

Huanping Huang, PhD

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RESEARCH INTERESTS

Weather & climate extremes, climate change & variability, hydroclimate predictability, climate dynamics, climate modeling, atmosphere–ocean interactions, climate change impacts & adaptation, food security, computational and statistical methods for big data

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

RESEARCH EXPERIENCE

- Lawrence Berkeley National Laboratory**, Berkeley, CA
Postdoctoral Scholar, Climate and Ecosystem Sciences Division 2019–Pres.
- Dartmouth College**, Hanover, NH
Research Assistant, Department of Earth Sciences 2014–2019
- Chinese Academy of Agricultural Sciences**, Beijing, China
Research Associate, Center for Research on Agriculture and Climate Change 2013–2014
Research Assistant, Institute of Agri-environment and Sustainable Development 2010–2013
- China Agricultural University**, Beijing, China
Research Assistant, Department of Geographical Information Engineering 2010

PUBLICATIONS

Peer-reviewed Articles:

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. <https://doi.org/10.1029/2021GL094801>
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. <https://doi.org/10.1016/j.wace.2021.100351>

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. <https://doi.org/10.1029/2020JD034053>

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. <https://doi.org/10.1007/s00382-021-05638-7>

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. <https://doi.org/10.1175/JAMC-D-20-0169.1>

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. <https://doi.org/10.1007/s00382-019-04987-8>

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. <https://doi.org/10.1029/2020GL089096>

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. <https://doi.org/10.1175/BAMS-D-19-0172.1>

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. <https://doi.org/10.1029/2017JD028136>

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. <https://doi.org/10.1175/JHM-D-16-0195.1>

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. <https://doi.org/10.1016/j.agee.2015.03.033>

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. <https://doi.org/10.3724/SP.J.1248.2013.182>

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.

Manuscripts Submitted or in Preparation:

O'Brien, T. A., Wehner, M. F., Payne, A. E., Shields, C. A., Rutz, J. J., Leung, L.-R., Ralph, F. M., Collow, A., Gorodestkaya, 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. Increases in future AR count and size: Overview of the ARTMIP Tier 2 CMIP5/6 experiment. *Journal of Geophysical Research: Atmospheres*, submitted.

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. A method for detection and attribution of regional precipitation change using Granger causality: Application to the United States historical record. *Climate Dynamics*, submitted.

TEACHING EXPERIENCE

Teaching Assistant , GEOG 5 (Global Climate Change), Dartmouth College	2019
Guest Lecturer , AP Biology, Hartford High School	2019
Instructor , International TAs Orientation, Dartmouth College	2018
Teaching Assistant , GEOG 5 (Global Climate Change), Dartmouth College	2018
Guest Lecturer , Meteorology, Crossroads Academy	2018
Lecturer , Science Day (Jet Stream: Flowing Rivers of Air), Dartmouth College	2017
Lead Teaching Assistant , EARS 6 (Environmental Change), Dartmouth College	2016
Lecturer , Science Day (Clouds in a Cup), Dartmouth College	2016
Lecturer , Crop and Climate Modeling, Chinese Academy of Agricultural Sciences	2014
Teaching Assistant , Office of International Education, Chinese Academy of Agricultural Sciences	2013

HONORS & AWARDS

Best Student Publication , Department of Earth Sciences, Dartmouth College - Awarded for the article entitled <i>Mechanisms of abrupt extreme precipitation change over the northeastern United States</i> (<i>Journal of Geophysical Research: Atmospheres</i> , 2018)	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 to a Dartmouth geologist who best exemplifies the spirit of the department	2016

PROFESSIONAL SERVICE

Primary Convener , AGU Global Environmental Change Section, 2021 AGU Fall Meeting	2021
Convener , AGU Late-breaking Session (2021 Extreme Weather Events), 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, American Geophysical Union	2020
Reviewer <i>IPCC Sixth Assessment Report, Bulletin of the American Meteorological Society (2), Journal of Climate, Geophysical Research Letters (3), Environmental Research Letters (3), Scientific Reports,</i>	2019–Pres.

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:

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:

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.