

Huanping Huang, PhD

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RESEARCH INTERESTS

Weather & climate extremes, climate change & variability, climate change impacts & adaptation, climate dynamics, climate modeling, and big data analytics

EDUCATION

- Ph.D.**, Earth Sciences, **Dartmouth College**, Hanover, NH 2019
Dissertation: "Assessing Precipitation Changes and Mechanisms Over the Northeastern United States"
Advisors: Jonathan M. Winter and Erich C. Osterberg
- M.S.**, Meteorology, **Chinese Academy of Agricultural Sciences**, Beijing, China 2013
Thesis: "Simulation and Comparison Study on the Impacts of Climate Change on Corn Productivity in China and Europe: A Case Study at Yulin and Bari"
Advisor: Erda Lin
- B.S.**, Geographical Information System, **China Agricultural University**, Beijing, China 2010
Thesis: "A Remote Sensing Study on the Spatiotemporal Variations in Grassland Enclosures Over the Middle Inner Mongolia"
Advisors: Wei Zhang and Rongqun Zhang

ACADEMIC APPOINTMENTS

- Louisiana State University**, Baton Rouge, LA
Assistant Professor, Department of Geography and Anthropology 2022–Present
- Lawrence Berkeley National Laboratory**, Berkeley, CA
Affiliate Faculty, Climate and Ecosystem Sciences Division 2022–Present
Postdoctoral Scholar, Climate and Ecosystem Sciences Division 2019–2022
- Dartmouth College**, Hanover, NH
Research Assistant, Department of Earth Sciences 2014–2019
- Chinese Academy of Agricultural Sciences**, Beijing, China
Research Assistant, Center for Research on Agriculture and Climate Change 2013–2014
Research Assistant, Institute of Agri-environment and Sustainable Development 2010–2013

PUBLICATIONS

Manuscripts Submitted or in Preparation:

Huang, H., Collins, W.D., Patricola, C.M., Ruprich-Robert, Y., & Ullrich, P.A. Contrasting responses of Atlantic and Pacific tropical cyclone activity to Atlantic Multidecadal Variability. *Geophysical Research Letters*, in revision.

Risser, M.D., Collins, W.D., Wehner, M.F., O'Brien, T.A., **Huang, H.**, & Ullrich, P.A. Anthropogenic aerosols mask increases in US rainfall by greenhouse gases. *Nature*, submitted.

Bercos-Hickey, E., O'Brien, T. A., Wehner, M. F., Zhang, L., Patricola, C. M., **Huang, H.**, & Risser, M. Anthropogenic and meteorological contributions to the 2021 Pacific Northwest heatwave. *Geophysical Research Letters*, submitted.

Peer-reviewed Articles:

14. Risser, M.D., Collins, W.D., Wehner, M.F., O'Brien, T.A., Paciorek, C.J., O'Brien, J.P., Patricola, C.M., **Huang, H.**, Ullrich, P.A., & Loring B. (2022). A method for detection and attribution of regional precipitation change using Granger causality: Application to the United States historical record. *Climate Dynamics*, accepted. [Link](#)

13. O'Brien, T. A., Wehner, M. F., Payne, A. E., Shields, C. A., Rutz, J. J., Leung, L.-R., Ralph, F. M., Collow, A., Gorodetskaya, I., Guan, B., Lora, J. M., McClenny, E., Nardi, K. M., Ramos, A. M., Tomé, R., Sarangi, C., Shearer, E., Ullrich, P. A., Zarzycki, C., Loring, B., **Huang, H.**, Inda Díaz, H. A., Rhoades, A. M., & Zhou, Y. (2022). Increases in future AR count and size: Overview of the ARTMIP Tier 2 CMIP5/6 experiment. *Journal of Geophysical Research: Atmospheres*, 127, e2021JD036013. [Link](#)

12. **Huang, H.**, Patricola, C.M., & Collins, W.D. (2021). The influence of ocean coupling on simulated and projected tropical cyclone precipitation in the HighResMIP-PRIMAVERA simulations. *Geophysical Research Letters*, 48, e2021GL094801. [Link](#)

11. **Huang, H.**, Patricola, C.M., Winter, J.M., Osterberg, E.C., & Mankin, J.S. (2021). Rise in northeast US extreme precipitation caused by Atlantic variability and climate change. *Weather and Climate Extremes*, 33, 100351. [Link](#)

Media coverage: New Hampshire Public Radio, WMUR (ABC 9), Concord Monitor, Valley News, Earth.com, Dartmouth News

10. **Huang, H.**, Patricola, C.M., Bercos-Hickey, E., Zhou, Y., Rhoades, A., Risser, M., & Collins, W.D. (2021). Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western United States. *Journal of Geophysical Research: Atmospheres*, 126, e2020JD034053. [Link](#)

9. Risser, M.D., Wehner, M.F., O'Brien, J.P., Patricola, C.M., O'Brien, T.A., Collins, W.D., Paciorek, C.J., & **Huang, H.** (2021). Detection and attribution for observed precipitation over the contiguous United States - Part I: quantifying the influence of natural climate variability on in situ measurements of seasonal total and extreme daily precipitation. *Climate Dynamics*, 56, 3205–3230. [Link](#)

8. Hanrahan, J., Langlois, J., Cornell, L., **Huang, H.**, Winter, J.M., Clemins, P., Beckage, B., & Bruyère, C. (2021). Examining the impacts of Great Lakes' temperature perturbations on simulated precipitation in the northeastern United States. *Journal of Applied Meteorology and Climatology*, 60(7), 935–949. [Link](#)

7. **Huang, H.**, Winter, J.M., Hanrahan, J., Bruyère, C.L., Clemins, P., & Beckage, B.D. (2020). Simulating temperature and precipitation in the Lake Champlain basin using a regional climate model: limitations and uncertainties. *Climate Dynamics*, 54, 69–84. [Link](#)

6. Rhoades, A.M., Jones, A.D., Srivastava, A., **Huang, H.**, O'Brien, T.A., Patricola, C.M., Ullrich, P.A., Wehner, M., & Zhou, Y. (2020). The shifting scales of western US landfalling atmospheric rivers under climate change. *Geophysical Research Letters*, 47(17), e2020GL089096. [Link](#)

5. Winter, J.M., **Huang, H.**, Osterberg E.C., & Mankin J.S. (2020). Anthropogenic impacts on the exceptional precipitation of 2018 in the mid-Atlantic United States [in "Explaining Extremes of 2018 from a Climate Perspective"]. *Bulletin of the American Meteorological Society*, 101(1), S15–S19. [Link](#)

4. **Huang, H.**, Winter, J.M., & Osterberg, E.C. (2018). Mechanisms of abrupt extreme precipitation change over the northeastern United States. *Journal of Geophysical Research: Atmospheres*, 123, 7179–7192. [Link](#)

Media coverage: AccuWeather, NBC5, New Hampshire Public Radio, Vermont Public Radio, WeatherNation TV, Concord Monitor, Valley News, The Sentinel, SmartBrief, Dartmouth News

3. **Huang, H.**, Winter, J.M., Osterberg, E.C., Horton, R.M., & Beckage, B.D. (2017). Total and extreme precipitation changes over the northeastern United States. *Journal of Hydrometeorology*, 18(6), 1783–1798. [Link](#)

Media coverage: *U.S. News & World Report, New England Cable News, New Hampshire Public Radio, Concord Monitor, Union Leader, Valley News, Yale Environment 360, Dartmouth News*

2. Li, Y., **Huang, H.**, Ju, H., Lin, E., Xiong, W., Han, X., Wang, H., Peng, Z., Wang, Y., Xu, J., Cao, Y., & Hu, W. (2015). Assessing vulnerability and adaptive capacity to potential drought for winter-wheat under the RCP 8.5 scenario in the Huang-Huai-Hai Plain. *Agriculture, Ecosystems & Environment*, 209, 125–131. [Link](#)

1. **Huang, H.**, Ma, S., Lin, E., Li, Y., & Zhuang, H. (2013). Benefits comparison analysis of different rice and wheat cropping patterns to adapt to climate change. *Advances in Climate Change Research*, 4(3), 182–189. [Link](#)

Book Chapters:

2. Ma, Z., Wang, H., & **Huang, H.** (2015). Chapter 6: Building low carbon villages. In: *Low carbon agriculture and forestry* [Lin, E., Guo, L., Han, X., & Li, Y. (Eds.)]. China Environmental Science Press, pp.142–175.

1. McDermid, S.P., Ruane, A.C., Rosenzweig, C., et al. including **Huang, H.** (2015). Chapter 8: The AgMIP Coordinated Climate-Crop Modeling Project (C3MP): Methods and Protocols. In: *Handbook of Climate Change and Agroecosystems: The Agricultural Model Intercomparison and Improvement Project (AgMIP) Integrated Crop and Economic Assessments*. ICP Series on Climate Change Impacts, Adaptation, and Mitigation Vol. 3 [Rosenzweig, C., and Hillel, D. (Eds.)]. Imperial College Press, pp.191–220.

TEACHING EXPERIENCE

Lecturer , GEOG 2050 (Physical Geography: The Atmosphere), Louisiana State University	2022
Guest Lecturer , GGY 130 (Intro to Physical Geography), University of North Carolina Wilmington	2022
Teaching Assistant , GEOG 5 (Global Climate Change), Dartmouth College	2019
Guest Lecturer , AP Biology, Hartford High School	2019
Guest Lecturer , Meteorology, Crossroads Academy	2018
Lead Teaching Assistant , EARS 6 (Environmental Change), Dartmouth College	2016

GRANTS

Postdoc Training Grant (\$500), Lawrence Berkeley National Laboratory	2021
Travel Grant (\$500), Guarini School of Graduate and Advanced Studies at Dartmouth	2018
Professional Development Grant (\$1000), Dartmouth College	2017

HONORS & AWARDS

Best Student Publication , Department of Earth Sciences, Dartmouth College	2019
Outstanding Graduate Student Teacher , Dartmouth Center for the Advancement of Learning	2019
1st Place , STEPS 4th Annual Science and Technology Policy Brief Competition, Dartmouth College	2018
2nd Place , Thayer Consulting Club Case Competition, Dartmouth College	2018
Gary Malone Award , Department of Earth Sciences, Dartmouth College - Awarded annually to a Dartmouth geologist who best exemplifies the spirit of the department	2016

PROFESSIONAL SERVICE

Primary Convener , AGU Global Environmental Change Section, 2022 AGU Fall Meeting	2021–2022
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Convener , AGU Natural Hazards Section, 2021 AGU Fall Meeting	2021
Ambassador , Admissions Ambassador Program, Dartmouth College	2021
Rapporteur , NOAA-DOE Precipitation Processes and Predictability Workshop	2020
Judge , Outstanding Student Presentation Awards Program, 2020 AGU Fall Meeting	2020
Reviewer	2019–Pres.
<i>IPCC Sixth Assessment Report, Bulletin of the American Meteorological Society (2), Journal of Climate (3), Geophysical Research Letters (3), Environmental Research Letters (3), Scientific Reports, Journal of Hydrometeorology, Journal of Applied Meteorology and Climatology, International Journal of Climatology (2), Theoretical and Applied Climatology, Frontiers In Water, and Meteorology and Atmospheric Physics, Advances in Statistical Climatology, Meteorology and Oceanography</i>	
Co-leader , EESA Social Planning Committee, Lawrence Berkeley National Laboratory	2019–Pres.
Graduate Student Representative , Earth Sciences Faculty Meetings, Dartmouth College	2018–2019
President , Chinese Students and Scholars Association, Dartmouth College	2017–2018
Graduate Liaison , Science Technology and Engineering Policy Society, Dartmouth College	2016–2017
Co-director , Like A Rock Mentoring Program, Department of Earth Sciences, Dartmouth College	2015–2017
Co-chair , Geolunch Seminar Series, Department of Earth Sciences, Dartmouth College	2015–2016
Department Representative , Graduate Student Council, Dartmouth College	2016
Co-chair , Student Committee for Faculty Search, Department of Earth Sciences, Dartmouth College	2015

PRESENTATIONS

Invited Talks:

7. Department of Earth and Ocean Sciences, University of North Carolina Wilmington (Wilmington, NC) 2022
Title: “Extreme Precipitation & Tropical Cyclones in a Changing Climate”
6. Department of Geography and Anthropology, Louisiana State University (Baton Rouge, LA) 2022
Title: “Extreme Precipitation & Tropical Cyclones in a Changing Climate”
5. Department of Earth Sciences, Southern Methodist University (Dallas, TX) 2022
Title: “Explaining & Predicting Climate Extremes with Climate Models & Big Data”
4. Department of Geosciences, Mississippi State University (virtual) 2020
Title: “Drivers of Extreme Precipitation Change Over the Northeastern United States”
3. AVA Gallery and Art Center (Lebanon, NH) 2019
Title: “Bridging the Gap between Changing Climate and Art”
2. Lawrence Berkeley National Laboratory (Berkeley, CA) 2019
Title: “Assessing Extreme Precipitation Changes and Mechanisms Over the Northeastern United States”
1. NOAA NWS Northeast River Forecast Center (Norton, MA) 2017
Title: “Total and Extreme Precipitation Changes Over the Northeastern United States”

Conference Presentations:

15. **Huang, H.**, Patricola, C.M., & Collins, W.D. The influence of ocean coupling on simulated and projected

tropical cyclone precipitation in the HighResMIP-PRIMAVERA simulations. 2022 U.S. Department of Energy Regional & Global Model Analysis Program's Climate Extremes Monthly Meeting (virtual), 3 February 2022.

14. **Huang, H.**, Patricola, C.M., & Collins, W.D. The influence of ocean coupling on simulated and projected tropical cyclone precipitation in the HighResMIP-PRIMAVERA simulations. 2021 AGU Fall Meeting (virtual), 16 December 2021.

13. **Huang, H.**, Patricola, C.M, Winter, J.M., Osterberg, E.C., & Mankin, J.S. Causes of extreme precipitation change over the Northeastern US. 2021 U.S. Department of Energy Regional & Global Model Analysis Program's Climate Extremes Monthly Meeting (virtual), 7 October 2021.

12. **Huang, H.**, Patricola, C.M, Winter, J.M., Osterberg, E.C., & Mankin, J.S. Rise in northeast US extreme precipitation caused by Atlantic variability and climate change. WCRP workshop on attribution of multi-annual to decadal changes in the climate system (virtual), 22 September 2021.

11. **Huang, H.**, Patricola, C.M., Bercos-Hickey, E., Zhou, Y., Collins, W.D., Rhoades, A., & Risser, M. Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western US. 2020 AGU Fall Meeting (virtual), 15 December 2020.

10. **Huang, H.**, Patricola, C.M., Bercos-Hickey, E., Zhou, Y., Collins, W.D., Rhoades, A., & Risser, M. Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western US. 2020 U.S. Department of Energy Regional & Global Model Analysis Program Area PI Meeting (virtual), 13 October 2020.

9. **Huang, H.**, Patricola, C.M., Bercos-Hickey, E., Zhou, Y., Collins, W.D., Rhoades, A., & Risser, M. Sources of subseasonal-to-seasonal predictability of atmospheric rivers and precipitation in the western US. 2020 International Atmospheric Rivers Conference (virtual), 7 October 2020.

8. **Huang, H.**, Winter, J.M., Osterberg, E.C., Mankin, J.S., & Patricola, C.M. Assessing the causes of the post-1996 shift in extreme precipitation over the northeastern United States. 2019 AGU Fall Meeting, San Francisco, 12 December 2019.

7. **Huang, H.**, Winter, J.M., Osterberg, E.C., & Mankin, J.S. Anthropogenic impacts on the exceptional precipitation of 2018 in the mid-Atlantic US. 2019 U.S. Department of Energy Regional & Global Model Analysis Program's Climate Extremes Monthly Meeting (virtual), 5 December 2019.

6. **Huang, H.**, Winter, J.M., Hanrahan, J., Bruyère, C.L., Clemins, P., & Beckage, B. Simulating extreme precipitation in the Lake Champlain basin using a regional climate model: Limitations and uncertainties. 2018 AGU Fall Meeting, Washington D.C., 11 December 2018.

5. Langlois, J.A., Cornell, L.A., Hanrahan, J., Winter, J.M., **Huang, H.**, Bruyere, C.L. Examining the impact of Great Lakes' temperature perturbations on simulated downwind precipitation. 2018 AGU Fall Meeting, Washington D.C., 11 December 2018.

4. **Huang, H.**, Winter, J.M., The Calibration and Evaluation of WRF Model Over Lake Champlain Basin. Vermont EPSCoR All Hands Meeting, Burlington, VT, 12 June 2018.

3. **Huang, H.**, Winter, J.M., & Osterberg, E.C. Mechanisms of the extreme precipitation jump in the northeastern United States after 1996. 2017 AGU Fall Meeting, New Orleans, 14 December 2017.

2. **Huang, H.**, Winter J.M., Osterberg, E.C., Horton, R.M., & Beckage, B. Total and extreme precipitation changes over the northeastern United States. 2016 AGU Fall Meeting, San Francisco, 12 December 2016.

1. **Huang, H.**, Ma, S., Lin, E., Li, Y., & Zhuang, H. Benefits Comparison of Different Rice and Wheat Cropping Patterns to Adapt to Climate Change. UK-China Sustainable Agriculture Innovation Network Outreach Conference, Beijing, China, 21 November 2012.