

Curriculum Vitae

Andrew Jay Grundstein

Department of Geography

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ACADEMIC HISTORY

EMPLOYMENT

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| 2012 – present | Professor, Department of Geography, University of Georgia, Athens, GA. |
| 2005 – 2012 | Associate Professor, Department of Geography, University of Georgia, Athens, GA. |
| 1999 – 2005 | Assistant Professor, Department of Geography, University of Georgia, Athens, GA. |
| 1993 – 1999 | Research Assistant, Teaching Assistant, Instructor, and Assistant State Climatologist, Department of Geography, University of Delaware, Newark, DE. |
| 1993 | Summer Research Assistant, Delaware Geological Survey, Newark, DE. |

EDUCATION

Doctor of Philosophy, Climatology, August 1999

University of Delaware

Dissertation: *A Climatology of Snow Water Equivalent across the Northern Great Plains of the United States.*

Faculty Advisor: Daniel J. Leathers

Master of Science, Geography, January 1997

University of Delaware

Thesis: *Factors Affecting Snowmelt in the Northern Great Plains.*

Faculty Advisor: Daniel J. Leathers

Bachelor of Arts, Geography-Ecosystems & Political Science, June 1992
University of California at Los Angeles

SCHOLARLY ACTIVITIES

GRANTS & CONTRACTS

Co-Principal Investigator, National Science Foundation, “A Sensor Cloud-based Community-Centric Approach for Analyzing and Mitigating Urban Heat Hazards”, \$238,399, 2016-2018.

Co-Principal Investigator, National Institutes of Health, “Climate Change and Heat-Related Morbidity among Vulnerable Populations in Atlanta”, \$40,137 to UGA (\$440,973 total), 2013-2015.

Co-Investigator, Centers for Disease Control and Prevention, “Retrospective Characterization of Climate and Acute Morbidity: A Necessary Step Toward Valid Health Impact Projections, \$15,551 to UGA (\$158,798 total), 2009-2010.

Co-Principal Investigator, U.S. Department of Energy, “Integrated Hydrologic/Hydrodynamic Modeling System for Collection of Pollutant Signatures”, \$741,123 to UGA (\$1.5 million total), 2008-2013.

Co-Principal Investigator, National Aeronautics and Space Administration, "A Hybrid Approach for Evaluating and Predicting Interactions between the Seasonal Snowpack and the Atmosphere", \$219,625, 2002-2005.

Principal Investigator, The University of Georgia Research Foundation, “Establishing an Automated Snow Cover Observing Station in Eastern North Dakota”, \$5,245, 2000-2001.

PROFESSIONAL CONSULTING

Consultant, Gatorade, “Beat the Heat”, \$1,000, 2013.

Consultant, The Kentucky Water Resources Research Institute, “A Growing Season Hydroclimatology, Focusing on Soil Moisture Deficits, for Kentucky and Surrounding Climate Divisions”, \$6111, 1999-2000.

PUBLICATIONS (students underlined)

Journal Articles, In Review

Ferrara, M., B. Cooper, **A. Grundstein**, J. Miles, P. Curry, D. Casa, and J. Powell, **In Review** at *Journal of Athletic Training*: The Georgia Study: The Risk of Exertional Heat Illness in High School Football Players.

Grundstein, A., J. Knox, J. Vanos, E. Cooper, D. Casa, **In Review** at *International Journal of Biometeorology*: American Football and Fatal Exertional Heat Stroke: A Case Study of Korey Stringer.

Grundstein, A., Y. Hosokawa, and D. Casa, **In Review** at *Journal of Athletic Training*: The need for regional heat safety guidelines: A study of fatal exertional heat stroke incidents.

O'Lenick C., A. Winquist, H.H. Chang, M. Kramer, J. Mulholland, **A. Grundstein**, S.E. Sarnat. **In Review** at *Environmental Research*: Evaluation of individual and neighborhood factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA.

Williams, C. and **A. Grundstein**, **In Review** at *Injury Prevention*: Children Forgotten in Hot Cars: A Mental Models Approach for Improving Public Health Messaging

Journal Articles, In Press or Published (students are underlined)

Cooper, B., **A. Grundstein**, A. Rosen, P. Curry, J. Miles, J. Ko, **In Press** at *Journal of Athletic Training*: An evaluation of portable wet bulb globe temperature monitor accuracy.

Pryor, L.J., R.R. Pryor, **A. Grundstein**, D.J. Casa, **In Press** at *Journal of Athletic Training*: The heat strain of various athletic surfaces: A comparison between observed and modeled wet-bulb globe temperatures.

Grundstein, A., S. Duzinski, and J. Null, 2017: Impacts of dangerous

microclimate conditions within an enclosed vehicle on pediatric thermoregulation. *Theoretical and Applied Climatology*, 127, 103-110.

Chen, T., S. Ebel Sarnat, **A.J. Grundstein**, H.H. Chang, **In Press** at *Environmental Health Perspectives*: Time-series analysis of heat waves and emergency department visits in Atlanta, 1993 to 2012.

Heidari, L., A. Winqvist, M. Klein, C. O'Lenick, **A. Grundstein**, S. Ebel Sarnat, 2016: Susceptibility to heat-related fluid and electrolyte imbalance emergency department visits in Atlanta, Georgia, USA. *International Journal of Environmental Research and Public Health*, 13, 982: doi: 10.3390/ijerph13100982.

Grundstein, A., J.M. Shepherd, S. Duzinski, 2016: Do Inflatable Bounce Houses Pose Heat-Related Hazards to Children? *Bulletin of the American Meteorological Society*, DOI: <http://dx.doi.org/10.1175/BAMS-D-16-0103.1>

Costa, D., **A. Grundstein**, 2016: An Analysis of Children Left Unattended in Parked Motor Vehicles in Brazil. *International Journal of Environmental Research and Public Health*, 13, 649, doi:10.3390/ijerph13070649.

Winqvist, A., **A. Grundstein**, H.H. Chang, J. Hess, S. Ebel , 2016: Warm Season Temperature and Emergency Department Visits in Atlanta, GA. *Environmental Research*, 147, 314-323.

Debbage, N., J. McLeod, J. Rackley, L. Zhu, T Mote, and **A. Grundstein**, 2015: The Influence of Point Source Aerosol Emissions on Atmospheric Convective Activity in the Vicinity of Power Plants in Georgia, USA. *Papers in Applied Geography*, 1:2, 134-142.

Williams, M., S. Goodrick, **A. Grundstein**, and M. Shepherd, 2015: Comparison of Dew Point Temperature Estimation Methods in Southwest Georgia. *Physical Geography*, <http://dx.doi.org/10.1080/02723646.2015.1011554>

Grundstein, A., C. Williams, M. Phan, and E. Cooper, 2015: Regional Heat Safety Thresholds for Athletics in the Contiguous United states. *Applied Geography*, 56, 55-60.

- Grundstein, A.**, S. Duzinski, D. Dolinak, J. Null, S. Iyer, 2014: Evaluating Infant Core Temperature Response in a Hot Car using a Heat Balance Model. *Forensic Science, Medicine, and Pathology*, 11, 13-19.
- Elguindi, N., **A. Grundstein**, S. Bernardes, U. Turnuncoglu, J. Feddema, 2014: Assessment of CMIP5 Global Model Simulations and Climate Change Projections for the 21st Century using a modified Thornthwaite Climate Classification. *Climatic Change*, 122: 523-538.
- Shepherd, J.M., **A. Grundstein**, T. Mote, 2014: An Analysis of Regional, Spatio-temporal and Seasonal Biases in Satellite and Reanalysis Rainfall Products in the Savannah River Basin: Implications for Hydrological Modeling Applications. *Physical Geography*, 35(2), 181-194
- Maier, G., **A. Grundstein**, W. Jang, C. Li, L. Naeher, J.M. Shepherd, 2014: Assessing the Performance of a Vulnerability Index during Oppressive Heat across Georgia, U.S. *Weather, Climate and Society*, 6(2), 253-263.
- Grundstein, A.**, E. Cooper, M. Ferrara, J. Knox, 2014: The Geography of Extreme Heat Hazards for American Football Players. *Applied Geography*, 46, 53-60.
- Grundstein, A.**, N. Elguindi, M. Ferrara, E. Cooper, 2013: in *Climate Research: Exceedance of Wet Bulb Globe Temperature Safety Thresholds in Sports under a Warming Climate*. *Climate Research*, 58, 183-191.
- Elguindi, N. and **A. Grundstein**, 2012: An Integrated Approach to Assessing 21st Century Climate Change over the Contiguous U.S. using NARCCAP RCM outputs. *Climatic Change*, 1-19, DOI: 10.1007/s10584-012-0552-z
- Grundstein, A.**, C. Ramseyer, F. Zhao, J. Peses, P. Akers, A. Qureshi, L. Becker, J. Knox, and M. Petro, 2012: A Retrospective Analysis of American Football Hyperthermia Deaths in the United States. *International Journal of Biometeorology*, 56(1), 11-20.
- Campana, P., J. Knox, **A. Grundstein**, J. Dowd, 2011: The 2007-2009 Drought in Athens, GA: A Climatological Analysis and an Assessment of Future Water Availability. *Journal of the American Water Resources Association*, 1-12, DOI: 10.1111/j.1752-1688.2011.00619.x

- Grundstein, A.**, J. Null, and V. Meentemeyer, 2011: Weather, Geography, and Vehicle-Related Hyperthermia in Children. *Geographical Review* 101 (3) 353-370.
- Grundstein, A.** and J. Dowd, 2011: Trends in Extreme Apparent Temperatures over the United States, 1949-2010. *Journal of Applied Meteorology and Climatology*, 50(8), 1650-1653.
- Grundstein, A.**, J. Durkee, J. Frye, T. Andersen, J. Lieberman, 2011: A Severe Weather Laboratory Exercise for an Introductory Weather and Climate Class using Active Learning Techniques. *Journal of Geoscience Education*, 59, 22-30.
- Grundstein, A.**, J. Dowd, and V. Meentemeyer, 2010: Quantifying the Heat-Related Hazard for Children in Motor Vehicles. *Bulletin of the American Meteorological Society*, 91(9), 1183-1191.
- Grundstein, A.**, T. Mote, 2010: Trends in Average Snow Depth Across the Western United States. *Physical Geography*, 31(2), 172-185.
- Woody, J., R. Lund, **A. J. Grundstein**, and T. L. Mote, 2009: A storage model approach to the assessment of snow depth trends. *Water Resources Research*, 45, W10426, doi:10.1029/2009WR007996.
- Grundstein, A.**, V. Meentemeyer, and J. Dowd, 2009: Maximum Vehicle Car Temperatures under Different Meteorological Conditions. *International Journal of Biometeorology*, 53(3), 255-261.
- Grundstein, A.** and S. Ebel Sarnat, 2009: Meteorological Mechanisms Explaining Thunderstorm-Related Asthma. *Geography Compass*, 3(1), 45-63.
- Grundstein, A.**, 2009: Evaluation of Climate Change over the Continental United States using a Moisture Index. *Climatic Change*, 93(1-2), 103-115, doi: 10.1007/s10584-008-9480-3.
- Giraldo, M.A, Madden, M., **Grundstein, A.** and Bosch, D., 2009: Land use/Land cover and soil type covariation in a heterogeneous landscape for soil moisture studies using point data. *Journal of GIS science and Remote Sensing*, 46, 1-24
- Grundstein, A.**, S. Ebel Sarnat, M. Klein, M. Shepherd, L. Naeher, T. Mote, P. Tolbert, 2008: Thunderstorm-associated Asthma in Atlanta, Georgia.

Thorax, 63, 659-660.

Grundstein, A., 2008: Assessing Climate Change in the Contiguous United States using a Modified Thornthwaite Climate Classification Scheme. *The Professional Geographer*, 60(3), 398-412.

Doublin, J. and **A. Grundstein**, 2008: Warm Season Soil Moisture Deficits in the Southern United States. *Physical Geography*, 29(1), 3-18.

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, *Geophysical Research Letters*, 34, L23810, doi:10.1029/2007GL031694.

Grundstein, A., Q.Q. Lu, and R. Lund, 2006: Return Levels of Northern Great Plains Snow Water Equivalents, *Journal of Applied Meteorology*, **45(7)**, 995-1002.

Grundstein, A., P. Todhunter, and T. Mote, 2005: Snowpack control over the thermal offset of air and soil temperatures in eastern North Dakota, *Geophysical Research Letters*, **32(8)**, L08503, doi: 10.1029/2005GL022532.

Leathers, D.J., D. Graybeal, T. Mote, **A. Grundstein**, and D. Robinson, 2004: The Role of Air Mass Types and Surface Energy Fluxes in Snow Cover Ablation in the Central Appalachians. *Journal of Applied Meteorology*, **43**, 1887-1898.

Grundstein, A.J., 2003: A Synoptic Scale Climate Analysis of Anomalous Snow Water Equivalent over the Northern Great Plains of the United States. *International Journal of Climatology*, **23**, 871-886.

Grundstein, A.J., 2003: Patterns of Seasonal Maximum Snow Water Equivalent over the Northern Great Plains of the United States using a Hybrid-Modeled Climatology. *Climate Research*, **24**, 119-128.

Lee, K-S, **A.J. Grundstein**, D.B. Wenner, M-S Choi, N-C Woo, and D-H Lee, 2003: Climate Controls on the Stable Isotopic Composition of Precipitation in Northeast Asia. *Climate Research*, **23**, 137-148.

Mote, T.L., **A.J. Grundstein**, D.J. Leathers and, D.A. Robinson, 2003: A Comparison of Modeled, Remotely Sensed and Measured Snow Water

Equivalent in the Northern Great Plains. *Water Resources Research*, doi:10.1029/2002WR001782.

Ashley, W., T. Mote, P. Dixon, S. Trotter, J. Durkee, E. Powell, and **A. Grundstein**, 2003: Distribution of Mesoscale Convective Complex Rainfall in the United States. *Monthly Weather Review*, **131**, 3003-3017.

Roads, J., R. Lawford, E. Bainto, E. Berbery, S. Chen, B. Fekete, K. Gallo, **A. Grundstein**, W. Higgins, M. Kanamitsu, W. Krajewski, V. Lakshmi, D. Leathers, D. Lettenmaier, L. Luo, E. Maurer, T. Meyers, D. Miller, K. Mitchell, T. Mote, R. Pinker, T. Reichler, D. Robinson, A. Robock, J. Smith, G. Srinivasan, K. Vinnikov, T. Vonder Haar, C. Vorosmarty, S. Williams, E. Yarosh, 2003: GCIP Water and Energy Budget Synthesis (WEBS). *Journal of Geophysical Research*, **18(D16)**, 8609, doi:10.1029/2002JD002583.

Grundstein, A.J., T. Mote, and D. Leathers, 2002: A Hybrid Climatology of Snow Water Equivalent over the Northern Great Plains of the United States. *Polar Geography*, **26(3)**, 187-209.

Leathers, D.J., T.L. Mote, **A.J. Grundstein**, D.A. Robinson, K. Felter, K. Conrad, and L. Sedywitz, 2002: Associations between Continental-scale Snow Cover Anomalies and Air Mass Frequencies across Eastern North America. *International Journal of Climatology*, **22**, 1473-1494.

Grundstein, A.J. and M.L. Bentley, 2001: A Growing Season Hydroclimatology, Focusing on Soil Moisture Deficits, for the Ohio Valley Area. *Journal of Hydrometeorology*, **2(4)**, 345-355.

Leathers, D.J., **A.J. Grundstein**, and A.W. Ellis, 2000: Growing Season Moisture Deficits across the Northeastern United States, *Climate Research*, **14**, 43-55.

Grundstein, A.J. and D.J. Leathers, 1999: A Spatial Analysis of Synoptic Scale Weather Patterns and Snow-Surface Energy Fluxes over the Northern Great Plains of the United States. *International Journal of Climatology*, **19**, 489-511.

Grundstein, A.J. and D.J. Leathers, 1998: A Case Study of the Synoptic Patterns Influencing Midwinter Snowmelt across the Northern Great Plains. *Hydrological Processes*, **12(15)**, 2293-2305.

Grundstein, A.J. and D.J. Leathers, 1997: Factors Influencing the Variability of Midwinter Snow Depth Decrease in the Northern Great Plains of the United States. *Physical Geography*, **18(5)**, 408-423.

Conference Proceedings, Reviewed

Giraldo, M.A., **A. Grundstein**, and D. Bosch, 2009: Testing FASST a mono-dimensional hydrological model for soil moisture studies at the little river watershed, Tifton Georgia. Proceedings of the Georgia Water Resource Conference, University of Georgia, Athens, GA, April 27-29, 2009.

Book Chapters

Grundstein, A., 2013: Wine Production and the Local Climate in Dahlonega, GA. *The Dahlonega Wine and Gold producing area: Terroir and Geology of Viticulture in Northwest Georgia*, P. Schroeder, Ed., Georgia Geological Society

Grundstein, A., In Press: Microclimatology. *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. D. Richardson, N. Castree, M. Goodchild, A. Kobayashi, W. Liu, and R. Marston, Eds. Wiley-Blackwell.

SCHOLARLY PRESENTATIONS (students underlined)

- O'Lenick C., A. Winqvist, H.H. Chang, M. Kramer, J. Mulholland, **A. Grundstein**, S.E. Sarnat, 2016: Evaluation of individual and neighborhood factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA. American Public Health Association (APHA) Annual Meeting. November 2, 2016, Denver, CO.
- O'Lenick C, A. Winqvist, H.H.Chang, M. Kramer, J. Mulholland, **A. Grundstein**, S.E. Sarnat, 2016: Evaluation of individual and neighborhood factors as modifiers of the association between warm-season temperature and pediatric asthma morbidity in Atlanta, GA. International Society of Environmental Epidemiology (ISEE) Annual Conference, 3 September 2016, Rome, Italy.
- Grundstein, A.**, Y. Hosokawa, D. Casa, 2016: Assessing the Need for Regional Heat Safety Guidelines in Athletics. 96th American Meteorological Society Annual Meeting, 10-14 January, New Orleans, LA.
- Shepherd, J.M., **A. Grundstein**, J. Knox, 2016: Are Bounce Houses too Hot? 96th American Meteorological Society Annual Meeting, 10-14 January, New Orleans, LA.
- Hosokawa, Y., **A. Grundstein**, R. Stearns, D. Casa, 2016: Prevalence of heat Related Fatalities in Physical Activities. 96th American Meteorological Society Annual Meeting, 10-14 January, New Orleans, LA.
- Williams, C. and **A. Grundstein**, 2016: Turning up the Heat on Parents and Caregivers: Risk Perceptios of Forgetting a Child in a Hot Car. 96th American Meteorological Society Annual Meeting, 10-14 January, New Orleans, LA.
- Grundstein, A.** B. Cooper, C. Williams, M. Phan, 2015: Regional Heat Safety Guidelines. Southeast Athletic Trainers Association (SEATA) 40th Annual Clinical symposium and Members Meeting, 13-15 March, Atlanta, GA.
- Grundstein, A.**, 2015: Thunderstorm-related Asthma: Developing a Surveillance and Warning system using Social Media. College of Public Health: Environmental Health Science, 6 March 2015.
- Grundstein, A.**, J. Knox, and E. Cooper, 2014: Modeling Heat Stroke in a

Football Player: A Case Study of Korey Stringer. 69th Annual Meeting of the Southeastern Division of the Association of American Geographers, 23-25 November, Athens, GA.

Grundstein, A., 2014: Children and Hot Cars: Weather, Behavior, and Prevention. University of Georgia Honors Program Lunchbox Lecture.

Cooper, E., **A. Grundstein**, M. Phan, C. Williams, 2014: Regional Heat Safety Thresholds for Athletes Across the Contiguous United States. National Athletic Trainers' Association 65th Annual Meeting & Clinical Symposia, 25-28 June, Indianapolis, IN.

Sarnat, S.E., A Winqvist, **A. Grundstein**, H. Change, and J. Hess, 2014: Warm Season Temperatures and Pediatric Emergency Department Visits in Atlanta, Georgia. Expert Consultation on the Effects of Climate Change on Children's Health for the President's Task Force on Children's Environmental Health Risks and Safety Risks to Children Subcommittee on Climate Change, 10 July 2014.

Elguindi, N., **A. Grundstein**, S. Bernardes, U. Turnucoglu, J. Feddema, 2014: Assessment of CMIP5 Global Model Simulations and Climate Change Projections for the 21st Century using a Modified Thornthwaite Climate Classification. AAG Annual Meeting, 8-12 April, Tampa, FL.

Grundstein, A., 2014: Modeling Heat Stroke in Children in Hot Vehicles. 94th American Meteorological society Annual Meeting, 2-6 February, Atlanta, GA.

M.D. Williams, J.M. Shepherd, **A. Grundstein**, and S.L. Goodrick, 2014: Evaluating Empirically Derived Dew Point Estimation Methods to assess the Effect of Irrigation on Climate in the Southeastern United States. 94th American Meteorological society Annual Meeting, 2-6 February, Atlanta, GA.

Phan, M., C. Williams, **A. Grundstein**, and B. Cooper, 2014: Regionalized Heat Safety Thresholds for Athletes. 94th American Meteorological society

Annual Meeting, 2-6 February, Atlanta, GA.

Williams, C., M. Phan, A. Grundstein, 2013: Extreme Wet-Bulb Globe Temperatures Across the Contiguous United States. 68th Annual Meeting of the Southeast Division of the Association of American Geographers, 24-26 November, Roanoke, VA.

Grundstein, A., E.R. Cooper, J.D. Miles, P.R. Curry, M.S. Ferrara, 2013: A Climate Assessment of Best Football Practice Times. National Athletic Trainers' Association 64th Annual Meeting & Clinical Symposia, 24-27 June, Las Vegas, NV.

Ferrara, M., E.R. Cooper, J. Miles, P. Curry, A. Grundstein, D. Casa, J. Powell, 2013: The Georgia Study: The Risk of Exertional Heat Illnesses in High School Players. National Athletic Trainers' Association 64th Annual Meeting & Clinical Symposia, 24-27 June, Las Vegas, NV.

Cooper, E.R., J.D. Miles, P.J. Curry, A. Grundstein, A., M.S. Ferrara, 2013: Demographics of Exertional Heat Illnesses Among Interscholastic Football Athletes During August/September: A 3-Year Study. National Athletic Trainers' Association 64th Annual Meeting & Clinical Symposia, 24-27 June, Las Vegas, NV.

Miles, J.D., P.J. Curry, E.R. Cooper, A.J Grundstein, M.S Ferrara, 2013: Acclimitization in Georgia Interscholastic Football Players: A Three-Year Perspective. National Athletic Trainers' Association 64th Annual Meeting & Clinical Symposia, 24-27 June, Las Vegas, NV.

Curry, P.R., J.D. Miles, A.B. Rosen, J.P. Ko, E.R. Cooper, A.J. Grundstein, M.S. Ferrara, 2013: The Reliability of Commonly Uses Wet Bulb Globe Temperature Devices. National Athletic Trainers' Association 64th Annual Meeting & Clinical Symposia, 24-27 June, Las Vegas, NV.

Grundstein, A., 2013: Environmental Changes in Georgia and U.S. Georgia High School Association Heat Illness Conference, 13 January, Athens, GA.

Grundstein, A., B. Avant, S. Younger, A. Ignatius, T. Rasmussen, T. Mote, J.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.

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.

Grundstein, A. and J. Knox, 2012: Catastrophic EHI in the United States. Georgia High School Association Heat Illness Conference. 26 January, Athens, GA.

Petro, M., **A. Grundstein**, C. Ramseyer, F. Zhao, J. Pesses, P. Akers, A. Qureshi, L. Becker, J. Knox, 2011: Hyperthermia Deaths in Football Players: A Retrospective Analysis of Meteorological, Temporal and Demographic Risk Factors. AMS Annual Meeting, 23-27 January, Seattle, WA.

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.

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.

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.

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.

Campana, P., J. Knox, **A. Grundstein**, and J. Dowd, 2010: The 2007-2009 Drought in Athens, GA: A Climatological Analysis and an Assessment of Future Water Availability. AAG Annual Meeting, 14-18 April, Washington, D.C.

Grundstein, A.J., J. Dowd, V. Meentemeyer, and J. Null, 2010: A vehicle Heating Index for use in Preventing Vehicle-related Hyperthermia Deaths in Children. 90th American Meteorological Society Annual Meeting, January 17-21, Atlanta, GA.

Sarnat, S., **A.J. 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. 90th American Meteorological Society Annual Meeting, January 17-21, Atlanta, GA.

Grundstein, A.J., J. Null, and V. Meentemeyer, 2009: The Relationship of Weather with the Geography of Infant Mortality in Parked Vehicles. SEDAAG Annual Meeting, November 2009, Knoxville, TN.

Giraldo, M.A., **A. Grundstein**, and D. Bosch, 2009: Testing FASST a Mono-dimensional Hydrological Model for Soil Moisture Studies at the Little River Watershed, Tifton Georgia. Georgia Water Resource Conference, University of Georgia, Athens, GA, April 27-29, 2009.

Grundstein, A.J. and V. Meentemeyer, 2008: Maximum Cabin Temperatures under Different Weather Conditions. SEDAGG Annual Meeting, November 2008, Greensboro, NC.

Grundstein, A.J., 2008: Thunderstorm-related Asthma. University of Georgia, Department of Geography Departmental Colloquium Series, 26 September 2008.

Shepherd, J.M., **A. Grundstein**, and T. Mote, 2008: Quantifying the Contribution of Tropical Cyclones to Extreme Rainfall along the Coastal Southeastern United States, Tropical Meteorology Special Symposium, 88th Annual Meeting of the American Meteorological Society, January

2008, New Orleans, LA.

Grundstein, A.J. and J. Jacobs, 2007: Variations in Snow Depth by Elevation in the Rocky Mountains of Colorado. SEDAGG Annual Meeting, November 2007, Charleston, SC.

Shepherd, J.M., **A. Grundstein**, and T. Mote, 2007: Quantifying the Contribution of Tropical Cyclones to Extreme Rainfall along the Coastal SE US. SEDAGG Annual Meeting, November 2007, Charleston, SC.

Grundstein, A.J., J. Durkee, and J. Frye, 2007: Inquiry-based Exercises on Severe Weather and Hurricane Forecasting for Geography 1112L. Northeast Georgia PRISM Professional Network, April 2007, Athens GA.

Grundstein, A.J., 2006: Evaluation of Climate Change over the continental United States using a Moisture Index. AAG Annual Meeting, March 2006, Chicago, IL.

Grundstein, A.J. and J. Durkee, 2006: The Development of a “Hands On” Climate Change Exercise for Geography 1112L: An Introduction to Weather and Climate Laboratory sections. Northeast Georgia PRISM Professional Network, April 2006, Atlanta, GA.

Grundstein, A.J., J. Durkee, and S. Trotter, 2005: The Development of a “Hands On” Curriculum for Geography 1112L: An Introduction to Weather and Climate Laboratory sections. Northeast Georgia PRISM Professional Network, April 2005, Brasstown Valley, GA.

Grundstein, A.J. and T. Mote, 2005: Relationship between Snow Cover and Spring “Green Up” in the USA Upper Midwest. AAG Annual Meeting, April 2005, Denver, CO.

Fuhrmann, C. and **A.J. Grundstein**, 2005: Surface Features, Synoptic Patterns, and Thermodynamic Structures Associated with a Severe Freezing Rain Episode in the Southeast United States. AAG Annual Meeting, April 2005, Denver, CO.

Trotter, S., **A. Grundstein**, V. Meentemeyer, 2005: Investigation into the

Causality of the Southeastern United States Cooling Trend. AAG Annual Meeting, April 2005, Denver, CO.

Grundstein, A.J., 2004: Soil Temperature/Snowpack relationship in Eastern North Dakota. AAG Annual Meeting, March 2004, Philadelphia, PA.

Grundstein, A.J., 2003: Impacts of Anomalous SWE on the Water Budget of the Red River Basin of Minnesota and North Dakota. AAG Annual Meeting, March 2003, New Orleans, LA.

Grundstein, A.J., 2002: Impacts of Anomalous SWE on the Energy and Water Budgets in the Red River Basin of Minnesota and North Dakota. Snow Watch 2002, 31 October – 1 November, Silver Spring, MD.

Grundstein, A.J., K-S Lee, D.B Wenner, 2002: Climatic Controls on Stable Isotopic Composition of Precipitation. AAG Annual Meeting, March 2002, Los Angeles, CA.

Frei, A., J. Miller, **A. Grundstein** and T. Mote, 2002: Northern Great Plains Snow Extent: Comparison of three Data Sets. AAG Annual Meeting, March 2002, Los Angeles, CA.

Miller, J., A. Frei, **A. Grundstein** and R. Armstrong, 2002: Northern Great Plains Snow Extent: Synoptic Climatology and Observations. AAG Annual Meeting, March 2002, Los Angeles, CA.

Lee, K-S, **A.J. Grundstein**, and D.B. Wenner, 2001: Factors Controlling Deuterium Excess Values of Precipitation in Northeast Asia. GSA Annual Meeting, November 2001, Boston, MA.

Grundstein A.J. and T.L. Mote, 2000: A Sensitivity Analysis of SNTHERM Modeled Snow Water Equivalent. Fall Meeting for the American Geophysical Union, December 2000, San Francisco California.

Bentley, M.L. and **A.J. Grundstein**, 2000: A Growing Season Hydroclimatology, Focusing on Soil Moisture Deficits, for the Ohio Valley Region. Fall Meeting for the American Geophysical Union, December 2000, San Francisco, CA.

Grundstein, A.J., 2000: Factors Affecting Snow Water Equivalent in the Northern Great Plains of the United State. AAG Annual Meeting, Pittsburgh, PA, April 2000.

Grundstein, A.J., 1999: A Climatology of Snow Water Equivalent across the Northern Great Plains of the United States. AAG Annual Meeting, Honolulu, HI, March 1999.

Grundstein, A.J. and D.J. Leathers, 1998: Midwinter Snowmelt Across the Northern Great Plains: A Case Study. Eastern Snow Conference, Jackson, NH, June 1998.

Grundstein, A.J. and D.J. Leathers, 1998: Synoptic Patterns Influencing Midwinter Snowmelt Across the Northern Great Plains of the United States. AAG Annual Meeting, Boston, MA, March 1998.

Grundstein, A.J., 1997: A Climatology of Large Hail Events Across the Northeastern United States. Pennsylvania Geographic Society Annual Meeting. York, Pennsylvania, October 1997.

Grundstein, A.J., 1996: Factors Affecting Snowmelt in the Northern Great Plains. AAG Annual Meeting, Charlotte, NC, April 1996.

INSTRUCTIONAL ACTIVITIES

COURSES TAUGHT

Introduction to Physical Geography (GEOG 1111)

An introductory course that examines the natural systems that shape our physical environment, including atmospheric processes, hydrology, land-forming agents, and broad-scale patterns of vegetation and soil distribution.

Introduction to Weather and Climate (GEOG 1112)

An introductory course that examines the basic elements of weather and climate including atmospheric composition and structure, clouds, precipitation, atmospheric motion, organized weather systems as well as climate change.

Climatology (GEOG 3110)

A mid-level course that covers the various components of the climate system, including the energy and water budgets, global climate patterns, and climate change.

Atmospheric Dynamics (GEOG 4112/6112)

An advanced course that quantitatively examines large-scale atmospheric motion. The equations of motion are derived from basic physical laws and the concepts of vorticity, quasi-geostrophic theory, and general circulation are addressed.

Physical Climatology (GEOG 4150/6150)

An advanced course that provides a quantitative study of the Earth's physical climate system, including topics such as the global energy balance, surface-atmosphere energy exchanges, and surface hydrology and water budgets at various temporal and spatial scales.

Seminar in Climatology (GEOG 8120)

A graduate research seminar that tackles different topics each year. Topics taught include “Hydroclimatology,” viz. the role of water in the climate system, “Applied Climatology,” viz. the methodologies for solving practical problems with climate data, “Cooling Trends in the Southeastern United States” viz. an assessment of mechanisms that explain the temperature patterns in the Southeastern United States, “Climate and Health” viz. the influence of weather and climate on human health, and “Climate, Health, & Aerosols” viz. the influence of atmospheric aerosols on climate and health.

First Year Odyssey Seminar -- Climate and Sports (FYOS 1001)

A first year seminar class for incoming Freshmen with a focus on the role that weather and climate play on sports activities and safety.

First Year Odyssey Seminar -- Changing Climate, Changing Life (FYOS 1001)

A first year seminar class for incoming Freshmen with a focus on the role that climate change will have upon every day activities.

GRADUATE STUDENT ADVISEMENT

Major Advisor, Ph.D. Level

Sharon Trotter, 2006: *A geographical analysis of flood casualties in the United States.*

Castle Williams, Current.

Major Advisor, M.S. Level

Pete Campana, M.S., 2009. *Water usage in Athens, Georgia as a result of the 2007 drought event and analysis of future water availability.* (Geospatial Analyst at Wiser, LLC, Nashville, TN)

Jennifer Dublin, M.S., 2003. *A spatial and temporal investigation of warm season soil moisture deficits in the Southeast United States: An application of air mass and synoptic analyses.* (Assistant Professor, Environmental/Earth Sciences, Moraine Valley Community College)

Jennifer Jacobs, M.S., 2008. *An examination of variations in snow depth in the southern Rocky Mountains.*

George Maier, M.S., 2012. *Assessing the performance of a vulnerability index during oppressive heat across Georgia, U.S.* (Associate at Connetics Transportation Group)

Shaina Poore, Current

Castle Williams, M.S., 2016. Children forgotten in hot cars: A hybrid mental models approach for improving public health messaging. (*Ph.D. student, University of Georgia*)

Committee Member, Ph.D. Level

Walker Ashley, Ph.D., 2005. *Derecho-producing convective systems in the United States: An assessment of derecho hazards and family formation.* (Associate Professor of Geography, Northern Illinois University)

Alan Black, Ph.D., 2015. *Winter precipitation hazards in the United States.* Postdoctoral Research Scholar, University of Iowa.

Joshua Durkee, Ph.D., 2008. *Assessing the role of warm-season mesoscale convective complexes in subtropical South American precipitation*

variability. (Associate Professor of Geography and Geology, Western Kentucky University)

Jamie Dyer, Ph.D., 2005. *Spatial and temporal trends in North American snow depth and relationships with streamflow and ablation*. (Associate Professor of Geosciences, Mississippi State University)

John Frye, Ph.D. 2008. *An empirical study of the relationship between soil moisture and convection in the southern Great Plains*. (Assistant Professor of Geography, University of Wisconsin Whitewater)

Victor Gensini, Ph.D., 2014. *Hazardous Convective Weather in the United States: A Dynamic Downscaling Approach*. (Assistant Professor, College of DuPage)

Mario Giraldo, Ph.D., 2007. *Complex landscapes analysis for ground and remote sensing estimations of soil water content*. (Assistant Professor of Geography, California State University Northridge)

Amber Ignatius, Ph.D., 2013. *Cumulative Impacts of Small Reservoir Construction: Land Cover Change, Evaporation, and Water Quality in the Georgia Piedmont, USA* (Postdoctoral Fellow at US Environmental Protection Agency)

Evan Mallen (current, GA Tech)

Jessica Miles, Ph.D., 2014. *Exertional heat illness in interscholastic football athletes in the state of Georgia: A four-year perspective*. (Assistant Professor, University of North Georgia)

Craig Ramsayer, Ph.D., 2016. *Regional climate forcing of precipitation and drought in the Luquillo Experimental Forest*. (Assistant Professor of Geography, Salisbury University)

Marcus Williams, Ph.D., 2016. *The spatio-temporal evolution of irrigation in the Georgia coastal plain: Empirical and modeled effects on the hydroclimate*. (Research Meteorologist, US Forest Service)

Committee Member, M.S. Level

Theresa Andersen, M.S., 2010. *A climatological analysis of drought and tornadic activity in the Southeastern U.S.* (Ph.D. student, University of Georgia)

- Brian Avant, M.S. 2013. *Comparison of input precipitation sources in streamflow forecasting*. (Wellsite Geoscientist at Morco Geological)
- Jason Butke, M.S. (University of Delaware) 2006. *An evaluation of a point snow model and a mesoscale model for regional climate simulations*.
- Michael Carter, M.S., 2009. *Mesoscale circulations in the urban-coastal environment: A modeling analysis and assessment of sensitivity to high fidelity representation of the urban canopy*. (Lecturer in Geosciences, Mississippi State University)
- Yiejie Chen, M.S., 2013. *Seasonality of low birth weight prevalence and effects of heat stress on low birth weight in Georgia, U.S.*
- Paul G. Dixon, M.S., 2002. *Climatological patterns of Atlanta's urban heat island initiated precipitation*. (Associate Professor of Geosciences, Fort Hays State University)
- Joshua Durkee, M.S., 2003. *The precipitation efficiency of warm-season mesoscale convective complexes in the United States*. (Assistant Professor of Geography and Geology, Western Kentucky University)
- Jamie Dyer, M.S., 2001. *Simulating the 1997 Red River floods utilizing a coupled snowpack and hydrologic model*. (Associate Professor of Geosciences, Mississippi State University)
- Christopher Fuhrman, M.S., 2006. *Severe convective wind environments in Georgia*. (Ph.D. student, University of North Carolina)
- Lauren Hand, M.S., 2008. *An investigation of warm season rainfall variability in Oklahoma City: Possible linkages to urbanization and prevailing wind*. (Dewberry Environmental, Atlanta GA)
- Emily Kutney, M.S., 2009. *On the association of autumn Eurasian snow cover and winter North American temperatures*.
- Matt Lacke, M.S., 2007. *Aerosols and associated precipitation patterns in Atlanta*. (Air and Radiation Protection Division, Jefferson County Department of Health, Birmingham, AL)
- Jordan McCleod, M.S. 2014. *The Impact of Extreme Greenland Blocks and North Atlantic Precursor Cyclones on the Acceleration of Summer Melting across the Greenland Ice Sheet*. (Research Associate, The Southeast Regional Climate Center)
- Myron Petro, M.S., 2011. *Late summer heat waves and their impact on*

hyperthermia-related deaths in football players.

Emily Powell, M.S., 2003. *Greenland equilibrium lines from ERS-1/2 scatterometers and surface mass balance model data*. (Ph.D. student, Louisiana State University)

Joshua Rosen, M.S., 2017. Changes in atmospheric circulation over Greenland, 1900-2014: Effects on surface energy balance and surface mass balance.

Sharon Trotter, M.S., 2002. *Geographical and environmental analysis of Lyme disease*.

Laurie Wachowicz, M.S. (current)

Gregory Wassel, M.S., 2006. *A climatology of electrified convective snowfall events and their radar signatures*. (Meteorologist, GoodCents Energy, Loganville, GA)

Yan Zhou, M.S., 2008. *Atlanta's urban heat island under extreme heat conditions and potential mitigation strategies*. (Ph.D. student, University of Maryland)

INSTRUCTIONAL GRANTS

Principal Investigator, University of Georgia Office of STEM (Science, Technology, Engineering, Mathematics), “The Development of “Inquiry Based” Exercises on Geology, Volcanism, and Ecosystems for Geography 1111L: An Introduction to Physical Geography Laboratory sections”, \$4500, 2013-2014.

Principal Investigator, University of Georgia Office of STEM (Science, Technology, Engineering, Mathematics), “The Development of “Inquiry Based” Exercises on Local Physical Geographic Processes and Landforms for Geography 1111L: An Introduction to Physical Geography Laboratory sections”, \$3900, 2012-2013.

Co-Investigator, University of Georgia Office of STEM (Science, Technology, Engineering, Mathematics), “Development, Implementation and Research of Rotating-Tank Laboratory Experiments in Undergraduate Geosciences Courses at the University of Georgia”, \$7990, 2008-2009.

Principal Investigator, Partnership for Reform in Science and Mathematics (PRISM) program, “The Development of “Inquiry Based” Exercises on Severe Weather and Hurricane Forecasting for Geography 1112L: An

Introduction to Weather and Climate Laboratory sections”, \$6000, 2006-2007.

Principal Investigator, Partnership for Reform in Science and Mathematics (PRISM) program, “The Development of a ‘Hands On’ Curriculum for Geography 1112L: An Introduction to Weather and Climate Laboratory sections”, \$4000, 2005-2006.

Principal Investigator, Partnership for Reform in Science and Mathematics (PRISM) program, “The Development of a ‘Hands On’ Curriculum for Geography 1112L: An Introduction to Weather and Climate Laboratory sections”, \$3430, 2004-2005.

OTHER INSTRUCTION-RELATED HONORS AND ACTIVITIES

- General Sandy Beaver Excellence in Teaching Award, Franklin College of Arts and Sciences, University of Georgia, 2012.
- Geography Department representative to the State of Georgia’s Partnership for Reform in Science and Mathematics program (PRISM)
- Invited Participant to PRISM Faculty Rewards Symposium
- Faculty member in Water Resources Certificate Program
- Faculty member in Atmospheric Sciences Certificate Program
- Designed new Weather and Climate laboratory exercises (GEOG 1112L) to incorporate active learning techniques and built a custom laboratory manual
- Course coordinator for Weather and Climate (GEOG 1112) & Physical Geography (GEOG 1111)
- Faculty Sponsor for UGA Chapter of Gamma Theta Upsilon (GTU; the Geography Honors Society), 2008-2012.
- Direct Freshman Learning Community “Climate and Sports”

SERVICE ACTIVITIES

DEPARTMENT & UNIVERSITY SERVICE

- Franklin College Awards Committee (2013-2014)
- Planning Committee (selected by the Dean of the Franklin College), Franklin College of Arts and Sciences, University of Georgia (2005-2006).
- Senate Secretary (elected by Franklin College Senators), Franklin College of Arts and Sciences, University of Georgia (2004-2005).
- Faculty Senator (elected by Department of Geography faculty), Franklin College of Arts and Sciences, University of Georgia (2003-2006).
- Advisory Committee member (elected by Department of Geography Faculty), Department of Geography, University of Georgia (2000-2001, 2003-2004, 2004-2005, 2006-2007, 2011-2012, 2014-2015, 2015-2016, 2016-2017).
- Course Coordinator, GEOG 1112, Department of Geography, University of Georgia (2000-2001, 2005-2011).
- Course Coordinator, GEOG 1111, Department of Geography, University of Georgia (2013-2015, 2016-2017).
- Graduate Studies Committee member, Department of Geography, University of Georgia (2000-2003, 2012-2015).
- Curriculum Committee member, Department of Geography, University of Georgia (2001, 2016-2017).
- Colloquium Committee Chair, Department of Geography, University of Georgia (2000-2001, 2004-2005, 2015-2016).
- Undergraduate Advisor, Department of Geography, University of Georgia (2006-2012).
- Undergraduate Coordinator, Department of Geography, University of Georgia (2008-2012).
- Tracks Committee member, Department of Geography, University of Georgia (2009-2010).

PROFESSIONAL SERVICE

- Co-Organizer, Paper Session entitled “Interactions between Glaciers, Snow and the Climate System”, Annual Meeting of the Association of American

Geographers, Boston, MA, 2008.

- Board of Directors for Cryosphere Specialty Group, Association of American Geographers, 2006-2008.
- Judge for the Climate Specialty Group Student Paper Competition, Annual Meeting of the Association of American Geographers, 2005 and 2006.
- Reviewer for the *Conference of Southern Graduate Schools Masters thesis Award Competition*, 2003.
- Treasurer for Cryosphere Specialty Group, Association of American Geographers, 2001-2003.
- Chair, Paper Session entitled “Cryosphere and Climate II”, Annual Meeting of the Association of American Geographers, Pittsburgh, PA, 2000.
- Organizer and Chair, Paper Session entitled “Snow and Ice”, Annual Meeting of the Association of American Geographers, Honolulu, HI, 1999.
- Manuscript Reviews
 - Applied Geography*
 - Annals of the Association of American Geographers*
 - Bulletin of the American Meteorological Society*
 - Climate Research*
 - Climatic Change*
 - Environmental Hazards*
 - Geophysical Research Letters*
 - Geography Compass*
 - Injury Prevention*
 - International Journal of Biometeorology*
 - International Journal of Climatology*
 - International Journal of Environmental Research and Public Health*
 - Journal of Applied Meteorology and Climatology*
 - Journal of Geophysical Research*
 - Journal of Geoscience Education*
 - Journal of Hydrometeorology*
 - Journal of Thermal Sciences*

Physical Geography

Polar Geography

Southeastern Geographer

Southwestern Geographer

- Proposal Reviews

National Science Foundation

UGA Science Technology Engineering and Mathematics (STEM)

U.S. Civilian Research and Development Foundation (CRDF)

- Promotion and Tenure Review

University of Delaware

Mississippi State University

- Program Review

University of North Texas

PROFESSIONAL AFFILIATIONS

Association of American Geographers

American Meteorological Society

American Geophysical Union

International Society of Biometeorology

Southeastern Division of the Association of American Geographers