Justin R Minder

Position

Associate Professor
University at Albany (SUNY)
Department of Atmospheric and Environmental Sciences

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Research Interests

Mountain weather and climate; regional climate dynamics; mesoscale meteorology; hydrometeorology

Education

Aug. 2010 — Ph.D., Atmospheric Sciences

University of Washington, Seattle, Washington, USA

- Advisors: Dr. Gerard Roe & Dr. Dale Durran
- Thesis: *On the Climatology of Orographic Precipitation in the Mid-Latitudes*
- Active member of University of Washington Program on Climate Change

May 2004 — B.A., Double Major: Physics & Geology

Vassar College, Poughkeepsie, New York, USA

- General Honors
- Departmental Honors in Physics and Geology

Research Experience

Sept. 2018 – present — Associate Professor, University at Albany, Atmospheric and Environmental Sciences

Sept. 2012 – Sept. 2018 — Assistant Professor, University at Albany, Atmospheric and Environmental Sciences

Oct. 2010 – Sept. 2012 — Richard Foster Flint Post-Doctoral Fellow, Yale University Department of Geology and Geophysics

- Supervisor: Dr. Ronald B. Smith

Sept. 2004 – Jun. 2010	Graduate Research Assistant/Fellow, University of Washington Department of Atmospheric Sciences
Sept. 2003 – May 2004	Undergraduate Research Thesis, Vassar College
Summer 2003	National Science Foundation Summer Undergradute Research Fellow in Oceanography, University of Rhode Island Graduate School of Oceanography
Summer 2002	Undergraduate Summer Research Intern, Vassar College

Research Funding

Pending

- Sep. 2025 – Aug. 2028: (PI; $458,225): *Collaborative Research: Mechanisms Governing Changes in Temperature and Precipitation over the Andes Mountains*
- Oct. 2023 – Sep. 2026: (co-PI; $599,973 sub-award from UC San Diego): *Foundational Support for Evaluating Flood Risk Management and NYC Water Supply Reliability in the Catskill and Delaware River Watershed*

Awarded

- Oct. 2023 – Sept. 2026: EPA (sub-award from Univ. of VT) (co-PI; $78,388): *Northeastern Mountain Environmental Information Exchange Network*
- Sept. 2023 – Sept. 2024: Bender Scientific Fund (via. UAlbany Foundation) (co-PI; $12,500): *Weather, Climate, and Chemistry Camp program at UAlbany: 2024*
- Nov. 2022 – Nov. 2023: NASA (via. Univ. Montana) (co-PI; ∼$60,000 in research supplies and travel expenses): *Nationwide Eclipse Ballooning Project – UAlbany Team Support*
- Oct. 2022– Sep. 2023: NASA (PI; $68,586): *UAlbany observations in support of IMPACTS-2023*
- Sep. 2021– Feb. 2025: NSF (PI; $1,369,548): *Collaborative Research: WINTRE-MIX: Winter Precipitation Type Research Multi-scale Experiment* (Served as overall lead-PI for multi-institution project. Total NSF support ∼$3,600,000)
- Jan. 2021 – Jun. 2022: NASA (PI; $30,220): *UAlbany profiling radar and distrometer observations in support of IMPACTS*
- Sep. 2019– Aug. 2022: NOAA/OAR (PI; $216,671): *Improving Snow and Streamflow Simulation in the National Water Model by Leveraging Advanced Mesonet Observations from the Northeastern United States*
- Jul. 2019– Jun. 2022: NOAA/OAR (PI; $308,502): *Advancing Probabilistic Prediction of High-Impact Winter Storms through Ensemble NWP and Post-Processing*
- May 2019– Apr. 2022: NOAA/NWS/CSTAR (co-PI; $450,000): *Improving Analyses, Numerical Models, and Situational Awareness of High Impact Severe Convective and Mixed-Phase Precipitation Events in Complex Terrain*
- Jan. 2016– Apr. 2019: NOAA/NWS/CSTAR (co-PI; $450,000): *Development of Improved Diagnostics, Numerical Models, and Situational Awareness of High-Impact Cyclones and Convective Weather Events*
- Mar. 2014– Dec. 2020: NSF-CAREER Award (PI; $571,000): *CAREER: The Mesoscale Climate Dynamics of Rocky Mountain Snowpack Depletion*
- Mar. 2015– Oct. 2018: NSF-EAGER (PI; $84,000): *Collaborative Research: Chilean Coastal Orographic Precipitation Experiment pilot project (CCOPE-2015)*
- Jul. 2012– Jun. 2015: UAlbany Faculty Seed Funding - FRAP-B (PI; $3,900): *Understanding Topographic Influences on Lake-Effect Snow Bands via Profiling Radar Observations and Numerical Modeling*

Field Project Experience

2023–2024	Nationwide Eclipse Ballooning Project (NEBP; https://eclipse.montana.edu/) *Co-PI of UAlbany radiosonde observation team*
2022	Winter Precipitation Type Research Multi-scale Experiment (WINTRE-MIX; https://www.eol.ucar.edu/field_projects/wintre-mix) New York & Quebec *Overall lead PI; profiling radar, sounding, disdrometer, & manual hydrometeor observations*
2020–2023	Investigation of Microphysics and Precipitation for Atlantic Coast-Threatening Snowstorms (IMPACTS; https://espo.nasa.gov/impacts/content/IMPACTS) Albany, NY *UAlbany PI: profiling radar, disdrometer, and balloon sounding observations*
2017	Chemical Processing of Organics within Clouds (CPOC; https://research.asrc.albany.edu/facstaff/lance/CPOC.html) Whiteface Mountain, Wilmington, NY *Co-PI: experimental design, disdrometer & sounding observations, forecasting*
2015	The Chilean Coastal Orographic Precipitation Experiment (CCOPE-2015; https://www.eol.ucar.edu/field_projects/CCOPE-2015/) Arauco Province, Chile *Co-PI: experimental design, coordinated operations, profiling radar observations and soundings*
2013–2014	Ontario Winter Lake-effect Systems (OWLeS; https://www.eol.ucar.edu/projects/owles/) Western New York, USA *Deployed and analyzed data from profiling radars*
2011	The Dominica Experiment (DOMEX; https://sites.google.com/a/domex2011.com/domex2011/) Dominica, WI *Surface instrument deployment, flight scientist, mission planning*
2004–2010	Olympic Mountain Rainfall Climatology Coastal Washington, USA *Operations design & direction, instrument deployment*

Additional Education & Workshops

Dec. 2021	ADVANCEGeo Workshop: Improving Workplace Climate: Empowering Individuals to Become Active Bystanders (organized workshop for all WINTRE-MIX project participants)
Nov. 2021	Understanding and Predictability of Integrated Mountain Hydroclimate (DOE-organized virtual workshop)
Jul. & Aug. 2020	Mountain Observatories for Composition of the Atmosphere (MOCA) workshops (two 1-2 h virtual workshop sessions)
Sep. 2019	Multi-scale Transport and Exchange Processes in the Atmosphere over Mountains – Programme and Experiment Workshop (TEAMx, Roverto, Italy).

Aug. 2019	Diversity and Inclusion Facilitation 101 (UAlbany, Albany, NY)
Sep. 2018	Convection-Permitting Climate Modeling Workshop II (GEWEX, Boulder, CO)
Sep. 2016	Convection-Permitting Climate Modeling Workshop (GEWEX, Boulder, CO)
Jun. 2014	Stable Isotopes in Environmental Research and Undergraduate Research Training (Union College, Schenectady, NY)
Jan. 2014	UAlbany – University of the West Indies workshop on Caribbean rainfall variability and climate change (Albany, NY)
Mar. 2012	Orographic Precipitation and Climate Change Workshop (NCAR-RAL, Boulder, CO)
May 2009	Observing the Atmosphere: Observational Instruments and Techniques (NCAR-ASP, Boulder, CO)
Aug. 2008	Mountain Weather Workshop: Bridging the Gap Between Research and Forecasting (Whistler, BC)

Honors and Awards

2018	American Meteorological Society (AMS) Mountain Meteorology Early Career Award
2018	UAlbany President's Award for Exemplary Public Engagement
2014–2019	National Science Foundation CAREER award
2010–2012	Richard Foster Flint Post-Doctoral Fellowship, Yale Deptartment of Geology & Geophysics
Sept. 2010	AMS Mountain Meteorology Young Scientist Presentation Award, 2nd place oral
May 2009	International Conference on Alpine Meteorology (ICAM) Young Scientist Presentation Award, 1st place oral
2006–2009	National Science Foundation Graduate Research Fellowship
Sept. 2004	University of Washington Top Scholar Award
2004–2005	University of Washington Program on Climate Change First Year Fellowship
May 2004	Vassar College Erminnie Smith Prize for Excellence in Geology
May 2004	Inducted into Sigma Xi & Phi Beta Kappa

Publications

Student and postdoc authors from Minder research group are underlined.

For each published journal article, **the below DOIs are hyperlinked to the full text**. Links to full text versions, and a listing of publications in preparation and review, can also be found at:
http://www.atmos.albany.edu/facstaff/jminder/research

In preparation

- **Minder, J.R.**, B.J. Stutsrim, C. Speciale, T. Wasula, B.C. Filipiak, B. Shrestha, J. Wang, N. Bassill, H.D. Reeves, D.D. Tripp, D. Thompson, N. Stuart, M. Evans (est. submission Mar. 2025): Evaluating Tools for Diagnosis and Nowcasting Precipitation Type and Freezing Rain: Results from the 3–4 February 2022 Winter Storm in the Hudson Valley.

Submitted

- Girouard, M., J. M. Thériault, M. Lachapelle, **J.R. Minder** (Under Review): On the precipitation properties and microphysical processes during winter precipitation-type transitions, *Journal of the Atmospheric Sciences*.
- Han, B., **J.R. Minder**, (In Revision): Simulating the transition from freezing rain to ice pellets: the role of boundary layer temperature and secondary ice production, *Monthly Weather Review*.

Accepted

- Bartolini, W.M., **J.R. Minder**, (Accepted): Stochastic Parameter Perturbations in High-Resolution Ensemble Simulations of Lake-effect Snow during OWLeS, *Weather and Forecasting*.

Published (Refereed)

2025 44) Lachapelle, M., L. Nichman, M. Girouard, C. Nguyen, K. Ranjbar, N. Bliankinshtein, K. Bala, J. M. Thériault, J. R. French, **J.R. Minder**, M. Wolde, (2025): Airborne and Ground Measurements for Vertical Profiling of Secondary Ice Production during Ice Pellet Precipitation, *Journal of the Atmospheric Sciences*, **82**, 559–583, https://doi.org/10.1175/JAS-D-24-0117.1.

2025 43) **Minder, J.R.**, T.W. Letcher, A. RafieeiNasab, P. Naple, S. Liotta, T. Enzminger, J. Wang, (2025): Improving Snow in the National Water Model using Observations from the New York State Mesonet, *Journal of Hydrometeorology*, **26**, 69–90, https://doi.org/10.1175/JHM-D-24-0057.1

2024 42) Zaremba, T.J., **J.R. Minder**, K. Friedrich (2024): Small-scale wind fluctuations within melting layers of winter storms: results from WINTRE-MIX, *Journal of the Atmospheric Sciences*, https://doi.org/10.1175/JAS-D-24-0087.1

2024 41) Winters, A.C., N.P. Bassill, J.R. Gyakum, **J.R. Minder**, 2024: Regime-Dependent Characteristics and Predictability of Cold Season Precipitation Events in the St. Lawrence River Valley, *Weather and Forecasting*, https://doi.org/10.1175/WAF-D-23-0218.1.

2024 40) Rojas, Y.B., **J.R. Minder**, 2024: Variability of the rain shadow strength across the southern Andes, *Atmospheric Research*, **308**, 107509, https://doi.org/10.1016/j.atmosres.2024.107509.

2024 39) Wallace, B., **J.R. Minder**, 2024: The Sensitivity of the North American Monsoon to Gulf of California Sea Surface Temperatures, *Climate Dynamics*, https://doi.org/10.1007/s00382-023-07057-2.

2024 38) Dominguez, F., R. Rasmussen, C. Liu, K. Ikeda, A. Prein, P. Arias, J. Betancourt, M. K. Bettolli, P. Callaghan, L. M. V. Carvalho, C. L. Castro, F. Chen, D. Chug, K. P. Chun, A. Dai, L. Danaila, R. Porfirio da Rocha, E. d Lima Nascimento, E. Dougherty, J. Dudhia, T. Eidhammer, Z. Feng, L. Fita, R. Fu, J. Giles, H. Gilmour, K. Halladay, Y. Huang, A. M. I. Wong, M. A. Lagos-Zuniga, C. Jones, J. Llamocca, M. Llopart, J. A. Martinez, J. C. Martinez, **J.R. Minder**, M. Morrison, Z. L. Moon, Y. Mu, R. Neale, K. M. N. Ocasio, S. Pal, Potter, E., G. Poveda, F. Puhales, K. Rasmussen, A. Rehbein, R. Rios-Berrios, C. B. Risanto, A. Rosales, L. Scaff, A. Seimon, M. Somos-Valenzuela, Y. Tian, P. Van Oevelen, D. Veloso, L. Xue, T. Schneider, 2024: Advancing South American Hydroclimate Science Through Multi-Decadal Convection-Permitting Modeling, *Bulletin of the American Meteorological Society*, **105**, E32–E44, https://doi.org/10.1175/BAMS-D-22-0226.1.

2024 37) Wallace, B., **J.R. Minder**, 2024: The North American Monsoon precipitation response to climate warming at convection-permitting scales, *Climate Dynamics*, https://doi.org/10.1007/s00382-023-06920-6.

2023 36) **J.R. Minder**, N. Bassil, F. Fabry, J.R. French, K. Friedrich, I. Gultepe, J. Gyakum, D.E. Kingsmill, K. Kosiba, M. Lachapelle, D. Michelson, L. Nichman, C. Nguyen, J. Theriault, A. Winters, M. Wolde, J. Wurman, 2023: P-type Processes and Predictability: The Winter Precipitation Type Research Multi-scale Experiment (WINTRE-MIX), *Bulletin of the American Meteorological Society*, **104**, E1469–E1492, https://doi.org/10.1175/BAMS-D-22-0095.1.

2022 35) Gowan, T.M., W.J. Steenburgh, **J.R. Minder**, 2022: Orographic effects on landfalling lake-effect systems, *Monthly Weather Review*, **150**, 2013–2031, https://doi.org/10.1175/MWR-D-21-0314.1.

2022 34) Letcher, T.W., **J.R. Minder**, P. Naple, 2022: Understanding and improving snow processes in Noah-MP over the northeast United States via a new state-of-the-art surface observation network, *ERDC/CRREL technical report no. ERDC/CRREL TR-22-9.*, http://dx.doi.org/10.21079/11681/45060.

2022 33) Chimborazo, O., **J.R. Minder**, M. Vuille, Observations and Simulated Mechanisms of Elevation-Dependent Warming over the Tropical Andes, *Journal of Climate*, **35**, 1021–1044, https://doi.org/10.1175/JCLI-D-21-0379.1.

2021 32) Gowan, T. M., W.J. Steenburgh, **J.R. Minder**, 2021: Downstream Evolution and Coastal-to-Inland Transition of Landfalling Lake-Effect Systems, *Monthly Weather Review*, **149**, 1023-1040, https://doi.org/10.1175/MWR-D-20-0253.1.

2021 31) Wallace, B., **J.R. Minder**, 2021: The impact of snow loss and soil moisture on convective precipitation over the Rocky Mountains under climate warming, *Climate Dynamics*, **56**, 2915–2939, https://doi.org/10.1007/s00382-020-05622-7.

2021 30) Rojas, Y., **J.R. Minder**, L.S. Campbell, A.K. Massmann, R.D. Garreaud, 2021: Assessment of GPM IMERG satellite precipitation estimation and its dependence on microphysical rain regimes over the mountains of south-central Chile, *Atmospheric Research*, **253**, 105454, https://doi.org/10.1016/j.atmosres.2021.105454.

2020 29) Lance, S., and 22 Coauthors (incl. M.J. Brewer and **J.R. Minder**), 2020: Overview of the CPOC Pilot Study at Whiteface Mountain, NY: Cloud Processing of Organics within Clouds (CPOC). *Bull. Amer. Meteor. Soc.*, https://doi.org/10.1175/BAMS-D-19-0022.1.

2020 28) Brotzge, J. A., and 18 Coauthors (incl. **Minder, J.R.**), 2020: A Technical Overview of the New York State Mesonet Standard Network. *J. Atmos. Oceanic Technol.*, **37**, 1827–1845, https://doi.org/10.1175/JTECH-D-19-0220.1.

2020 27) **Minder, J.R.**, W.M. Bartolini, C. Spence, N.R. Hedstrom, P.D. Blanken, J.D. Lenters, 2020: Characterizing and constraining uncertainty associated with surface and boundary layer turbulent fluxes in simulations of lake-effect snowfall, *Wea. Forecasting*, **35**, 467–488, https://doi.org/10.1175/WAF-D-19-0153.1.

2019 26) Fults, S.L., A.K. Massmann, A. Montecinos, E. Andrews, D.E. Kingsmill, **J.R. Minder**, R.D. Garreaud, J. R. Snider, 2019: Wintertime aerosol measurements during the Chilean Coastal Orographic Precipitation Experiment, *Atmos. Chem. Phys.*, **19**, 12377–12396, https://doi.org/10.5194/acp-19-12377-2019.

2019 25) Xia, G., L. Zhou, **J.R. Minder**, R.G. Fovell, P.A. Jimenez, 2019: Simulating Impacts of Real-World Wind Farms on Land Surface Temperature Using the WRF Model: Physical Mechanisms, *Climate Dynamics*, **53**, 1723–1739, doi:10.1007/s00382-019-04725-0.

2018 24) **Minder, J.R.**, T.W. Letcher, C. Liu, 2018: The character and causes of elevation-dependent warming in high-resolution simulations of Rocky Mountain climate change, *Journal of Climate*, **75**, 755–774, doi:10.1175/JAS-D-17-0166.1.

2018 23) Letcher, T.W., **J.R. Minder**, 2018: The simulated impact of the snow albedo feedback on the large-scale mountain-plain circulation east of the Colorado Rocky

Mountains, *Journal of the Atmospheric Sciences*, *Journal of Climate*, **31**, 2093–2113, doi:10.1175/JAS-D-17-0166.1.

2017 22) Xia, G., M.C. Cervarich, S.B. Roy, L. Zhou, **J.R. Minder**, P.A. Jimenez, J.M. Freedman, 2017: Simulating impacts of real-world wind farms on land surface temperature using WRF model: validation with MODIS observations, *Monthly Weather Review*, **145 (12)**, 4813–4836, doi:10.1175/MWR-D-16-0401.1.

2017 21) Massmann, A.K., **J.R. Minder**, R.D. Garreaud, D.E. Kingsmill, R.A. Valenzuela, A. Montecinos, S.L. Fults, J.R. Snider, 2017: The Chilean Coastal Orographic Precipitation Experiment: Observing the influence of microphysical rain regime on coastal orographic precipitation, *Journal of Hydrometeorology*, **18 (10)**, 2723–2743, doi:10.1175/JHM-D-17-0005.1.

2017 20) Kristovich, D.A.R., R.D. Clark, J. Frame, B. Geerts, K.R. Knupp, K.A. Kosiba, N.F. Laird, N.D. Metz, **J.R. Minder**, T.D. Sikora, W.J. Steenburgh, S.M. Steiger, J. Wurman, G.S. Young, 2017: The Ontario Winter Lake-Effect Systems Field Campaign: Scientific and educational adventures to further our knowledge and prediction of lake-effect storms. *Bulletin of the American Meteorological Society*, **98 (2)**, 315–332, doi:10.1175/BAMS-D-15-00034.1.

2017 19) Letcher, T. W., and **J. R. Minder**, 2017: The simulated response of diurnal mountain winds to regionally enhanced warming caused by the snow albedo feedback. *Journal of the Atmospheric Sciences*, **74 (1)**, 49–67, doi:10.1175/JAS-D-16-0158.1.

2016 18) Welsh, D., B. Geerts, X. Jing, P. T. Bergmaier, **J. R. Minder**, W. J. Steenburgh, and L. S. Campbell, 2016: Understanding heavy lake-effect snowfall: The vertical structure of radar reflectivity in a deep snowband over and downwind of Lake Ontario. *Monthly Weather Review*, **144 (11)**, 4221–4244, doi:10.1175/MWR-D-16-0057.1.

2016 17) Campbell, L. S., W. J. Steenburgh, P. G. Veals, T. W. Letcher, and **J. R. Minder**, 2016: Lake-effect mode and precipitation enhancement over the Tug Hill Plateau during OWLeS IOP2b. *Monthly Weather Review*, **144 (5)**, 1729–1748, doi:10.1175/MWR-D-15-0412.1.

2016 16) **Minder, J. R.**, T. W. Letcher, and S. M. Skiles, 2016: An evaluation of high-resolution regional climate model simulations of snow cover and albedo over the Rocky Mountains, with implications for the simulated snow-albedo feedback. *Journal of Geophysical Research: Atmospheres*, **121 (15)**, 9069–9088, doi:10.1002/2016JD024995.

2015 15) Letcher, T. W., and **J. R. Minder**, 2015: Characterization of the simulated regional snow albedo feedback using a regional climate model over complex terrain. *Journal of Climate*, **28 (19)**, 7576–7595, doi:10.1175/JCLI-D-15-0166.1.

2015 14) **Minder, J. R.**, T. W. Letcher, L. S. Campbell, P. G. Veals, and W. J. Steenburgh, 2015: The evolution of lake-effect convection during landfall and orographic uplift as observed by profiling radars. *Monthly Weather Review*, **143 (11)**, 4422–4442, doi:10.1175/MWR-D-15-0117.1.

2015 13) Thériault, J. M., J. A. Milbrandt, J. Doyle, **J. R. Minder**, G. Thompson, N. Sarkadi, and I. Geresdi, 2015: Impact of melting snow on the valley flow field and precipitation phase transition. *Atmospheric Research*, **156**, 111–124, doi:10.1016/j.atmosres.2014.12.006.

2014 12) Nugent, A. D., R. B. Smith, and **J. R. Minder**, 2014: Wind speed control of tropical orographic convection. *Journal of the Atmospheric Sciences*, **71 (7)**, 2695–2712, doi:10.1175/JAS-D-13-0399.1.

2013 11) **Minder, J. R.**, and D. E. Kingsmill, 2013: Mesoscale variations of the atmospheric snow-line over the northern Sierra Nevada: multi-year statistics, case study, and mechanisms. *Journal of the Atmospheric Sciences*, **70 (3)**, 916–938, doi:10.1175/JAS-D-12-0194.1.

2013 10) **Minder, J. R.**, R. B. Smith, and A. D. Nugent, 2013: The dynamics of ascent-

forced orographic convection in the Tropics: Results from Dominica. *Journal of the Atmospheric Sciences*, **70 (12)**, 4067–4088, doi:10.1175/JAS-D-13-016.1.

2012 9) Smith, R.B., **J.R. Minder**, A.D. Nugent, D.J. Kirshbaum, T. Storelvmo, R. Warren, Neil Lareau, P. Palany, A. James, and J. French, 2012: Orographic precipitation in the tropics: The Dominica Experiment. *Bulletin of the American Meteorological Society*, **93 (10)**, 1567–1579, doi:10.1175/BAMS-D-11-00194.1.

2011 8) **Minder, J. R.**, D. R. Durran, and G. H. Roe, 2011: Mesoscale controls on the mountainside snow line. *Journal of the Atmospheric Sciences*, **68 (9)**, 2107–2127, doi: 10.1175/JAS-D-10-05006.1.

2010 7) **Minder, J. R.**, P. W. Mote, and J. D. Lundquist, 2010: Surface temperature lapse rates over complex terrain: Lessons from the Cascade Mountains. *Journal of Geophysical Research: Atmospheres*, **115 (D14)**, doi:10.1029/2009JD013493.

2010 6) Lundquist, J., **J.R. Minder**, P. Neiman, and E. Sukovich, 2010: Relationships between barrier jet heights, precipitation distributions, and streamflow in the northern Sierra Nevada. *Water Resources Research*, **11 (5)**, 1141–1156, doi:10.1175/2010JHM1264.1.

2010 5) **Minder, J.R.**, 2010: The sensitivity of mountain snowpack accumulation to climate warming. *Journal of Climate*, **23 (10)**, 2634–2650, doi:10.1175/2009JCLI3263.1.

2009 4) **Minder, J.R.**, G. Roe, and D. Montgomery, 2009: Spatial patterns of rainfall and shallow landslide susceptibility. *Water Resources Research*, **45**, doi:10.1029/2008WR007027.

2008 3) **Minder, J.R.**, D. Durran, G. Roe, and A. Anders, 2008: The climatology of small-scale orographic precipitation over the Olympic Mountains: Patterns and processes. *Quarterly Journal of the Royal Meteorological Society*, **134 (633)**, 817–839, doi:10.1002/qj.258.

2007 2) Anders, A. M., G. H. Roe, D. R. Durran, and **J. R. Minder**, 2007: Small-scale spatial gradients in climatological precipitation on the Olympic Peninsula. *Journal of Hydrometeorology*, **8 (5)**, 1068–1081, doi: 10.1175/JHM610.1.

2004 1) McAdoo, B. G., M. K. Capone, and **J. Minder**, 2004: Seafloor geomorphology of convergent margins: Imlications for Casadia seismic hazard. *Tectonics*, **23 (6)**, doi:10.1029/2003TC001570.

Published (Non–Refereed)

2023 • Schultz, D.M., J. Anderson, T. Benacchio, K. L. Corbosiero, M. D. Eastin, C. Evans, J. Gao, J. P. Hacker, D. Hodyss, D. Kleist, M. R. Kumjian, R. McTaggart-Cowan, Z. Meng, **J.R. Minder**, D. Posselt, P. Roundy, A. Rowe, M. Scheuerer, R. S. Schumacher, S. Trier, C. Weiss, 2023: How to Be a More Effective Author. *Monthly Weather Review*, **150**, 2819–2828, https://doi.org/10.1175/MWR-D-22-0277.1

2020 • Prein, A.F., R. Rasmussen, C.L. Castro, A. Dai, **J.R. Minder**, 2020: Special Issue: Advances in convection-permitting climate modeling. *Clim. Dyn.*, **55**, 1–2, https://doi.org/10.1007/s00382-020-05240-3.

2011 • **Minder, J.R.**, and G.H. Roe, 2011: Orographic Precipitation, In *The Encyclopedia of Snow, Ice, and Glaciers*. Ed. V.P. Singh, P. Singh, and U.K. Haritashya, Springer Press.

Invited Presentations

Student authors from Minder research group are underlined.

2024 • **Minder, J. R.**, Dec. 2024: Improving Mesoscale Forecasts of Winter Precipitation: Results from Stochastic Physics Experiments and Field Campaign Observations, *Penn State University Department of Meteorology and Atmospheric Science Colloquium*, University Park, PA.

2022 • **Minder, J. R.**, Apr. 2022: WINTRE-MIX: The Winter Precipitation Type Research Multi-scale Experiment *Falconer Lecture Series*, Atmospheric Sciences Research Center, University at Albany, Albany, NY, (video link).

2021 • **Minder, J. R.**, Nov. 2021: Some Thoughts on the Future of Mountain Hydroclimate Research *DOE Understanding and Predictability of Integrated Mountain Hydroclimate Workshop*, online.

2020 • **Minder, J. R.**, May 2020: The importance of the snow albedo feedback for understanding and projecting changes in mountain climates. *Climate Dynamics Seminar Series*, George Mason University (delivered remotely).

2019 • **Minder, J. R.**, Dec. 2019: The importance of the snow albedo feedback for understanding and projecting changes in mountain climates. *American Geophysical Union–Fall Meeting*, San Francisco, CA.

2019 • **Minder, J. R.**, T. Letcher, B. Wallace, Jul. 2019: The role of the snow albedo feedback in regional climate change over mountains as revealed by high-resolution RCM experiments, *International Union of Geodesy and Geophysics General Assembly*, Montreal, QC, Canada,

2018 • **Minder, J. R.**, Nov. 2018: Towards improved understanding & prediction of intense lake-effect snowstorms, *Atmospheric & Oceanic Sciences Seminar*. McGill University, Montreal, QC, Canada,

2017 • **Minder, J. R.**, Mar. 2017: Extreme snow: Experiments to improve understanding and prediction of intense lake-effect snow storms, *Earth & Atmospheric Science Seminar*. City College of New York, New York, NY.

2015 • **Minder, J.R.**, T. Letcher, Dec. 2015: An Evaluation of High-Resolution Regional Climate Model Simulated Snow Cover Using Satellite Data (With Implications for the Simulated Snow-Albedo Feedback). *American Geophysical Union–Fall Meeting*, San Francisco, CA.

2014 • **Minder, J.R.**, T. Letcher, R.M. Rasmussen, K. Ikeda, C. Liu, Sep. 2014: The role of the snow-albedo feedback in simulated regional climate change over the Rocky Mountains. *MTNCLIM 2014*, Midway, Utah.

2011 • **Minder, J.R.**, Sep. 2011: How mountains shape their own snow-lines: Mesoscale observations, modeling, and processes. *Stony Brook University, School of Marine and Atmospheric Sciences*, Stony Brook, New York.

2011 • **Minder, J.R.**, R.B. Smith, A.D. Nugent, and D.J. Kirshbaum, Dec. 2011: The role of ascent–forced convection in orographic precipitation: Results from the DOMEX field campaign. *American Geophysical Union–Fall Meeting*, San Francisco, CA.

Teaching Experience

Instructor, University at Albany

2024 • AATM 209: Weather Workshop
2024 • AATM 210: Atmos. Structure, Thermodynamics, and Circulation
2023 • AATM 480: Special Topics in Atmos. Sci. – Atmospheric Science Fieldwork
2020 • AATM 103: Introduction to Climate Change
2014 – 2020, 2023 • AATM 321/425Y: Physical Meteorology
2016, 2018, 2021, 2022, 2024 • AENV 404/480: The Adirondack Environment
2013, 2015, 2019, 2021, 2023 • AATM 641: Mesoscale Processes

2012, 2013, 2014
- AATM 301: Surface Hydrology & Hydrometeorology

Teaching Assistant, University of Washington

- Atmos. Sci. 587: Climate Dynamics
- Atmos. Sci. 101: Weather

2004 Teaching Intern, Vassar College HHMI program, FDR High School, Hyde Park, NY

Students & Postdocs Advised

(* = **primary advisor/mentor**, + = PhD committee member, # = MS thesis reader)

Postdocs

July 2023– Summer 2024 **Troy Zaremba*** (Postdoctoral fellow) *Currently a Postdoctoral Researcher at University of Washington*

Fall 2021– Spring 2023 **Bin Han*** (Postdoctoral fellow) *Currently a Postdoctoral Researcher at Princeton University/NOAA GFDL*

Graduate students (PhD)

Fall 2022– present **Megan Schiede*** (MS '24, PhD student)

Fall 2017 – Oct. 2023 **Yazmina Rojas Beltran*** (PhD) *Currently a Postdoctoral Scholar at Center for Western Weather and Water Extremes, Scripps Inst. of Oceanography, UC San Diego*

Fall 2016 – Apr. 2023 **W. Massey Bartolini*** (PhD) *Currently a Facilitator for the NOAA Weather Prediction Center Hydrometeorological Testbed*

Fall 2016 – Fall 2022 **Brendan Wallace*** (PhD) *Currently a climate data scientist at Leidos*

Fall 2013 – May 2017 **Theodore Letcher*** (PhD) *Currently a Research Scientist at Cold Region Research and Engineering Lab*

Oct. 2024– present Adam Deitsch + (PhD student)

Mar. 2024– present Liam Sheji+ (PhD student)

Fall 2023– present Richard Garmong+ (PhD student)

Jan. 2022 – present Elizabeth McCabe+ (PhD student)

Jul. 2020 – present Yichen Cai+ (PhD student)

Jul. 2020 – Aug. 2024 Chris Lawrence+ (PhD)

Jun. 2021 – Jul. 2024 Matthew Brewer+ (PhD)

Jul. 2020 – May 2024 Katrina Fandrich#+ (PhD)

Oct. 2019 – May 2020 Na Zhou+ [proposal defense committee only] (PhD student – Stony Brook Univ.)

Jun. 2021 – Aug. 2021 Matthew Jenkins+ [qual. exam committee only] (PhD)

May 2019 Fangze Zhu +[qual. exam committee only] (PhD)

Mar. 2018 – Aug. 2021 Kevin Lupo + (PhD)

May 2018 – Jul. 2021 Vanessa Przybylo + (PhD)

Mar. 2017 – Jul. 2021 Alex Gallagher + (PhD)

Aug. 2018 – Jul. 2021 Lauriana Gaudet + (PhD)

Aug. 2019 – Jan. 2021 Michael Wessler + (PhD student – University of Utah)

Jan. 2018 – Jan. 2021 Tom Gowan+ (PhD – University of Utah)

2016 – 2018 Oscar Chimborazo + (PhD)

Jan. 2016 – Dec. 2018 Peter Veals+ (PhD – University of Utah)

Fall 2015 – Jan 2018 Geng Xia+ (PhD)

May 2014 – Jul. 2017 Leah Campbell+ (PhD – University of Utah)

Graduate students (MS)

Fall 2024– present	**Chris Gilberti**[*] (MS student)
Fall 2023– present	**Ada Ellingworth**[*] (MS student)
Fall 2020 – July 2023	**Erin Potter**[*] (MS) *Currently a lecturer at Binghamton University*
Fall 2019 – Aug. 2021	**Patrick Naple**[*] (MS) *Currently a PhD student in geography at University of Utah*
Fall 2019 – Aug. 2021	**Matthew Seymour**[*] (MS) *Currently a Research Support Specialist at Center of Excellence in Weather & Climate Analytics*
Fall 2014 – May 2016	**Adam Massmann**[*] (MS) *Completed PhD in Environmental Engineering at Columbia University. Currently a consultant with Keta Waters.*
Sep. 2015 – May 2016	Hannah Huelsing[#] (MS)

Undergraduate (research)

Sum. 2024 – Fall 2024	Alliston Potter (REU summer student)
Fall 2023 – Spr. 2024	Klaudia Williams
Sum. 2022 – Spr. 2023	John England *Currently with Forensic Weather Consultants*
Sum. 2022 – Spr. 2023	Michael Barletta *Currently UAlbany PhD student*
Sum. 2022	Sydney Boschulte
Fall 2022 – Sum. 2023	Sierra Liotta *Currently Univ. Colorado PhD student*
Fall 2020 – Spr. 2021	Celia Werner *Currently Stony Brook Univ. PhD student*
Fall 2019 – Spr. 2020	Erin Leghart *Currently Stony Brook Univ. PhD student*
Sum. 2018 – Sum. 2019	Terry Allard
Fall 2017 – Spr. 2018	Marqi Rocque *Currently Colorado State Univ. PhD student*
Sum. 2017 – Spr. 2018	Matthew Brewer *Currently UAlbany PhD student*
Fall 2015 – Spr. 2016	Amanda Colley
Spr. 2015	Patrick Naple *Currently Univ. Utah PhD student*
Fall 2013 –Spr. 2014	Alex Gallagher *Currently a Research Scientist at Cold Region Research and Engineering Lab*

Undergraduate (academic)

Fall 2012–present	Advise 4-8 students (numbers fluctuate). Annual transfer advising.

Service

Department

- Aug. 2022 – present: Committee Chair, Atmospheric & Environmental Sciences Undergraduate Committee
- Mar. 2017–present: Committee Member, Atmospheric & Environmental Sciences Inclusion and Diversity Committee
- Sep. 2023 – Mar. 2024: Committee Member, Atmospheric & Environmental Sciences Faculty Search Committee
- Jun. 2015– Jul. 2022: Committee Member, Atmospheric & Environmental Sciences Undergraduate Committee
- Jul. 2017, 2020: Presenter, Atmospheric and Environmental Sciences workshop for high school teachers
- Aug. 2019 – Mar. 2020: Committee Member, Atmospheric & Environmental Sciences Faculty Search Committee
- Aug. 2013 – Jun. 2015: Committee Member, Atmospheric & Environmental Sciences Graduate Committee
- Aug. 2013 – Feb. 2014: Committee Member, Atmospheric & Environmental Sciences Faculty Search Committee

University

2024–present
- Research Mentor, Research Experience for Undergraduates: Atmospheric Research and Engineering Solutions for Climate Change and Environmental Challenges

2022–present
- Member, New York State Mesonet Science Advisory Committee

2023
- Committee Member, Atmospheric Sciences Research Center Research Associate Search Committee

2019–2022
- Co-chair, New York State Mesonet Science Advisory Committee

2016–2019
- UAlbany Faculty Senate Council on Research (CoR)
  Chair of Conference/Journal Support Award review subcommittee (2016–2018), Member of FRAP-A Award review subcommittee (2016), Chair of FRAP-A Award review subcommittee (2018)

2019
- Committee Member, President's Awards for Exemplary Public Engagement, Selection Committee

2018
- Committee Member, Office of Vice President for Research, Support Staff Search Committee

May 2016, 2017
- Guest Speaker, NSF CAREER Proposal Writing Workshop

Apr. 2013, 2014, 2015, 2016, 2017, 2018, 2019
- Participant, UAlbany Family Earth Day event
  Provided weather balloon launch demonstrations

Nov. 2016
- Grant proposal reviewer, PIFRS

Apr. 2014 – Apr. 2015
- Subcommittee Member, New York State Mesonet: Site Survey and Site Standards Subcommittee

Apr. 2014 – Apr. 2015
- Subcommittee Member, New York State Mesonet: Site Selection Subcommittee

Apr. 2014 – Apr. 2015
- Subcommittee Member, New York State Mesonet: Parameters and Instrumentation Subcommittee

Oct. 2013
- Panelist, ITLAL panel on "Demystifying the Academic Job Market"

Professional

2022–present
- Editor, *Monthly Weather Review*

2008–present
- Journal article reviewer for:
  Bulletin of the American Meteorological Society; Geophysical Research Letters; Journal of the Atmospheric Sciences; Monthly Weather Review; Quarterly Journal of the Royal Meteorological Society; Weather and Forecasting; Water Resources Research; Climatic Change; Journal of Applied Meteorology and Climatology; Journal of Hydrometeorology; Australian Meteorological and Oceanographic Journal; International Journal of Climatology; Remote Sensing; Journal of Atmospheric and Solar-Terrestrial Physics; Arctic, Antarctic, and Alpine Research; Journal of Operational Meteorology; Physics Today; Great Lakes Research

2011–present
- Grant proposal reviewer for:
  National Science Foundation; Austrian Academy of Sciences

2018–2023
- Program committee member, International Conference on Alpine Meteorology
  for 2019, 2022, and 2023 conferences

2015–2022
- Associate Editor, *Monthly Weather Review*

2013–2021
- American Meteorological Society Committee on Mountain Meteorology
  Member from Jan. 2013–Jan. 2018. Chair from Jan. 2018–Jan. 2021.

2014, 2015, 2017
- Instructor for KMA/COMET Olympic Forecaster Training Course
  Gave half-day lectures on forecasting winter precipitation type over complex terrain to South Korean forecasters preparing for the 2018 Pyeongchang Winter Olympics.

2013–2020
- Session chair:
  16th, 17th, 18th, 19th AMS Conferences on Mountain Meteorology, 15th & 16th AMS Conferences on Mesoscale Processes, 35th International Conference on Alpine Meteorology

Community

2015–2018 (Director), 2021–2024 (Co-Director)
- University at Albany Weather & Climate Camp: Albany, NY (http://www.atmos.albany.edu/facstaff/jminder/UAWCcamp/)
  Creator and Director/Co-Director of NSF-funded annual week-long summer science camp for high school students from low-income urban districts.

Jul. 2024
- Conducted demonstration weather balloon launch for Capitol Region Girls Inc. Eureka! program.

Apr. 2024
- Interviewed for WAMC radio/web story "UAlbany students prepare for sky-high study of eclipse with weather balloon launch". (https://www.wamc.org/news/2024-04-04/ualbany-students-prepare-for-sky-high-study-of-eclipse-with-weather-balloon-launch)

Mar. 2024
- Interview for South Glens Falls High School student project on environmental impact of electric vehicles.

Mar. 2024
- Guest speaker on winter precipitation research for StuySky student club at Stuyvesant High School.

Jan. 2024
- Panelist for American Meteorological Society public Weather Band webinar on "Winter Lake-Effect Systems: Scientific and Educational Adventures to Further Our Knowledge and Prediction of Lake-Effect Storms."

Mar. 2023
- "Science on a Sphere" presentation for Society for College and University Planning at UAlbany ETEC building

2022
- WINTRE-MIX open house outreach event and media interviews

2021,2023
- Remote visit, Lakeside School Summer Research Institute, Seattle, WA

2021
- Guest presenter on snow science at "Embrace the Cold" event, Grafton Lakes State Park

2005–2018
- Guest speaker on weather & climate at K-12 schools
  As many as twenty-four outreach talks per year

Aug. 2016
- Speaker for Friends of the Albany Public Library
  Book review of "The Brothers Vonnegut: Science and Fiction in the House of Magic"

2016, 2019
- Speaker at New York State Balloon Association's Safety Seminar
  Hour-long lecture on "Weather awareness and forecasting for balloonists".

2006–2010
- Youth Tutoring Program
  Tutored low-income elementary and high school students weekly

2004–2010
- Program on Climate Change outreach group & Atmospheric Sciences Department outreach group, University of Washington

Professional Affiliations

- American Geophysical Union
- American Meteorological Society

Technical Skills

- Software
  Python (NumPy, MetPy, xarray, Cartopy, Py-ART, Pandas, ...), Matlab, NCL, Perl, LaTeX, FORTRAN, Mesoscale atmospheric models (WRF, MM5, CM1)
- Weather and climate instrumentation & data analysis
  precipitation gauges, automatic weather stations, precipitation distrometers (Joss-Waldvogel, Parsivel), Rosemont icing detector, passive gamma radiation snow water equivalent sensors, in situ aircraft observations (University of Wyoming King Air, National Research Council of Canada Convair-580), precipitation and cloud radars (Micro Rain Radar, NEXRAD, Wyoming Cloud Radar, XPR, DOW, COW), polar-orbiting satellite (MODIS)