

Benjamin J. Hatchett, Ph.D.

Assistant Research Professor
Division of Atmospheric Sciences
Desert Research Institute
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RESEARCH AND TEACHING INTERESTS

Dryland and mountain hydroclimatology and hydrometeorology; paleoclimate; field methods; climate dynamics; numerical modeling; extreme weather; natural hazards; science communication.

EDUCATION

Doctor of Philosophy, Geography
University of Nevada, Reno May 2016

Master of Science, Atmospheric Sciences
University of Nevada, Reno May 2012

Bachelor of Science, Geography (Hydrogeology minor)
University of Nevada, Reno May 2008

PROFESSIONAL EXPERIENCE

Assistant Research Professor
Desert Research Institute, Reno, NV July 2018 – Present

Regional Climatologist
Western Regional Climate Center, Reno, NV July 2020 – Present

Adjunct Faculty
Lake Tahoe Community College, South Lake Tahoe, CA August 2011 – Present
Sierra Nevada College, Incline Village, NV January 2016 – Present

Postdoctoral Scholar
Desert Research Institute, Reno, NV August 2016 – June 2018

JOURNAL PUBLICATIONS

Google Scholar h-index = 15, i_{10} = 21, cited by: 518

37. **Hatchett, B.J.**, Benmarhnia T, Guirguis K, VanderMolen K, Gershunov A, Kerwin H, Khlystov A, Lambrecht K.M., Samburova V: Mobility data aids assessment of human responses to extreme environmental conditions. Accepted, *The Lancet Planetary Health*
36. Siirila-Woodburn, E., Rhoades, A.M., **Hatchett, B.J.**, Huning, L., Szinai, J., Tague, C., Nico, P.S., Feldman, D., Jones, A.D., Collins, W.D., Kaatz, L., The low-to-no snow future and its impacts on water resources in the western United States. Accepted, *Nature Reviews Earth and Environment*, doi:10.1038/s43017-021-00219-y
35. Bambach, N.E., Rhoades, A.M., **Hatchett, B.J.**, Jones, A.D., Ullrich, P.A., and Zarzycki, C.M.: Projecting climate change in South America using variable-resolution CESM: An application to Chile. Accepted, *International Journal of Climatology*, doi:10.1002/joc.7379
34. Gershunov, A., Guzman Morales J., **Hatchett, B.J.**, Guirguis, K. Aguilera, R. Shulgina, T., Abatzoglou, J.T., Cayan, D., Pierce, D., Williams, A.P., Small, I., Clemesha, R., Schwarz, L., Benmarhnia, T., and Tardy, A., 2021: Hot and cold flavors of southern California's Santa Ana winds: Their causes, trends, and links with wildfire. *Climate Dynamics*, doi: 10.1007/s00382-021-05802-z
33. **Hatchett, B.J.**, 2021: Seasonal and Ephemeral Snowpacks of the Conterminous United States. *Hydrology*, **8(1)**, 32, <https://doi.org/10.3390/hydrology8010032>
32. Abatzoglou., J.T., **B.J. Hatchett**, P. Fox-Hughes, A. Gershunov, and N.J. Nauslar, 2021: Global climatology of synoptically-forced downslope winds, *International Journal of Climatology*. **41(1)**, 31-50, doi:10.1002/joc.6607
31. Lynn, E., Cuthbertson, He, M., Vasquez, J., Anderson, M.L, Coombe, P., A., Abatzoglou, J.T., and **Hatchett, B.J.**, 2020: Technical note: Precipitation phase partitioning at landscape-to-regional scales. *Hydrology and Earth Systems Science*, **24**, 5317–5328, <https://doi.org/10.5194/hess-24-1-2020>
30. Collins, B.D., Oakley, N.S., East, A.E, Perkins, J.P., Corbett, S.C., and **B.J. Hatchett**, 2020: Linking mesoscale meteorology with extreme landscape response: Effects of narrow cold frontal rainbands (NCFR). *Journal of Geophysical Research: Earth Surfaces*, **125(10)**, e2020JF005675, <http://doi.org/10.1029/2020JF005675>
29. **Hatchett, B.J.** and 19 co-authors, 2020: Observations of an extreme atmospheric river storm with a diverse sensor network. *Earth and Space Science*. **7**, e2020EA001129, doi:10.1029/2020EA001129
28. Shortridge, A., **B.J. Hatchett**, and M.S. Gustin, 2019: Increasing frequency of coincident heat extremes in Nevada urban areas. *Journal of the Nevada Water Resources Association*, Winter 2019, 5-28, doi:10.22542/jnwra/2018/1/1
27. Hudson, A.M., **B.J. Hatchett**, J. Quade, D.P. Boyle, S.D. Bassett, G. Ali, and M.G. de los Santos, 2019: North-south dipole in cool season hydroclimate in western North America during the last deglaciation. *Nature Scientific Reports*, **9**, 4826, doi:10.1038/s41598-019-41197-y
26. Sterle, K., **B.J. Hatchett**, L. Singletary, and G. Pohll, 2019: Hydroclimatic Variability in Snow-fed River Systems: Local Water Managers' Perspectives on Adapting to the "New Normal". *Bulletin of the American Meteorological Society*, **100**, 1031-1048, doi:10.1175/BAMS-D-18-0031.2

25. Rondanelli, R., **B.J. Hatchett**, J. Ruttlant, D. Bozkurt, and R. Garreaud, 2019: Strongest Madden-Julian Oscillation on record triggers extreme Atacama rainfall and warmth in Antarctica. *Geophysical Research Letters*, **46(6)**, 3482-3491, doi:10.1029/2018GL081475
24. Lambrecht, K., **B.J. Hatchett**, L. Walsh, M. Collins, and Z. Tolby, 2019: Improving Visual Communication of Weather Forecasts with Rhetoric. *Bulletin of the American Meteorological Society*, **100**, 557-563, doi:10.1175/BAMS-D-18-0186.1
23. **Hatchett, B.J.** and H. Eisen, 2019: Brief Communication: Early season snowpack loss and implications for over-snow vehicle travel planning. *The Cryosphere*, **13**, 21-28, doi:10.5194/tc-13-21-2019
22. Nauslar, N.J., **B.J. Hatchett**, T.J. Brown, M.L. Kaplan, and J.F. Mejia, 2019: Examining the North American Monsoon's impact on wildfire activity in the southwest United States. *International Journal of Climatology*, **39(3)**, 1539-1554, doi:10.1002/joc.5899
21. **Hatchett, B.J.**, Nauslar, N.J., Smith, C.S., Kaplan, M.L. 2019: Slope winds. *Encyclopedia of Wildfires and Wildland-Urban Interface (WUI) Fires*, edited by Samuel Manzello, doi:https://doi.org/10.1007/978-3-319-51727-8_209-1
20. Nauslar, N., **Hatchett, B.J.**, 2019: Dry thunderstorms. *Encyclopedia of Wildfires and Wildland-Urban Interface (WUI) Fires*, edited by Samuel Manzello, doi:10.1007/978-3-319-51727-8_176-1
19. **Hatchett, B.J.**, 2018: Fingerprints of the thermal equator. *Nature Geoscience*. **11**, 387, doi:10.1038/s41561-018-0129-1
18. Smith, C., **B.J. Hatchett**, and M.L. Kaplan, 2018: Characteristics of Sundowner winds near Santa Barbara, CA from a dynamically downscaled climatology: Environment and effects aloft. *Journal of Geophysical Research-Atmospheres*, **123(23)**, 13,092-13,110 doi:10.1029/2018JD029065
17. Oakley, N.S., J. Lancaster, **B.J. Hatchett**, F.M. Ralph, J. Stock, and S. Roj, 2018: A 22-year climatology of cool season hourly precipitation conducive to shallow landslides in California. *Earth Interactions*, **22**, 1-35, doi:10.1175/EI-D-17-0029.1
16. **Hatchett, B.J.**, 2018: Snow level characteristics and impacts of a spring typhoon-originating atmospheric river in the Sierra Nevada, USA. *Atmosphere*, **9(6)**, 233, doi:10.3390/atmos9060233
15. Smith, C.M., **B.J. Hatchett**, and M.L. Kaplan, 2018: Characteristics of Diablo-like wind conditions in Northern California based on a climatology from surface observations. *Fire*, **1(2)**, 25, doi:10.3390/fire1020025
14. **Hatchett, B.J.**, D.P. Boyle, C.B. Garner, S.D. Bassett, M.L. Kaplan, and A.E. Putnam, 2018: Sensitivity of a Great Basin terminal lake to winter North Pacific atmospheric circulations. In: Starratt, S.W., and Rosen, M.R., eds. From Saline to Freshwater: The Diversity of Western Lakes in Space and Time: *Geological Society of America Special Papers*, **536**, 67-79, doi:10.1130/2018.2536(05)
13. **Hatchett, B.J.**, C. Smith, M.L. Kaplan, and N.J. Nauslar, 2018: Brief Communication: Differences between Sundowner and Santa Ana Wind Regimes in the Santa Ynez Mountains, California. *Natural Hazards and Earth System Sciences*, **18(2)**, 419-427, doi:10.5194/nhess-18-419-2018
12. **Hatchett, B.J.**, and D.J. McEvoy, 2018: Exploring the origins of snow drought in the northern Sierra Nevada. *Earth Interactions*, **22**, 1-13, doi:10.1175/EI-D-17-0027.1
11. Smith, C., **B.J. Hatchett**, and M.L. Kaplan, 2018: Characteristics of Sundowner winds near Santa Barbara, CA from a dynamically downscaled climatology: Environment and

- effects near the surface. *Journal of Applied Meteorology and Climatology*, **57**, 589-606, doi:10.1175/JAMC-D-17-0162.1
10. **Hatchett, B.J.**, B. Daudert, N.S. Oakley, C.B. Garner, A.E. Putnam, A.B. White, 2017: Recent winter snow level rise in the Sierra Nevada, California, 2008-2017. *Water*, **9**(11), 899, doi:10.3390/w9110899
 9. Kaplan, M.L., J. Tilley, C. Smith, **B.J. Hatchett**, K. Shourd, and J. Walston, 2017: The Record Los Angeles Heat Event of September 2010 Part I: Synoptic - Meso- β Scale Analyses of Interactive Planetary Wave Breaking, Terrain- and Coastal-Induced Circulations. *Journal of Geophysical Research: Atmospheres*, **122**, doi:10.1002/2017JD027162
 8. **Hatchett, B.J.**, S. Burak, J. Rutz, N.S. Oakley, N.H. Bair, and M.L. Kaplan, 2017: Avalanche fatalities during atmospheric river events in the western United States. *Journal of Hydrometeorology*, **18**, 1359-1374, doi:10.1175/JHM-D-16-0219.1
 7. **Hatchett, B.J.**, D.P. Boyle, C.B. Garner, S.D. Bassett, M.L. Kaplan, and A.E. Putnam, 2016: Magnitude and frequency of wet years under a megadrought climate in the western Great Basin, USA. *Quaternary Science Reviews*, **152**, 197-202, doi:10.1016/j.quatscirev.2016.09.017
 6. Barth, C., D.P. Boyle, **B.J. Hatchett**, S.D. Bassett, C.B. Garner, and K.D. Adams, 2016: Late Pleistocene climate inferences from a water balance model of Jakes Valley, Nevada (USA), *Journal of Paleolimnology*, **56**(2), 109-122. doi:10.1007/s10933-016-9897-z
 5. **Hatchett, B.J.**, D. Koracin, J.F. Mejia, and D.P. Boyle, 2016: Assimilating urban heat island effects into climate projections. *Journal of Arid Environments*, **128**, 59-64, doi:10.1016/j.jaridenv.2016.01.007
 4. **Hatchett, B.J.**, D.P. Boyle, A.E. Putnam, and S.D. Bassett, 2015: Placing the 2012-2015 California-Nevada drought into a paleoclimatic context: Insights from Walker Lake, California-Nevada, USA. *Geophysical Research Letters*, **42**, doi:10.1002/2015GL065841
 3. Chakrabarty, R.K., I.J. Arnold, D.M. Francisco, **B.J. Hatchett**, F. Hosseinpour, M. Loria, A. Pokharel and B.M. Woody, 2013: Shortwave radiative properties of aerosol aggregates emitted from laboratory combustion of two fuels widely used in Asian rituals. *Journal of Quantitative Spectroscopy and Radiative Transfer*, doi:10.1016/j.jqsrt.2012.12.011
 2. Mejia, J., J. Huntington, **B.J. Hatchett**, D. Koracin, and R. G. Niswonger, 2012: Linking global climate models to an integrated hydrologic model using an individual station downscaling approach. *Journal of Contemporary Water Research and Education* **147**, 17-27, doi:10.1111/j.1936-704X.2012.03100.x
 1. **Hatchett, B.J.**, M.P. Hogan, and M.E. Grismer, 2006: Mechanical mastication thins Lake Tahoe forest with few adverse effects. *California Agriculture* **60**(2), 77-82, doi:10.3733/ca.v060n02p77

In Revision/Submitted:

3. Lambrecht, K., VanderMolen, K., **Hatchett, B.J.**, Feldkircher, B.: Identifying Community Values Related to Heat: Recommendations for Forecast and Health Risk Communication, In revision, *Geoscience Communication*
2. **Hatchett, B.J.**, McEvoy, D.J., and Rhoades, A.M.: Towards visualizing snow drought evolution. Submitted to *Hydrology and Earth System Sciences*.

1. Guirguis, K., Gerhunov, A., **Hatchett, B.J.**, Shulgina, T. DeFlorio M.J., Subramanian, A.C., Guzman-Morales, J. Aguilera, R. Clemesha, R., Corringham, T.W., Delle Monache L., Reynolds, D.Tardy, A., Small I., Ralph, F.M.. Weather Patterns Driving Atmospheric Rivers, Santa Ana Winds, Floods, and Wildfires During California Winters Provide Evidence of Increasing Fire Risk, Submitted to *Climate Dynamics*.

Additional manuscripts in preparation: 9

OTHER PUBLICATIONS

21. VanderMolen, K. and **Hatchett, B.J.**, 2021: Identifying Opportunities and Challenges for Protecting Against Extreme Heat in Southern California-Baja California Border Communities. In: Climate Science Alliance - Baja Working Group. 4 pp. Available in English and Spanish
20. Dalton, M., Chang, H., **Hatchett, B.J.**, Loikith, P., Mote, P., Queen, L., and Rupp, D., 2021: State of Climate Science, in: Dalton, M.M., and E. Fleishman, editors. Fifth Oregon climate assessment. Oregon Climate Change Research Institute, Oregon State University, Corvallis, Oregon, pp. 11-30.
19. O'Neill, L., **Hatchett, B.J.**, and Dalton, M., 2021: Drought. in: Dalton, M.M., and E. Fleishman, editors. Fifth Oregon climate assessment. Oregon Climate Change Research Institute, Oregon State University, Corvallis, Oregon, pp. 37-45.
18. **Hatchett, B.J.**, 2020: An inversion above Lake Tahoe, *Mountain Views Chronicle 2.0*, **1(1)**, 8.
17. **Hatchett, B.J.**, 2020: Snow Science by Citizens, *Tahoe Quarterly*, <https://tahoequarterly.com/winter-2020-2021/snow-science-by-citizens>.
16. Wilson, A., **Hatchett, B.J.**, Ellis, C.J., 2019: Evaluation of Selected California Sensor Networks. Center for Western Weather and Water Extremes, Scripps Institution of Oceanography, University of San Diego, CA
15. Oakley, N.S, **Hatchett, B.J.**, McEvoy, D., Rodriguez, L., 2019: Projected Changes in Ventura County Climate. Western Regional Climate Center, Desert Research Institute, Reno, Nevada. Available at: wrcc.dri.edu/Climate/reports.php
14. **Hatchett, B.J.**, and McEvoy, D., 2018: Origins of northern Sierra Nevada snow droughts. *Mountain Views Chronicle*, **12(1)**, 5-8. https://www.fs.fed.us/psw/cirmount/publications/pdf/Mtn_Views_may_18.pdf
13. Hatchett, B., 2018: For the love of field work. *Mountain Views Chronicle*, **12(1)**, 36-38. https://www.fs.fed.us/psw/cirmount/publications/pdf/Mtn_Views_may_18.pdf
12. Hatchett, B.J., 2018: Extreme Heat, Indicators of Climate Change in California, Office of Environmental Health Hazard Assessment, California Environmental Protection Agency.
11. **Hatchett, B.J.** and VanderMolen, K. 2018: Towards a Reno Climate Resilience and Adaptation Plan: A Briefing. In revision for City of Reno.
10. Putnam, A.E. and **Hatchett, B.J.**, 2017: Chronology and paleoclimatic inferences from the Convict Lake moraines, California. *Friends of the Pleistocene 2017 Pacific Cell Guidebook*.
9. Hatchett, B.J., 2017: Updates on a AAA graduate research grant. *The Avalanche Review* **35(4)**.

8. Hatchett, B.J., 2017: Upside-down storms and high avalanche hazard in the northern Sierra Nevada. *The Avalanche Review*, **34**(3), 46.
7. **Hatchett, B.J.**, M.L. Kaplan, and S. Burak, 2016: Some characteristics of upside-down storms in the northern Sierra Nevada, California-Nevada, USA. *Proceedings of the 2016 International Snow Science Workshop*. <https://tinyurl.com/vhlxzqt>.
6. Hatchett, B., 2015: A view from the South Tufa, Mono Lake, CA. *Mountain Views Chronicle*, **9**(2), 87-89. http://www.fs.fed.us/psw/cirmount/publications/pdf/Mtn_Views_dec_15.pdf
5. Hatchett, B., 2015: The 2015-2016 El Niño: What It Means for the Tahoe Basin. *Tahoe Quarterly*.
4. Hatchett, B., 2015: On the nature of light in the Sierra Nevada. *Mountain Views*, **9**(1), 63-67. http://www.fs.fed.us/psw/cirmount/publications/pdf/Mtn_Views_june_15.pdf
3. Hatchett, B., 2014: Striking White Gold in the Emerald Chute. *The Avalanche Review*, **32**(4), 28-29.
2. Koracin, D., I. Cerovecki, R. Vellore, J. Mejia, **B.J. Hatchett**, T. McCord, J. McLean, and C. Dorman, 2013: North Pacific mesoscale coupled air-ocean simulations compared with observations. *U.S. Department of Energy Technical Report*, doi:10.2172/1073505.
1. **Hatchett, B.J.**, M.L. Kaplan, D. Koracin, and J. Mejia, 2010: Playing CSI: A case study of the November 12, 2009 Bozeman, Montana Snow Event. *Proceedings of the 2010 International Snow Science Workshop*. http://arc.lib.montana.edu/snow-science/objects/ISSW_0-064.pdf

MEDIA ENGAGEMENT

Interviews with: Los Angeles Times, New York Times, Washington Post, Wall Street Journal, CNN, Science, Vancouver Star, Harper's, Climate.gov, High Country News, Popular Science, France 2 Television, Medill School of Journalism (Northwestern University), Earth Institute (Columbia University), San Francisco Chronicle, Edible Ojai and Ventura, The Sheet, Reno Gazette-Journal, Sierra Sun, Tahoe Daily Tribune, KOH (Reno), KUNR (NPR), Southern California Public Radio, Capitol Public Radio, KQED (PBS/NPR), FOX4-KTVU-Oakland.

AWARDS

Nature Geoscience 10th Anniversary Geostory Competition Winner
<https://www.nature.com/ngeo/about/geostory>

Outstanding Student Presentation Award, 2015 American Geophysical Union Fall Meeting
 Invited Early Career Speaker, 2018 MtnClim Meeting

Funded Competitive Grants and Fellowships (total \approx \$1.7M)

1. NASA Nevada Space Grant Research Infrastructure (\$30,000; PI), 2021
2. NASA Citizen Science, \$450,000; Co-PI, 2021
3. NOAA OAR, \$300,000, Co-PI, 2021

4. California Department of Water Resources/Scripps Institution of Oceanography Center for Western Weather and Water Extremes: California Dry Spells (\$60,000; co-PI), 2020
5. University of California, San Diego: Exploring Sub-Annual Variability in a Changing Climate Including Extremes (\$40,000; Co-PI), 2020
6. California Department of Water Resources/Scripps Institution of Oceanography Center for Western Weather and Water Extremes: Atmospheric River Program Phase 2 (\$25,014; PI), 2020
7. National Oceanographic and Atmospheric Administration: NWS Snow-drought tracker research to operations (\$59,999; Co-PI; PI: D. McEvoy), 2020
8. Maki Award: Projections of Inland Moisture Transport (\$40,000; Co-PI; PI: S. Stillman), 2019
9. DRI Internal Research Program: Developing real-time snow drought monitoring tools for western U.S. river basins (\$34,957; Co-PI; PI: D. McEvoy), 2018
10. National Oceanographic and Atmospheric Administration Climate Program Office: Trans-boundary heat extremes (\$505,000; Co-PI; PI: T. Wall), 2018
11. Ojai Valley Land Trust: Assessment of future extreme climate events in Ventura County watersheds (\$71,000; Co-PI; PI: N. Oakley), 2018
12. California Department of Water Resources: Mechanisms of cool season precipitation in the Upper Colorado River Basin (\$60,000; PI), 2018
13. Southwest Climate Science Center Nevada Climate Resilience Planning (Sub-award for \$16,000; PI), 2017
14. Southwest Climate Science Center Climate Extremes (Sub-award for \$36,000), 2017
15. Winter Wildlands Alliance Snow Depth Evaluation Grant (\$4,416; PI), 2017
16. NASA Nevada Space Grant Research Infrastructure Grant (\$30,000; PI), 2016
17. Desert Research Institute Institutional Project Assignment (\$8,500; PI: C. Smith), 2016
18. American Avalanche Association Graduate Research Grant (\$800), 2015
19. NASA Nevada Space Grant Graduate Student Fellowship (\$10,500), 2015
20. NASA Nevada Space Grant Graduate Student Fellowship (\$13,333), 2015
21. NSF Research Experience for Undergraduates Program (\$5,000), 2005

COMPUTER SKILLS

Experienced in MATLAB, Python, ArcGIS, Adobe Creative Suite, Unix/Linux environments, Shell Scripting, L^AT_EX, and Microsoft Office Suite.

RELATED SKILLS

- **Numerical Modeling:** Semi-distributed hydrologic modeling, Weather Research and Forecast modeling in a high performance computing environment, data analysis of global and regional climate and weather models.
 - **Graphic Design and Typesetting:** Adobe Creative Suite, L^AT_EX.
 - **Cartography and Remote Sensing:** ArcGIS Suite, experience with NASA remote sensing platforms (CALIPSO, LANDSAT, SSM/I, GPM, ASCAT).
 - **Fieldwork:** Proficiency with GPS technology, surface exposure sampling for 10-Be dating, aqueous geochemistry, vegetation monitoring, rainfall simulation, soil sampling. AIARE Level 3 avalanche certification.
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STUDENT ADVISING

1. Anne Heggli, Atmospheric Sciences Ph.D. student, University of Nevada, Reno (chair)
2. Lisa Kaatz, Hydrologic Sciences M.S. student, University of Nevada, Reno (committee)
3. Tashiana Osbourne, Climate Science Ph.D., Climate-Ocean-Atmosphere Program, UC San Diego/Scripps Institution of Oceanography. Now Postdoctoral Fellow at Johns Hopkins University
4. Adora Shortridge, Environmental Science B.S. (University of Nevada, Reno; first generation college student), Urban heat extremes component of Nevada Climate Resilience and Adaptation Plan, 2017-2018. Graduated 2021 with M.S. in Sustainability from Arizona State University.
5. Cody Poulson, Environmental Engineering B.S. (University of California, San Diego), Summer paleoclimatology fieldwork and rain shadow dynamics assessment, 2017. Now Ph.D. student in Climate-Ocean-Atmosphere Program at UC San Diego/Scripps Institution of Oceanography.
6. Shawn Roj, Atmospheric Science B.S. (University of Nevada, Reno), Senior Thesis. Snow drought in the Feather River Basin, California via NASA EPSCoR Undergraduate Fellowship, 2017-present. Now M.S. student in Climate Science at UC San Diego/Scripps Institution of Oceanography.
7. Zoey Rosen, Atmospheric Science B.S. (University of Nevada, Reno), Senior Thesis. Developing and communicating rain shadow science, 2016-2017. Now M.S. Student in Science Journalism at Colorado State University.
8. Henry Meyer, Environmental Science B.S. (University of Maine, Presque Isle), Summer glacial geomorphology fieldwork, 2014.

PRESENTATIONS

2021. (Invited) Hatchett, B.J., Atmospheric Rivers and Avalanches in a Warming and Weirding Climate American Avalanche Association Seminar Series, Bozeman, MT. (Virtual oral presentation)

2021. (Invited) Hatchett, B.J., Leveraging Climate Projections for Urban Water Management. Urban Water Management Planning Training Seminar, California DWR, Sacramento, CA. (Virtual oral presentation)

2020. (Invited) Hatchett, B.J., California Weather and Climate Extremes: Connections and Emerging Collaborations. California EPA Annual Conference, Sacramento, CA. (Virtual oral presentation)
2020. Hatchett, B.J., McEvoy, D.J. The Snow Drought Tracker and Other Web-based Tools For Sierra Nevada Hydroclimate Monitoring. Sierra Nevada Alliance Biannual Meeting, South Lake Tahoe, CA. (Virtual oral presentation)
2020. (Invited) Hatchett, B.J. Hydrometeorological perspectives on avalanches in midlatitude mountains. Graduate Program in Hydrologic Sciences, University of Nevada, Reno, Reno, Nevada. (Oral presentation)
2020. Rondanelli, R., B.J. Hatchett, D. Bozkurt, J.A. Rutllant, R.D. Garreaud. Strongest MJO on Record Triggers Atacama Rainfall and Warmth in Antarctica. 100th American Meteorological Society Annual Meeting, Boston, MA. (Oral presentation)
2019. (Invited) Hatchett, B. Geoscience Builds Appreciation of Natural Landscapes. American Geophysical Union Fall Meeting, San Francisco, CA. (Oral eLightning presentation)
2019. T.C. Osborne, J.R. Norris, A.M. Wilson, B. Henn, B. Hatchett, M. Ralph. Extreme Changes in Atmospheric Snow Level Observed by FM-CW Snow Level Radars During California Storms. American Geophysical Union Fall Meeting, San Francisco, CA. (Poster presentation)
2019. Stillman, S. and Hatchett, B. The Influence of Atmospheric River Vertical Moisture Profile on Orographic Precipitation. American Geophysical Union Fall Meeting, San Francisco, CA. (Poster presentation)
2019. (Invited) Wall, T., VanderMolen, K., and Hatchett, B. It Takes More Than a Two-Year Funding Cycle to Have an Impact. American Geophysical Union Fall Meeting, San Francisco, CA. (Oral presentation)
2019. Hatchett, B., Abatzoglou, J.T., and Stillman, S. Origins of Snowpack Variability in the Upper Colorado River Basin American Geophysical Union Fall Meeting, San Francisco, CA. (Poster presentation)
2019. Lambrecht, K., VanderMolen, and K., Hatchett, B. Uncovering Public Values in Heat Safety Communication: Using an Interdisciplinary Approach to Build Trust Between Citizens and Scientists. American Geophysical Union Fall Meeting, San Francisco, CA. (Poster Presentation)
- McEvoy, D. J., Hatchett, B. J., 2019: Impacts of Recent Snow Droughts in the Northern Sierra Nevada, Nevada Water Resources Association Annual Meeting: Reno, NV, January 29, 2019-January 31, 2019 (Oral presentation)
2018. (Invited) Hatchett, B., Abatzoglou, J., Oakley, N., Rutz, J., Johnston, C. Towards a taxonomy of cool season precipitation in the Upper Colorado River Basin. 10th Annual Winter Outlook Workshop, Scripps Institution of Oceanography, La Jolla, CA. (Oral presentation)
2018. (Invited Early Career Speaker) Hatchett, B. Agents of Change: Weather and Climate Ex-

- tremes in Midlatitude Mountain Regions. MtnClim, Gothic, CO. (Oral presentation)
2018. Hatchett, B. Applications of Atmospheric Rivers to Great Basin Paleohydroclimate Problems, International Atmospheric Rivers Conference, La Jolla, CA. (Oral presentation)
2018. (Invited) Hatchett, B., N.S. Oakley, J.T. Abazoglou, and J.J. Rutz. Mechanisms Contributing to Cool-Season Precipitation in the Upper Colorado River Basin, Western States Water Council Workshop: Improving Sub-Seasonal to Seasonal (S2S) Precipitation Forecasting, San Diego, CA. (Oral presentation).
2018. (Invited) Hatchett, B., N.S. Oakley, B. Daudert, C.B. Garner and A.E. Putnam. Sierra Nevada snow drought and snow level rise. Bill Foster Sierra Avalanche Center Professional Workshop, Squaw Valley, CA. (Oral presentation)
2018. (Invited) Hatchett, B., N.S. Oakley, B. Daudert, C.B. Garner and A.E. Putnam. Recent snow level rise in the northern Sierra Nevada: Proximal causes and potential implications. Carson Water Subconservancy District 2018 Water Summit, Carson City, NV. (Oral presentation)
2017. McEvoy, D. and B.J. Hatchett, The hydrometeorological origins of snow droughts. Yosemite Hydroclimate Conference, Yosemite Valley, CA. (Oral presentation)
2017. (Invited) Hatchett, B.J., et al. Recent abrupt winter snow level rise in the northern Sierra Nevada. Gary Comer Conference on Abrupt Climate Change, Madison, WI. (Oral presentation)
2017. (Invited) Hatchett, B., et al. Paleoclimate insights from the Walker Lake Basin, California-Nevada. Geological Society of America Annual Meeting, Seattle, Washington. (Oral presentation)
2017. (Invited) Hatchett, B., C.B. Garner, N.S. Oakley, M. Anderson. The 2016/2017 California Pluvial. California Extreme Precipitation Symposium, University of California, Davis. (Oral presentation)
2017. (Invited) Hatchett, B., D.J. McEvoy, N.S. Oakley, B. Daudert, and A.E. Putnam. Snow droughts in the northern Sierra Nevada. NIDIS CA/NV Drought Early Warning System webinar.
2016. Hatchett, B., M.L. Kaplan, J.J. Rutz, and C. B. Garner. Synoptic and mesoscale controls on Sierra Nevada rain shadow intensity. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster presentation)
2016. Cavagnaro, D., A. Doughty, B. Hatchett, and M. Kelly. Analysis of diurnal and seasonal snowfall patterns in the Rwenzori Mountains, tropical East Africa, using satellite data and models. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster presentation)
2016. (Invited) Hatchett, B., A.M. Hudson, and D.P. Boyle. Some applications of hydrometeorology to paleoclimate problems. Gary Comer Conference on Abrupt Climate Change, Madison, WI. (Oral presentation)
2016. Canon, C.R., D.P. Boyle, S.D. Bassett, B.J. Hatchett, and C.B. Garner. Using Esri Story Maps to Communicate Climate Futures in the Walker Basin, Nevada. Association of Pacific Coast

Geographers. Portland, OR. (Poster presentation).

2016. Hatchett, B., S. Burak, J. Rutz, N.S. Oakley, and M.L. Kaplan. Possible contributions of atmospheric rivers to western United States avalanche fatalities. International Atmospheric Rivers Conference, San Diego, CA. (Oral presentation)

2016. Hatchett, B., M.L. Kaplan and S. Burak. Some characteristics of upside-down storms in the northern Sierra Nevada, California-Nevada, USA. International Snow Science Workshop, Breckenridge, CO. (Poster presentation)

2016. (Invited) Hatchett, B., Paleoclimatic insights from 4000 years of droughts and pluvials in the western Great Basin. Great Basin Climate Forum, Reno, NV. (Oral presentation)

2015. Hatchett, B., D.P. Boyle, A.E. Putnam, C.B. Garner, S.D. Bassett, and M.L. Kaplan. A Medieval perspective of historical California and Nevada droughts. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster presentation)

2015. (Invited) Hatchett, B., D.P. Boyle, and A.E. Putnam. Insights on past and present severe drought from the Walker Lake basin. Gary Comer Conference on Abrupt Climate Change, Madison, WI. (Oral presentation)

2015. (Invited) Hatchett, B., D.P. Boyle, and A.E. Putnam. Placing Historical California and Nevada droughts into a paleoclimatic context. Tahoe Science Conference, Reno, NV. (Oral presentation)

2015 (Invited) Hatchett, B. What can the Walker Lake Basin teach us about the 2011-present California-Nevada drought? US Forest Service Annual Training Conference, Carson City, NV. (Oral presentation)

2015. (Invited) Hatchett, B. Characteristics of Upside Down Storms in the Sierra Nevada, Sierra Avalanche Center Professional Development Workshop, Squaw Valley, CA. (Oral presentation)

2015. Hatchett, B. and D.P. Boyle. Investigating the response of a Great Basin terminal lake to abrupt climate change. Pacific Climate Workshop (PACCLIM), Pacific Grove, CA. (Oral presentation)

2014. Hatchett, B., D.P. Boyle, M.L. Kaplan, C.B. Garner, and S.D. Bassett. The sensitivity of a Great Basin terminal lake to storm track position. University of Nevada Graduate Student Poster Competition; Third Place.

2014. (Invited) Hatchett, B. Diagnosing Upside Down Storms in the Sierra Nevada. California Avalanche Workshop, South Lake Tahoe, CA. (Oral presentation)

2014. Hatchett, B., D.P. Boyle, M.L. Kaplan, C.B. Garner, and S.D. Bassett. Evidence for the sensitivity of a terminal lake to storm track position. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster Presentation)

2014. Boyle, D.P. and B. Hatchett, Walker Lake's responses to the migration of winter storm

tracks. Gary Comer Conference on Abrupt Climate Change, Madison, WI.

2014. Hatchett, B., D.P. Boyle, S.D. Bassett, A.E. Putnam, S.G. Hemming, Ali, and S. Birkel. Towards an improved understanding of past Mono Lake hydroclimates. Gary Comer Conference on Abrupt Climate Change, Madison, WI. (Poster Presentation)

2014. Hatchett, B., D.P. Boyle, M.L. Kaplan, C.B. Garner, and S.D. Bassett. Evidence for the sensitivity of a terminal lake to storm track position. Gary Comer Conference on Abrupt Climate Change, Madison, WI. (Poster Presentation)

2013. Hatchett, B., C. Dorman, J. Jiang, M. Kaplan, D. Koracin, J. Mejia, T. McCord and R. Vellore. The Boreal Heat Engine and Hemispheric Climate. Nevada Climate Change Science for Effective Resource Management, Las Vegas, NV. (Poster Presentation, 1st Prize in Student Contest)

2012. Koracin, D., B. Hatchett, C. Dorman, I. Cerovecki, J. Jiang, R. Vellore, J. Mejia, T. McCord. Air-sea interaction over the Kuroshio Current during a cold-air outbreak. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster Presentation)

2012. Hatchett, B., C. Dorman, J. Jiang, M. Kaplan, D. Koracin, J. Mejia, T. McCord and R. Vellore. Midtropospheric response to a Siberian cold air outbreak over the Kuroshio Current in the Pacific Basin. American Geophysical Union Annual Meeting, San Francisco, CA. (Poster Presentation)

2012. Hatchett, B., J.F. Mejia, and D. Koracin. Untangling the extreme urban heat island of the arid, complex terrain city of Reno, NV. Third Annual Symposium on Environment and Health, 92nd Annual American Meteorological Society Meeting. (Poster Presentation)

2011. Hatchett, B. and S. Sessions. Weak Temperature Gradient Simulations for Different Convective Environments. Third Split Workshop on Atmospheric and Oceanic Physics, Brac, Croatia. (Oral Presentation)

2011. (Invited) Hatchett, B., J. Mejia, J., and D. Koracin. Historical Climate Data: The Never Ending Battle for Acquisition. NSF-EPSCoR Third Annual Western Consortium Tri-State Meeting, Sun Valley, ID. (Oral Presentation)

2011. Mejia, J., D. Koracin, and B. Hatchett. Impact of variable horizontal resolution of the regional WRF climate model and biases in the global climate models on precipitation simulated over the western U.S. Geophysical Research Abstracts, Vol. 13, European Geophysical Union General Assembly. (Poster Presentation)

2011. Hatchett, B., D. Koracin, J.T. Abatzoglou, S.D. Basset, and M. Dolloff. Observations and downscaled predictions of land use and urban heat island on climate. Second Conference on Weather, Climate, and the New Energy Economy, 91st Annual American Meteorological Society Meeting. (Poster Presentation)

2011. Hatchett, B., J.F. Mejia, J. Huntington, and D. Koracin. Evaluation of three climate downscaling techniques in forcing a coupled hydrological model in a snow-dominated watershed

in the Lake Tahoe basin. 25th Conference on Hydrology, 91st Annual American Meteorological Society Meeting. (Poster Presentation)

2010. Hatchett, B., M.L. Kaplan, D. Koracin, and J.F. Mejia. Unpredicted extreme snowfall in the Great Divide. 2010 National Weather Service Great Divide Weather Workshop. (Oral Presentation)

2010. Hatchett, B., M.L. Kaplan, D. Koracin, and J.F. Mejia. Playing CSI: A case study of the November 12, 2009 Bozeman, Montana Snow Event. 2010 International Snow Science Workshop. (Oral Presentation)

2010. Vellore, R., B. Hatchett, and D. Koracin. Climate prediction downscaling of temperature and precipitation in the Great Basin region. The 18th Conference on Applied Climatology, 90th Annual American Meteorological Society Meeting, Atlanta, Georgia. (Poster Presentation)

2010. Hatchett, B., S. Gronstal, M. Slayden, D. Koracin, and J. Ewing-Taylor. Integrating complex and nonlinear systems thinking into the secondary education science curriculum. The 19th Symposium on Education, 90th Annual American Meteorological Society Meeting, Atlanta, Ga. (Poster Presentation)

2010. Hatchett, B., D. Koracin, and J. Abatzoglou. Regional Climate Prediction of the Great Basin via Statistical Downscaling of Global Climate Models? Annual NSF EPSCoR Western Tri-State Consortium Meeting, April 6-8, Incline Village, Nevada. (Oral Presentation)

2009. Hatchett, B., R. Vellore, and D. Koracin. Statistical Downscaling of Global Climate Models: An Overview of Methods. Annual NSF EPSCoR Western Tri-State Consortium Meeting, March 31-April 1, Boise, Idaho. (Poster Presentation)

2009. Koracin, D., R. Vellore, R., B. Hatchett, J. Kahyaoglu-Koracin, K. Horvath, and R. Belu. Variability of climate predictions relevant to hydrological resources. American Geophysical Union Annual Meeting. (Poster Presentation)

2009. Hatchett, B., Vellore, R., and Koracin, D. Downscaling of minimum temperature in the semi-arid Great Basin region and implications for bio-geophysical processes. American Geophysical Union Annual Meeting. (Poster Presentation)

2006. Hatchett, B. Estimation of spatial and temporal distribution of snow-water equivalent in an alpine watershed. Presented at First Annual Undergraduate Research Symposium, University of Nevada, Reno. (Oral Presentation)

2005. Hatchett, B. and Hogan, M. Soil compaction effects of mechanized mastication on Lake Tahoe forests. Society for Ecological Restoration, California Chapter meeting, Kings Beach, CA. (Oral Presentation)

2005. Hatchett, B., Hogan, M., and Grismer, M. Soil compaction effects of mechanized mastication on Lake Tahoe forests. Undergraduate Research Poster Contest (3rd Place), University of Nevada, Reno.

INVITED PUBLIC PRESENTATIONS AND STEM OUTREACH

2021. Hatchett, B., Connecting past and present weather extremes. The Science of Winter. Desert Research Institute Science Distilled Series.

2020. Hatchett, B., The 2019 Valentine's Day Avalanche. Sierra Avalanche Center Instagram Live Presentation.

2019. Hatchett, B., and McEvoy, D. Characteristics and Origins of Snow Droughts. 2nd Annual Yampa River Rendezvous, Colorado Mountain College, Steamboat Springs, CO. (Oral presentation)

2019. Hatchett, B. Recent changes in the Sierra Nevada cryosphere, Sierra Nevada Alliance, South Lake Tahoe, CA.

2018. Hatchett, B. Changes in Sierra Nevada Snowpack, Project WET, California Department of Water Resources and Water Education Foundation, Truckee, CA.

2018. Hatchett, B. Eastern Sierra landscapes as climatic time machines. Moorpark Community College, Moorpark, CA.

2018. Hatchett, B. Eastern Sierra landscapes as climatic time machines. Cerro Coso Community College, Bishop, CA.

2017. Hatchett, B., How winter 2016/2017 became one to remember. Professional Ski Instructors of America-Western Section Annual Training Meeting, South Lake Tahoe, CA.

2017. Hatchett, B. Teaching paleoclimate using landforms. Project WET, California Department of Water Resources and Water Education Foundation, Bishop, CA.

2017. Hatchett, B. Landscapes as climatic time machines. UCLA White Mountain Research Station, Bishop, CA.

2017. Hatchett, B. Landscapes of the Great Basin as indicators of past and present weather and climate. Truckee Meadows Parks Foundation, Reno, NV.

2016. Hatchett, B., Possible futures of snow in Lake Tahoe. Professional Ski Instructors of America-Western Section Annual Training Meeting, South Lake Tahoe, CA.

2016. Hatchett, B., Lengths of the Sierra Nevada rain shadow. Mono Lake Committee, Lee Vining, CA.
2016. Hatchett, B. What can Great Basin landforms tell us about past climate extremes? The Future is Now, Exploring the Interlinked Challenges of Water, Energy and Climate, K-12 Teacher training (sponsored by the Desert Research Institute), Reno, NV.
2016. Hatchett, B. Climate extremes of the Great Basin. Science Distilled (sponsored by the Desert Research Institute), Reno, NV.
2016. Hatchett, B. Careers in agricultural engineering and water resources. Two one-hour STEM Career Lab presentations to underprivileged youth, Children's Cabinet, Reno, NV.
2015. Hatchett, B. Ice ages and megadroughts in the Eastern Sierra Nevada. Mono Lake Committee, Lee Vining, CA.
2015. Hatchett, B. Lessons in extreme climates from the Great Basin. One-hour workshop with Generations Rising, Pyramid Lake Paiute Tribe youth camp, ages 13-18, Sutcliffe, NV.
2015. Hatchett, B. Upside down storms and avalanche danger in the Sierra Nevada, UCLA White Mountain Research Station, Bishop, CA.
2014. Hatchett, B. Wild weather and climate of the Great Basin. One-day field trip and classroom presentation to Bishop, Walker, Bridgeport, Big Pine Paiute Tribal youth, Lee Vining, CA.
2014. Hatchett, B. Investigating past and future mountain landscapes in the Sierra Nevada. UC Davis Tahoe Center for Environmental Science, Incline Village, NV.
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MEMBERSHIPS AND SERVICE

European Geophysical Union
American Geophysical Union

Reviewer for: *Science Advances*, *Journal of Climate*, *Geophysical Research Letters*, *GeoHealth*, *Climate Dynamics*, *International Journal of Climatology*, *Journal of Geophysical Research: Atmospheres*, *Water Resources Research*, *Earth's Future*, *Quaternary Science Reviews*, *Journal of Quaternary Science*, *Weather and Forecasting*, *Hydrology and Earth System Sciences*, *Journal of Atmospheric and Oceanic Technology*, *iScience*, *Geosphere*, *Fire*, *Water*, *Climate*, *Urban Science*, *Nevada State Undergraduate Research Journal*

TEACHING EXPERIENCE

University of Nevada, Reno (2019-present) co-teaching "Air Pollution" (4 cr., undergrad/grad level)

Lake Tahoe Community College (2011-present) 9 offerings of "Mountain Weather" (2 cr.)

Sierra Nevada College (2016) "Environmental Engineering and Lab" (3+1 cr.)

Teaching Assistant, University of Nevada, Reno (2010) "Climate Change" (3 cr.), plus nine guest lectures (2010-2016) in undergraduate and graduate courses in atmospheric physics, climatology, spatial analysis, interdisciplinary modeling, mountain geography, world regional geography, biogeography, and physical geography

INTERESTS

Backcountry snowboarding and skiing, alpine rock climbing, mountain biking, skateboarding, photography, writing, and graphic design.