

Jesse Eugene Bell, Ph.D.

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Citation page: [Google Scholar Citations](#)

Education

- 2004-2009 Ph.D., Plant Biology
The University of Oklahoma, Norman, OK
Dissertation: Climate Change Influences on Ecohydrological Processes.
- 1999-2003 B.S., Biology
Emporia State University, Emporia, KS
Independent Project: The germination rates and seed bank size of cleistogamous and chasmogamous seeds of the invasive weed Lespedeza cuneata.

Experience

Director of Water, Climate, and Health, University of Nebraska Daugherty Water for Food Global Institute, Lincoln, NE. August 2020 – Present.

Executive Director of the Water, Climate and Health Program at the University of Nebraska Medical Center, Omaha, NE. August 2020 – Present.

Claire M. Hubbard Professor of Water, Climate and Health. Department of Environmental, Agricultural, and Occupational Health. College of Public Health. University of Nebraska Medical Center. Omaha, NE 68198. January 2021 - present.

NSRI Fellow, National Strategic Research Institute, University of Nebraska. 2021-present

Great Plains Fellow, Center for Great Plains Studies. 2020-present.

Associate Professor, Department of Environmental, Agricultural, and Occupational Health. College of Public Health. University of Nebraska Medical Center. Omaha, NE 68198. June 2018 – Present.

Associate Professor, School of Natural Resources. College of Public Health. University of Nebraska - Lincoln. Lincoln, NE 68583. June 2021 – Present.

Adjunct Faculty, Department of Environmental Health, Rollins School of Public Health, Emory University, Atlanta, GA 30322, September 2013 – Present
Duties: Advises Masters of Public Health students on projects relating climate to public health.

Claire M. Hubbard Professor of Health and Environment. Department of Environmental, Agricultural, and Occupational Health. College of Public Health. University of Nebraska Medical Center. Omaha, NE 68198. June 2018 – January 2021.

Faculty Fellow, Daugherty Water for Food Global Institute. Lincoln, NE 68198. December 2018 – 2020.

Senior Climate Science Consultant / Guest Researcher, Mycotic Diseases Branch, NCEZID, Centers for Disease Control and Prevention, Atlanta, GA 30333, October 2017 – November 2018
Duties: Heads research and collaboration between NOAA NCEI, CICS-NC and CDC. Responsible for coordination of research, collaboration, and outreach between agencies to provide a better data sharing between agencies.

Research Scholar, Cooperative Institute for Climate and Satellites - NC. North Carolina State University. Asheville, NC 28801. July 2015 – June 2018
Duties: Led research on environmental change from climate variability, with emphasis on soil observations from NOAA's US Climate Reference Network. Also performs quality assurance of USCRN soil observations. Partners and collaborators include NOAA NCEI, NOAA ATDD, USDA-ARS, NOAA CREST, NOAA STAR, NASA JPL, and Cary Institute of Ecosystem Studies.

Climate Science Advisor, Climate and Health Program, NCEH, Centers for Disease Control and Prevention, Chamblee, GA 30341. July 2013 – September 2017
Duties: Heads research and collaboration between NOAA NCEI, CICS-NC and CDC CHP. Responsible for coordination of research, collaboration, and outreach between agencies to provide a better understanding of the relationship between climate and health. CDC collaborators: George Luber Ph.D., Jeremy Hess M.D., Katie Conlon, Ph.D. and Shubhayu Saha Ph.D.

Research Associate, Cooperative Institute for Climate and Satellites – NC. Asheville, NC 28801. October 2010 – July 2015

Postdoctoral Researcher. Department of Biology, Wake Forest University. Winston-Salem, NC 27109. January 2010 – September 2010

Graduate Research Assistant. Department of Microbiology and Plant Biology, The University of Oklahoma, Norman, OK 73019. Fall 2009

NSF 'Engineering in Practice' Fellow. Department of Civil and Environmental Engineering, The University of Oklahoma, Norman, OK 73019. 2007-2009.

East Asia and Pacific Summer Institutes Fellow. National Science Foundation, Beijing, China. Summer of 2006

Graduate Teaching Assistant. Department of Microbiology and Plant Biology, The University of Oklahoma, Norman, OK 73019. 2004-2007.

Graduate Research Assistant. Department of Microbiology and Plant Biology, The University of Oklahoma, Norman, OK 73019. Summers of 2004, 2005 & 2007.

Undergraduate Naturalist. Department of Biology, Emporia State University, Emporia, KS. 2002-2003.

Rangeland Management Technician/SCEP. USDA Forest Service, Bridgeport, CA. Summer 2002.

Rangeland Management Technician/STEP. USDA Forest Service, Elko, NV. Summer 2001.

Peer-Reviewed Publications and Chapters

Ouattara, B.S., Puvvula, J., Abadi, A., Munde, S., Kolok, A.S., Bartelt-Hunt, S., Bell, J.E., Wichman, C.S. and Rogan, E., 2022. Geospatial Distribution of Age-adjusted Incidence of the Three Major Types of Pediatric Cancers and Waterborne Agrichemicals in Nebraska. *GeoHealth*, p.e2021GH000419.

Puvvula, J., Baccaglini, L., Johnson Jr, A., Du, Y., Bell, J. E., & Rautiainen, R. H. (2022). Prevalence and risk factors for pulmonary conditions among farmers and ranchers in the central United States. *Journal of Agromedicine*, (just-accepted).

Watanabe-Galloway, S., Chasek, C., Yoder, A. M., & Bell, J. E. (2022). Substance use disorders in the farming population: Scoping review. *The Journal of Rural Health*, 38(1), 129-150.

- Puvvula, J., Bartelt-Hunt, S. L., Ouattara, B. S., Kolok, A. S., Bell, J. E., & Rogan, E. G. (2021). Association between Aqueous Atrazine and Pediatric Cancer in Nebraska. *Water*, 13(19), 2727.
- New-Aaron, M., Abimbola, O., Mohammadi, R., Famojuro, O., Naveed, Z., Abadi, A., ... & Rogan, E. G. (2021). Low-Level Groundwater Atrazine in High Atrazine Usage Nebraska Counties: Likely Effects of Excessive Groundwater Abstraction. *International journal of environmental research and public health*, 18(24), 13241.
- Jalalzadeh Fard, B., Mahmood, R., Hayes, M., Rowe, C., Abadi, A. M., Shulski, M., ... & Bell, J. E. (2021). Mapping heat vulnerability index based on different urbanization levels in Nebraska, USA. *GeoHealth*, 5(10), e2021GH000478.
- Leeper, R. D., Matthews, J. L., Cesarini, M. S., & Bell, J. E. (2021). Evaluation of air and soil temperatures for determining the onset of growing season. *Journal of Geophysical Research: Biogeosciences*, 126(8), e2020JG006171.
- McDermid, S. S., Mahmood, R., Hayes, M. J., Bell, J. E., & Lieberman, Z. (2021). Minimizing trade-offs for sustainable irrigation. *Nature Geoscience*, 14(10), 706-709.
- Berman, J. D., Ramirez, M. R., Bell, J. E., Bilotta, R., Gerr, F., & Fethke, N. B. (2021). The association between drought conditions and increased occupational psychosocial stress among US farmers: An occupational cohort study. *Science of The Total Environment*, 149245.
- Manangan, A., Brown, C., Saha, S., Bell, J., Hess, J., Uejio, C., ... & Schramm, P. (2021). Long-term pollen trends and associations between pollen phenology and seasonal climate in Atlanta, Georgia (1992-2018). *Annals of Allergy, Asthma & Immunology*.
- Schramm, P. J., Brown, C. L., Saha, S., Conlon, K. C., Manangan, A. P., Bell, J. E., & Hess, J. J. (2021). A systematic review of the effects of temperature and precipitation on pollen concentrations and season timing, and implications for human health. *International Journal of Biometeorology*, 1-14.
- Bartelt-Hunt, S. L., & Bell, J. E. (2021). Surface and Groundwater Contamination, Community and Ecosystem Exposures Are the Unintentional Consequences from "Recycling" Treated Seed Products. *Environmental Science & Technology*, 55(9), 5605-5607.
- Ebi, K. L., Vanos, J., Baldwin, J. W., Bell, J. E., Hondula, D. M., Errett, N. A., ... & Berry, P. (2021). Extreme weather and climate change: population health and health system implications. *Annual review of public health*, 42, 293-315.
- Hunt, E. D., Christian, J., Basara, J. B., Lowman, L., Otkin, J., Bell, J., ... & Randall, R. (2020). The flash drought of 1936. *J. Appl. Serv. Climatol*, 2020, 1-15.
- Abadi, AM, Vander Stoep, A., Foster, K., Clayton, S., Bell, J.E., & J. Hess (2020). Mental health in water scarce cities: an unrecognized climate change pressure point. *BMJ* 2020; 371 :m2936
- Bell, J.E, Lookadoo, R., Wheeler, S., and Dethlefs, C. (2020). Case Study – The 2019 Floods in the Central U.S. Lessons for Improving Health, Health Equity, and Resiliency. In *Lancet Countdown, 2020: 2020 Lancet Countdown on Health and Climate Change Policy Brief for the United States of America*. Salas RN, Lester PK, Hess JJ. *Lancet Countdown U.S. Policy Brief*, London, United Kingdom.

- Lookadoo, R. E. & Bell, J. E. (2020) Public health policy actions to address health issues associated with drought in a changing climate. *The Journal of Law, Medicine & Ethics*, 48, 653-663.
- Lynch, K. M., Lyles, R. H., Waller, L. A., Abadi, A. M., Bell, J. E.*, & Gribble, M. O.* (2020). Drought severity and all-cause mortality rates among adults in the United States: 1968–2014. *Environmental Health*, 19, 1-14. *equal contribution to the work
- Rennie, J., Bell, J. E., Kunkel, K. E., Herring, S., Cullen, H., & Abadi, A. M. (2019). Development of a Submonthly Temperature Product to Monitor Near-Real-Time Climate Conditions and Assess Long-Term Heat Events in the United States. *Journal of Applied Meteorology and Climatology*, 58(12), 2653-2674.
- Johansson, M. A., Apfeldorf, K. M., Dobson, S., Devita, J., Buczak, A. L., Baugher, B., ... Bell, J.E.... & Yamana, T. K. (2019). An open challenge to advance probabilistic forecasting for dengue epidemics. *Proceedings of the National Academy of Sciences*, 116(48), 24268-24274.
- Stevens, S. E., Schreck III, C. J., Saha, S., Bell, J. E., & Kunkel, K. E. (2019). Precipitation and fatal motor vehicle crashes: continental analysis with high-resolution radar data. *Bulletin of the American Meteorological Society*. 10.1175/BAMS-D-18-0001.1
<https://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-18-0001.1>
- Erhardt, R., J.E. Bell, B. Blanton, F. Nutter, M. Robinson, and R. Smith. 2019. Stronger Climate Resilience with Insurance. *Bulletin of the American Meteorological Society*. DOI:10.1175/BAMS-D-19-0073.1.
<https://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-19-0073.1>
- Leeper, R. D., Bell, J. E., & Palecki, M. A. (2019). A Description and Evaluation of US Climate Reference Network Standardized Soil Moisture Dataset. *Journal of Applied Meteorology and Climatology*,
<https://doi.org/10.1175/JAMC-D-18-0269.1>
- Rudd, M. A., Moore, A. F., Rochberg, D., Bianchi-Fossati, L., Brown, M. A., D'Onofrio, D., Furman, C.A., Garia, J., Jordan, B., Kline, J., Risse, L. M., Yager, P.L., Abbinett, J., Alber, M., Bell, J.E.,... (2018). Climate research priorities for policy-makers, practitioners, and scientists in Georgia, USA. *Environmental Management*, 1-20.
- Bell, J.E., Brown, C.L., Conlon, K., Herring, S., Kunkel, K.E., Lawrimore, J., Luber, G., Schreck, C., Smith, A. and Uejio, C., 2018. Changes in extreme events and the potential impacts on human health. *Journal of the Air & Waste Management Association*, 68(4), pp.265-287.
- Coopersmith, E. J., J. E. Bell, K. Benedict, J. Shriber, O. McCotter, and M. H. Cosh (2017), Relating coccidioidomycosis (valley fever) incidence to soil moisture conditions, *GeoHealth*, 1, doi:10.1002/2016GH000033.
- Shriber, J., Conlon, K. C., Benedict, K., McCotter, O. Z., & Bell, J. E. (2017). Assessment of Vulnerability to Coccidioidomycosis in Arizona and California. *International Journal of Environmental Research and Public Health*, 14(7), 680.
- Leeper, R. D., Bell, J. E., Vines, C., & Palecki, M. (2017). An evaluation of the North American regional reanalysis simulated soil moisture conditions during the 2011–13 drought period. *Journal of Hydrometeorology*, 18(2), 515-527.

- Coopersmith, E. J., Cosh, M. H., Bell, J. E., & Boyles, R. (2016). Using machine learning to produce near surface soil moisture estimates from deeper in situ records at US Climate Reference Network (USCRN) locations: Analysis and applications to AMSR-E satellite validation. *Advances in Water Resources*, 98, 122-131.
- Wilson, T.B., Baker, C.B., Meyers, T.P., Kochendorfer, J., Hall, M., Bell, J.E., Diamond, H.J. and Palecki, M.A., 2016. Site-Specific Soil Properties of the US Climate Reference Network Soil Moisture. *Vadose Zone Journal*, 15(11).
- LaKind, J.S., Overpeck, J., Breysse, P.N., Backer, L., Richardson, S.D., Sobus, J., Sapkota, A., Upperman, C.R., Jiang, C., Beard, C.B., Brunkard, J.M., Bell, J.E., Harris, R., Chretien, J.P., Peltier, R.E., Chew, G.L., and Blount, B.C., 2016. Exposure science in an age of rapidly changing climate: challenges and opportunities. *Journal of Exposure Science and Environmental Epidemiology*, 26(6), pp.529-538.
- Coopersmith, E. J., Cosh, M. H., Bell, J. E., Kelly, V., Hall, M., Palecki, M. A., & Temimi, M. (2016). Deploying temporary networks for upscaling of sparse network stations. *International Journal of Applied Earth Observation and Geoinformation*, 52, 433-444.
- Bell, J.E., S. Burrer, & N. Wall. (2016). Drought's Fallout: Human Health. *NIDIS Newsletter: Dry Times*. Vol. 5 Issue 2.
- 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. USGCRP, 2016: The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 312 pp. <http://dx.doi.org/10.7930/J0R49NQX>
- Bell, J.E., S.C. Herring, L. Jantarasami, C. Adrianopoli, K. Benedict, K. Conlon, V. Escobar, J. Hess, J. Luvall, C.P. Garcia-Pando, D. Quattrochi, J. Runkle, and C. Schreck, (2016). Ch. 4: Impacts of Extreme Events on Human Health. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. U.S. Global Change Research Program, Washington, DC, 99-128. <http://dx.doi.org/doi:10.7930/J0BZ63ZV>
- Coopersmith, E.J., Cosh, M.H., Bell, J.E., & Crow, W. (2016). Multi-profile analysis of soil moisture within the climate reference network. *Vadose Zone Journal*, 15(1)
- Vins, H., Bell, J.E., Saha, S., & Hess, J. J. (2015). The Mental Health Outcomes of Drought: A Systematic Review and Causal Process Diagram. *International journal of environmental research and public health*, 12(10), 13251-13275.
- Coopersmith, E. J., Cosh, M. H., Bindlish, R., & Bell, J. (2015). Comparing AMSR-E soil moisture estimates to the extended record of the US Climate Reference Network (USCRN). *Advances in Water Resources*, 85, 79-85.
- Bell, J. E., Leeper, R. D., Palecki, M. A., Coopersmith, E., Wilson, T., Bilotta, R., & Embler, S. (2015). Evaluation of the 2012 Drought with a Newly Established National Soil Monitoring Network. *Vadose Zone Journal*. 14(11). (Cover Article)
- Coopersmith, E. J., Bell, J. E., & Cosh, M. H. (2015). Extending the soil moisture data record of the US Climate Reference Network (USCRN) and Soil Climate Analysis Network (SCAN). *Advances in Water Resources*, 79, 80-90.

- Bilotta, R., Bell, J. E., Shepherd, E., & Arguez, A. (2015). Calculation and Evaluation of an Air-Freezing Index for the 1981–2010 Climate Normals Period in the Conterminous United States. *Journal of Applied Meteorology and Climatology*, 54(1), 69-76.
- Yan, L., Luo, Y., Sherry, R. A., Bell, J. E., Zhou, X., & Xia, J. (2014). Rain use efficiency as affected by climate warming and biofuel harvest: results from a 12-year field experiment. *GCB Bioenergy*, 6(5), 556-565.
- Palecki, M. A., & Bell, J. E. (2013). US Climate Reference Network soil moisture observations with triple redundancy: Measurement variability. *Vadose Zone Journal*, 12(2).
- Bell, J. E., Palecki, M. A., Baker, C. B., Collins, W. G., Lawrimore, J. H., Leeper, R. D., ... & Diamond, H. J. (2013). US Climate Reference Network soil moisture and temperature observations. *Journal of Hydrometeorology*, 14(3), 977-988.
- Diamond, H. J., Karl, T. R., Palecki, M. A., Baker, C. B., Bell, J. E., Leeper, R. D., ... & Thorne, P. W. (2013). US Climate Reference Network after one decade of operations: Status and assessment. *Bulletin of the American Meteorological Society*, 94(4), 485-498. (Cover Article)
- Bell, J. E., Weng, E., & Luo, Y. (2010). Ecohydrological responses to multifactor global change in a tallgrass prairie: a modeling analysis. *Journal of Geophysical Research: Biogeosciences (2005–2012)*, 115(G4).
- Yang, Y., Fang, J., Fay, P. A., Bell, J. E., & Ji, C. (2010). Rain use efficiency across a precipitation gradient on the Tibetan Plateau. *Geophysical Research Letters*, 37(15).
- Bell, J. E., Sherry, R., & Luo, Y. (2010). Changes in soil water dynamics due to variation in precipitation and temperature: an ecohydrological analysis in a tallgrass prairie. *Water Resources Research*, 46(3).
- Knapp, A. K., Beier, C., Briske, D. D., Classen, A. T., Luo, Y., Reichstein, M., Smith, S.D., Bell, J.E., Sherry, R. ... & Weng, E. (2008). Consequences of more extreme precipitation regimes for terrestrial ecosystems. *Bioscience*, 58(9), 811-821.

Book Chapters

- Landon, C.M., Lyles, R.H., Scovronick, N.C., Abadi, A.M., Bilotta, R., Hauer, M.E., Bell, J.E. and Gribble, M.O., 2021. Mixed-Effects Negative Binomial Regression with Interval Censoring: A Simulation Study and Application to Aridity and All-Cause Mortality Among Black South Africans Over 1997–2013. In *Modern Statistical Methods for Health Research* (pp. 381-413). Springer, Cham.

Other Publications, Technical Reports, and Contributions

- [The Lancet Countdown on Health and Climate Change: Policy Brief for the United States of America](#) (2021). Working Group Reviewer for the Report.
- FAO and UNCCD. 2021. Thinking ahead: Drought resilience and COVID-19. WASAG working group on drought preparedness. Rome, FAO. <https://doi.org/10.4060/cb5547en> Contributing author to report.
- [Determining the Role of Anthropogenic Climate Change on Human Health Outcomes: A Case Study on Heat Related Illness Attribution](#). Lead author of the technical report for the Society of Actuaries.
- [The Lancet Countdown on Health and Climate Change: Policy Brief for the United States of America](#) (2020). Working Group Reviewer for the Report.

Bell, J.E, Lookadoo, R., Wheeler, S., and Dethlefs, C. (2020). [Case Study – The 2019 Floods in the Central U.S. Lessons for Improving Health, Health Equity, and Resiliency](#). In Lancet Countdown, 2020: 2020 Lancet Countdown on Health and Climate Change Policy Brief for the United States of America. Salas RN, Lester PK, Hess JJ. Lancet Countdown U.S. Policy Brief, London, United Kingdom.

[Preparing for the Health Effects of Drought: A Resource Guide for Public Health Professionals](#). Served as a subject matter expert for the development of the CDC resource guide.

[The Lancet Countdown on Health and Climate Change: Policy Brief for the United States of America](#) (2019). Working Group Reviewer for the Report.

[Double Threat: The impact of climate change on human health](#). Invited to write a featured article for the April/May 2018 edition of The Actuary.

[Drought data on the National Environmental Public Health Tracking Network](#). Helped organize and transfer these data to CDC for distribution.

[Drought and public health in the U.S.](#) CDC Infographic. (assisted in the development)
http://www.cdc.gov/nceh/hsb/cwh/hsb_drought_infographic508-cleared.pdf

Bell, Jesse E. Instructional guide: environmental data for dengue project. White House OSTP Dengue Forecasting Project. www.dengueforecasting.noaa.gov

Bell, Jesse E. [Soil climate observations: improved national drought-monitoring capabilities](#). CICS-NC Factsheet. www.cicsnc.org/fact-sheets/

Funding and External Support

PI: Identifying Public Health Applications of Satellite-Derived Drought Indicators: Improved Monitoring for Respiratory Health (ROSES21) (21HAQ21-0069), submitted to the Science Mission Directorate's Earth Science Division, in response to NASA Research Announcement (NRA) NNH21ZDA001N. 2022-2025. \$1,041,000

PI: 2022 NIHHS-CAPA Urban Heat Island Mapping Campaign for Omaha/Douglas County, NE. NOAA NIHHS. \$12k

PI: Water, Climate and Health. Claire M. Hubbard Foundation. 2020-2025. \$5,000,000

PI: Evaluation of Drought Indicators for Improved Decision-Making in Public Health and Emergency Preparedness: Reducing Drought's Burden on Health. NOAA CPO: NOAA-OAR-CPO-2020-2006076. 2020-2023. \$650k

PI: Expanding the Science and Preparedness Activities for Health Issues Associated with Drought. NOAA Contract 80848-Z7553201/NA19NES432002. 2019-2021. \$480k (Postdoc, PhD Student)

PI: Emergency Response Team for Weather- and Climate-Related Events: A Safer Nebraska. 2019-2021. Internal University of Nebraska Funding. \$140k (Postdoc)

PI: Using Extreme Weather Event Attribution to Determine the Impacts of Climate Change on Human Health. 2019-2020. Society of Actuaries. \$64k (One Graduate Student)

Co-PI: Satellite-aided regional dust forecasting for Valley fever surveillance, highway accident prevention, and air quality management in the Southwestern United States. 2018-2022. NASA. \$950k to George Mason University (One Postdoc; One Graduate Student)

PI: Drought-related health impacts: advancing the science for public health applications. 2018-2019. NOAA NIDIS. \$220k (One Postdoc; Two Graduate Students)

Co-PI: Towards earlier drought detection using remotely sensed precipitation data from the Reference Environmental Data Record (REDR) CMORPH. (O. Pratt (PI); J. Bell (Co-PI)). 2017-2018. \$55,000

PI: Analysis of Historical Heat Waves for the U.S. \$42,349. 2017. Climate Central.

PI: Modeling soil moisture at the watershed scale using in situ networks. 2016-2017. USDA-ARS. \$25,780

PI: Drought data for Environmental Tracking. Centers for Disease Control and Prevention. 2016. \$15,350.

PI: Climate Science Advisor for the Climate and Health Program. Centers for Disease Control and Prevention. 2014-2017. \$153,102.

CDC OHPR Internal Grant Opportunity: Improving Public Health Preparedness and Response to Extreme Weather Through the Assessment of Current Practices and Creation of Online Tools that Advance the Identification of At-Risk Populations for Drought and Wildfire Smoke. January 2016-December 2017. 250k/yr for 2 years. (S. Burrer (PI); J. Bell (Co-I)).

NOAA: CICS2: Surface Observing Networks Activities. (O. Brown PI).
7/2014 – 7/2017. Role: Investigator. Funding amount: \$2,256,171 from YR 1-3.

NOAA RISA: Building Adaptive Capacity in the Carolinas: The Carolinas Integrated Sciences & Assessments (CISA) Program. Unfunded Collaborator (K. Dow (PI); J. Bell (Co-I)).

AMS Summer Policy Colloquium. American Meteorological Society and National Science Foundation,
31 May 2009 – 9 June 2009.

Thailand Research. National Science Foundation, EiP Fellowship, GK-12 Program.
7 February 2009 – 7 April 2009.

Engineering in Practice Fellow. National Science Foundation, GK-12 Program.
1 August 2007 – 1 August 2009.

KREST Institute Scientist. Part of the K20 Center for Educational and Community Renewal. National Science Foundation and Howard Hughes Medical Institute. June 18-29, 2007

George L. and Cleo Cross Graduate Student Endowed Scholarship. 2007.

The University of Oklahoma's Research and Creativity Grant. Changes in temperature and precipitation on the rainfall use efficiency and water use efficiency in temperate prairie ecosystems. The University of Oklahoma. 2006.

East Asia and Pacific Summer Institutes for U.S. Graduate Students Fellow (EAPSI). Full funding to travel and work in the Chinese Academy of Sciences' Institute of Botany. National Science Foundation. 2006.

TERACC/EU funding for all travel and stay costs to Denmark for a workshop. One of five graduate students from the United States selected to go to the TERACC/EU meeting in Denmark on "Effects of

Precipitation Change on Terrestrial Ecosystems a Workshop and Networking Activity (EPRECOT)".
May 2006.

Pending Support

NOAA Projects

Mentor for the NASA's Applied Sciences Program (DEVELOP) in Asheville, NC (2015-2018)

Develop quality assurance methodology for the soil climate observations for NOAA's United States Climate Reference Network (USCRN). (2010-2018)

Construct drought-monitoring products and knowledge from NOAA's USCRN. (2011-2018)

Represents NOAA at the NASA SMAP cal/val meetings. (2012-2017)

Development of USCRN observations for comparison with satellite observations. (2012-2018)

Developed a construction product from the NOAA's Climate Normals. (2013-2014)

CDC Projects

CDC Drought Response Working Group. (2013-present)

White House OSTP Pandemic Prediction and Forecast Working Group. (2015-2018)

White House OSTP Dengue Forecasting Project. Collaboration with HHS, DoD, DoC, Homeland Security.
Participated in workshop at the White House. (2015)

NOAA climate data products to CDC for public health projects. (2013-2018)

Science team for the Climate and Health Program. (2013-2017)

Scientific guidance for CDC's Climate-Ready States and Cities Initiative grantees. (2013-2017)

Professional Presentations

Totals for 2020: 10 Invited Presentation; hosted 2 sessions at AGU, hosted two drought and health workshops.

Totals for 2019: 12 Invited Presentations; 4 conference presentations; hosted sessions at AGU, AMS, and Water for Food.

Keynote address on climate change at the ConAgra Internal Environmental, Health, and Sustainability Conference on May 8, 2019 Omaha, Nebraska.

Bell, J., Shriber, J., Jeddy, Z., Rennie, J. and Strosnider, H., 2019: Assessment of Potential Health Impacts from Extreme and Exceptional Drought, 2012-16, American Meteorological Society Annual Meeting, Phoenix, AZ January 8, 2019.

Organizer: Drought and Health Impacts, California Climate Action Team Public Health Workgroup (CAT-PHWG) Preparing for the Health Effects of Drought: A Workshop for Public Health Professionals and Partners, Sacramento, CA, February 4, 2019.

Invited Webinar: Health Hazards Associated with Drought, Council of State and Territorial Epidemiologists Disaster Epidemiology Community of Practice Meeting (webinar), July 19, 2018.

Invited speaker on "Health hazards from drought" at the 43rd Annual Natural Hazards Research and Application Workshop in July 2018.

Invited speaker on "The relationship between extreme events and human health in a changing climate" at the SAMSI Spring Meeting in April 2018.

Invited speaker on "How changes in the intensity and frequency of extreme events alters human health" at the 2nd Annual University of Miami Climate and Health Symposium in April 2018.

Co-convenor/co-chair for "Climate Change Impacts on Human Health and the Environment" AGU session. December 2017

Jesse Bell, "Assessment of the Long-Term Trends in Extreme Heat Events and the Associated Health Impacts in the United States". AGU Annual Meeting 2017

Invited to present on a December 4th Centers for Disease Control and Prevention (CDC) webinar, "Analysis of Drought Conditions in the United States: 1895-2016." December 2017

Jesse Bell, "Using extreme event attribution to determine the health impacts of climate change." Annual Meeting APHA. November 2017.

Jesse Bell. Assessment of climate variability on incidence of Valley fever. AMS Annual Meeting 2017

Bell, J.E. Assessment of climate variability to incidence of valley fever. AMS Annual Meeting. January 2017

Invited to present on "Impacts of Extreme Events on Human Health". NOAA Seminar Series. Silver Spring, Maryland. September 2016

Invited to present on the "Climate and Health Assessment Chapter 4: Impacts of Extreme Events on Human Health". Society of Actuaries Educational Webinar. September 2016

Invited speaker on "USGCRP Climate and Health Assessment". The Society of Actuaries Annual Health Meeting in Philadelphia, Pennsylvania. June 2016

Invited seminar speaker on "What Climate Change Means to Human Health in the United States". The Department of Environmental Health Sciences at University of South Carolina. May 2016

Invited presenter on "Drought and Health". Midwest Drought Early Warning System Kickoff meeting last week in St. Louis, MO. February 2016

Bell, J.E. Monitoring Drought with a National Soil Monitoring Network. AMS Annual Meeting, New Orleans. January 2016.

Bell, J.E. Evaluation of the California Drought with USCRN Soil Observations. Irvine, CA. AGU Chapman Conference on California Drought. April 2015

Invited presenter on "Climate data for health studies". CDC Annual Grantee Meeting. May 2015.

Invited speaker on "The Health Consequences of a Changing Climate". 2014 Second S-NPP Applications Workshop, Huntsville, AL. November 2014

Bell, J.E. NOAA Climate Data Sources for Health. 2014 Water and Health Conference, Raleigh, NC. October, 2014

Bell, J.E. Intersection of Climate and Health. Invited talk at the AMS Asheville Chapter, Asheville, NC. September, 2014.

Bell, J.E., M. Cosh, and M. Hall. Validating USCRN Soil Observations with a Dense Temporary Soil Monitoring Network. 21st Conference on Applied Climatology, Westminster, CO. June 2014

Bell, J.E. Recent coordination between NOAA and CDC for improved access of climate data for public health. Climate Prediction Applications Science Workshop, Fairfax, VA, May 2014.

Bell, J.E. (Poster Presentation) Evaluation of the change in soil conditions with the newly established national soil network. AMS 94th Annual Meeting, Atlanta, GA. February 2014.

Bell, J.E., M. Cosh, and M. Hall. (Invited Poster Presentation) Validating USCRN Soil Observations with a Dense Temporary Network. AGU Annual Meeting, San Francisco, CA. December 2013

Bell, J.E. Preparation of NOAA's USCRN for NASA's SMAP Mission. Pasadena, CA. November 2013.

Bell, J.E. U.S. Climate Reference Network: Soil Observations and Applications. North Carolina State University, Raleigh, NC. February 2013

Bell, J.E. and J.L. Matthews. Comparison of In Situ Temperature Measurement and Remotely-Sensed. American Meteorological Society. Austin, TX. January 2013

Bell, J.E. and M.A. Palecki. U.S. Climate Reference Network SMAP Preparation. SMAP Cal/Val Workshop. Oxnard, CA. November 2012

Bell, J.E. and J.L. Matthews. Comparison of In Situ Temperature Measurement and Remotely-Sensed Phenology. Phenology Conference. Milwaukee, WI. September 2012

Bell, J.E. and M.A. Palecki. USCRN Soil Temperature and Moisture Observations. American Meteorological Society. New Orleans, LA. January 2012

Bell, J.E. US Climate Reference Network. NCSU Mountain Horticultural Crops Research and Extension Center. Mills River, North Carolina. 22 September 2011.

Bell, J.E. (Seminar Speaker). US Climate Reference Network Overview and Soil Moisture/Temperature Monitoring. Soil Science Department. Raleigh, North Carolina. 25 August 2011.

Bell, J.E. (Invited Speaker). US Climate Reference Network: Soil Moisture/Temperature. NOAA/NESDIS Cooperative Research Program Symposium. Asheville, North Carolina. 18 August 2011. (First Place Oral Presentation)

Bell, J.E. (Poster Presentation). Air and Soil Temperature for Estimating Growing Season and Growing Degree Days. NOAA/NESDIS Cooperative Research Program Symposium. Asheville, North Carolina. 18

August 2011. (Second Place Poster Presentation)

Bell, J.E. (Poster Presentation). An Evaluation of Air and Soil Temperature for Estimating Growing Season and Growing Degree Days. AMS Conference on Applied Climatology. Asheville, North Carolina. 18 July 2011.

Bell, J.E. (Oral Presentation). Ecohydrological Processes, Carbon-Water Coupling, and Climate Change. NCDC Branch Seminar. Asheville, North Carolina. 24 June 2011.

Bell, J.E. (Oral Presentation). Departmental Seminar: Climate Change Influence on Ecohydrological Processes. Norman, Oklahoma. December 10, 2009.

Bell, J.E. (Oral Presentation). Climate Warming Alters Rain-Use Efficiency. 2nd International Conference on Forests and Water in a Changing Environment. Raleigh, North Carolina. 16 September 2009.

Bell, J.E. (Oral Presentation). Climate Warming Changes Ecosystem Carbon-Water Coupling. Prince of Songkla University. Hat Yai, Thailand. 3 April 2009.

Bell, J.E. & Y. Luo. (Oral Presentation). Climate Warming Increased Ecosystem Rain-Use Efficiency. Ecological Society of America. Milwaukee, WI. 5 August 2008.

Bell, J.E., Y. Luo, & E. Weng. (Poster Presentation). Hydrologic Cycle Alterations to Different Climate Change Scenarios in a Tallgrass Prairie: A Modeling Analysis. Climate Information for Managing Risks Symposium. St. Pete Beach, FL, USA. 10-13 June 2008.

Bell, J.E., Y. Luo, & E. Weng. (Poster Presentation). The Influence of Climate Change on Ecohydrology: a modeling analysis. NSF Workshop on Data-Model Assimilation. Norman, OK, USA. 22 October 2007.

Bell, J.E., Y. Luo, & E. Weng. (Oral Presentation). Impacts of climate change on prairie water dynamics: a modeling analysis. ESA, San Jose, CA, USA. 7 August 2007.

Bell, J. E. Invited Speaker to the Climate Change Forum: Crossing scientific borders: an interdisciplinary and international approach to science. China Meteorological Administration, Laboratory for Climate Studies, 7 August 2006.

Bell, J.E. (Oral Presentation). Long term frequency and intensity changes in precipitation along an Oklahoma transect. EPRECOT, Denmark. 24 May 2006.

Bell, J.E., W. Xu, & Y. Luo. (Poster Presentation). Precipitation and Temperature Change of an Environmental Transect over a Hundred Year Period. EPRECOT, Denmark. 23 May 2006.

Public Presentations

Why climate change matters to your health. Science Café at the Slowdown. Omaha, Nebraska. 15 January 2019

Health threats associated with climate change. Hubbard Sustainability Series at the Metropolitan Community College at the Do Space. Omaha, Nebraska. 12 July 2018.

What is Global Warming? Chickasha High School. Chickasha, Oklahoma, USA. 13 February 2008.

Panel on Global Warming. Tuttle High School. Tuttle, Oklahoma, USA. 16 November 2007.

Professional Service

Board of Governor for the Center for Great Plains Studies. 2021-2024.

Board of Director for Keep Omaha Beautiful. 2020-present.

Working Group member for the Bazile Groundwater Management Area. 2019-present.

Technical Advisor for Nebraska Environmental Trust. 2019-present.

National Soil Moisture Network (NSMN) Steering Committee Member. 2016-present.

Advisory Board Member of Carolinas Integrated Science Assessment (CISA). 2016-2019.

Collaborator on the Oxford Half Degree Additional warming, Prognosis and Projected Impacts (HAPPI). 2016-present.

CICS Council of Fellows Member. 2016-2018.

Contributor to Intergovernmental Special Report The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment: 2014-2016

Chapter Lead/Author: Impacts of Extreme Events on Human Health

Member of the National Integrated Drought Information System (NIDIS) Emergency Preparedness Communities Working Group. 2015-present

Panelist for AWMA Annual Meeting section titled: "Building Engagement Efforts to Connect NASA and NOAA's Climate and Environmental Data and Satellite Measurements to Decision-Makers" on June 2014.

Panelist for Public Forum to Inform the Interagency Special Report on the Impacts of Climate Change on Human Health in the United States on March 2014.

NASA/NOAA Suomi-NPP Satellite Application Workshop Steering Committee Member: 2014

CDC's Climate and Health Program Science Team Member

CDC BRACE Team Member: Provide technical guidance to the states and cities in the Climate Ready Initiative

CDC Drought Response Workgroup Member

NASA SMAP Cal/Val Team Member

NOAA's USCRN Science Team Member

Manuscript Referee: Ecological Applications, Ecohydrology, International Journal of Remote Sensing, Ecology, Journal of Applied Meteorology and Climatology, Vadose Zone Journal, Climate Research, BAMS, Hydrological Processes, Sensors, Journal of Hydrology, PNAS, GeoHealth, PLOS-One, Nature

Awards, Honors, and Honor Societies

Recipient of UNMC's Distinguished Scientist Award. FY 2020-2021

Article nominated for CDC/ATSDR **Charles C. Shepard Science Award** for most outstanding peer-reviewed research papers. 2020

Certificate of Appreciation for Outstanding service and dedication during the 2019 Midwest Floods. October 2019

CDC NCEH/ASTDR Honor Award for Excellence in Information Technology presented to the Aeroallergen Monitoring Unit. 2017

Certificate of Appreciation for serving as a mentor to the NASA DEVELOP interns. 2016

Letter of appreciation from White House Office of Science and Technology Policy for contributions to the report The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment. 2016

GLOBE Program Scientist. The GLOBE Program. 2012.

First Place Oral Presentation NOAA/NESDIS Cooperative Research Program Symposium. August 2011.

Second Place Poster Presentation NOAA/NESDIS Cooperative Research Program Symposium. August 2011.

AMS Summer Policy Colloquium Participant. Summer 2009.

Golden Key International Honour Society. 2008

George L. and Cleo Cross Graduate Student Endowed Scholarship. 2007.

Certificate of Completion. China Science and Technology Exchange Center, Ministry of Science and Technology of the People's Republic of China and U.S. National Science Foundation, Beijing Office. Recognition of completion in the EAPSI program. 2006.

Honorary inductee into Sigma Xi. Emporia State University. 2003.

Undergraduate Excellence in Academics and Research. Department of Biology, Emporia State University. 2003.

Honorary inductee into Southwestern Association of Naturalist. 2002.

University/Community Service

Advisor for Postdoctoral Researcher

Dr. Azar M. Abadi: 2018-2020

Dr. Babak J. Fard: 2019-present

Advisor for PhD Graduate Students at University of Nebraska Medical Center

Qianqian Li: 2018-present

Jagadeesh Puvvula: 2019-present

Hunter Jones: 2019-present

Abdoulaziz Abdoulaye: 2020-present

Advisor for MPH Graduate Student at University of Nebraska Medical Center

Emily Girard: 2019-2021

Conor O'Neill: 2020-present

Field Advisor for MPH Graduate Students at Emory University Rollins School of Public Health

Leslie Waller: 2014-2015

Gwen Parker: 2014-2015

Shengnan Han: 2014-2015

Holly Vin: 2014-2015

Jennifer Schriber: 2015-2016

Erin Finestone: 2015-2016

Katie Lynch: 2017-2018

UNMC Committee Member:
Research and Development Committee Member. 2018-present
Graduate Program Committee Member: 2018-present

Graduate Student Senator. 2005-2007.
Vice Chair of Ways and Means Committee. 2006-2007.
Member of External Affairs. 2005-2006.

Faculty Advisor for Healthy Earth Alliance the UNMC student organization dealing with climate change and sustainability. 2019-present

Graduate Student Representative for the Department of Microbiology and Plant Biology. 2005-2007.

Committee for Department Webpage Improvement. Department of Microbiology and Plant Biology, 2006.

Horizons Unlimited: Taught science to gifted schoolchildren. The University of Oklahoma, Summer 2005.

Habitat for Humanity: Helped build a house. Oklahoma City, OK. 2005.

Expanding Your Horizons: Taught middle school children about biology. Emporia State University. 2000-2003.

Professional Development

United Nations Foundation Media Training, September 2013, Selected Participant

NOAA and CICS-NC Climate Communication Workshop, May 2013, Selected Participant

Interviews and Media Requests

Circle of Blue: [Is Agrochemical Contamination Killing Nebraska's Children?](#) By Brett Walton. February 2022

Alta article titled: [California's Farms: Drought, Depression, and Suicide](#). By Dean Kuipers. December 2021

Society of Actuaries Research Insights Podcast: [Impact of Climate Change](#). August 2021

Come Rain or Shine Podcast: [Drought Impacts on Mental Health](#). May 2021

ABC NEWS report "[From wildfires to disease, here are the top 5 ways climate change is already hurting your health](#)". November 2020

[City of Lincoln Press](#) release on wastewater sampling. July 2020

Interviewed by Vox article "[Why summer likely won't save us from the coronavirus](#)". April 2020

Interviewed for BuzzFeed article "[Summer won't save us for the coronavirus pandemic](#)". April 2020

UNMC Alumni Newsletter interview titled "Climate Change Impacts Heartland". 2020

Interview for CDC's Public Health Law News for the news story "[Profile in Public Health Law: Jesse E. Bell, PhD](#)". January 2020

UNMC Newsroom Story titled "[UNMC shares in \\$175 million grant to conduct research in Earth system science](#)".

Media interviews on the potential health effects associated with the Nebraska flooding of 2019 (RFD-TV, [KMTV Channel 3](#), [KETV Channel 7](#), [Nebraska City News-Press](#), [Hamburg Reporter](#), etc.)

Interviewed for the [Uncentered](#) magazine for emergency professionals on the role that climate change has on human health in Nebraska.

Research on [precipitation and fatal traffic accidents](#) was featured in a number of news stories ([Weather Channel](#), [Washington Post](#), [Associated Press](#), etc.)

Interviewed for an article in the Omaha World Herald titled "[When talking about climate change help kids feel like part of the solution](#)".

Interviewed by Nate Seltenrich for an article titled "[Future Wildfires and Flooding: Estimates of Increased Likelihood across the United States](#)" in Environmental Health Perspectives. December 7, 2018.

Interviewed by Chris Joyce for a segment for NPR titled "[So Far, More Heat Waves Do Not Mean More Heat Deaths](#)". August 28, 2018.

UNMC Newsroom story on "[Dr. Bell brings drought expertise to CDC guidebook](#)".

Interviewed by Chris Joyce for a piece on NPR's All Things Considered called "[As Climate Costs Grow, Some See a Money Making Opportunity](#)". April 17, 2018.

Interviewed by Daniel Levine for a podcast called "The Bio Report" on a segment called "[Why Public Health Systems Need to Be Better Prepared for Extreme Weather Events](#)". December 8, 2017.

NOAA news story titled "[Changes extremes and human health](#)" released November 30, 2017.

Phys.org article titled "[Urgent need to address long-term health effects of extreme weather](#)" released November 29, 2017

Interviewed for a piece titled "[A scientist explains the domino effects of climate change on mental health](#)" for Thrive Global November 17, 2017

Interviewed by Helen Chickering, Western North Carolina Public Radio, on a segment called "[A Climate-Health Connection in WNC](#)" November 12, 2017

Interviewed for an article titled "[How climate change could harm your health](#)" on Yale Climate Connections May 29, 2017

Interviewed by Helen Chickering, Western North Carolina Public Radio, on a segment called "[Climate Change and Your Health](#)" September 26, 2016

The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment was featured on more than thirty news reports and on the "[White House Blog](#)" April 5, 2016

Featured in an article by Ali McGhee, Scalawag Magazine, called "[Could Zika Overrun the South?](#)" March 24, 2016

Research featured in a news article by Venkat Lakshmi, ACSESS, called "[National soil-monitoring network offers insights into 2012 drought](#)" November 3, 2015

Dengue Forecasting Challenge was featured by multiple news reports and on the "[White House Blog](#)" June 2015

Work featured in a WNYC RADIOLAB project called "[Cicada Tracker](#)" May 2013

Bell, Jesse E. "Letter to the Editor: Rebuttal to Global Warming or Global Governance." Bloomfield Monitor,

5 August 2009.

Computer Skills

- *Very knowledgeable of statistical software (R, SAS, and SPSS)*
- *Experience using Linux working environment*
- *Experience in running and writing code in FORTRAN*
- *Working knowledge of Sigma Plot, Microsoft Word, Excel, Powerpoint, and a host of other Windows based programs*
- *Used MATLAB for basic programming*
- *Basic knowledge of ArcMap and GIS*

References

Will be provided on request