

## PROFESSIONAL EXPERIENCE

### November 2011 – Present

#### **Research Associate, National Climate Assessment North Carolina State University, North Carolina Institute for Climate Studies (NCICS)**

*NCICS is co-located with NOAA's National Centers for Environmental Information (NCEI) in Asheville, NC, and hosts the Cooperative Institute for Satellite Earth System Studies (CISESS).*

Climate scientist with NCICS performing climate change data analysis and research, and providing primary scientific and technical expertise for the National Climate Assessment (NCA) and the U.S. Global Change Research Program (USGCRP) Indicator Platform. Roles and responsibilities include:

- Scientific authorship, data management, and climate scenarios development for the National Climate Assessment, including statistical analysis of more than 20 climate extremes metrics, and the production of over 100 figures across 6 major NCA reports as well as the North Carolina Climate Science Report. Current work involves support for the Fifth National Climate Assessment (NCA5).
- NCA product development, communications, data/metadata stewardship, and development of author guidance.
- Climate indicator expert and technical advisor for the USGCRP Indicators Interagency Working Group (IndIWG). Achievements include the development and maintenance of 17 climate indicators on the USGCRP Indicator Platform (showcasing NOAA NCEI and other federal datasets); the creation of a comprehensive milestone tracking system; and leading efforts to improve the integration of indicators with NCA5.
- Scientific liaison between the IndIWG and federal agency partners, leveraging high-quality climate, ecological, and societal data and fostering collaboration across the 13 USGCRP agencies.
- Data processing, analysis, and scientific research resulting in 15+ peer-reviewed publications, focusing on climate extremes, observed climate trends, and climate projections on state, regional, national, and global scales.

### September 2010 – November 2011

#### **Research Associate North Carolina State University**

National Climate Assessment support scientist. Processed and analyzed a suite of 46 derived climate extremes for North America using statistically-downscaled climate model data.

## PROFESSIONAL SKILLS

- Analysis of observational and modeled climate data sets, including NOAA NCEI's Global Historical Climatology Network (GHCN), NOAA's Climate Divisional Database (nClimDiv), the Coupled Model Intercomparison Project (CMIP), and Localized Constructed Analogs (LOCA).
- Proficiency with the Python programming language, IDL, awk, and shell scripting. Familiarity with MATLAB, html, LaTeX, and the R statistical environment.
- Experience with high-performance computing systems, including the UK's HECToR supercomputer and the NCICS computing cluster.
- Data visualization as a scientific communication tool, including the production of scientific graphics using Python, Microsoft Excel, and other software.
- Project planning, management, and implementation, including coordination with consortium partners, external stakeholders, and communication specialists.
- Processing, stewardship, management, and dissemination of derived data and products.
- Proficiency in writing, editing, managing, and reviewing scientific material for a variety of publications, reports, articles, and web content. Utmost attention to detail and the ability to review information for scientific clarity and accuracy.
- Effective verbal and written communication of information in a brief, clear, and organized manner for a wide range of audiences. Regular participation in conferences, workshops, and committees to communicate scientific and technical information.
- Ability to ensure scientific information meets 508 compliance standards for government publication.

## EDUCATION

**October 2006 – July 2011**

**M.Phil. Atmospheric Science**

**University of Leeds, School of Earth & Environment**

Completed a postgraduate research program in atmospheric science at the School of Earth and Environment, University of Leeds, investigating the climatic effect of enhancing droplet concentrations in marine stratocumulus clouds as a result of proposed geoengineering techniques. This research resulted in three peer-reviewed publications.

**October 2002 – July 2006**

**B.Sc. [Hons] Meteorology with a year in Oklahoma**

**The University of Reading, Department of Meteorology**

Graduated with first class honors from the University of Reading, UK, with a year at the University of Oklahoma on a foreign exchange program. Completed an undergraduate dissertation investigating trends in severe drizzle.

## PROFESSIONAL AWARDS

- NOAA NCEI Special Service Awards for contributions to both the Third and Fourth National Climate Assessments.
- Two-time NCSU Office of Research, Innovation and Economic Development Awards for Excellence nominee.
- Two-time recipient of the “Pride of the Wolfpack” award (for a special or unique contribution to NCSU).

## OTHER PROFESSIONAL AND PERSONAL ACHIEVEMENTS

- Active member of the NCICS Outreach Team. Participated in over 40 education and outreach events over the past 8 years, including local science fairs, presentations/workshops for the general public, and K-12 students.
- NCICS Social Committee founder and co-chair, 2013 onwards. Organized staff social events and developed and coordinated an annual institute-wide Community Service Month, including multiple volunteer events and charitable collections for local non-profits.
- School of Earth and Environment Postgraduate Student Representative at the University of Leeds, 2007/8.
- Undergraduate teaching assistant at the University of Leeds, 2007/8.
- Participated in multiple field campaigns and meteorological summer school programs, including the Convective and Orographically-induced Precipitation Study (COPS) in Southern Germany, July 2007.
- Three consecutive annual volunteer service awards working as a Volunteer Animal Adoption Counselor and Cat Care Taker at Asheville Humane Society.
- Multiple age group running medals at 5km and 8km distances, plus the completion of two half marathons.

## PROFESSIONAL MEMBERSHIPS

- American Meteorological Society – Asheville Local Chapter
- American Meteorological Society
- American Geophysical Union
- Royal Meteorological Society

# PUBLICATIONS

## Peer reviewed publications

- Kunkel, K.E., D.R. Easterling, T.R. Karl, J.C. Biard, S.M. Champion, B.E. Gleason, K.M. Johnson, A.Li, S. Stegall, **L.E. Stevens**, S.E. Stevens, M. Squires, L. Sun, and X. Yin, 2020: *Incorporation of the Effects of Future Anthropogenically Forced Climate Change in Intensity-Duration-Frequency Design Values: Final Report*. North Carolina Institute for Climate Studies, North Carolina State University, 104 pp.
- Kunkel, K.E., S.E. Stevens, **L.E. Stevens**, and T.R. Karl, 2020: Observed climatological relationships of extreme daily precipitation events with precipitable water and vertical velocity in the contiguous United States. *Geophys. Res. Lett.*, **47**, e2019GL086721, [doi:10.1029/2019GL086721](https://doi.org/10.1029/2019GL086721).
- Kunkel, K.E., D.R. Easterling, A. Ballinger, S. Bililign, S.M. Champion, D.R. Corbett, K.D. Dello, J. Dissen, G.M. Lackmann, R.A. Luettich, Jr., L.B. Perry, W.A. Robinson, **L.E. Stevens**, B.C. Stewart, and A.J. Terando, 2020: *North Carolina Climate Science Report*. North Carolina Institute for Climate Studies, 233 pp. [ncics.org/nccsr](https://ncics.org/nccsr)
- Runkle, J., K. Kunkel, and **L. Stevens**, 2018: Puerto Rico and the U.S. Virgin Islands State Climate Summary. *NOAA Technical Report NESDIS 149-PR*, 4 pp. [statesummaries.ncics.org/pr](https://statesummaries.ncics.org/pr)
- USGCRP, 2017: *Climate Science Special Report: Fourth National Climate Assessment, Volume I* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 470 pp, [doi:10.7930/J0J964J6](https://doi.org/10.7930/J0J964J6). [**Contributing author for Chapter 2: Physical Drivers of Climate Change**]
- Kunkel, K., R. Frankson, J. Runkle, S. Champion, **L. Stevens**, D. Easterling, and B. Stewart (Eds.), 2017: State Climate Summaries for the United States. *NOAA Technical Report NESDIS 149*. [statesummaries.ncics.org](https://statesummaries.ncics.org) [Lead author on two states and contributing author on an additional 20]
- Sun, L., K.E. Kunkel, **L. Stevens**, A. Buddenberg, J.G. Dobson, and D.R. Easterling, 2015: Regional Surface Climate Conditions in CMIP3 and CMIP5 for the United States: Differences, Similarities, and Implications for the U.S. National Climate Assessment. *NOAA Technical Report NESDIS 144*, 111 pp.
- 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](https://doi.org/10.1002/2014GL062035).
- Konrad, C.E., C.M. Fuhrmann, A. Bilot, B.D. Keim, M.C. Kruk, K.E. Kunkel, H. Needham, M. Shafer, and **L. Stevens**, 2013: Climate of the Southeast USA: Past, Present, and Future. *Climate of the Southeast United States: Variability, Change, Impacts, and Vulnerability*. K.T. Ingram, K. Dow, L. Carter, and J. Anderson, Eds., Island Press, Washington, D.C., 8-42.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, J. Rennells, A. DeGaetano, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 1. Climate of the Northeast U.S., *NOAA Technical Report NESDIS 142-1*, 79 pp.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, C.E. Konrad II, C.M. Fuhrman, B.D. Keim, M.C. Kruk, A. Billet, H. Needham, M. Schafer, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 2. Climate of the Southeast U.S., *NOAA Technical Report NESDIS 142-2*, 94 pp.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, S.D. Hilberg, M.S. Timlin, L. Stoecker, N.E. Westcott, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 3. Climate of the Midwest U.S., *NOAA Technical Report NESDIS 142-3*, 95 pp.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, M.C. Kruk, D.P. Thomas, M. Shulski, N. Umphlett, K. Hubbard, K. Robbins, L. Romolo, A. Akyuz, T. Pathak, T. Bergantino, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 4. Climate of the U.S. Great Plains, *NOAA Technical Report NESDIS 142-4*, 82 pp.

- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, K.T. Redmond, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 5. Climate of the Southwest U.S., *NOAA Technical Report NESDIS 142-5*, 79 pp.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, K.T. Redmond, and J.G. Dobson, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 6. Climate of the Northwest U.S., *NOAA Technical Report NESDIS 142-6*, 75 pp.
- Stewart, B.C., K.E. Kunkel, **L.E. Stevens**, L. Sun, and J.E. Walsh, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 7. Climate of Alaska, *NOAA Technical Report NESDIS 142-7*, 60 pp.
- Keener, V.W., K. Hamilton, S.K. Izuka, K.E. Kunkel, **L.E. Stevens**, and L. Sun, 2013: Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 8. Climate of the Pacific Islands, *NOAA Technical Report NESDIS 142-8*, 44 pp.
- Kunkel, K.E, **L.E. Stevens**, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, and J.G. Dobson, 2013: Part 9. Climate of the Contiguous United States, *NOAA Technical Report NESDIS 142-9*, 78 pp.
- Stevens, L.**, 2011: Influence of varying droplet concentrations on properties of marine stratocumulus clouds and climate. *M.Phil. thesis*, School of Earth and Environment, University of Leeds, 123 pp.
- Latham, J., P. Rasch, C.C. Chen, **L. Kettles**, A. Gadian, A. Gettelman, H. Morrison, K. Bower, and T. Choullarton, 2010: Global temperature stabilization via controlled albedo enhancement of low-level maritime clouds. *Geo-engineering Climate Change: Environmental Necessity or Pandora's Box?* B. Launder and J. Thompson, Eds., Cambridge University Press, Cambridge, 207-228.
- Latham, J., P. Rasch, C.C. Chen, **L. Kettles**, A. Gadian, A. Gettelman, H. Morrison, K. Bower, and T. Choullarton, 2008: Global temperature stabilization via controlled albedo enhancement of low-level maritime clouds. *Philos. Trans. Roy. Soc.*, **A366**, 3969–3987, [doi:10.1098/rsta.2008.0137](https://doi.org/10.1098/rsta.2008.0137).

### Non-peer reviewed publications

- Stevens, L.E.**, 2013: Regional Climate Trends and Scenarios: Summaries, *NOAA Technical Report NESDIS 142 Summary, Parts 1-9*.
- Stevens, L.E.**, 2012: Climatological color schemes suitable for color-blind readers, CICS-NC (white paper).
- Parkes, B., **L. Stevens**, A. Gadian, J. Latham, and A. Blyth, 2010: Climate sensitivities due to stratocumulus cloud droplet number concentrations. *Geophysical Research Abstracts*, **12**, EGU2010-15652.
- Gadian, A., A. Blyth, J. Latham, S. Salter, and **L. Stevens**, 2009: Whitening the clouds. *Planet Earth*, **Winter**, 9-11. <https://nerc.ukri.org/planetearth/stories/584/>

### National Climate Assessment scientific and technical contributions

- USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi:10.7930/NCA4.2018. [nca2018.globalchange.gov](https://nca2018.globalchange.gov)
- USGCRP, 2016: *The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment* [Crimmins, A., J. Balbus, J.L. Gamble, C.B. Beard, J.E. Bell, D. Dodgen, R.J. Eisen, N. Fann, M.D. Hawkins, S.C. Herring, L. Jantarasami, D.M. Mills, S. Saha, M.C. Sarofim, J. Trtanj, and L. Ziska (Eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 312pp. doi:10.7930/J0R49NQX. [health2016.globalchange.gov](https://health2016.globalchange.gov)
- Melillo, J.M., T.C. Richmond, and G.W. Yohe (Eds.), 2014: *Climate Change Impacts in the United States: The Third National Climate Assessment*. U.S. Global Change Research Program, Washington, DC, USA, 841 pp. doi:10.7930/J0Z31WJ2. [nca2014.globalchange.gov](https://nca2014.globalchange.gov)