

Curriculum Vitae – March 2024

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Short Bio

Dr. Barsugli has over 14 years' experience applying his training in climate theory and modeling to a wide range of real-world problems in water resources and ecosystem management in Colorado and the western United States. He also pursues foundational research on physical climate science and the impacts of climate change through his appointment as a Research Scientist III at the Cooperative Institute for Research in the Environmental Sciences at the University of Colorado at Boulder, a joint institute between NOAA and CU. In addition to providing climate analyses for numerous climate adaptation projects, he has also written or co-authored papers on the evaluation and use of climate projections including "The Practitioner's Dilemma." He is currently working with NOAA labs to develop the capability to rapidly determine the causes of heat waves.

Education

Harvard University, Physics, B.A. magna cum laude, 1982

University of Washington, Atmospheric Sciences, Ph.D., 1995

Appointments

- 6/2010- present. Research Scientist III, CIRES, University of Colorado, Boulder, CO. Currently affiliated with the CIRES Western Water Assessment and NOAA Physical Sciences Laboratory
- 3/1998- 5/2011. Research Scientist II, CIRES, University of Colorado, Boulder, CO
- 5/1997-2/1998. Research Scientist I, CIRES, University of Colorado, Boulder, CO
- 5/1995-5/1997. Research Associate, CIRES, University of Colorado, Boulder, CO

Selected Peer-reviewed Publications (BOLD for highlighted publications)

Eischeid JK; Hoerling MP; Quan X-W; Kumar A; Barsugli J; Labe ZM; Kunkel KE; Schreck III CJ; Easterling DR; Zhang T, 2023:. Why Has the Summertime Central US Warming Hole Not Disappeared?. *Journal of Climate* 36(20). [10.1175/JCLI-D-22-0716.1](https://doi.org/10.1175/JCLI-D-22-0716.1).

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Hoerling, M., L. Smith, X.-W. Quan, J. Eischeid, J. Barsugli, and H. F. Diaz, 2021: Explaining the Spatial Pattern of US Extreme Daily Precipitation Change. *Journal of Climate*, **34**(7), 2759-2775. doi:10.1175/JCLI-D-20-0666.1

Barsugli, J. J., B. Livneh, A. Heldmeyer, I. Rangwala, A. J. Ray, C. F. Dewes, J. M. Guinotte, S. Torbit , 2020: Projections of mountain snowpack loss for wolverine denning elevations in the Rocky Mountains. *Earth's Future*, **8**(10), 13 pages. doi:10.1029/2020EF001537

Hobbins, M and J. Barsugli, 2020: Climate Change: Threatening the vigor of the Colorado River., *Science*, **367** (6483) 1192-1193, issn: 0036-8075, doi: 10.1126/science.abb3624

Switanek, M. B., J. J. Barsugli, M. Scheuerer, and T. M. Hamill, 2020: Present and Past Sea Surface Temperatures: A Recipe for Better Seasonal Climate Forecasts. *Weather and Forecasting*, **35**(4), 1221-1234. doi:10.1175/WAF-D-19-0241.1

Murray, D., Hoell, A., Hoerling, M., Perlwitz, J., Quan, X. -W., Allured, D., . . . Webb, R. S., 2020: Facility for Weather and Climate Assessments (FACTS) A Community Resource for Assessing Weather and Climate Variability. *Bulletin of the American Meteorological Society*, **101**(7), E1214-E1224. doi:10.1175/BAMS-D-19-0224.1

Kirchhoff, C. J., J. J. Barsugli, G. L. Galford, A. V. Karmalkar, K. Lombardo, S. R. Stephenson, M. Barlow, M, A. Seth, G. L. Wang, A. Frank (2019), Climate assessments for local action, *Bull. Amer. Met. Soc.*, **100** (11) 2147-2152, doi: 10.1175/BAMS-D-18-0138.1

Hoerling, M., J. Barsugli, B. Livneh, J. Eischeid, X. Quan, A. Badger, (2019), Causes for the Century-Long Decline in Colorado River Flow , *J. Climate*, **32** (23) 8181-8203, [doi: 10.1175/JCLI-D-19-0207.1](https://doi.org/10.1175/JCLI-D-19-0207.1)

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Sofaer, H. R., J. J. Barsugli, C. S. Jarnevich, J. T. Abatzoglou, M. K. Talbert, B. W. Miller and J. T. Morisette, 2017: Designing ecological climate change impact assessments to reflect key climatic drivers. *Glob. Change Biol.*, **23** (7) 2537-2553, doi: 10.1111/gcb.13653

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Livneh, B. , J. S. Deems, B. Buma, J. J. Barsugli, D. Schneider, N. P. Molotch, K. Wolter and C. A. Wessman, 2015: Catchment response to bark beetle outbreak and dust-on-snow in the Colorado Rocky Mountains. *J. Hydrol.*, **523**, 196-210, doi: 10.1016/j.jhydrol.2015.01.039

Barsugli, J. J., et al., 2013: The Practitioner's Dilemma: How to Assess the Credibility of Downscaled Climate Projections. *Eos Trans. AGU*, **94 (46) 424-425**

Deems, J. S., T. H. Painter, J. J. Barsugli, J. Belknap, and B. Udall, 2013: Combined impacts of current and future dust deposition and regional warming on Colorado Basin snow dynamics and hydrology. *Hydrol. Earth Syst. Sci.*, **17** (11) 4401-4413.

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Rajagopalan, B, K Nowak, J Prairie, M Hoerling, B Harding, J Barsugli, A Ray and B Udall, 2009: Water supply risk on the Colorado River: Can management mitigate? *Water Resour. Res.*, **45**, issn: 0043-1397, ids: 487CO, [doi: 10.1029/2008WR007652](https://doi.org/10.1029/2008WR007652) , Published 21-Aug 2009

Barsugli, JJ, Si Shin and PD Sardeshmukh, 2006: Sensitivity of global warming to the pattern of tropical ocean warming *Clim. Dyn.*, **27**, (5), 483 - 492, issn: 0930-7575, ids: 076KM, [doi: 10.1007/s00382-006-0143-7](https://doi.org/10.1007/s00382-006-0143-7)

Barsugli, JJ and DS Battisti, 1998: The basic effects of atmosphere-ocean thermal coupling on midlatitude variability *J. Atmos. Sci.*, **55**, (4), 477 - 493, issn: 0022-4928, ids: YZ514, [doi: 10.1175/1520-0469\(1998\)055<0477:TBEAO>2.0.CO;2](https://doi.org/10.1175/1520-0469(1998)055<0477:TBEAO>2.0.CO;2)

Reports

ASCE and NOAA. 2023. ASCE–NOAA Workshops on Leveraging Earth System Science and Modeling to Inform Civil Engineering Design. Ayyub, B.A., DeAngelo B., Walker, D., and Barsugli, J. (editors) <https://doi.org/10.25923/e8kn-n884>

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Walker, S., A. J. Ray, J. J. Barsugli, 2016: Glacier and Runoff Changes: ISR Review and Study Request. NOAA National Marine Fisheries Service Request for Information or Study, 40 pp.

Wooster, J., J. Gange, A. J. Ray., J. J. Barsugli, 2016: Effects of La Grange Hydroelectric Project Under Changing Climate. NOAA National Marine Fisheries Service Request for Information or Study, 36 pp.

Lukas, J., J. Barsugli, N. Doesken, I. Rangwala, K Wolter, 2014: Climate Change in Colorado: A Synthesis to Support Water Resources Management and Adaptation, 2nd Edition., University of Colorado, Boulder, CO. pp. 108

Cayan, D., M. Tyree, K. E. Kunkel, C. Castro, A. Gershunov, J. Barsugli, A. J. Ray, J. Overpeck, M. Anderson, J. Russell, B. Rajagopalan, I. Rangwala, and P. Duffy, 2013: Future Climate: Projected Average, in Assessment of Climate Change in the Southwest United States: A Report Prepared for the National Climate Assessment, edited by G. Garfin, A. Jardine, R. Meredith, M. Black, S. LeRoy, Island Press, 101-125, May 2013.

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Neely, B., R. Rondeau, J. Sanderson, C. Pague, B. Kuhn, J. Siemers, L. Grunau, J. Robertson, P. McCarthy, J. Barsugli, T. Schulz, and C. Knapp, 2011: Gunnison Basin: Vulnerability Assessment for the Gunnison Climate Working Group. The Nature Conservancy, Colorado Natural Heritage Program, Western Water Assessment, and University of Alaska-Fairbanks. Project of the Southwest Climate Change Initiative.

Ray, A. J., J. J. Barsugli, K. E. Wolter, J. Eischeid, 2010: Rapid Response Climate Assessment to Support the FWS Status Review of the American Pika. NOAA Earth System Research Lab Report, Boulder, CO. pp. 47

Barsugli, J.J., C. Anderson, J.B. Smith, and J.M.Vogel, 2009: Options for Improving Climate Modeling to Assist Water Utility Planning for Climate Change. Water Utility Climate Alliance White Paper, pp. 146

Ray, A. J. (co-lead), J. J. Barsugli (co-lead), K. B. Averyt (co-lead), K. E. Wolter, M. P. Hoerling, N. Doesken, B. Udall, R. S. Webb, 2008: Climate Change in Colorado: A Synthesis to Support Water Management and Adaptation. Colorado Water Conservation Board Report, University of Colorado, Boulder, CO. pp. 52