

## CHRISTOPHER B. SKINNER

Environmental, Earth and Atmospheric Sciences  
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### EDUCATION

- 2014 **Ph.D. Environmental Earth System Science**, Stanford University  
2008 **B.S. Atmospheric Science**, Cornell University

### APPOINTMENTS

- 2019 – Present **Assistant Professor**, University of Massachusetts Lowell  
2017 – 2018 **Assistant Research Scientist**, University of Michigan  
2014 – 2016 **Turner Postdoctoral Fellow**, University of Michigan

### PUBLICATIONS

Thompson AJ, Tabor CR, Poulsen CJ, **Skinner CB** (2020), Water isotopic constraints on the enhancement of the mid-Holocene West African monsoon. *Earth and Planetary Science Letters*, <http://doi.org/10.1016/j.epsl.2020.116677>

**Skinner CB**, Lora JM, Payne AE, Poulsen CJ (2020) Atmospheric river changes shaped mid-latitude hydroclimate since the mid-Holocene. *Earth and Planetary Science Letters*, 541, <https://doi.org/10.1016/j.epsl.2020.116293>.

Thompson AJ, **Skinner CB**, Poulsen CJ, Zhu J (2019) Modulation of mid-Holocene African rainfall by dust aerosol direct and indirect effects. *Geophysical Research Letters*, 46, 3917 – 3926, [doi:10.1029/2018GL081225](https://doi.org/10.1029/2018GL081225).

**Skinner CB**, Poulsen CJ, Mankin JS (2018) Amplification of heat extremes by plant CO<sub>2</sub> physiological forcing. *Nature Communications*, [doi:10.1038/s41467-018-03472-w](https://doi.org/10.1038/s41467-018-03472-w).

Chadwick R, Douville H, **Skinner CB** (2017) Timeslice experiments for understanding regional climate projections: applications to the tropical hydrological cycle and European winter circulation. *Climate Dynamics*, [doi:10.1007/s00382-016-3488-6](https://doi.org/10.1007/s00382-016-3488-6).

Webb MJ, Andrews T, Bodas-Salcedo A, Bony S, Bretherton CS, Chadwick R, Chepfer H, Douville H, Good P, Kay JE, Klein SA, Marchand R, Medeiros B, Siebesma AP, **Skinner CB**, Stevens B, Tselioudis G, Tsushima Y, Watanabe M (2017) The Cloud Feedback Model Intercomparison Project (CFMIP) contribution to CMIP6. *Geoscientific Model Development Discussion*, 10(1), 359-384, doi:10.5194/gmd-10-359-2017.

**Skinner CB**, Poulsen CJ, Chadwick R, Diffenbaugh NS, Fiorella RP (2017) The role of plant CO<sub>2</sub> physiological forcing in shaping future daily-scale precipitation. *Journal of Climate*, 30, 2319-2340, doi:10.1175/JCLI-D-16-0603.1.

**Skinner CB**, Poulsen CJ (2016) The role of fall season tropical plumes in enhancing Saharan rainfall during the African Humid Period. *Geophysical Research Letters*, 43, 349-358, doi:10.1002/2015GL066318.

Horton DE, **Skinner CB**, Singh D, Diffenbaugh NS (2014) Occurrence and persistence of future atmospheric stagnation events. *Nature Climate Change* 4(8), 698-703.

**Skinner CB**, Diffenbaugh NS (2014) Projected changes in African easterly wave intensity and track in response to greenhouse forcing. *Proceedings of the National Academy of Sciences* 111, 6882-6887.

-- Highlighted article, Nowcast News and Notes, *BAMS*.

**Skinner CB**, Diffenbaugh NS (2013) The contribution of African easterly waves to monsoon precipitation in the CMIP3 ensemble. *Journal of Geophysical Research – Atmospheres* 118(9), 3590–3609.

**Skinner CB**, Ashfaq M, Diffenbaugh NS (2012) Influence of 21<sup>st</sup> century atmospheric and sea surface temperature forcing on West African climate. *Journal of Climate* 25(2), 527-542.

Ashfaq M, **Skinner CB**, Diffenbaugh NS (2010) Influence of SST biases on future climate change projections. *Climate Dynamics* 36(7-8), 1303-1319.

**Skinner CB**, DeGaetano A, Chabot B (2010) Implications of 21<sup>st</sup> century climate change on northeastern United States maple syrup production: impacts and adaptations. *Climatic Change* 100(3-4), 685-702.

## AWARDS

Turner Postdoctoral Fellowship, University of Michigan

Graduate Student Award for Scholarly and Research Achievement, Stanford University

Centennial Teaching Assistant Award, School of Earth Sciences, Stanford University

## RESEARCH GRANTS

- 2020 – 2023 Observed and modeled interactions between droughts and heat waves for the Northeast US, NOAA MAPP Program, \$478,414 to UMass Lowell (co-PI).
- 2019 – 2022 Collaborative Research -- Elucidating the drivers and consequences of changes in atmospheric rivers from the last glacial maximum to the present day, NSF Paleoclimate Program, \$224,310 to UMass Lowell (PI).
- 2016 – 2019 Investigation of extratropical mechanisms, land-surface properties, and seasonal precipitation processes on Saharan rainfall and simulation of the African Humid Period, NSF Paleoclimate Program, \$330,950 to University of Michigan (co-PI)\*

\* Served as co-PI. The University of Michigan does not allow postdoctoral fellows to be officially designated as PI/co-PIs

## RESEARCH COMPUTING AWARDS

- 2019 – 2022 Elucidating the drivers and consequences of changes in atmospheric rivers from the last glacial maximum to the present day, NCAR CISL Computing Allocation (10,913,000 core hours).

## INVITED TALKS

- 2019 Lowell Center for Space Science and Technology, University of Massachusetts Lowell, Lowell, MA
- 2018 Department of Geography and Environmental Sciences, University of Colorado Denver, Denver, CO
- 2018 Department of Earth and Environmental Sciences, Vanderbilt University, Nashville, TN
- 2018 Department of Earth and Environmental Sciences, University of Illinois at Chicago, Chicago, IL
- 2018 Department of Environmental, Earth and Atmospheric Sciences, University of Massachusetts Lowell, Lowell, MA
- 2018 School of Earth and Environment, Rowan University, Glassboro, NJ
- 2017 Department of Earth and Planetary Sciences, Northwestern University, Evanston, IL
- 2017 School of the Environment, Washington State University, Vancouver, WA
- 2017 Department of Earth and Environmental Sciences, University of Michigan, Ann Arbor, MI
- 2014 Department of Earth and Environmental Sciences, University of Michigan, Ann Arbor, MI
- 2013 Department of Civil and Environmental Engineering, Stanford University, Stanford, CA

## CONTRIBUTED TALKS (FIRST AUTHOR ONLY)

**Skinner CB**, Harrington T, Zhu J, Tracing the origins of Arctic vapor and clouds, American Geophysical Union Fall Meeting, Dec 16, 2020.

**Skinner CB**, Lora JM, Payne AE, Poulsen CJ, Atmospheric river changes shaped mid-latitude hydroclimate since the mid-Holocene, International Atmospheric Rivers Conference, Oct 9, 2020.

**Skinner CB**, Lora JM, Payne AE, Poulsen CJ, Changes in atmospheric rivers shaped mid-latitude hydroclimate since the mid-Holocene, American Geophysical Union Fall Meeting, Dec 10, 2019, San Francisco, CA.

**Skinner CB**, Poulsen CJ, The impact of CO<sub>2</sub>-driven vegetation changes on wildfire risk, American Geophysical Union Fall Meeting, Dec 14, 2017, New Orleans, LA.

**Skinner CB**, Poulsen CJ, Amplification of heat extremes by CO<sub>2</sub> physiological forcing, American Meteorological Society Annual Meeting, Jan 22-26, 2017, Seattle, WA.

**Skinner CB**, Chadwick R, Douville H, Diffenbaugh NS, A process-based understanding of regional climate responses to CO<sub>2</sub> forcing, CFMIP Meeting on Cloud Processes and Climate Feedbacks, June 8-11, 2015, Monterey, CA.

**Skinner CB**, Diffenbaugh NS, African easterly waves in CMIP5: Response to enhanced radiative forcing and implications for Atlantic tropical cyclone activity, 4<sup>th</sup> International Summit on Hurricanes and Climate Change, June 13-18, 2013, Kos, Greece.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, The influence of convective and land surface processes on the variability of the West African Monsoon, American Geophysical Union Fall Meeting, Dec 13-17, 2010, San Francisco, CA.

## POSTER PRESENTATIONS (FIRST AUTHOR ONLY)

**Skinner CB**, Touma D, Singh D, Poulsen CJ, The impact of rising CO<sub>2</sub> on the spatial footprint of extreme heat events, AGU Fall Meeting, Dec 10-14, 2018, Washington DC.

**Skinner CB**, Poulsen CJ, The role of CO<sub>2</sub> physiological forcing in driving future precipitation variability and precipitation extremes, AGU Fall Meeting, Dec 14-18, 2015, San Francisco, CA.

**Skinner CB**, Poulsen CJ, The role of regional atmospheric circulation changes in shaping climate reorganization in Africa, AGU Fall Meeting, Dec 15-19, 2014, San Francisco, CA.

**Skinner CB**, Diffenbaugh NS, The impact of projected changes in monsoon season circulation and African easterly waves on Saharan dust transport, AGU Fall Meeting, Dec 9-13, 2013, San Francisco, CA.

**Skinner CB**, Diffenbaugh NS, African easterly waves in CMIP5: future changes for West African precipitation and Atlantic tropical cyclone activity, AGU Fall Meeting, Dec 3-7 2012, San Francisco, CA.

**Skinner CB**, Diffenbaugh NS, The response of African easterly waves and associated precipitation to enhanced radiative forcing, AGU Fall Meeting, Dec 5-9, 2011, San Francisco, CA.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, High resolution climate modeling: a case study of West African summer climate, Department of Energy Office of Biological and Environmental Research Climate and Earth System Modeling PI Meeting, Sept 19-22, 2011, Washington, D.C.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, The response of African easterly waves and associated precipitation to enhanced radiative forcing, African Weather and Climate Colloquium, July 25 - Aug 5, Boulder, CO.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, The influence of convective and land surface processes on the West African Monsoon, Berkley Atmospheric Sciences Center Symposium, Feb 11, 2011, Berkley, CA.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, A quantification of GHG and SST forcing in West African climate change, AGU Fall Meeting, Dec 14-18, 2009, San Francisco, CA.

**Skinner CB**, Ashfaq M, Diffenbaugh NS, A quantification of GHG and SST forcing in African climate change, 14th Annual CCSM Workshop, Jun 15-18, 2009, Breckenridge, CO.

## **ACADEMIC ADVISEES**

2020 – Allison Hannigan – MS, University of Massachusetts Lowell  
2019 – Tyler Harrington – MS, University of Massachusetts Lowell  
2015 Alexander Thompson – Senior honors thesis, University of Michigan

## **PUBLIC, PROFESSIONAL, AND ACADEMIC SERVICE**

2020 Instructor, K-12 Teachers Professional Development Workshop, Integrating Climate Change into the Classroom, Lowell, MA  
2019 Judge, Outstanding Student Presentation Awards, AGU Fall Meeting, San Francisco, CA

- 2019 Convener and Session Chair, AGU Fall Meeting, San Francisco, CA
- 2019 Instructor, K-12 Teachers Professional Development Workshop, Integrating Climate Change into the Classroom, Lowell, MA
- 2019 Invited speaker, REACT Grant Seminar Series, Chelmsford Library, Chelmsford, MA
- 2018 Invited speaker, Lions Club International, Royal Oak Library, Royal Oak, MI
- 2017 Invited speaker, 350.org Southeast Michigan Chapter, Ann Arbor, MI
- 2017 Instructor, University of Michigan Wolverine Pathways Program, Ypsilanti, MI
- 2016 – 2017 Museum Science Communication Fellow, University of Michigan Museum of Natural History, Ann Arbor, MI
- 2016 – 2017 Instructor, University of Michigan Earth Camp, Ann Arbor, MI
- 2015 Judge, Michigan Geophysical Union Conference, Ann Arbor, MI
- 2005 – 2008 Instructor, Cornell University Teach to Reach Program, Ithaca, NY

## **WORK EXPERIENCE**

- 2007 Research Assistant, Northeast Regional Climate Center
- 2006 – 2007 Official Weather Observer, Game Farm Road Weather Station, Ithaca, NY

## **JOURNAL REVIEW**

Atmosphere, Climate Dynamics, Climate of the Past, Geophysical Research Letters, Journal of the Atmospheric Sciences, Journal of Climate, Journal of Geophysical Research - Atmospheres, Meteorology and Atmospheric Physics, Nature Climate Change, Nature Communications, Nature Geoscience, Water Resources Research

## **MEMBERSHIPS**

- 2008 – Present American Meteorological Society
- 2008 – Present American Geophysical Union

*Last Updated: Dec 2020*