2007-2009)

Departmental Graduate Studies Committee (2009)

Departmental Representative to Faculty Senate (2006-2009)

Departmental Faculty Meeting Scribe (2006)

Worked with Dept. Head Brook, Prof. Mote, and Prof. Grundstein on the establishment of a new Departmental Climatology Laboratory (2006)

Completed CITI Course in the Protection of Human Research Subjects (#414503)

Faculty Marshall at Fall (2006) and Summer (2007) Commencement Activities

Chair, Physical Geography Faculty Search Committee (2007)

Served as a reviewer for 2008 Excellence in Research by Graduate Student Award (December 2007)