

KENNETH E. KUNKEL

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a. Professional Preparation

Southern Illinois University-Edwardsville	Physics	B.S.	1972
University of Wisconsin-Madison	Meteorology	M.S.	1974
University of Wisconsin-Madison	Meteorology	Ph.D.	1978

b. Appointments

2010-present	Research Professor, North Carolina State University; Lead Scientist for Assessments, NOAA Cooperative Institute for Climate and Satellites
2008 – 2010	Executive Director, Division of Atmospheric Sciences, Desert Research Institute, Reno, Nevada
1988 – 2008	Illinois State Water Survey (Interim Chief, 2007-2008; Director, Center for Atmospheric Sciences, 1998-2007; Director, Office of Applied Climatology, 1990-1998; Director, Midwestern Climate Center, 1988-1998); Adjunct Professor, Department of Atmospheric Science, University of Illinois at Urbana-Champaign.
1982 – 1988	State Climatologist, New Mexico Department of Agriculture; Associate Professor, Department of Earth Sciences and Department of Agronomy and Horticulture, New Mexico State University.
1978 – 1982	Research Meteorologist, Atmospheric Sciences Laboratory, White Sands Missile Range, New Mexico.

c. Publications (Selected)

Jacobs, J., S. Moore, K. Kunkel, and L. Sun, 2014: A framework for examining climate driven changes to the seasonality and geographic range of coastal pathogens. *Climate Risk Management*, accepted.

Kunkel, K.E., R.S. Vose, L.E. Stevens, and R.W. Knight, 2015: Is the monthly temperature climate of the United States becoming more extreme? *Geophys. Res. Lett.*, **42**, doi:10.1002/2014GL062035.

Walsh, J., D. Wuebbles, K. Hayhoe, J. Kossin, K. Kunkel, G. Stephens, P. Thorne, R. Vose, M. Wehner, J. Willis, D. Anderson, S. Doney, R. Feely, P. Hennon, V. Kharin, T. Knutson, F. Landerer, T. Lenton, J. Kennedy, and R. Somerville, 2014: Ch. 2: Our Changing Climate. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 19-67. doi:10.7930/J0KW5CXT.

Kunkel, K.E., T.R. Karl, H. Brooks, J. Kossin, J. Lawrimore, D. Arndt, L. Bosart, D. Changnon, S.L. Cutter, N. Doesken, K. Emanuel, P. Ya. Groisman, R.W. Katz, T. Knutson, J. O'Brien, C. J. Paciorek, T. Peterson, K. Redmond, D. Robinson, J. Trapp, R. Vose, S. Weaver, M. Wehner, K. Wolter, D. Wuebbles, 2013: Monitoring and understanding changes in extreme storms: state of knowledge. *Bull. Amer. Meteor. Soc.*, **94**, 499-514, doi: <http://dx.doi.org/10.1175/BAMS-D-12-00066.1>.

Kunkel, K.E., T.R. Karl, D.R. Easterling, K. Redmond, J. Young, X. Yin, and P. Hennon, 2013: Probable maximum precipitation (PMP) and climate change. *Geophys. Res. Lett.*, **40**, doi:10.1002/grl.50334.

- Wuebbles, D.W., G. Meehl, K. Hayhoe, T. R. Karl, K. Kunkel, B. Santer, M. Wehner, B. Colle, E. M. Fischer, R. Fu, A. Goodman, E. Janssen, H. Lee, W. Li, L. N. Long, S. Olsen, A. Seth, J. Sheffield, and L. Sun, 2014: CMIP5 climate model analyses: Climate extremes in the United States. *Bull. Amer. Meteor. Soc.*, 95, 571-583, doi: <http://dx.doi.org/10.1175/BAMS-D-12-00172.1>.
- Kunkel, K.E., D.R. Easterling, D.A.R. Kristovich, B. Gleason, L. Stoecker, and R. Smith, 2012: Meteorological causes of the secular variations in observed extreme precipitation events for the conterminous United States. *J. Hydromet.*, **13**, 1131-1141.
- Kunkel, K.E., 2012: Uncertainties in Observed Changes in Climate Extremes. In *Extremes in a Changing Climate – Detection, Analysis & Uncertainty*. A.AghaKouchak, D. Easterling, K. Hsu, S. Shubert, and S. Sorooshian (Eds.), Springer, 423pp, 287-307.
- Kunkel, K.E., R. Novak, R. Lampman, and W. Gu, 2006: Modeling the impact of variable climatic factors on the crossover of *Culex Restuans* and *Culex Pipiens* (Diptera Culicidae) vectors of West Nile Virus in Illinois. *American Journal of Tropical Medicine and Hygiene*, **74**, 168-173.
- Kunkel, K.E., 2003: Sea surface temperature forcing of the upward trend in U.S. extreme precipitation. *J. Geophys. Res.*, **108**, 4020, doi:10.1029/2002JD002404.

d. Synergistic Activities

1. Contributor (freeze-free season and heat wave index graphs) to Environmental Protection Agency publication Climate Change Indicators in the United States, 2010, 2012, and 2014 editions.
2. Member, Advisory Panel, U2U project led by Purdue University, 2012-present
3. Lead Author for Third National Climate Assessment Report Chapters entitled “Our Changing Climate”, “Agenda for Climate Change Science”, “NCA Climate Science – Addressing Commonly Asked Questions from A to Z”, and “The Science of Climate Change”, 2014.
4. Member, review panel of the NOAA Air Resources Laboratory, 2011.
5. Lead Author on the U.S. Climate Change Science Program Synthesis and Assessment Product 3.1 entitled “Climate Models and Their Uses and Limitations: Climate Sensitivity, Feedbacks, and Uncertainties”, 2006-2008.
6. Convening Lead Author of Chapter 2 (“Observed changes of weather and climate extremes and related impacts”) of the U.S. Climate Change Science Program Synthesis and Assessment Product 3.3 entitled “Weather and Climate Extremes in a Changing Climate”, 2006-2008.

e. Collaborators

Deke Arndt (NCDC), John Bates (NCDC), Lance Bosart (SUNY-Albany), Harold Brooks (NSSL), David Changnon (NIU), Susan Cutter (SCU), Art DeGaetano (Cornell), Nolan Doesken (CSU), Randall Dole (ESRL), David Easterling (NCDC), Kerry Emanuel (MIT), Pavel Groisman (NCDC), Katharine Hayhoe (TTU), Richard Heim (NCDC), Thomas Karl (NCDC), Richard Katz (NCAR), Thomas Knutson (GFDL), James Kossin (NCDC), David Kristovich (UIUC), Jay Lawrimore (NCDC), Xin Zhong Liang (UMD), Michael MacCracken (CI), Gerald Meehl (NCAR), Matthew Menne (NCDC), James O’Brien (FSU), Seth Olsen (UIUC), Chris Paciorek (UC-Berkeley), Zaito Pan (SLU), Thomas Peterson (NCDC), Jeff Privette (NCDC), Kelly Redmond (DRI), David Robinson (Rutgers), Art Samel (BGSU), Anji Seth (UConn), Justin Sheffield (Princeton), Jeff Trapp (Purdue), Russell Vose (NCDC), John Walsh (UAF), Scott Weaver (CPC), Michael Wehner (LBNL), Nancy Westcott (UIUC), Klaus Wolter (UC-Boulder), Donald Wuebbles (UIUC), Xungang Yin (NCDC), John Young (UW-Madison)

Graduate Advisor: James Weinman, deceased

Thesis Advisor and Postgraduate-Scholar Sponsor: Wei Liu (Post-doc, Scripps Institute for Oceanography), Steve Stegall (Post-doc, North Carolina State University), Brooke Stewart (Ph.D. candidate, North Carolina State University), Sarah Champion (Ph.D. candidate, North Carolina State University)