
ADAM J. KALKSTEIN, PH.D.

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EDUCATION

Ph.D. in Geography (focus in Climatology), August 2008

Arizona State University, Tempe, AZ

Dissertation title: *Geographical Variations in Seasonal Mortality Across the United States: A Bioclimatological Approach*

Committee: Robert C. Balling Jr. (Chair), Anthony J. Brazel, Randall S. Cerveny, Robert E. Davis (External)

M.A. in Geography (focus in Climatology), May 2004

Arizona State University, Tempe, AZ

Specialization: Synoptic Climatology

Thesis title: *Linking Observed Surface Warming to Upper-Level Circulation Patterns Over Siberia*

Committee: Robert C. Balling Jr. (Chair), Anthony J. Brazel, Randall S. Cerveny

B.A. with Distinction in Environmental Sciences (focus in Atmospheric Sciences), May 2002

University of Virginia, Charlottesville, VA

Senior Thesis title: *Linking Trends in Mid-Tropospheric Circulation and Surface Meteorological Conditions Over Northwestern North America*

Advisor: Robert E. Davis

RESEARCH CONCENTRATIONS

- Bioclimatology, especially the impact of climate and climate change on human health, infectious disease, extreme weather impacts, and hazards
- Human/environment interactions, such as the impact of humans on other biota, environmental issues, conservation, and pollution issues
- Synoptic climatology, particularly the development and use of various synoptic indices
- Climatological and meteorological methodology and data applications

PUBLICATIONS

- Kalkstein, A.J.** and DeFelice, T.P. 2014. Predicting the flu: The impact of cool dry air on hospital admissions in the southwest United States. *2014 AMHCR Conference Proceedings*. 115-116.
- Kalkstein, A.J.** 2013. Regional Similarities in Seasonal Mortality across the United States: An Examination of 28 Metropolitan Statistical Areas. *PLOS ONE*. 8(5): e63971.
- Kalkstein, A.J.** and Goodrich, G.B. 2012. The effect of ENSO and PDO on three airborne pollutants in Phoenix, AZ. *Journal of the Arizona-Nevada Academy of Science*. 43: 91-98.
- Sheridan, S.C., Kalkstein, L.S., **Kalkstein, A.J.**, Greene, J.S. 2011. Heat-related mortality and heat watch-warning systems in the United States: recent developments. *Epidemiology*. 22: S13.
- Dixon, P.G. and **Kalkstein, A.J.** 2010. Teaching and Learning Guide for: Climate-suicide relationships: A research problem in need of geographic methods and cross-disciplinary perspectives. *Geography Compass*. 4: 485-489.
- Sheridan, S.C. and **Kalkstein, A.J.** 2010. Seasonal variability in heat-related mortality across the United States. *Natural Hazards*. 55: 291-305.
- Tan, J., Zheng, Y., Tang, X., Guo, C., Li, L., Song, G., Zhen, X., Yuan, D., **Kalkstein, A.J.**, Li, F., Chen, H. 2010. The urban heat island and its impact on heat waves and human health in Shanghai. *International Journal of Biometeorology*. 54: 75-84.
- Dixon, P.G. and **Kalkstein, A.J.** 2009. Climate-suicide relationships: A research problem in need of geographic methods and cross-disciplinary perspectives. *Geography Compass*. 3: 1961-74.
- Kalkstein, A.J.**, Kubly, M., Gerrity, D., Clancy, J.J. 2009. An analysis of air mass effects on rail ridership in three U.S. cities. *Journal of Transport Geography*. 17: 198-207.
- Kalkstein, L.S., Sheridan, S.C., **Kalkstein, A.J.** 2009. Heat Health Warning Systems: Development, Implementation, and Intervention Activities. *Biometeorology for Adaptation to Climate Variability and Change*. 1: 33-48.
- Sheridan, S.C., **Kalkstein, A.J.**, Kalkstein, L.S. 2009. Trends in heat-related mortality in the United States, 1975-2004. *Natural Hazards*. 50: 145-160.
- Dixon, P.G. and **Kalkstein, A.J.** 2008. Do global temperatures really affect Italian suicides? – comments on “Global warming possibly linked to an enhanced risk of suicide: Data from Italy, 1974-2003”. *Journal of Affective Disorders; Online Comments*. [Available online at <http://www.isad.org.uk/JADcomments.asp>].

- Kalkstein, A.J.** and Sheridan, S.C. 2007. The social impacts of the Heat-Health Watch/Warning System in Phoenix, Arizona: assessing the perceived risk and response of the public. *International Journal of Biometeorology*. 52: 43-55.
- Kalkstein, L.S., **Kalkstein, A.J.**, Sheridan, S.C. 2006. Weather/morbidity relationships in two northeastern cities, and the potential impact of a climate change. *Union of Concerned Scientists*, commissioned report relating climate change to human health, Boston, MA. 23 pp.
- Tan, J., Youfei, Z., Guixiang, S., Kalkstein, L.S., **Kalkstein, A.J.** 2006. Heat wave impacts on mortality in Shanghai, 1998 and 2003. *International Journal of Biometeorology*. 51: 193-200.
- Dixon, P.G., Brommer, D.M., Hedquist, B.C., **Kalkstein, A.J.**, Goodrich, G.B, Walter, J.C., Dickerson, C.C., Penny, S.J., Cervený, R.S. 2005. Heat mortality versus cold mortality: a study of conflicting databases. *Bulletin of the American Meteorological Society*. 86: 937-943.
- Kalkstein, A.J.** and Balling, R.C. 2004. Impact of unusually clear weather on United States daily temperature range following 9/11/2001. *Climate Research*. 26: 1-4.
- Kalkstein, L.S., Barthel, D.C., Ye, H., Smoyer, K, Cheng, S., Greene, S.J., Nichols, M.C., **Kalkstein, A.J.** 1997. The impacts of weather and pollution on human mortality. *Publications in Climatology*. L: 1-41.
- Kalkstein, L.S., Hahn, J.R., **Kalkstein, A.J.**, Graybeal, D.Y. 1997. An analysis of air mass frequency and character in the Eastern U.S. using a Spatial Synoptic Classification. *Proceedings of the 10th Conference on Applied Climatology*, Reno, Nevada, American Meteorological Society. 281-286.

PROFESSIONAL PRESENTATIONS

- Kalkstein, A.J.** 2014. Weather-influenza relationships: A two-pronged approach. *Annual Meeting, Association of American Geographers*, Tampa, FL.
- Kalkstein, A.J.** and DeFelice, T.P. 2014. Predicting the flu: The impact of cool dry air on hospital admissions in the southwest United States. *2014 AMHCR Conference*, Telluride, CO.
- Kalkstein, A.J.** 2013. Predicting the flu: the impact of weather on daily hospital admissions across the southwest United States. *Annual Meeting, Association of American Geographers*, Los Angeles, CA.
- Kalkstein, A.J.** 2012. Heat Cat 5: is there a better way to warn soldiers of dangerous heat? *Annual Meeting, Association of American Geographers*, New York, NY.

- Kalkstein, A.J.** 2011. Putting the 2011 floods into climatological perspective. The *Orange County Water Authority's Orange County Flood Forum*. Blooming Grove Town Hall, Washingtonville, NY.
- Kalkstein, A.J.** 2011. Separating fact from fiction in the climate change debate. *Energy Strategy Workshop*. United States Military Academy, West Point, NY.
- Kalkstein, A.J.** 2010. A new way to evaluate heat-related mortality. *Annual Meeting, Association of American Geographers*, Washington, DC.
- Kalkstein, A.J.** 2008. The regionality of seasonal mortality across the United States: evidence of a climatological link. *Annual Meeting, Association of American Geographers*, Boston, MA.
- Kalkstein, A.J.** 2007. Geographical variations in seasonal mortality across the United States: climatic influences. *Annual Meeting, Association of American Geographers*, San Francisco, CA.
- Kalkstein, A.J.**, Kuby, M., Gerrity, D., Clancy J.J, 2006. An analysis of air mass effects on urban rail ridership. *Annual Meeting, Association of American Geographers*, Chicago, IL.
- Kalkstein, A.J.** and Kalkstein, L.S. 2005. Response of minority, elderly, and white mortality to various thresholds through use of a synoptic approach: Is there an evaporative cooler link? *6th Annual Life, Earth, and Social Sciences Graduate Research Symposium*, Arizona State University Main Campus.
- Kalkstein, A.J.** and Kalkstein, L.S. 2005. Response of minority, elderly, and white mortality to various thresholds through use of a synoptic approach: Is there an evaporative cooler link? *Annual Meeting, Association of American Geographers*, Denver, CO.
- Kalkstein, A.J.** and Balling, R.C. 2004. Impact of unusually clear weather on the United States diurnal temperature range following 9/11/01. *100th Annual Meeting, Association of American Geographers*, Philadelphia, PA.
- Kalkstein, A.J.** and Kalkstein, L.S. 2004. Response of minority, elderly, and white mortality to various thresholds through use of a synoptic approach: Is there an evaporative cooler link? *Arizona Department of Health Services, NOAA / NWS Office*, Phoenix, AZ.
- Kalkstein, A.J.** and Kalkstein, L.S. 2004. The development of an evaporative cooler warning system for Phoenix, Arizona. *National Weather Service, NOAA / NWS Office*, Phoenix, AZ.
- Kalkstein, A.J.** 2003. Linking trends in mid-tropospheric circulation and surface meteorological conditions over Northwestern North America. *Association of American Geographers Annual Meeting*, New Orleans, LA.

Kalkstein, A.J. and Brazel, A. 2003. The impacts of urbanization on local climate in the Phoenix Metropolitan Area. *Land Management in a Changing Climate*, Arizona State University East Campus.

Brooks, T.J., Hedquist, B.C, Goodrich, G.B., **Kalkstein, A.J.**, Roy, S., Palicherla, N. 2003. Has urbanization decreased daily temperature range in Metropolitan Phoenix? *47th Annual Meeting, Arizona-Nevada Academy of Science*, Flagstaff, AZ.

TEACHING EXPERIENCE

United States Military Academy, West Point, NY; 6/2009 - Present
Assistant Professor, Department of Geography and Environmental Engineering

Courses taught:

Climatology - EV389B; Course Director

Physical Geography – EV203; Course Director for STAP

Advanced Individual Study - EV489A

Virginia Tech University, National Capital Region, Arlington, VA; 11/2012 – Present
Adjunct Instructor, College of Natural Resources and Environment

Courses taught:

Global Climate Change Policy and Practice – NR5884

Online Graduate Course; offered in Spring Semester

Globe University, Richfield, MN; 3/2006 – 3/2014

Instructor; primarily online

Courses taught:

Earth Science - NS120/NS121

Environmental Issues - NS110/NS111

Environmental Policy - SS320

National American University, Roseville, MN; 3/2006 – 6/2006

Instructor

Courses taught:

Introduction to Meteorology - SC1210

Arizona State University, Tempe, AZ; 9/2003 – 6/2005 (excluding 1/2004 – 6/2004)

Teaching Assistant

Courses taught:

Introduction to Climatology Lab - GPH 215

Introduction to Physical Geography Lab - GPH 111L

Introduction to Meteorology Lab - GPH 214

RESEARCH EXPERIENCE

Applied Climatologists, Inc., Marco Island, FL; 10/2006 – 12/2012

Researcher & Consultant

Estimated the impact of climate change on heat waves and human health as part of an EPA-funded project

- Studied the predictive abilities of the *Heat Stress Index* on human mortality
- Examined relationships between extreme heat and human mortality
- Analyzed weather-related surveys to assess human responses to heat
- Researched the relationships between weather and hospital admissions for Philadelphia, PA
- Co-investigator on a Rockefeller Foundation grant to evaluate the impact of weather on health in Asian cities

University of Minnesota, St. Paul, MN; 10/2005 – 3/2006

Researcher

- Studied what social variables increase forest fire preparedness in numerous communities across the United States

Marcus Weather, Inc., Minneapolis, MN; 3/2006 – 6/2006

Researcher & Consultant

- Explored the relationships between weather, crop yields, and financial markets

The Society for Protection of Nature in Israel; 7/2005 – 8/2005

Researcher

- Researched the impact of trees and urban parks on local pollution

Arizona State University, Tempe, AZ; 9/2002 – 6/2003; 1/2004 – 6/2004

Research Assistant

- Helped to create a prediction system for Arizona's monsoon season
- Researched the impact of jet contrails on the climate system
- Studied trends in dew point across the Phoenix Metropolitan Area
- Examined variations in the spatial extent of the Phoenix urban heat island
- Researched datasets used to determine heat and cold related deaths
- Explored the cause of an observed surface warming across Siberia
- Determined threshold conditions when "evaporative coolers" are ineffective

University of Virginia, Charlottesville, VA; 1/2001 – 12/2002

Researcher

- Transcribed the weather records of Thomas Jefferson

State Climatology Office, University of Virginia, Charlottesville, VA; 1/2001 – 6/2001

Researcher

- Collected climatic data for the State Climatologist

University of Delaware, Newark, DE; Summers, 1998 - 2002

Researcher; (summers only)

- Explored the effects of heat on human health
- Examined weather's effects on asthma, dry skin, and beyond.
- Studied variations in diurnal temperature range for air masses across America
- Researched the thermal benefits of white roofs in Philadelphia row homes

GRANTS AND AWARDS

The Impacts of Atmospheric Particulates on Infectious Disease in Desert Climates

Principal Investigator

National Research Council, 2012-2015

A Climate Assessment of the Russian Far East for the Purpose of Developing Weather Health Warning Systems

Team Member (Co-PIs: Dr. Elena Grigorieva, Institute for Complex Analysis of Regional Problems Far Eastern Branch; Dr. Laurence Kalkstein, University of Miami)

CRDF Global, 2012-2013

SERVICE (ABBREVIATED)

- Appointed by the World Meteorological Organization to serve as an expert team member for the Commission for Climatology. Only American on the six-member team, Climate Risk and Sector-Specific Climate Indices, 2014-2018.
- Subject matter expert and co-author for the Army Science Board's 2013 Study: "Planning for Climate Change: Actions for the Army to Better Adapt to the Effects of Climate Change in 2030"
- Official U.S. government reviewer. Intergovernmental Panel on Climate Change, 5th Assessment Report, Working Group II. Chapter 11 – Human health: impacts, adaptation, and co-benefits.
- Co-editor for the *Middle States Geographer*, 2011-Present
- Member of the Editorial Advisory Board for the *International Journal of Biometeorology*, 2012-Present
- Reviewer for numerous scientific journals
 - *International Journal of Biometeorology*
 - *International Journal of Climatology*
 - *Geophysical Research Letters*
 - *Journal of Applied Meteorology and Climatology*
 - *Environment International*
 - *EcoHealth*
 - *Urban Climate*
 - *Journal of Operational Meteorology*
 - *International Journal of Chronic Obstructive Pulmonary Disease*
- Mentor for new instructors as part of the Master Teacher Program at the U.S. Military Academy, 2011-2013

- Committees
 - *Department Representative for the Center for Faculty Excellence, 2010-Present*
 - *Faculty Council at U.S. Military Academy, 2010-2013*
 - *Officer Representative for the Army Baseball Team; 2010 – Present*
 - *Library Committee at U.S. Military Academy, 2010-2012*

- Volunteer for the Society for Protection of Nature in Israel, *Summer 2005*
 - Researched the impact of trees and urban parks on local pollution

PROFESSIONAL DEVELOPMENT

Master Teacher Program, USMA

Fall 2009 – Spring 2011; Mentor from Summer 2011 – Present

“The Master Teacher Program (MTP) is a two-year faculty development program designed to assist faculty with knowledge, abilities, and skills that ultimately lead to an enhancement of cadet-learning.”

Preparing Future Faculty, Arizona State University

Fall 2004 – Spring 2005

“Preparing Future Faculty is a professional development program for doctoral and MFA students who are preparing for academic careers at institutions of higher education. It is designed to prepare graduate students for the multiple roles they will face as faculty members, and to allow them to understand how these roles and expectations can vary in different campus settings.”

PROFESSIONAL MEMBERSHIPS

International Society of Biometeorology, *2004-Present*

Association of American Geographers, *2002-Present*