

Curriculum Vitae

David R. Bowling

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Research Interests

Biogeosciences, biosphere-atmosphere interactions, ecosystem science of forest, mountain, and arid biomes, environmental change

Academic Positions (University of Utah)

2014 – present Professor, School of Biological Sciences
2017 – 2020 Division Head, Ecology and Physiology, School of Biological Sciences
2006 – 2024 Adjunct Professor, Dept. of Atmospheric Sciences
2008 – 2014 Associate Professor, Dept. of Biology
2003 – 2008 Assistant Professor, Dept. of Biology
2001 – 2002 Research Assistant Professor, Dept. of Biology
1999 – 2001 Postdoctoral Scientist, Dept. of Biology, with J. Ehleringer

Education

1999 Ph.D. Biology University of Colorado, Boulder, with R. Monson
1994 M.S. Electrical Engineering University of Colorado, Boulder, with D. Etter
1991 B.S. Electrical Engineering New Mexico State University

Peer-Reviewed Publications

(graduate students underlined, undergraduates underlined with *)

112. Yang, J. C., Bowling, D. R., Smith, K. R., Kunik, L., Raczka, B., Anderegg, W. R. L., Bahn, M., Blanken, P. D., Richardson, A. D., Burns, S. P., Bohrer, G., Desai, A. R., Arain, M. A., Staebler, R. M., Ouimette, A. P., Munger, J. W., and Litvak, M. E. (2024) Forest carbon uptake as influenced by snowpack and length of photosynthesis season in seasonally snow-covered forests of North America, *Agricultural and Forest Meteorology*, 353, 110054, <https://doi.org/10.1016/j.agrformet.2024.110054>
111. Bowling, D. R., Schädel, C., Smith, K. R., and many others (2024) Phenology of photosynthesis in winter-dormant temperate and boreal forests: Long-term observations from flux towers and quantitative evaluation of phenology models, *Journal of Geophysical Research: Biogeosciences*, 129, e2023JG007839, <https://doi.org/10.1029/2023JG007839>
110. Pierrat, Z. A., Magney, T. S., Cheng, R., Maguire, A. J., Wong, C. Y. S., Nehemy, M. F., et al. (2024). The biological basis for using optical signals to track evergreen needleleaf photosynthesis. *BioScience*, <https://doi.org/10.1093/biosci/biad116>
109. Kunik L, Bowling DR, Raczka B, Frankenberg C, Kohler P, Cheng R, Smith KR, Goulden M, Jung M, Lin JC (2024) Satellite-based solar-induced fluorescence tracks seasonal and elevational patterns of photosynthesis in California's Sierra Nevada mountains, *Environmental Research Letters*, DOI 10.1088/1748-9326/ad07b4

108. Wang R, Bowling DR, Gamon JA, Smith KR, Yu R, Hmimina G, Ueyama M, Noormets A, Kolb TE, Richardson AD, Bourque C P-A, Bracho R, Blanken P, Black TA, Arain MA (2023) Snow-corrected vegetation indices for improved gross primary productivity assessment in North American evergreen forests, *Agricultural and Forest Meteorology*, DOI: 10.1016/j.agrformet.2023.109600
107. Kannenberg SA, Barnes ML, Bowling DR, Driscoll AW, Guo JS, Anderegg WRL (2023) Quantifying the drivers of ecosystem fluxes and water potential across the soil-plant-atmosphere continuum in an arid woodland, *Agricultural and Forest Meteorology*, DOI: 10.1016/j.agrformet.2022.109269
106. Cheng R, Magney TS, Orcutt EL, Pierrat Z, Kohler P, Bowling DR, Bret-Harte MS, Euskirchen ES, Jung M, Kobayashi H, Rocha A, Sonnentag O, Stutz J, Walther S, Zona D, Frankenberg C (2022) Evaluating photosynthetic activity across Arctic-Boreal land cover types using solar-induced fluorescence, *Environmental Research Letters*, <https://doi.org/10.1088/1748-9326/ac9dae>
105. Pierrat Z, Bortnik J, Johnson B, Barr A, Magney T, Bowling DR, Parazoo N, Frankenberg C, Seibt U, Stutz J, (2022) Forests for forests: combining vegetation indices with solar-induced chlorophyll fluorescence in random forest models improves gross primary productivity prediction in the boreal forest, *Environmental Research Letters*, <https://doi.org/10.1088/1748-9326/aca5a0>
104. Mitchell LE, Lin JC, Hutyra LR, Bowling DR, and 27 others (2022) A multi-city urban atmospheric greenhouse gas measurement data synthesis, *Scientific Data*, DOI: 10.1038/s41597-022-01467-3
103. Yang J, Magney TS, Albert LP, Richardson AD, Frankenberg C, Stutz J, Grossmann K, Burns SP, Seyednasrollah B, Blanken PD, Bowling DR (2022) Gross primary production (GPP) and red solar induced fluorescence (SIF) respond differently to light and seasonal environmental conditions in a subalpine conifer forest, *Agricultural and Forest Meteorology*, 317, 10.1016/j.agrformet.2022.108904
102. Pierrat Z, Magney TS, Parazoo NC, Grossmann K, Bowling DR, Seibt U, Johnson B, Helgason W, Barr A, Bortnik J, Norton A, Maguire A, Frankenberg C, Stutz J (2022) Diurnal and seasonal dynamics of solar-induced chlorophyll fluorescence, vegetation indices, and gross primary productivity in the boreal forest, *J. Geophys. Research, Biogeosciences*, 10.1029/2021JG006588
101. Duarte HF, Raczka BM, Bowling DR, Wang A, Buotte PC, Lin JC (2022) How can biosphere models grow enough vegetation biomass in the mountains of the western United States? Implications of meteorological forcing, *Environmental Modeling and Software*, 10.1016/j.envsoft.2021.105288
100. Stettz S*, Parazoo NC, Bloom AA, Blanken PD, Bowling DR, Burns SP, Bacour C, Maignan F, Raczka B, Norton A, Baker I, Williams M, Shi M, Zhang Y, Qui B (2022), Resolving temperature limitation on spring productivity in an evergreen conifer forest using a model-data fusion framework, *Biogeosciences*, <https://doi.org/10.5194/bg-19-541-2022>
99. Walter-MacNeill A*, Garcia M, Logan B, Bombard D*, Reblin J, Southwick C*, Sparrow E*, Bowling DR (2021) Wide variation of winter-induced sustained thermal energy dissipation in conifers: a common-garden study, *Oecologia*, DOI:10.1007/s00442-021-05038-y
98. Follstad Shah JJ, ... Bowling DR, and 20 others (2021) The Wasatch Environmental Observatory: A mountain to urban research network in the semi-arid Western US, *Hydrological Processes*, DOI:10.1002/hyp.14352
97. Raczka BM, Hoar TJ, Duarte HF, Fox AM, Anderson JL, Bowling DR, Lin JC (2021) Improving CLM5.0 biomass and carbon exchange across the western United States

- using a data assimilation system, *J. Advances in Modeling Earth Systems*, DOI:10.1029/2020MS002421
96. Pierrat Z, Nehemy MF, Roy A, Magney T, Parazoo N, Laroque C, Pappas C, Sonnentag O, Grossman K, Bowling DR, Seibt U, Ramirez A, Johnson B, Helgason W, Barr A, Stutz J (2021) Tower-based remote sensing reveals mechanisms behind a two-phased spring transition in a mixed species boreal forest, *JGR-Biogeosciences*, DOI: 10.1029/2020JG006191
 95. Gomez-Navarro C, Pataki DE, Pardyjak ER, Bowling DR (2021) Effects of vegetation on the spatial and temporal variation of microclimate in the urbanized Salt Lake Valley, *Agricultural and Forest Meteorology*, 296, DOI:10.1016/j.agformet.2020.108211
 94. Seyednasrollah B, Bowling DR, Cheng R, Logan BA, Magney TS, Frankenberg C, Yang JC, Young A, Hufkens K, Arain MA, Black TA, Blanken PD, Bracho R, Jassal R, Hollinger DY, Law BE, Nesic Z, Richardson AD (2021) Seasonal variation in the canopy color of temperate evergreen conifer forests, *New Phytologist*, DOI: 10.1111/nph.17046
 93. Cheng R, Magney TS, Dutta D, Bowling DR, Logan BA, Burns SP, Blanken PD, Grossman K, Lopez S*, Richardson AD, Stutz J, Frankenberg C (2020) Decomposing reflectance spectra to track gross primary production in a subalpine evergreen forest, *Biogeosciences*, 17:4523-4544, DOI: 10.5194/bg-17-4523-2020
 92. Parazoo NC, Magney T, Norton A, Raczka B, Bacour C, Maignan F, Baker I, Zhang Y, Qui B, Shi M, MacBean N, Bowling DR, Burns SP, Blanken PD, Stutz J, Grossman K, Frankenberg C (2020) Wide discrepancies in the magnitude and direction of modelled solar-induced chlorophyll fluorescence in response to light conditions, *Biogeosciences*, DOI: 10.5194/bg-17-3733-2020
 91. Pastorello GZ, ..., Bowling DR, >250 others, Papale D (2020) The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data, *Nature Scientific Data*, 7:225 DOI: 10.1038/s41597-020-0534-3
 90. Huth TE, Cerling TE, Marchetti DW, Bowling DR, Ellwein AL, Passey BH, Fernandez DP, Valley JW, Orland IJ (2020) Laminated soil carbonate rinds as a paleoclimate archive of the Colorado Plateau, *Geochimica et Cosmochimica Acta*, 282, DOI: 10.1016/j.gca.2020.05.022
 89. Kannenberg SA, Bowling DR, Anderegg WRL (2020) Hot moments in ecosystem fluxes: High GPP anomalies exert outsized influence on the carbon cycle and are differentially driven by moisture availability across biomes, *Environmental Research Letters* 15:054004, doi: 10.1088/1748-9326/ab7b97
 88. Egan JE, Bowling DR, Risk DA (2019) Technical Note: Isotopic corrections for the radiocarbon composition of CO₂ in the soil gas environment must account for diffusion and diffusive mixing, *Biogeosciences*, DOI: 10.5194/bg-16-3197-2019
 87. Bares R, Mitchell L, Fasoli B, Bowling DR, Catharine D, Garcia M, Eng B, Ehleringer JR, Lin JC (2019) The Utah urban carbon dioxide (UUCON) and Uintah Basin greenhouse gas networks: Instrumentation, data and measurement uncertainty, *Earth System Science Data*, DOI: 10.5194/essd-11-1291-2019
 86. Anderegg WRL, Trugman AT, Bowling DR, Salvucci G, Tuttle SE (2019) Plant functional traits and climate influence drought intensification and land-atmosphere feedbacks, *Proc. National Academy Sciences*, 10.1073/pnas.1904747116
 85. Raczka BM, Porcar-Castell A, Magney T, Lee JE, Kohler P, Frankenberg C, Grossman K, Logan BA, Stutz J, Blanken PD, Burns SP, Duarte H, Yang X, Lin JC, Bowling DR (2019) Sustained non-photochemical quenching shapes the seasonal pattern of solar-induced fluorescence at a high-elevation evergreen forest, *JGR-Biogeosciences*, DOI:10.1029/2018JG004883

84. Magney TS, Bowling DR, Logan BA, Grossmann K, Stutz J, Blanken PD, Burns SP, Cheng R, Garcia MA, Köhler P, Lopez S*, Parazoo N, Raczka B, Schimel D, Frankenberg C (2019) Mechanistic evidence for tracking the seasonality of photosynthesis with solar-induced fluorescence, *Proc. National Academy of Sciences*, DOI:10.1073/pnas.1900278116
83. Oerter EJ, Siebert G*, Bowling DR, Bowen G (2019) Soil water vapor isotopes identify missing water source for streamside trees, *Ecohydrology*, DOI:10.1002/eco.2083
82. Huth TE, Cerling TE, Marchetti DW, Bowling DR, Ellwein AL, Passey BH (2019) Seasonal bias in soil carbonate formation and its implications for interpreting high-resolution paleoarchives: evidence from southern Utah, *Journal of Geophysical Research - Biogeosciences*, 124:616-632, DOI:10.1029/2018JG004496
81. Lin, JC, and 17 others (2018) CO₂ and carbon emissions from cities: linkages to air quality, socioeconomic activity and stakeholders in the Salt Lake City urban area, *Bulletin of the American Meteorological Society*, 99:2325-2339, DOI:10.1175/BAMS-D-17-0037.1
80. Anderegg WRL, Konings AG, Trugman AT, Yu K, Bowling DR, Gabbitas R*, Karp DS, Pacala S, Sperry JS, Sulman B, Zenes N (2018) Hydraulic diversity of forests regulates ecosystem resilience during drought, *Nature*, 10.1038/s41586-018-0539-7
79. Zuromski L, Bowling DR, Koehler P, Frankenberg C, Goulden M, Blanken PD, Lin JC (2018) Solar-induced fluorescence detects inter-annual variation in gross primary production of coniferous forests in the western United States, *Geophysical Research Letters*, DOI 10.1029/2018GL077906
78. Bowen GJ, Putman A, Brooks JR, Bowling DR, Oerter EJ, Good SP (2018) Inferring the source of evaporated waters using stable H and O isotopes, *Oecologia* 187:1025-1039, DOI 10.1007/s00442-018-4192-5
77. Fasoli B, Lin JC, Bowling DR, Mitchell L, Mendoza D (2018) Simulating atmospheric tracer concentrations for spatially distributed receptors: updates to the Stochastic Time-Inverted Lagrangian Transport model's R interface (STILT-R version 2), *Geoscientific Model Development*, 11, 2813-2824, <https://doi.org/10.5194/gmd-11-2813-2018>
76. Mitchell LE, Crosman ET, Jacques AA, Fasoli B, Leclair-Marzolf L*, Horel J, Bowling DR, Ehleringer JR, Lin JC (2018) Monitoring of greenhouse gases and pollutants across an urban area using a light rail public transit platform, *Atmospheric Environment* 187, 9-23, DOI /10.1016/j.atmosenv.2018.05.044
75. Mitchell LE, Lin JC, Bowling DR, Pataki DE, Strong C, Schauer AJ, Bares R, Bush SE, Stephens BB, Mendoza D, Mallia D, Holland L, Gurney KR, Ehleringer JR (2018) Long-term urban carbon dioxide observations reveal spatial and temporal dynamics related to urban characteristics and growth. *Proc. National Academy of Sciences*, DOI 10.1073/pnas.1702393115
74. Bowling DR, Logan BA, Hufkens K, Aubrecht DM, Richardson AD, Burns SP, Anderegg WRL, Blanken PD, Eiriksson D (2018) Limitations to winter and spring photosynthesis of a Rocky Mountain subalpine forest, *Agricultural and Forest Meteorology*, 252:241-255, DOI: 10.1016/j.agrformet.2018.01.025
73. Duarte HF, Raczka BM, Ricciuto DM, Lin JC, Koven CD, Thornton PE, Bowling DR, Lai C-T, Bible KJ, Ehleringer JR (2017) Evaluating the Community Land Model (CLM 4.5) at a coniferous forest site in northwestern United States using flux and carbon isotope measurements, *Biogeosciences*, 14, 4315-4340, doi:10.5194/bg-14-4315-2017
72. Jones AS, Aanderud ZT, Horsburgh JS, Eiriksson DP, Dastrup D, Cox C, Jones SB, Bowling DR, Carlisle J, Carling GT, Baker MA (2017), Designing and implementing a

- network for sensing water quality and hydrology across mountain to urban transitions, *J. American Water Resources Assoc.*, DOI 10.1111/1752-1688.12557
71. Raczka BM, Biraud SC, Ehleringer JR, Lai C-T, Miller JB, Pataki DE, Saleska S, Torn MS, Vaughn BH, Wehr R, Bowling DR (2017) Does vapor pressure deficit drive the seasonality of $\delta^{13}\text{C}$ of the net land-atmosphere CO_2 exchange across the United States? *Journal of Geophysical Research-Biogeosciences*, DOI: 10.1002/2017JG003795
 70. Chan AM, Bowling DR (2017) Assessing the thermal dissipation sap flux density method for monitoring cold season water transport in seasonally snow-covered forests, *Tree Physiology*, 37, 984-995, doi: 10.1093/treephys/tpx049
 69. Biederman JA, Scott RL, Bell TW, Bowling DR, and 17 others (2017) CO_2 exchange and evapotranspiration across dryland ecosystems of southwestern North America, *Global Change Biology*, DOI: 10.1111/gcb.13686
 68. Bowling DR, Schulze ES, Hall SJ (2017) Revisiting streamside trees that do not use stream water: Can the two water worlds hypothesis and snowpack isotopic effects explain a missing water source?, *Ecohydrology*, 10:e1771; DOI 10.1002/eco.1771
 67. Raczka B, Duarte H, Koven C, Ricciuto D, Thornton P, Lin JC, Bowling DR (2016) An observational constraint on stomatal function in forests: evaluating coupled carbon and water vapor exchange with carbon isotopes in the Community Land Model (CLM4.5). *Biogeosciences* 13:5183–5204
 66. Hall SJ, Ogata E, Weintraub SR, Baker MA, Ehleringer JR, Czimczik CI, Bowling DR (2016) Convergence in nitrogen deposition and cryptic isotopic variation across urban and agricultural valleys in northern Utah, *J. Geophysical Research Biogeosciences*, 121, doi:10.1002/2016JG003354
 65. Hall SJ, Weintraub SR, Bowling DR (2016) Scale-dependent linkages between nitrate isotopes and denitrification in surface soils: implications for isotope measurements and models, *Oecologia*, DOI: 10.1007/s00442-016-3626-1
 64. Maurer GE, Chan AM, Trahan NA, Moore DJP, Bowling DR (2016) Carbon isotopic composition of forest soil respiration in the decade following bark beetle and stem girdling disturbances in the Rocky Mountains, *Plant, Cell, and Environment*, DOI: 10.1111/pce.12716
 63. Hall SJ, Baker MA, Jones SB, Stark JM, Bowling DR (2016) Contrasting soil nitrogen dynamics across a montane meadow and urban lawn in a semi-arid watershed, *Urban Ecosystems*, DOI 10.1007/s11252-016-0538-0
 62. Hall SJ, Weintraub SR, Eiriksson D, Brooks PD, Baker MA, Bowen GJ, Bowling DR (2016) Stream nitrogen inputs reflect groundwater across a snowmelt-dominated montane to urban watershed, *Environmental Science and Technology*, 50:1137-1146, DOI: 10.1021/acs.est.5b04805
 61. Moyes AB, Bowling DR (2015) Plant community composition and phenological stage drive soil carbon cycling along a tree-meadow ecotone, *Plant and Soil*, DOI 10.1007/s11104-015-2750-8.
 60. Hall SJ, Hale RL, Baker MA, Bowling DR, Ehleringer JR (2015) Riparian plant isotopes reflect anthropogenic nitrogen perturbations: Robust patterns across land use gradients, *Ecosphere*, 6:art200. <http://dx.doi.org/10.1890/ES15-00319.1>
 59. Maurer GE, Bowling DR (2015) Dust effects on snowpack melt and related ecosystem processes are secondary to those of forest canopy structure and interannual snowpack variability, *Ecohydrology*, 8:1005-1023, doi: 10.1002/eco.1558
 58. Bowling DR, Egan JE, Hall SJ, Risk DA (2015) Environmental forcing does not induce diel or synoptic variation in carbon isotope content of forest soil respiration, *Biogeosciences*, 12:5143–5160, doi:10.5194/bg-12-5143-2015

57. Miller OL, Solomon DK, Fernandez DP, Cerling TE, Bowling DR (2014) Evaluating the use of strontium isotopes in tree rings to record the isotopic signal of dust deposited on the Wasatch Mountains, *Applied Geochemistry* 50:53-65.
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55. Maurer GE, Bowling DR (2014) Seasonal snowpack characteristics influence soil temperature and water content at multiple scales in interior western U.S. mountain ecosystems, *Water Resources Research*, 50, 5216-5234, doi: 10.1002/2013WR014452
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53. Moyes AB, Bowling DR (2013) Interannual variation in seasonal drivers of soil respiration in a semi-arid Rocky Mountain meadow, *Biogeochemistry*, 113:683-697, DOI 10.1007/s10533-012-9797-x
52. Brooks, B-G J, Desai AR, Stephens BB, Bowling DR, Burns SP, Watt AS, Heck SL, Sweeney C (2012), Assessing filtering of mountaintop CO₂ mole fractions for application to inverse models of biosphere-atmosphere carbon exchange, *Atmospheric Chemistry and Physics*, 12:2099-2115.
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46. Gamnitzer U, Moyes AB, Bowling DR, Schnyder H (2011) Measuring and modeling the isotopic composition of soil respiration: insights from a grassland tracer experiment, *Biogeosciences* 8, 1333–1350, www.biogeosciences.net/8/1333/2011/
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44. Bowling DR, Bethers-Marchetti S, Lunch CK, Grote EE, Belnap J (2010) Carbon, water, and energy fluxes in a semi-arid cold desert grassland during and following

- multi-year drought, *Journal of Geophysical Research - Biogeosciences*, 115, G04026, doi:10.1029/2010JG001322
43. Moyes AB, Gaines S*, Siegwolf RTW, Bowling DR (2010) Diffusive fractionation complicates isotopic partitioning of autotrophic and heterotrophic sources of soil respiration, *Plant, Cell, and Environment*, 33:1804-1819, doi: 10.1111/j.1365-3040.2010.02185.x
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 39. Schwinning S, Belnap J, Bowling DR, Ehleringer JR (2008) Sensitivity of the Colorado Plateau to change: climate, ecosystems, and society. *Ecology and Society* 13(2): 28, <http://www.ecologyandsociety.org/vol13/iss2/art28/>
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 35. Bowling DR, Pataki DE, Randerson J (2008) Carbon isotopes in terrestrial ecosystem pools and CO₂ fluxes (Tansley Review), *New Phytologist*, 178:24-40, doi: 10.1111/j.1469-8137.2007.02342.x.
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28. Bowling DR, Burns SP, Conway T, Monson R, White JWC (2005) Extensive observations of CO₂ carbon isotope content in and above a high-elevation subalpine forest, *Global Biogeochemical Cycles*, 19, GB3023, doi:10.1029/2004GB002394.
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22. Bowling DR, McDowell NG, Welker JM, Bond BJ, Law BE, Ehleringer JR (2003) Oxygen isotope content of CO₂ in nocturnal ecosystem respiration: 1: Observations in forests along a precipitation transect in Oregon, USA, *Global Biogeochemical Cycles*, 17(4), 1120, doi:10.1029/2003GB002081.
21. Bowling DR, McDowell NG, Welker JM, Bond BJ, Law BE, Ehleringer JR (2003) Oxygen isotope content of CO₂ in nocturnal ecosystem respiration: 2: Short-term dynamics of foliar and soil component fluxes in an old-growth ponderosa pine forest, *Global Biogeochemical Cycles*, 17(4), 1124, doi:10.1029/2003GB002082.
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18. Schauer AJ, Lai C-T, Bowling DR, Ehleringer JR (2003) An automated sampler for collection of atmospheric trace gas samples for stable isotope analyses, *Agricultural and Forest Meteorology*, 118, 113-124.
17. Bowling DR, Pataki DE, and Ehleringer JR (2003), Critical evaluation of micrometeorological methods for measuring ecosystem-atmosphere isotopic exchange of CO₂, *Agricultural and Forest Meteorology*, 116, 159-179.
16. Pataki DE, Ehleringer JR, Flanagan LB, Yakir D, Bowling DR, Still CJ, Buchmann N, Kaplan JO, and Berry J (2003) The application and interpretation of Keeling plots in terrestrial carbon cycle research, *Global Biogeochemical Cycles*. 17(1), 1022, doi:10.1029/2001GB001850.
15. Baldocchi DD, and Bowling DR (2003) Modelling the discrimination of ¹³CO₂ above and within a temperate broad-leaved forest canopy on hourly to seasonal time scales, *Plant, Cell, and Environment*, 26:231-244.
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13. Bowling D, McDowell N, Bond B, Law B, and Ehleringer J (2002) ^{13}C content of ecosystem respiration is linked to precipitation and vapor pressure deficit, *Oecologia*, 131:113-124.
12. Bowling DR, Cook CS, and Ehleringer JR (2001) Technique to measure CO_2 mixing ratio in small flasks with a bellows/IRGA system, *Agricultural and Forest Meteorology*, 109, 61-65.
11. Bowling DR, Tans PP, and Monson RK (2001) Partitioning net ecosystem carbon exchange with isotopic fluxes of CO_2 , *Global Change Biology*, 7:127-145.
10. Bowling DR, Baldocchi DD, and Monson RK (1999) Dynamics of isotopic exchange of carbon dioxide in a Tennessee deciduous forest, *Global Biogeochemical Cycles*, 13:903-922.
9. Bowling DR, Delany AC, Turnipseed AA, Baldocchi DD, and Monson RK (1999) Modification of the relaxed eddy accumulation technique to maximize measured scalar mixing ratio differences in updrafts and downdrafts, *Journal of Geophysical Research- Atmospheres*, 104:9121-9133.
8. Baldocchi D, Fuentes J, Bowling D, Turnipseed A, and Monson R (1999) Scaling isoprene fluxes from leaves to canopies: test cases over a boreal aspen and a mixed species temperate forest, *Journal of Applied Meteorology*, 38:885-898.
7. Katul G, Hsieh C-I, Bowling D, Clark K, Shurpali N, Turnipseed A, Albertson J, Tu K, Hollinger D, Evans B, Offerle B, Anderson D, Ellsworth D, Vogel C, and Oren R (1999) Spatial variability of turbulent fluxes in the roughness sublayer of an even-aged pine forest, *Boundary-Layer Meteorology*, 93:1-28.
6. Singsaas E, Laporte M, Shi J, Monson R, Bowling D, Johnson K, Lerdaun M, Jasentuliytana A, and Sharkey T. (1999) Kinetics of leaf temperature fluctuation affects isoprene emission from red oak (*Quercus rubra* L.) leaves, *Tree Physiology*, 19:917-924.
5. Bowling DR, Turnipseed AA, Delany AC, Baldocchi DD, Greenberg JP, and Monson RK (1998) The use of relaxed eddy accumulation to measure biosphere- atmosphere exchange of isoprene and other trace gases, *Oecologia*, 116:306- 315.
4. Demmig-Adams B, Adams III WW, Barker DH, Logan BA, Bowling DR, and Verhoeven AS (1996) Using chlorophyll fluorescence to assess the fraction of absorbed light allocated to thermal dissipation of excess excitation, *Physiologia Plantarum* 98:253-264.

book chapters:

26. Baldocchi DD, and Bowling DR (2005) Theoretical examination of Keeling-plot relationships for carbon dioxide in a temperate broadleaved forest with a biophysical model, CANISOTOPE, in, Flanagan LB, Ehleringer JR, Pataki DE, Eds. *Stable Isotopes and Biosphere-Atmosphere Interactions: Processes and Biological Controls*, Elsevier, Amsterdam, pp 109-124.

technical reports:

23. American Institute of Biological Sciences. (2004) Ecological Aspects of Biogeochemical Cycles: Report from a NEON Science Workshop. Washington, DC: AIBS.
3. Durand S and Bowling D (1990) *Data Acquisition for Photovoltaic Power Plants*, EPRI Publication GS-7082, Electric Power Research Institute.
2. Durand S, Bowling D, and Risser V (1990) Lessons Learned From Testing Utility Connected PV Systems, *Proc. 21st IEEE PV Specialists Conference*, 909-913.

1. Rosenthal A, Lane C, and Bowling D (1990) *Photovoltaic System Performance Assessment for 1988*, EPRI Publication GS-6696, Electric Power Research Institute.

Awards

- 2020 Univ. of Utah Distinguished Research Award
2016 Leopold-Franzens-Universität (Univ. of) Innsbruck, Vienna, Austria, Guest Professorship
2007 Editors' Citation for Excellence in Refereeing, Journal of Geophysical Research-Atmospheres
1999 Best Student Poster in Physiological Ecology, Ecological Society of America
1995 STAR Graduate Student Fellow, US Environmental Protection Agency

Teaching

Primary courses (main instructor or significant role):

- Ecosystem Ecology (2004/06/08/10/12/14/17/19/22, BIOL 5490): This lecture course for upper division and graduate students examines the biological, physical, and chemical factors that control storage and cycling of the major elements (carbon, nitrogen, and phosphorus) within terrestrial ecosystems.
- Biophysical Ecology (2005/07/11/13/15/18/20/23, BIOL/ATMOS/GEO 5495): This lecture and laboratory course for upper division and graduate students examines the physical environment in which plants, animals, and soil organisms live, how the physical environment affects their physiological function, and how organisms in turn affect their physical environment.
- Stable Isotope Ecology (team-taught summers 2003-2019, GEO 5470/6470): This summer 2-week course attracts top-notch graduate students, postdocs, and faculty from around the world, including Univ. of Utah students. The course focuses on environmental science applications of stable isotope theory, methods, instrumentation, experimental design, lab and fieldwork.
- Advanced Statistics for Biologists (2025, BIOL 6500): This course is designed for life science graduate students with a perhaps rusty background in mathematics and statistics who wish to become real practitioners of the art of modern statistics.
- Ecology and Evolution (2025, BIOL 3410): Causes and consequences of adaptation. Competitive, exploitative, and mutualistic interactions among species; community structure and dynamics; ecosystem processes; variation and selection; speciation; biogeography; evolution of life histories and social interactions. Experimental and comparative methods for testing hypotheses.

Graduate courses (varying roles):

- Adv. Topics Ecology and Evolution (BIOL 7964): main instructor 2018, lecture contributor 2011, 2012, 2013, 2015, 2016, 2019, 2021, 2022
- Faculty Research Seminar (BIOL 2870): lecture contributor
- Scientific Speaking (BIOL 7810): main instructor spring 2022, fall 2022
- SpeakerFest (2011, BIOL 7406): main instructor
- Bootcamp (2010, 2012, 2014, 2015 BIOL 7964): lecture contributor
- Hydrology and Water Resources (2017, 2018, 2019, 2021, 2022, 2023, 2024 GEO 5650/6605): lecture contributor
- Environmental Instrumentation (2012, 2014, ATMOS 6050): lecture contributor
- Global Changes and Society (2013, BIOL 7961): lecture contributor

Geochemistry (2013, GEO 6660): lecture contributor
 Carbon Cycle (2015, GEO 6680): lecture contributor
 Mountain Meteorology (2015, ATMOS 6250): lecture contributor

Special topics courses (varying roles):

Individual Research (2011, BIOL 4955): Supervision of undergraduate research projects.

Current Topics in Biogeosciences (2009, BIOL 7406): This graduate core seminar examines current topics in biogeosciences, including drought, fire, climate change, and insects.

Biological Responses to Climate Change (2005, BIOL 7406): This graduate core seminar examines observed responses of biological systems to climate change, such as increased growing season length, altered migration patterns, changes in species abundance, etc.

Water and Ecology of Western Ecosystems (2003, BIOL 7406): This graduate core seminar examines the importance of water to animals, plants, insects, and microbes in ecosystems of the western U.S.

Summer Course on Flux Measurements and Advanced Modeling (team-taught, Summers 2008-2012, www.fluxcourse.org): This summer 2-week course at the University of Colorado attracts graduate students and postdocs from around the world. It was modeled after the Utah stable isotope course (GEO 5470 above) and focuses on forest micrometeorology.

University of Utah Service

University Committees

- Academic Senate, SBS Representative, 2021-2023
- Earth and Environmental Science Undergraduate Degree Founding Committee, 2021-present (Colleges of Science and Mines)
- College of Science Equity, Diversity, and Inclusion Committee, 2020-2021
- Academic Senate Special Committee on University Policy for Postdoctoral Trainees, 2020-2021
- Chair: Graduate Council Review Committee for Dept. of Health, Kinesiology, and Recreation, 2020
- Transformative Excellence Program – Society, Water, and Climate Faculty Cluster Hire Search Committee (Co-chair) – 2014-2015, (member) 2015-2016
- College of Science Council, 2017-2019
- Hydrology and Water Resources Graduate Certificate, Steering Committee, 2017-present
- College of Science Integrated Curriculum Development for Crocker Science Center 2015-2016
- Social and Behavioral Science Intellectual Explorations Gen. Ed. Requirement Committee; 2012–2015
- Rio Mesa Center (formerly Entrada Field Station) Faculty Advisory Committee, spring 2008-2011
- International Gen. Ed. Requirement Committee, 2005–2009

Global Change and Sustainability Center

- Founding Member
- Seminar Series Director 2010-2011
- Faculty Recruitment Search Committee member 2011

- Seminar Committee member 2011-2012
- Executive Committee Biology Representative 2011-2012
- Graduate Student Recruitment Committee (chair) 2011-2012
- Executive Committee College of Science Representative 2012-2015
- Graduate Travel Grant Review Committee 2012-2013
- Postdoc Mentoring Program (founder and co-chair) 2013-14
- Graduate Student Fellowship Selection Committee (College of Science Rep) 2014
- Red Butte Canyon RNA Oversight Committee (chair) 2018-present

iUTAH NSF-EPSCoR Project (Utah State-Wide)

- Research Focus Area 1 Science Co-Lead, 2014-2016
- Faculty Instrumentation Lead for Red Butte Canyon Watershed, 2012-2018
- U. of Utah Hydrology Technician Search Committee (Chair) 2012
- Utah State U. Hydrology Technician Search Committee 2012
- Brigham Young U. Hydrology Technician Search Committee 2012
- Research Focus Area 1 Postdoc Selection Committee 2013
- iFellow Undergraduate Research Program Mentor (summer 2013)

Proposal Reviews for Wilkes Center for Climate Science and Policy, 2023

Proposal Reviews for Funding Incentive SEED Grant Program

Science Overnight Orientation, Faculty Volunteer, 2005-2009

Department of Biology / School of Biological Sciences Committees

- 2002/03 Graduate Admission
- 2003/04 Graduate Admission, Communication, BioURP Steering, Red Butte Canyon
- 2004/05 Graduate Admission, BioURP Steering, Red Butte Canyon
- 2005/06 Graduate Admission, Curriculum and Teaching, Red Butte Canyon,
• Riser Award
- 2006/07 Graduate Admission, Curriculum and Teaching, Red Butte Canyon
- 2007/08 Graduate Admission (co-chair), Curriculum and Teaching, Red Butte Canyon
- 2008/09 Graduate Admission (co-chair), Web Site, Red Butte Canyon, Environmental
Biology Faculty Search
- 2009/10 Sabbatical Leave
- 2010/11 Executive, Curriculum, Microbial Biology Faculty Search
- 2011/12 Executive, Communications, Microbial Ecology Faculty Search, RPT
Advocate
- 2012/13 Executive (alt), Red Butte Canyon (co-chair), Communications
- 2013/14 Red Butte Canyon, Communications
- 2014/15 Graduate Admission (co-chair)
- 2015/16 Graduate Admission (co-chair), Red Butte Canyon (chair)
- 2016/17 Sabbatical Leave
- 2017/18 Division Head (Ecology and Physiology), RPT
- 2018/19 Division Head (Ecology and Physiology), RPT (co-chair),
Red Butte Canyon (chair), Animal Care
- 2019/20 Division Head (Ecology and Physiology)
- 2020/21 Facilities (co-chair), Tenured Faculty Review (chair), EDI liason to College of
Science, RPT Selection Board

- 2021/22 Plant Biology faculty search committee (co-chair), RPT Selection Board
- 2022/23 Facilities (co-chair), EDI
- 2023/24 Sabbatical Leave
- 2024/25 Tenure-Line Faculty Mentorship (chair), Graduate Admission

Professional Service

Utah Governor Jon Huntsman's Blue Ribbon Advisory Council on Climate Change:
Member of Climate Change Science Advisory Panel, 2007

Mountain Accord Environmental Dashboard Technical Committee member at request of
Salt Lake County Mayor Ben McAdams, 2016

National Ecological Observatory Network (NEON, <http://www.neoninc.org/>)

- Member, Domain Science and Education Coordination Committee for Great Basin Domain 13, 2009
- Member, Domain Science and Education Coordination Committee for Southern Rockies Domain 15, 2009
- Site evaluation/establishment visits to Onaqui-Benmore area in Utah for Great Basin Domain 15 Core Site, 2007 and 2008.
- Rocky Mountain Ecological Observatory Network (ROMEOnet) Regional Meetings, Ft. Collins, CO, 2004, Boulder, CO, 2004.
- Invited participant, NEON Workshop, Boulder, CO, 2004 – co-authored an associated publication (in list above)

Editorial Boards:

- Biogeosciences (European Geosciences Union), 2017-2023
- Oecologia, 2014-2023
- Agricultural and Forest Meteorology, 2008-2014
- Journal of Geophysical Research – Biogeosciences (American Geophysical Union), two terms: 2004-2008, 2010-2014

AmeriFlux Network Scientific Steering Committee member, which oversees a national flux tower CO₂ monitoring network, 2004-2016
(<http://ameriflux.ornl.gov/organization.html>)

Manuscript reviews:

Agricultural and Forest Meteorology, Analytical Chemistry, Applied Geochemistry, Applied Spectroscopy, Atmospheric Environment, Atmospheric Measurement Technology, Australian J. of Plant Physiology, Biogeochemistry, Biogeosciences, Chemical Geology, Ecohydrology, Ecological Applications, European J. of Soil Biology, Functional Ecology, Geochimica et Cosmochimica Acta, Global Biogeochemical Cycles, Global Change Biology, Hydrological Processes, Isotopes in Environmental and Health Studies, J. of Applied Meteorology, Nature, Nature Climate Change, Nature Ecology and Evolution, Nature Scientific Data, New Phytologist, Oecologia, Plant, Cell, and Environment, PLoS One, PNAS, Rangeland Ecology and Management, Rapid Communications in Mass Spectrometry, Soil Biology and Biochemistry, Tellus, Tree Physiology

Grant proposal reviews (U.S.)

- NSF Directorate for Biological Sciences, Division of Environmental Biology
 - Ecosystem Science cluster
 - Instrumentation and Instrumentation Development
 - Major Research Instrumentation
- NSF Directorate for Geosciences
 - Division of Atmospheric Sciences
 - Division of Earth Sciences, Instrumentation and Facilities
 - Division of Ocean Sciences, Ocean Technology and Interdisciplinary Coordination Program
- NSF Division of Behavioral and Cognitive Sciences
 - Geography and Spatial Sciences Program
- DOE Terrestrial Ecosystem Science Program
- DOE National Institute for Global Environmental Change
 - Northeast Regional Center
 - Southeast Regional Center
 - Great Plains Regional Center
- DOE National Institute for Climatic Change Research
 - Northeast Regional Center
 - Southeast Regional Center
- DOE Small Business Innovation Research
- NOAA Climate and Global Change Program
- NOAA Climate - Earth System Science - Global Carbon Cycle Program
- Kearney Foundation for Soil Science (U. California system)
- Illinois Water Resources Center

Grant proposal reviews (international)

- Austrian Science Fund (Austria)
- Canada Fund for Innovation (Canada)
- Deutsche Forschungsgemeinschaft (Germany)
- Experimentation in Ecosystem Research (ExpeER, European Union)
- Israel Science Foundation (Israel)
- Minerva Weizmann Foundation of the Max Planck Society (Germany)
- Natural Environment Research Council (United Kingdom)
- Natural Sciences and Engineering Research Council (Canada)
- Swiss Federal Institute of Technology (ETH) Zürich (Switzerland)
- Swiss National Science Foundation (Switzerland)
- US-Israel Binational Science Foundation (Israel)

Grant proposal review panels:

US National Science Foundation (2007, 2010, 2016, 2020, 2021)
US National Aeronautics and Space Administration (2021)
US Environmental Protection Agency (2012)

Tenure/promotion reviews:

Universities in Finland, Israel, United Kingdom, United States

Scientific award assessments:

2019 Japan Prize, Biological Production, Ecology

Book chapter and technical report reviews:

- Phenology of Ecosystem Processes, Springer
- United States Geological Survey

External dissertation reviews:

- University of British Columbia, Dept. of Geography (Canada)
- Australian National University, Research School of Biological Sciences (Australia)
- Dalhousie University, Dept. of Earth Sciences (Canada)
- Technische Universität München (Germany)
- University of Göttingen (Germany)

Interaction with public/press

- KSL interview about fall foliage
 - <https://www.ksl.com/article/46640727/looking-forward-to-utahs-fall-colors-heres-what-to-expect-this-year>
- Articles and interviews about Magney et al. (2019) PNAS paper
 - KPCW radio, <https://www.npr.org/podcasts/608606098/k-p-c-w-this-green-earth>
 - Utah Public Radio, Science Utah, <https://www.upr.org/post/glow-tree-leaves-invisible-humans-can-be-used-track-photosynthesis>, 5/30/19
 - Utah Public Radio, Undisciplined, <https://www.upr.org/programs/undisciplined>, 8/9/19
 - Poem: <https://thepoetryofscience.scienceblog.com/829/glowing-green/>
 - <https://www.sierraclub.org/sierra/fluorescent-evergreen-glow-tells-when-trees-are-taking-carbon>
- Washington Post and Deseret News articles about CO₂ emissions in Salt Lake City, 3/8/18, https://www.washingtonpost.com/news/energy-environment/wp/2018/03/08/scientists-just-showed-what-building-new-suburbs-does-to-the-atmosphere/?utm_term=.0ce78517a8a2, <https://www.deseretnews.com/article/900012768/co2-sensors-detail-surprises-about-urban-growth.html>
- op-ed about climate change, Salt Lake Tribune, 6/4/17
- presentation about climate change to Salt Lake Oasis (community organization), Utah, 4/2017
- University of Innsbruck article about visiting professorship (in German), 10/2016 <https://www.uibk.ac.at/newsroom/internationale-zusammenarbeit.html.de>
- Panel discussion about forests for Utah Film Center associated with IUFRO World Congress 2014, 10/7/2014
- KCPW radio article about iUTAH EPSCoR Project, 5/8/2014 (<http://exploreatahscience.org/science-topics/science-and-society/item/146-from-pristine-to-polluted-following-the-journey-of-an-urban-stream>)
- EPA STAR Fellow Success Story 7/2013 (<http://www.scgcorp.com/fellowship/stories.aspx/>)
- global change public discussion panel for KCPW radio, 6/16/2006
- KCPW radio article, 3/16/2006
- Newspaper article, Salt Lake Tribune, 8/7/2006
- Newspaper article, Daily Utah Chronicle, 4/11/2006
- Op-ed article, Daily Utah Chronicle, 9/17/2004

Professional Society Membership:

- American Geophysical Union
- Ecological Society of America
- Society for Advancement of Chicanos/Hispanics and Native Americans in Science

Public Datasets Generated by Research

Forest carbon dioxide stable isotope composition, Niwot Ridge, Colorado

- funded by U.S. Dept of Energy and National Science Foundation
- period of record summer 2003, 2005-2016
- Peter D. Blanken, Russell K. Monson, Sean P. Burns, David R. Bowling, Andrew A. Turnipseed (1998-) AmeriFlux US-NR1 Niwot Ridge Forest (LTER NWT1), DOI: 10.17190/AMF/1246088

Forest pigment composition and chlorophyll fluorescence, Niwot Ridge, Colorado

- Bowling, D.R., and B.A. Logan. 2019. Conifer Needle Chlorophyll Fluorescence, Niwot Ridge, Colorado, USA, 2017-2018. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1722>
- Bowling, D.R., and B.A. Logan. 2019. Conifer Needle Pigment Composition, Niwot Ridge, Colorado, USA, 2017-2018. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1723>

Western US carbon stocks

- Raczka, B.M., T.J. Hoar, H.F. Duarte, A.M. Fox, J.L. Anderson, D.R. Bowling, and J.C. Lin. 2021. CLM5-DART Regional Carbon Fluxes and Stocks over the Western US, 1998-2010. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1856>

Urban greenhouse gases

- Mitchell, L.E., J.C. Lin, L.R. Hutryra, D.R. Bowling, R.C. Cohen, K.J. Davis, A. Guha, A. Karion, R.F. Keeling, J.J. Kim, N.L. Miles, C.E. Miller, S. Newman, S. Prinzivalli, A. Rice, S.J. Richardson, M. Sargent, K.R. Verhulst, F. Vogel, R.F. Weiss, J. Whetstone, and S.C. Wofsy. 2021. NACP: Urban Greenhouse Gases across the CO2 Urban Synthesis and Analysis Network, V2. ORNL DAAC, Oak Ridge, Tennessee, USA. <https://doi.org/10.3334/ORNLDAAC/1916>

Gradients Along Mountain to Urban Transitions, northern Utah

- funded by National Science Foundation
- climate and stream monitoring instrumentation network
- located in Logan River, Provo River, and Red Butte Creek watersheds
- period of record 2013-present
- http://data.iutahepscor.org/mdf/Data/Gamut_Network/

Forest transpiration fluxes, northern Utah

- funded by National Science Foundation
- Knowlton Fork and TWDEF sites, using Granier sapflux method
- Aspen, white fir, and subalpine fir
- Period of record 2013-2015
- Chan, A., Bowling, D. (2015), T.W. Daniels Sapflux Aspen, 1.0, iUTAH Modeling & Data Federation, <http://repository.iutahepscor.org/dataset/t-w-daniels-sapflux-aspen>

- Chan, A., Bowling, D. (2015), Knowlton Fork Sapflux, 1.0, iUTAH Modeling & Data Federation, <http://repository.iutahepscor.org/dataset/knowlton-fork-sapflux>

Desert grassland carbon dioxide, water, and energy fluxes, Corral Pocket, Utah

- part of the AmeriFlux network of towers
- funded by University of Utah and U. S. Geological Survey
- period of record 2001–2007
- <http://ameriflux.ornl.gov/fullsiteinfo.php?sid=210>
- DOI: 10.17190/AMF/1246129, DOI: 10.18140/FLX/1440100

Contributor to worldwide greenhouse gas data network CarbonTracker (CT2019)

- [DOI: 10.25925/39m3-6069](https://doi.org/10.25925/39m3-6069)

Graduate Students Trained (D. Bowling as graduate advisor)

Lewis Kunik, PhD student since fall 2021 (jointly advised with John Lin, Atmospheric Sciences)

Annie Carlile, PhD student since fall 2023

Seth Arens (MS 2010), “Ion deposition in Wasatch mountain snow: influence of Great Salt Lake and Salt Lake City” (now at Western Water Assessment)

Mark Blonquist (MS 2012), “The potential of carbonyl sulfide as a proxy for gross primary production at flux tower sites” (now a scientist at Apogee Instruments)

Allison Chan (MS 2015) “Tree transpiration from two forests in the Wasatch Mountains, Utah” (now a scientist at Los Alamos National Laboratory)

Dr. Greg Maurer (PhD 2014), “The influence of seasonal snowpack variability on biogeochemical processes in western U.S. montane ecosystems” (now a scientist at Jornada LTER)

Dr. Andrew Moyes (PhD 2010), “The contribution of recently-assimilated carbon to soil respiration” (now a scientist at U.C. Berkeley)

Emily Schulze (MS 2015) “Revisiting streamside tree water use in the context of the two water worlds hypothesis” (now a scientist at Los Alamos National Laboratory)

Dr. Julia Yang (PhD 2023) “Photosynthetic response to environmental conditions in forests across spatiotemporal scales”, now a postdoc at U.C. Berkeley

Dr. John Zobitz (PhD 2007), “Mathematical approaches to partition net ecosystem exchange of carbon dioxide in a high-elevation subalpine forest” (now a faculty member at Augsburg College, Minnesota)

Postdoctoral Scientists Trained

Dr. Steven Hall (2013-2015), faculty member at U. Wisconsin Madison

Dr. Brett Raczka (2014-2021), staff scientist at National Center for Atmospheric Research

Dr. Sean Schaeffer (2005-2008), faculty member at U. of Tennessee

Dr. Kenneth Smith (2019-2024), data scientist at Metropolitan Council of Minnesota

Dr. Samantha Weintraub (co-advised, 2014-2016), staff scientist at National Ecological Observatory Network

Other Students and Employees Trained

Undergraduates: Jessica Baker, Emi Bingham, Brett Boyer, Susan Bush, Ryan Dillingham, Sarah Gaines, Matt Gamon, Claire Hall, Adrian Harrison, Simone Jackson, Zach James, Tina Jensen, John Lillquist, Lori Long, Sophia Lopez, Richard Malyn, Brianne Palmer, Stephanie Plummer, Harrison Quinn, Sarah Reed, Christian Ryser, Raili Taylor, Jillian Turner, Tina Woltz

High School Students: Davis Unruh, Tasha Heilweil

Graduate Student Supervisory Committees (underlined = current):

- Biology: Susan Bush, La'Shaye Cobley, Tomas Domingues, Sylvia Englund, Jaycie Fickle, Ethan Frehner, Carolina Gomez-Navarro, Erin Hanlon, Coleson Kastelic, Tegan Lengyel, David Love, Anthony Macharia, Yahampath Marambe, Jessica Pearce, Annapurna Post-Leon, Duncan Smith, Henry Todd, Christy Turnbull, Yujie Wang, Adam West, Jeb Williamson, Brett Wolfe, Nicole Zenes
- Atmospheric Sciences: Ben Fasoli, Carolyn Stwertka, Lauren Zuromski
- Civil and Environmental Engineering: Dasch Houdeshel, Austin Orr
- Mechanical Engineering: Prathap Ramamurthy
- Geography: Yi Qi
- Geology and Geophysics: Greg Carling, Mike Davis, Brenden Fischer-Femal, Tyler Huth, Olivia Miller, Christine Rumsey
- Professional Master of Science and Technology: Ryan Campbell, Michelle Mooy, Jared Watson (Chair)
- Brigham Young University: Biology, Lafe Connor, Kerri Russell

Technicians: Suzanne Bethers, Dave Eiriksson, David Galvez, Dr. Maria Garcia, Dr. Shashi Kalaskar, Shannon Kincaid, Claire Lunch, Andy Schauer

Invited Lectures (D. Bowling)

- 2019 Center for Ecosystem Science and Society, Northern Arizona University
- 2018 Dept. of Environmental Science & Engineering, California Institute of Technology
- 2016 Weizmann Institute of Science, Rehovot, Israel
University of Innsbruck, Institute of Ecology, Innsbruck, Austria
- 2015 European Geosciences Union General Assembly, Vienna, Austria
University of Innsbruck, Institute of Ecology, Innsbruck, Austria
American Geophysical Union Fall Meeting, San Francisco, CA
- 2014 Dept. of Watershed Sciences, Utah State University
- 2013 Stable Isotopes in Biosphere-Atmosphere Earth System Research, Wroclaw, Poland
Max Planck Institute for Biogeochemistry, Jena, Germany
- 2012 University of Innsbruck, Institute of Ecology, Innsbruck, Austria
University of Nevada, Reno and Desert Research Institute, Joint Graduate Program in Hydrologic Sciences and Ecology, Evolution, and Conservation Biology
- 2011 American Geophysical Union Fall Meeting, San Francisco, CA
- 2010 Dept. of Geology and Geophysics, University of Utah
- 2008 Dept. of Meteorology, Mountain Meteorology Group, University of Utah
Dept. of Biology, Utah Valley University
Dept. of Geography, University of Utah
- 2007 Biosphere-Atmosphere Stable Isotope Network Meeting, Berkeley, CA

- AmeriFlux Network Annual Meeting, Boulder, CO
 School of Biological Sciences, Washington State University
 Technische Universität München, Freising, Germany
- 2006 Department of Ecology and Evolutionary Biology, University of Arizona
 2005 American Society of Agronomy Annual Meeting, Salt Lake City, UT
 Dept. of Geography, University of Utah
 Dept. of Environmental Sciences, University of Virginia
- 2004 Biosphere-Atmosphere Stable Isotope Network, Marshall, CA
 Dept. of Biology, Bowdoin College, ME
 ESF Scientific Programme, Stable Isotopes in Biospheric-Atmospheric
 Exchange, Interlaken, Switzerland
- 2003 Ecological Society of America Annual Meeting, Savanna, GA
 ESF Scientific Programme, Stable Isotopes in Biospheric-Atmospheric
 Exchange, Orvieto, Italy
- 2002 Fluxnet Synthesis Workshop, Orvieto, Italy
 Stable Isotopes and Biosphere-Atmosphere Interactions International Workshop,
 Banff, Alberta, Canada
- 2001 Columbia University's Biosphere2 Center, Oracle, AZ
 Dept. of Geology and Geophysics, University of Utah
 Mathematical Biology Seminar Series, University of Utah
- 1999 American Geophysical Union Fall Meeting, San Francisco, CA
 1997 AmeriFlux Network Annual Meeting, St. Louis, MO

Other Lectures (various presenters, only the presenter listed)

(students underlined)

- 2023 Pierrat Z, American Geophysical Union Fall Meeting, San Francisco, CA
 2022 Smith K, Winter Biology Symposium
 Smith K, Ecological Society of America Annual Meeting, Montreal, CA
 Bowling DR, American Geophysical Union Fall Meeting, Chicago, IL
 Kannenberg S, American Geophysical Union Fall Meeting, Chicago, IL
 Magney, T, American Geophysical Union Fall Meeting, Chicago, IL
 Maguire A, American Geophysical Union Fall Meeting, Chicago, IL
Pierrat Z, American Geophysical Union Fall Meeting, Chicago, IL
- 2021 Pierrat Z, American Geophysical Union Fall Meeting, New Orleans, LA
 2020 Cerling T, Goldschmidt Conference, Honolulu, HI
Pierrat Z, NASA Arctic-Boreal Vulnerability Experiment PI Meeting
 Smith K, American Geophysical Union Fall Meeting, (virtual) San Francisco, CA
- 2019 Anderegg W, American Geophysical Union Fall Meeting, San Francisco, CA
 2018 Anderegg W, European Geosciences Union General Assembly, Vienna, Austria
Cheng R, American Geophysical Union Fall Meeting, Washington, DC
 Stutz J, American Geophysical Union Fall Meeting, Washington, DC
Huth T, American Geophysical Union Fall Meeting, Washington, DC
- 2017 Bowling D, American Geophysical Union Fall Meeting, New Orleans, LA
 Anderegg W, American Geophysical Union Fall Meeting, New Orleans, LA
 Raczka B, American Geophysical Union Fall Meeting, New Orleans, LA
Huth T, American Geophysical Union Fall Meeting, New Orleans, LA
 Bowen G, American Geophysical Union Fall Meeting, New Orleans, LA
 Lin, J, 10th International Carbon Dioxide Conference, Interlaken, Switzerland
 Raczka, B, Joint North American Carbon Program and AmeriFlux PI Meeting,
 North Bethesda, MD

- Raczka, B, US Dept. of Energy Terrestrial Ecosystem Science PI Meeting, Potomac, MD
- Logan B, Ecological Society of America Annual Meeting, Portland, OR
- Huth, T, Geological Society of America Annual Meeting, Seattle, WA
- 2016 Mitchell, L, American Geophysical Union Fall Meeting, San Francisco, CA
- Raczka, B, American Geophysical Union Fall Meeting, San Francisco, CA
- Bowling, D, 22nd Symposium on Boundary Layers and Turbulence, American Meteorological Society, Salt Lake City, UT
- Mitchell, L, 22nd Symposium on Boundary Layers and Turbulence, American Meteorological Society, Salt Lake City, UT
- Mitchell, L, NOAA Global Monitoring Annual Conference, Boulder, CO
- Huth, T, Geological Society of America Annual Meeting, Denver, CO
- 2015 Huth, T, Geological Society of America Annual Meeting, Baltimore, MD
- Weintraub, S, American Geophysical Union Fall Meeting, San Francisco, CA
- Lin, J, American Geophysical Union Fall Meeting, San Francisco, CA
- Mitchell, L, American Geophysical Union Fall Meeting, San Francisco, CA
- 2014 Bowling, D, American Geophysical Union Fall Meeting, San Francisco, CA
- Hall, S, American Geophysical Union Fall Meeting, San Francisco, CA
- Ballantyne, A, American Geophysical Union Fall Meeting, San Francisco, CA
- 2013 Bowling, D, American Geophysical Union Fall Meeting, San Francisco, CA
- 2012 Bowling, D, American Geophysical Union Fall Meeting, San Francisco, CA
- Maurer G, American Geophysical Union Fall Meeting, San Francisco, CA
- 2011 Blonquist M, American Geophysical Union Fall Meeting, San Francisco, CA
- Monson, R, American Geophysical Union Fall Meeting, San Francisco, CA
- 2010 Blonquist M, American Geophysical Union Fall Meeting, San Francisco, CA
- Maurer G, American Geophysical Union Fall Meeting, San Francisco, CA
- Trahan N, American Geophysical Union Fall Meeting, San Francisco, CA
- Wilcox B, American Geophysical Union Fall Meeting, San Francisco, CA
- 2009 Gamnitzer U, European Geosciences Union General Assembly, Vienna, Austria
- 2008 Moyes A, American Geophysical Union Fall Meeting, San Francisco, CA
- 2007 Bowling D, American Geophysical Union Fall Meeting, San Francisco, CA
- Moyes A, Ecological Society of America annual meeting, San Jose, CA
- Schaeffer S, Ecological Society of America annual meeting, San Jose, CA
- 2006 Bowling D, American Geophysical Union Fall Meeting, San Francisco, CA
- Moyes A, American Geophysical Union Fall Meeting, San Francisco, CA
- Schaeffer S, American Geophysical Union Fall Meeting, San Francisco, CA
- Zobitz J, US. Dept. of Energy Global Change Education Program Summer Orientation Workshop, Portland, Oregon
- 2005 Zobitz J, American Geophysical Union Fall Meeting, San Francisco, CA
- Roden J, Annual Meeting of the American Society of Plant Biologists
- 2004 Crosson E, International Workshop on Stable Isotope Ratio Infrared Spectrometry: New Developments and Applications, Vienna, Austria
- 2003 McDowell N, American Geophysical Union Fall Meeting, San Francisco, CA
- 2002 Baldocchi D, Stable Isotopes and Biosphere-Atmosphere Interactions International Workshop, Banff, Alberta
- 2001 Bowling D American Geophysical Union Fall Meeting, San Francisco, CA
- Baldocchi D, American Geophysical Union Fall Meeting, San Francisco, CA
- McDowell N, American Geophysical Union Fall Meeting, San Francisco, CA
- McDowell N, IUFRO Canopy Processes Workshop
- 2000 Bowling D, American Geophysical Union Fall Meeting, San Francisco, CA