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Education

- Columbia University**, New York, NY 2019
Ph.D., Ocean and Climate Physics; Advisor: Dr. Radley Horton
Dissertation title: "Regional Geographies of Extreme Heat"
- Cornell University**, Ithaca, NY 2014
B.S., Atmospheric Science, Magna cum laude with Distinction in Research

Publications

PEER-REVIEWED JOURNAL ARTICLES

2022

- Raymond, C., Suarez-Gutierrez, L., Kornhuber, K., Pascolini-Campbell, M., Sillmann, J., and Waliser, D. E. **Increasing spatiotemporal proximity of heat and precipitation extremes in a warming world quantified by a large model ensemble.** *Environmental Research Letters*. doi:10.1088/1748-9326/ac5712.
- Ivanovich, C., Anderson, W. B., Horton, R. M., Raymond, C., and Sobel, A. H. **The influence of intraseasonal oscillations on humid heat in the Persian Gulf and South Asia.** *Journal of Climate*. doi:10.1175/jcli-d-21-0488.1.
- Matthews, T. K., Byrne, M., Horton, R. M., Murphy, C., Pielke Sr., R. A., Raymond, C., Thorne, P., and Wilby, R. **Latent heat must be visible in climate communications.** *WIREs Climate Change*. doi:10.1002/wcc.779.
- Speizer, S., Raymond, C., Ivanovich, C., and Horton, R. M. **Concentrated and intensifying humid heat extremes in the IPCC AR6 regions.** *Geophysical Research Letters*. doi:10.1029/2021gl097261.

2021

- Raymond, C., Matthews, T. K., Horton, R. M., Fischer, E. M., Fueglistaler, S., Ivanovich, C., Suarez-Gutierrez, L., and Zhang, Y. **On the controlling factors for globally extreme humid heat.** *Geophysical Research Letters*. doi:10.1029/2021gl096082.
- Mukherjee, S., Mishra, A. K., Mann, M. E., and Raymond, C. **Anthropogenic warming and population growth may double US heat stress by the late 21st century.** *Earth's Future*. doi:10.1029/2020ef001886.
- Rogers, C. D. W., Ting, M., Li, C., Kornhuber, K., Coffel, E. D., Horton, R. M., Raymond, C., and Singh, D. **Recent increases in exposure to extreme humid-heat events disproportionately affect populated regions.** *Geophysical Research Letters*. doi:10.1029/2021gl094183.

Teitelbaum, C. S., Sirén, A. P. K., Coffel, E., Foster, J., Frair, J. L., Hinton, J. W., Horton, R. M., Kramer, D. W., Lesk, C., Raymond, C., Wattles, D. W., Zeller, K. A., and Morelli, T. L. **Habitat use as indicator of adaptive capacity to climate change.** *Diversity and Distributions*. doi:10.1111/ddi.13223.

2020

Raymond, C., Matthews, T. K., and Horton, R. M. **The emergence of heat and humidity too severe for human tolerance.** *Science Advances*. doi:10.1126/sciadv.aaw1838.

[as of March 2022, ranked as the #5 climate paper of 2020 by AltMetric score]

Raymond, C., Horton, R. M., Zscheischler, J., Martius, O., AghaKouchak, A., Balch, J., Bowen, S. G., Camargo, S. J., Hess, J., Kornhuber, K., Oppenheimer, M., Ruane, A. C., Wahl, T., and White, K. **Understanding and managing connected extreme events.** *Nature Climate Change*. doi:10.1038/s41558-020-0790-4.

Zscheischler, J., Martius, O., Westra, S., Bevacqua, E., Raymond, C., Horton, R. M., van den Hurk, B., AghaKouchak, A., Jézéquel, A., Mahecha, M. D., Maraun, D., Ramos, A. M., Ridder, N., Thiery, W., and Vignotto, E. **A typology of compound weather and climate events.** *Nature Reviews Earth and Environment*. doi:10.1038/s43017-020-0060-z.

Massoud, E., Massoud, T., Guan, B., Sengupta, A., Espinoza, V., De Luna, M., Raymond, C., and Waliser, D. **Atmospheric rivers and precipitation in the Middle East and North Africa.** *Water*. doi:10.3390/w12102863.

2016-19

Raymond, C., and Mankin, J. S. (2019). **Assessing present and future coastal moderation of extreme heat in the eastern United States.** *Environmental Research Letters*. doi:10.1088/1748-9326/ab495d.

Raymond, C., Singh, D., and Horton, R. M. (2017). **Spatiotemporal patterns and synoptics of extreme wet-bulb temperature in the contiguous United States.** *Journal of Geophysical Research: Atmospheres*. doi:10.1002/2017jd027140.

Horton, R. M., Mankin, J. S., Lesk, C., Coffel, E., and Raymond, C. (2016). **A review of recent advances in research on extreme heat events.** *Current Climate Change Reports*. doi:10.1007/s40641-016-0042-x.

JOURNAL ARTICLES ACCEPTED, IN REVISION, or SUBMITTED

Raymond, C., Waliser, D. E., Guan, B., Lee, H., Loikith, P., Massoud, E., Sengupta, A., Singh, D., and Wootten, A. **Elevation-dependent projections of extreme heat stress changes in the contiguous US.** *In revision*.

Mehrabi, Z., ... Raymond, C., et al. **Research priorities for extreme events and global food security.** *In revision*.

Sengupta, A., Waliser, D. E., Massoud, E. C., Guan, B., Raymond, C., and Lee, H. **Representation of atmospheric water budget and uncertainty quantification of future changes in CMIP6 for the seven U.S. National Climate Assessment regions.** *In revision*.

Shreevastava, A., Raymond, C., and Hulley, G. **Split personality of Southern California heatwaves and their impacts on the metropolitan Los Angeles region.** *Submitted*.

BOOK CHAPTERS and CONFERENCE PROCEEDINGS

Messori, G., Bevacqua, E., Caballero, R., Coumou, D., De Luca, P., Faranda, D., Kornhuber, K., Martius, O., Pons, F., Raymond, C., Ye, K., Yiou, P., and Zscheischler, J. (2021).

Compound climate events and extremes in the mid-latitudes: Dynamics, simulation and statistical characterisation. *Bulletin of the American Meteorological Society*. doi:10.1175/bams-d-20-0289.1.

Raymond, C., Coumou, D., Foreman, T., King, A., Kornhuber, K., Lesk, C., Mora, C., Perkins-Kirkpatrick, S., Russo, S., and Vijverberg, S. (2019). **Projections and hazards of future extreme heat.** In *The Oxford Handbook of Planning for Climate Change Hazards* [W. Pfeffer, J. Smith, and K. Ebi, Eds.]. Oxford University Press. doi:10.1093/oxfordhb/9780190455811.013.59.

Raymond, C., Matthews, T. K., and Horton, R. M. (2019). **Exceptional heat-humidity combinations increasing faster than expected.** Abstract of presentation at the American Meteorological Society Annual Meeting 2019, Phoenix, AZ. *Bulletin of the American Meteorological Society*, 100 (3), 397-398.

Fellowships and Awards

ROSES 21-AIST21-2-0020 (\$52,000/year; PI: Huikyo Lee), NASA	2022
• "Open Climate Workbench to support analysis of NASA's high-resolution datasets"	
PREEVENTS Conference Grant (\$44,792), National Science Foundation	2019
• "Workshop on Correlated Extreme Events"; grant no. 1928623	
Herrenhausen Conf. on Extreme Events Travel Grant (~\$3,000), VW Foundation	2019
Dean's Fellowship (\$78,000 annually), Columbia University	2014-19
Lead Teaching Fellowship (\$2,000), Columbia University	2017-18
Teaching Observation Fellowship (\$2,000), Columbia University	2016-17
Research Grant (\$10,000), Columbia Climate Center	2015
Hollings Scholarship (\$8,000 annually), NOAA	2012-14

Professional Service and Activities

Steering-Committee Member , Como Compound Extremes Summer School 2022	2021-pres.
Guest Editor , iScience special issue on compound events [with J. Zscheischler]	2021-present
Member , NCAR Climate Data Guide Board of Advisors	2020-present
Working-Group Chair and Steering-Committee Member , Risk KAN	2019-present
• Initiated Compound Events group of the Knowledge Action Network on Emergent Risks & Extreme Events; organize webinars and networking activities for ~300 members.	
Mentor , NASA Data Intensive Research and Education Center for STEM	2019-present
Steering-Committee Member , Workshop on Compound Weather and Climate Events	2020-21
• Planned and chaired sessions for 200-person online workshop in January 2021.	
Workshop Lead Organizer , Workshop on Correlated Extreme Events	2017-19
• Led conceptualization and organization for 175-person workshop at Columbia University in May 2019.	
Session Co-Chair , AGU Fall Meeting	2019-21
• "Correlated climate extremes" (2019, 2020); "Compounding climate extremes" (2021)	
Session Co-Chair , EGU General Assembly	2019, 2022
• "Extreme heat events" (2019); "Climate change as a systemic risk" (2022)	
Review-Panel Member , Lamont-Doherty Chevron Student Initiative Fund	2016-19
Member , AMS Student Conference 2016 Planning Committee	2015-16

Reviewer for journal manuscripts: approximately 8 per year

Reviewer for proposals: NSF Climate & Large-scale Dynamics; JPL Data Science Pilot program

Teaching Experience and Activities

Teaching Assistant , Dinosaurs and the History of Life	<i>Spring 2017</i>
Teaching Assistant , Dynamics of Climate Variability and Climate Change	<i>Fall 2016</i>
Teaching Assistant , Earth's Climate System [<i>lab course</i>]	<i>Spring 2016</i>
Microteaching Facilitator , Columbia University	<i>2017-19</i>
Member , Columbia University STEM Education Research Journal Club	<i>2017-19</i>
English as a Second Language Instructor , Catholic Charities of New York	<i>2015-17</i>

Presentations as Lead Author/Presenter

- “Sharpening the view of extreme heat stress: Global and regional patterns and their drivers.” UC Irvine, Earth System Science seminar (Irvine, CA). Apr. 2022.
- “Elevation-dependent projections of extreme heat stress changes in the contiguous U.S.” AGU Fall Meeting 2021 (New Orleans, LA). Dec. 2021.
- “A close relationship between atmospheric rivers and heat stress in the northern U.S.” AGU Fall Meeting 2021 (New Orleans, LA). Dec. 2021.
- “Drivers and projections of global and regional patterns of heat stress.” California Institute of Technology, Yuk lunch seminar (Online). Nov. 2021. *Invited.*
- “Drivers and projections of global and regional patterns of heat stress.” UCLA, Atmospheric and Oceanic Sciences seminar (Online). Oct. 2021. *Invited.*
- “Sharpening the view of extreme heat stress.” Extreme Value Analysis Conference 2021 (Online). Jun. 2021. *Invited.*
- “Extreme heat-humidity combinations and their relationship to hydroclimatic extremes.” NASA Jet Propulsion Laboratory, Terrestrial Hydrology Group seminar (Online). Mar. 2021.
- “Investigating the controlling factors for global heat-humidity extremes.” Portland State University, Climate Science Lab seminar (Online). Jan. 2021. *Invited.*
- “Extreme heat-humidity combinations and their relationship to hydroclimatic extremes.” Workshop on Compound Weather and Climate Events (Online). Jan. 2021. *Invited.*
- “Investigating the controlling factors for global heat-humidity extremes.” AGU Fall Meeting 2020 (Online). Dec. 2020.
- “Investigating the controlling factors for global heat-humidity extremes.” Workshop on Mid-Latitude Compound Climate Extremes (Online). Sep. 2020. *Invited.*
- “Regional geographies of extreme heat.” NASA Jet Propulsion Laboratory, Center for Climate Sciences seminar (Pasadena, CA). Jan. 2020. *Invited.*
- “Climatology and dynamics of disruptive springtime temperature sequences.” AGU Fall Meeting 2019 (San Francisco, CA). Dec. 2019.
- “Dynamics of disruptive springtime temperature sequences.” Herrenhausen Conference on Extreme Events (Hanover, Germany). Oct. 2019.
- “Regional geographies of extreme heat.” NOAA Geophysical Fluid Dynamics Laboratory, informal seminar (Princeton, NJ). Jun. 2019. *Invited.*
- “Regional geographies of extreme heat.” Lawrence Berkeley National Laboratory, informal seminar (Berkeley, CA). Jan. 2019. *Invited.*

- “Exceptional heat-humidity combinations in the observational record.” AGU Fall Meeting 2018 (Washington, DC). Dec. 2018.
- “Spatiotemporal patterns and synoptics of extreme wet-bulb temperature in the contiguous United States.” EGU General Assembly 2018 (Vienna, AT). Apr. 2018.
- “Climatological occurrence and projected changes of cold-shore days along the eastern coast of the United States.” EGU General Assembly 2018 (Vienna, AT). Apr. 2018.
- “Parameterization and projection of sea breezes in New York City.” Rutgers Climate Symposium 2017 (New Brunswick, NJ). Nov. 2017.
- “Sea breezes and New York City heat waves: interactions, effects, and predictability.” AMS Annual Meeting 2017 (Seattle, WA). Jan. 2017.
- “Co-occurrence of extreme temperature and moisture over the continental United States.” AMS Annual Meeting 2017 (Seattle, WA). Jan. 2017.
- “Predictability and spatial characteristics of New-York-City-area heat waves.” AGU Fall Meeting 2016 (San Francisco, CA). Dec. 2016.
- “Changes in precipitation extremes under two climate-change scenarios.” AMS Annual Meeting 2014 (Atlanta, GA). Jan. 2014.

Science Communication

Publications

- The Conversation article (with T. Matthews) *May 2020*
 • Article title: "Global warming now pushing heat into territory humans cannot tolerate"
 New York Times op-ed (with E. Coffel and R. Horton) *Oct 2018*
 • Article title: "Heat and humidity are a killer combination"

Talks

- Invited panelist for Science Facebook Live event on ‘Cooling in a warming world’ *Dec 2020*
 AGU Pop-Up Talk on 'The role of a scientist in the 21st century' *Dec 2018*

Interviews

- Jet Propulsion Laboratory *Apr 2022*
 NASA Climate *Feb 2022*
 Discover Magazine • Franceinfo Radio *Oct 2021*
 NASA Climate *Aug 2021*
 Wall Street Journal • New York Times Magazine • Live Science *Jul 2021*
 CBS News *Jun 2021*
 California Council on Science and Technology *May 2021*
 Yale Climate Connections *Feb 2021*
 Climate Central *Jul 2020*
 AAAS • National Geographic • Quartz • Science • Scientific American • Thomson Reuters •
 Washington Post • Weather.com • Wunderground *May 2020*
 CBC Radio *Jul 2017*

Professional Memberships

American Meteorological Society, 2011-pres. • American Geophysical Union, 2014-pres.

Languages

Programming: MATLAB • Python • R

Foreign: French • Spanish