

Ethan D. Coffel

CONTACT INFORMATION	Syracuse University 304 Maxwell Hall Syracuse, NY	E-mail: edcoffel@syr.edu Web: www.ethancoffel.com
ACADEMIC APPOINTMENTS	Syracuse University , Syracuse, NY Assistant Professor, Department of Geography and the Environment	Fall 2020 -
	Dartmouth College , Hanover, NH Neukom Institute Postdoctoral Fellow Departments of Geography and Earth Sciences	Fall 2018 - Aug. 2020
EDUCATION	Columbia University , New York, NY Ph.D Atmospheric Science	2013 - 2018
	Columbia University , New York, NY M.A. Atmospheric Science, May 2015	
	Northwestern University , Evanston, IL B.A. with honors, Computer Science, Integrated Science	2009 - 2013
PUBLICATIONS: SUBMITTED	19. Coffel, E. D. , Lesk, C., Mankin, J. S. Earth System Model Overestimation of Cropland Temperatures Scales with Agricultural Intensity. Submitted.	
	18. Ting, M., Lesk, C., Liu, C., Li, C., Horton, M., Coffel, E. D. , Rogers, C. D.W., Singh, D. <i>Extreme Dry and Humid Heat Impact on US Corn and Soybean Yields</i> . Submitted.	
PUBLISHED PEER-REVIEWED ARTICLES	17. Coffel, E. D. , Lesk, C., Winter, J. M., Osterberg, E. C., Mankin, J. S., 2022. <i>Crop-climate feedbacks boost U.S. maize and soy yields</i> . Environmental Research Letters. 10.1088/1748-9326/ac4aa0	
	16. Kaufman, J., Vicedo-Cabrera, A. M., Tam, V., Song, L., Coffel, E. D. , Tasian, G., 2021. <i>The Impact of Climate Change on Kidney Stone Presentations in South Carolina</i> . Scientific Reports. 10.1038/s41598-021-04251-2	
	15. Rogers, C., Ting, M., Li, C., Kornhuber, K., Coffel, E. D. , Horton, R. M., Raymond, C., Singh, D., 2021. <i>Recent increases in exposure to extreme humid-heat events disproportionately affect populated regions</i> . Geophysical Research Letters. 10.1029/2021GL094183	
	14. Lesk, C., Coffel, E. D. , Winter, J. M., Ray, D., Zscheischler, J., Seneviratne, S., Horton, R. M., 2021. <i>Stronger temperature–moisture couplings exacerbate the impact of climate warming on global crop yields</i> . Nature Food. 10.1038/s43016-021-00341-6	
	13. Teitelbaum, C. S., Sirén, A. P. K., Coffel, E. D. , Foster, J. R., Frair, J. L., Hinton, J. W., Horton, R. M., Kramer, D. W., Lesk, C. Raymond, C., Wattles, D. W., Zeller, K. A., Morelli, T. L., 2021. <i>Can behavioral adaptations to climate maintain a species' distribution?</i> Diversity and Distributions. 10.1111/ddi.13223	
	12. Coffel, E. D. , Mankin, J. S., 2020. <i>Thermal power generation is disadvantaged in a warming world</i> . Environmental Research Letters. 10.1088/1748-9326/abd4a8	

11. Barnston, A. G., Lyon, B., **Coffel, E. D.**, Horton, R. M., 2020. *Daily Autocorrelation and Mean Temperature/Moisture Rise as Determining Factors for Future Heatwave Patterns in the U.S.* Journal of Applied Meteorology and Climatology. 10.1175/JAMC-D-19-0291.1
10. Lesk, C., **Coffel, E. D.**, Horton, R. M., 2020. *Sensitivity of maize yields to sub-seasonal rainfall distribution and extremes in the United States.* Nature Climate Change. 10.1038/s41558-020-0830-0
9. Lyon, B., Barnston, A. G., **Coffel, E. D.**, Horton, R. M., 2019. *Projected increase in the spatial extent of contiguous U.S. summer heat waves and associated attributes.* Environmental Research Letters. 10.1088/1748-9326/ab4b41
8. **Coffel, E. D.**, Keith, B., Lesk, C., Bower, E., Lee, J., Horton, R. M., Mankin, J. S., 2019. *More frequent concurrently hot and dry years in the Nile basin despite increasing precipitation.* Earth's Future. 10.1029/2019EF001247
7. **Coffel, E. D.**, Horton, R. M., Winter, J. M., Mankin, J. S., 2019. *Nonlinear increases in extreme temperatures paradoxically dampen extreme humid-heat increases.* Environmental Research Letters. 10.1088/1748-9326/ab28b7
6. **Coffel, E. D.**, Horton, R. M., de Sherbinin, A., 2017. *Temperature and humidity based projections of a rapid rise in global heat stress exposure during the 21st century.* Environmental Research Letters. 10.1088/1748-9326/aaa00e
5. **Coffel, E. D.**, Thompson, T. R., Horton, R. M., 2017. *The impact of rising temperatures on aircraft takeoff performance.* Climatic Change Letters. 10.1007/s10584-017-2018-9
4. Lesk, C., **Coffel, E. D.**, D'Amato, T., Dodds, K., Horton, R. M., 2017. *Significant threat to North American forests from Southern Pine Beetle with warming winters.* Nature Climate Change. 10.1038/nclimate3375
3. Horton, R. M., Mankin, J. S., Lesk, C., **Coffel, E. D.**, Raymond, C., 2016. *A Review of Recent Advances in Research on Extreme Heat Events.* Current Climate Change Reports. 10.1007/s40641-016-0042-x
2. Horton, R. M., **Coffel, E. D.**, Winter, J. M., Bader, D. A., 2015. *Projected changes in extreme temperature events based on the NARCCAP model suite.* Geophysical Research Letters. 10.1002/2015gl064914
1. **Coffel, E. D.**, Horton, R. M., 2015. *Climate change and the impact of extreme temperatures on aviation.* AMS Weather, Climate, and Society. 10.1175/wcas-d-14-00026.1

PUBLISHED BOOK
CHAPTERS

1. **Coffel, E. D.**, Sherbinin, A. de, Horton, R. M., Lane, K., Kienberger, S., Wilhelmi, O., 2018. "The Science of Adaptation to Extreme Heat". *Resilience: The Science of Adaptation to Climate Change.* Eds. Frank, T., Zommers, Z. Elsevier.

OTHER
PUBLICATIONS

5. **Coffel, E. D.**, Mankin, J. S., 2021. *How global warming is making power plants produce less electricity.* Carbon Brief.
4. **Coffel, E. D.**, Mankin, J. S., 2020. *In the future there will be more rain, but less water, in the Nile Basin.* The Conversation.
3. **Coffel, E. D.**, Horton, R. M., Raymond, C., 2018. *Heat and humidity are a killer combination.* The New York Times.

2. **Coffel, E. D.**, 2017. *Climate change and infrastructure impacts*. Early Career Climate Forum.

1. **Coffel, E. D.**, Horton, R. M., 2017. *How hot weather and climate change affect airline flights*. The Conversation.

FUNDING

PI: **National Science Foundation** Human-Environment and Geographical Sciences Program. \$360,000. 7/1/21 - 6/30/24. Award 2049262. *Crops help themselves: agriculture-driven local cooling and implications for global food production in a warming world*.

PI: **Syracuse University CUSE Grant**, \$23,686. 6/1/21 - 5/30/23. *Land use drivers of extreme heat waves*.

PI: **Syracuse University Appleby-Mosher Grant**, 12/11/2020 - 6/30/2022, \$1,500. *Incorporating crop-climate interactions to improve projections of climate impacts on agriculture*.

Dartmouth College Neukom Institute Postdoctoral Fellowship, 2018 – 2020, \$131,500.

NASA NPP Postdoctoral Fellowship, 2018 – 2020, NASA Goddard Institute for Space Studies, (*declined*).

NSF Funding for the AMS Summer Policy Colloquium, 2016, \$5,000.

National Science Foundation Graduate Research Fellowship, 2015 – 2018, \$138,000.

Lamont Climate Center Grant, 2015, \$3,140. *Heat stress in the 21st century*.

TEACHING

Syracuse University, Syracuse, NY

Instructor. Environmental Change in the Anthropocene (GEO 426), The Natural Environment (GEO 155), Climate Extremes (GEO 300), Graduate Seminar in Climate Science (GEO 700).

Dartmouth College, Hanover, NH

Instructor. Life in the Anthropocene.

Winter 2019, 2020

PRESENTATIONS

Coffel, E. D.. Amplified CMIP6 biases over global croplands. Cornell University Department of Earth and Atmospheric Sciences. 2021. **Invited**.

Coffel, E. D.. Crop-climate feedbacks boost U.S. maize and soy yields. Syracuse University Department of Earth Sciences, K.D. Nelson Lecture. 2021.

Coffel, E. D.. Crop-climate feedbacks boost U.S. maize and soy yields. Syracuse University Department of Geography and the Environment Seminar, 2020.

Coffel, E. D., Lesk, C., Winter, J. M., Osterberg, E. C., Mankin, J. S. Crop-climate feedbacks boost U.S. maize and soy yields. AGU Fall Meeting, 2020.

Coffel, E. D., Mankin, J. S. Thermal electricity generation disadvantaged in a warming world. AGU Fall Meeting, San Francisco, CA, 2019.

Coffel, E. D., Keith, B., Lesk, C., Bower, E., Lee, J., Horton, R. M., Mankin, J. S. More frequent concurrently hot and dry years in the Nile basin despite increasing precipitation. Workshop on compound extremes, Columbia University, New York, NY, 2019.

Coffel, E. D., Horton, R. M., Winter, J. M., Mankin, J. S. Nonlinear increases in extreme temper-

atures paradoxically dampen extreme humid-heat increases. AGU Fall Meeting, Washington, DC, 2018.

Coffel, E. D., Mankin, J. S., Winter, J. M, Horton, R. M. Seasonal warming amplification and land-air coupling. AGU Fall Meeting, New Orleans, LA, 2017.

Coffel, E. D., Thompson, T. R., Horton, R. M. Climate change and aircraft weight restriction. AGU Fall Meeting, New Orleans, LA, 2017.

Coffel, E. D. (invited), Sherbinin, A. de, Horton, R. M., Lane, K., Kienberger, S., Wilhelmi, O. The Science of Adaptation to Extreme Heat. IAPSO-IAMAS-IAGA Assembly, Cape Town, South Africa, 2017.

Coffel, E. D., Thompson, T. R., Horton, R. M. Climate change and aircraft weight restriction. AMS Annual Meeting, New Orleans, LA, 2016.

Coffel, E. D., Horton, R. M., de Sherbinin, A. M. Rapid rise in heat stress exposure during the 21st century. AGU Fall Meeting, San Francisco, CA, 2015.

Coffel, E. D., Horton, R. M. Climate change and the impact of extreme temperatures on aviation. ICNS 2015, Washington, DC, 2015.

Coffel, E. D., Horton, R. M. Climate change and the impact of extreme temperatures on aviation. AMS Annual Meeting, Phoenix, AZ, 2015.

Coffel, E. D., Horton, R. M. Climate change and the impact of extreme temperatures on aviation. AGU Fall Meeting, San Francisco, CA, 2014.

POSTER
PRESENTATIONS

Coffel, E. D., Mankin, J. S., Winter, J. M, Horton, R. M. Seasonal warming amplification and land-air coupling. AMS Annual Meeting, Austin, TX, 2018.

Coffel, E. D., Thompson, T. R., Horton, R. M. Climate change and aircraft weight restriction. AMS Annual Meeting, Austin, TX, 2018.

Coffel, E. D., Thompson, T. R., Horton, R. M. Climate change and aircraft weight restriction. AMS Annual Meeting, Seattle, WA, 2017.

Coffel, E. D., Horton, R. M. Geographic extent of future heat waves. AGU Fall Meeting, San Francisco, CA, 2016.

Coffel, E. D., Horton, R. M., de Sherbinin, A. M. Rapid rise in heat stress exposure during the 21st century. Graduate Climate Conference, Woods Hole, MA, 2015.

Morelli T. L, Palmer R., **Coffel E. D.**. Regional collaborations to combat climate change: the climate science centers as strategies for climate adaptation. AGU Fall Meeting, San Francisco, CA, 2014.

Coffel, E. D., Horton, R. M. Climate change and the impact of extreme temperatures on aviation. Columbia First Year Symposium, New York, NY, 2014.

Coffel, E. D.. Tornado detection with machine learning. Northwestern Undergraduate Research Symposium, Evanston, IL, 2013.

Coffel, E. D.. Development and performance analysis of a cyclone tracker for use in seasonal

hurricane prediction. NOAA Hollings Scholarship Program Conference, Silver Spring, MD, 2012.

WORKSHOPS

4. AMS Summer Policy Colloquium. Washington, DC, Jun. 2016.
3. University of Graz “Climate change thresholds” workshop. Graz, Austria, Feb. 2016.
2. Northwest Climate Science Center “Climate boot camp.” Oregon, Aug. 2014.
1. South Central Climate Science Center “Communicating climate change” workshop. Dallas, TX, Feb. 2014.

COMMUNICATION

Media: Coverage in The New York Times, The Washington Post, The Guardian, NPR, Science, National Geographic, Scientific American, and others.

SERVICE

Co-guest editor: Environmental Research Letters, special collection on climate change and transportation.

Journal referee: Nature Communications, Environmental Research Letters, Geophysical Research Letters, Climatic Change, Journal of Applied Meteorology and Climatology, International Journal of Climatology, and Journal of Air Transport Management.

Conference session organizer: Climate change impacts on transportation. AGU Fall Meeting, 2016.

TECHNICAL SKILLS

Python, Matlab, C/C++, Java, C#, HTML/CSS, L^AT_EX, Linux

PROFESSIONAL SOCIETIES

American Meteorological Society
American Geophysical Union

2013 – Present
2013 – Present