

Benjamin W. Sullivan, Assistant Professor
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h-index: 15; Citations: 869

EDUCATION

Northern Arizona University	Ph.D., Forest Science	2008-2011
Northern Arizona University	M.S., Forestry	2005-2007
University of Montana	B.S., Resource Conservation	1998-2002

ACADEMIC & RESEARCH APPOINTMENTS

2014 – present	Assistant Professor	University of Nevada, Reno
2012 – 2014	Postdoctoral Researcher	University of Montana
2008 – 2011	NSF IGERT Trainee	Northern Arizona University
2005 – 2011	Research Assistant	Northern Arizona University

COURSES OFFERED

Forest and Range Soils, NRES 497/697, Spring 2015-2018
Soil Physics, NRES 422/622, Spring 2016, Fall 2017, Fall 2018
Graduate Environmental Statistics, NRES 710, Fall 2017, Fall 2018, Fall 2019

GRADUATE AND POST-GRADUATE ADVISEES

Graduate committee chair (5 total, 3 MS and 2 PhD): C. Reed (2015-present, PhD), R. Kasten (2016-present, MS), C. Craig (2017-present, MS), J. Jacobs (2018-present, MS), B. Morra (2018-present)

Postdoctoral fellows and research associates mentored (4): S. Freund (2016-2018, Technician), S. Dunham-Cheatham (2017, Postdoc), E. Carlson (2016-2017, Technician), E. Huenupi (2015-2016, Technician)

Undergraduate students employed and mentored (14): A. Cale (2018-present), J. Anderson (2018-present), A. Greiner, (2018), P.J. Wilkerson (2017), K. Wylie (2017-2018), D. Elvidge (2017), M. Middione (2017), D. Mueller, (2016-2018). M. Poindexter (2016-2017), K. Casey (2016-2016), W. Grosjean (2015-2017), M. Ludwig, (2014-2016), S. Jackson (2008-2011, NAU), M. Nasto (2010-2011), C. Looney (2009-2010, NAU), W. Winslow (2006, NAU)

SYNERGISTIC ACTIVITIES

Service activities: Technical Advisory Committee Member, Sierra Meadows Restoration-Research Partnership (2015-present). NRCS Technical Advisory Team, Minden-Elko offices (2018-present).

Manuscript reviewer for multiple journals, including: Biogeochemistry, Biogeosciences, Ecology, Ecology Letters, Ecosystems, Forest Ecology and Management, Forests, Functional Ecology, Geoderma, Geomicrobiology Journal, Journal of Soils and Sediments, Nature, Nature Climate Change, Nature Geoscience, Plant and Soil, PLOS One, Proceedings of the Royal Society B, Restoration Ecology, Science of the Total Environment, Soil Biology and Biochemistry, Soil Science Society of America Journal

Grant Reviewer: National Science Foundation, NASA-EPSCOR

PUBLICATIONS (* indicates current or former advisee authorship, † indicates current or former postdoctoral associate. Please note that, at different periods in my career, I have followed different conventions of author order. ** indicates my role as a senior author)

In review

37. Delgado-Baquerizo, M., P.B. Reich, C. Tirvedí, D.J. Eldridge, S. Abades, F.D. Alfaro, F. Bastida, A.A. Berhe, N.A. Cutler, A. Gallardo, L. García-Velázquez, S.C. Hart, P. E. Hayes, J.-Z. He, Z.-Y. Hseu, H.W. Hu, M. Kirchmair, S. Newhauser, C.A. Pérez, S.C. Reed, F. Santos, **B.W. Sullivan**, P. Trivedi, J. Wang, L. Weber-Grullon, M.A. Williams, B.K. Singh. Multiple elements of soil biodiversity drive ecosystem functions globally. *Nature Ecology & Evolution*, February 2019. Impact factor: *not available (new journal)*
36. Urza, A., P. Weisberg, J. Chambers, **B.W. Sullivan**. Shrub facilitation of tree establishment varies with ontogenetic stage across stress gradients. *New Phytologist*, January 2019. Impact factor: 7.43
35. Slate, M.L., **B.W. Sullivan**, R.M. Callaway. Bryotic pulses: Desiccation of mosses greatly increases resource fluxes that alter soil carbon and nitrogen cycling. *Journal of Ecology*, October 2018. Impact factor: 5.431
34. *Dunham-Cheatham, S.M., S.M. Freund*, S.M. Uselman, E.A. Leger, **B.W. Sullivan****. Persistent agricultural legacy influences plant restoration success in a native salt desert shrubland. *Ecological Restoration*, October 2018. Impact factor: *not available*.
33. *Reed, C.C., A.G. Merrill, M. Drew, B. Christman, R. Hutchinson, M. Odell, S. Swanson, P.S.J. Verburg, J. Wilcox, S.C. Hart, **B.W. Sullivan****. Biogeochemical threshold response to disturbance causes large soil carbon losses in montane meadows. *Nature Communications*, November 2018. Impact factor: 12.353

Peer-reviewed publications

32. Delgado-Baquerizo, M., R.D. Bardgett, F.T. Maestre, D.J. Eldridge, F. Alfaro, A.A. Berhe, M.A. Bowker, N. Cutler, A. Gallardo, L. García-Velázquez, P. Hayes, Z.-Y. Hseu, H. Lambers, S. Neuhauser, V. Peña, C. Perez, S. Reed, P. Sala, F. Santos, C. Siebe, **B.W. Sullivan**, P. Vitousek, M. Williams, N. Fierer. Resource availability and abiotic stress drive belowground diversity during pedogenesis. *PNAS Accepted and in press* February 2019. Impact factor: 9.661
31. **Sullivan, B.W.**, R.L. Nifong, M.K. Nasto, S. Alvarez-Clare, C. Dencker, F.M. Soper, K.T. Shoemaker, F. Yoko Ishida, J. Zaragoza-Castells. 2019. Biogeochemical recuperation is common in secondary lowland tropical forest. *Ecology Accepted and in press* January 2019. Impact factor: 5.18
30. Vuono, D.C., R.W. Read, J. Hemp, **B.W. Sullivan**, J.A. Arnone III, I. Neveux, B. Blank, C. Staub, E. Loney, D. Miceli, M. Winkler, R. Chakraborty, D.A. Stahl, J.J. Grzymalski. 2019. Resource limitation modulates the fate of dissimilated nitrogen in a dual-pathway Actinobacterium. *Frontiers in Microbiology* 10(3). doi: 10.3389/fmicb.2019.00003. Impact factor: 4.300.
29. Soper, F.M., **B.W. Sullivan**, B.B. Osborne, A.N. Shaw, L. Phillipot, C.C. Cleveland. Leaf-cutter ants engineer large nitrous oxide hot spots in tropical forests. 2019. *Proceedings of the Royal Society of London B* 286(1894), 20182504. Impact factor: 5.611

28. Uselman, S.M., J. Davison, O.W. Baughman, **B.W. Sullivan**, W.W. Miller, E.A. Leger. 2018. Restoring arid old fields with native shrubs and grasses: do facilitation and seed source matter? PLoS ONE e0205760. Impact factor: 2.81
27. Winbourne, J., M. Harrison, **B.W. Sullivan**, S. Alvarez-Clare, S. Rafaela-Lins, L. Martinelli, M.K. Nasto, D. Piotto, S. Rolim, M. Wong, S. Porder. 2018. A new framework for evaluating estimates of symbiotic nitrogen fixation in forests. *The American Naturalist* 192(5), 618-629. Impact factor: 4.18
26. Soper, F.M., **B.W. Sullivan**, M.K. Nasto, B.B. Osborne, D. Bru, C. Balzotti, P. Taylor, G. Asner, A. Townsend, L. Philippot, S. Porder, C.C. Cleveland. 2018. Remotely-sensed canopy nitrogen influences nitrous oxide emissions in a lowland tropical rainforest. *Ecology* 99(9), 2080-2089. Impact factor: 5.18
25. *Reed, C.C., J. Winters, S.C. Hart, R. Hutchinson, M. Chandler, G. Venicx, **B.W. Sullivan****. 2018. Building flux capacity: Citizen scientists increase resolution of soil greenhouse gas fluxes. *PLOS One* 13(7), e0198997. Impact factor: 2.81
24. *Freund, S.M., F.M. Soper, S.R. Poulson, P.C. Selmants, **B.W. Sullivan****. 2018. Actinorhizal species influence plant and soil nitrogen in semiarid shrub-dominated ecosystems in the western Great Basin. *Journal of Arid Environments* 157, 48-56. Impact factor: 1.84
23. Gei, M., D. Rozendaal, L. Poorter, F. Bongers, J. Sprent, M. Garner, T.M. Aide, J. Andrade, P. Balavanera, J. Becknell, P.H. Brancalion, G.A. Cabral, R. César, R. Chazdon, R. Cole, G. Colletta, B. de Jong, J.S. Denslow, D. Dent, S. DeWalt, J. Dupuy, S. Durán, M. do Espírito Santo, G. Fernandes, J. Ferrera Nunes, B. Finegan, V.G. Moser, J. Hall, J.L. Hernandez-Stefanoni, A. Junqueira, D. Kennard, E. Lebrija-Trejos, S. Lecher, M. Lohbeck, E. Marin-Spiotta, M. Martinez-Ramos, J. Meave, D. Menge, F. Mora, R. Muñoz, R. Muscarella, S. Ochoa-Gaona, E. Orihuela-Belmonte, R. Ostertag, M. Peña Claros, E.A. Perez-Garcia, D. Piotto, P. Reich, C. Reyes-Garcia, J. Rodríguez-Velázquez, I.E. Romero-Perez, L. Sanaphre, A. Sanchez-Azofeifa, N. Schwartz, A.S. de Almeida, J. Almeda-Cortez, W. Silver, V. Souza Moreno, **B.W. Sullivan**, N. Swenson, M. Uriarte, M. van Breugel, H. van der Wal, M. Veloso, H. Vester, I. Vieira, J. Zimmerman, J. Powers. 2018. Legume abundance along successional and rainfall gradients in Neotropical forests. *Nature Ecology and Evolution* 2, 1104-1111. Impact factor: *not available (new journal)*
22. Rejmankova, E., **B.W. Sullivan**, J. Aldad, J. Snyder, S. Castle, F. Morales. 2018. Regime shift in the littoral ecosystem of volcanic lake Atitlán in Central America: Combined role of stochastic event and invasive plant species. *Freshwater Biology* 63(9), 1088-1106. Impact factor: 3.26
21. Harrison, J., C. Philbin, Z. Gompert, G. Forister, L. Hernandez, **B.W. Sullivan**, I. Wallace, L. Beltran, C. Dodson, J. Francis, A. Schlageter, O. Shelef, S. Yoon, M.L. Forister. 2018. Deconstruction of a plant-arthropod community reveals influential plant traits with nonlinear effects on arthropod assemblages. *Functional Ecology* 32(5), 1317-1328. Impact factor: 5.21
20. Carter, Z., **B.W. Sullivan**, R. Qualls, R. Blank, C. Schmidt, P.S.J. Verburg. 2018. Charcoal increases microbial activity in eastern Sierra Nevada forest. *Forests* 9(2), 93. Impact factor: 2.08

19. Castle, S.C., **B.W. Sullivan**, J. Knelman, E. Hood, D.R. Nemergut, S.K. Schmidt, C.C. Cleveland. 2017. Nutrient limitation of soil microbial activity during the earliest stages of ecosystem development. *Oecologia* 183, 513-524. Impact factor: 3.13
18. Taylor, P.G., C.C. Cleveland, W.R. Wieder, **B.W. Sullivan**, C.E. Doughty, S. Dobrowski, A.R. Townsend. 2017. Temperature and rainfall interact to control carbon cycling in tropical forests. *Ecology Letters* 20, 779-788. Impact factor: 9.45
17. Osborne, B.B., M.K. Nasto, G.P. Asner, C.S. Balzotti, C.C. Cleveland, **B.W. Sullivan**, P.G. Taylor, A.R. Townsend, S. Porder. 2017. Climate, topography, and canopy chemistry exert hierarchical control over soil N cycling in a Neotropical lowland forest. *Ecosystems* 20, 1089-1103. Impact factor: 4.20
16. **Sullivan, B.W.**, M.K. Nasto*, S.C. Hart, B.A. Hungate. 2015. Proximate controls on semiarid soil greenhouse gas fluxes across 3 million years of soil development. *Biogeochemistry* 125(3), 375-391. Impact factor: 3.43
15. Cleveland, C.C., P. Taylor, K.D. Chadwick, K. Dahlin, C.E. Doughty, Y. Malhi, W.K. Smith, **B.W. Sullivan**, W.R. Wieder, A.R. Townsend. 2015. A comparison of plot-based, satellite and Earth system model estimates of tropical NPP. *Global Biogeochemical Cycles* 29(5), 626-644. Impact factor: 4.65
14. Nasto, M.K., S. Alvarez-Clare, Y. Lekberg, **B.W. Sullivan**, A.R. Townsend, C.C. Cleveland. 2014. Interactions among nitrogen fixation and soil phosphorus acquisition strategies in lowland tropical rain forests. *Ecology Letters* 17(10) 1282-1289. Impact factor: 9.45
13. **Sullivan, B.W.**, W.K. Smith, A.R. Townsend, M.K. Nasto*, S.C. Reed, R. Chazdon, C.C. Cleveland. 2014. Spatially robust estimates of biological nitrogen (N) fixation imply substantial human alteration of the tropical N cycle. *Proceedings of the National Academy of Sciences, USA* 111(22), 8101-8106. Impact factor: 9.66

Accepted position as Assistant Professor at UNR

12. **Sullivan, B.W.**, S. Alvarez-Clare, S.C. Castle, S. Porder, S. Reed, L. Schreeg, A. Townsend, C.C. Cleveland. 2014. Assessing nutrient limitation in complex forested ecosystems: Alternatives to large-scale fertilization experiments. *Ecology* 95(3), 668-681. Impact factor: 5.18
11. **Sullivan, B.W.**, P.C. Selmants, S.C. Hart. 2013. Does dissolved organic carbon regulate biological methane oxidation in semiarid soils? *Global Change Biology* 19, 2149-2157. Impact factor: 8.44
10. **Sullivan, B.W.**, S.C. Hart. 2013. Evaluation of mechanisms controlling the priming of soil carbon along a substrate age gradient. *Soil Biology and Biochemistry* 58, 293-301. Impact factor: 4.86
9. **Sullivan, B.W.**, P.C. Selmants, S.C. Hart. 2012. High potential nitrification rates occur in soils during dry seasons. *Soil Biology and Biochemistry* 53, 28-31. Impact factor: 4.86
8. Looney*, C.L., **B.W. Sullivan**, J.M. Kane, T.E. Kolb, S.C. Hart. 2012. Effects of water additions on pinyon pine (*Pinus edulis*) water relations, growth, and mortality across a

three million year old soil age gradient in northern Arizona, USA. *Plant and Soil* 357, 89-102. Impact factor: 3.05

7. **Sullivan, B.W.**, Dore, S., Hart, S.C., Montes-Helu, M.C., Kolb, T.E. 2012. Snowmelt causes pulse emissions of carbon dioxide from snowpack at a high-elevation site in northern Arizona, USA. *Arctic, Antarctic, and Alpine Research* 44(2), 247-254. Impact factor: 1.78
6. **Sullivan, B.W.**, T.E. Kolb, S.C. Hart, J.P. Kaye, B.A. Hungate, S. Dore, M.C. Montes-Helu. 2011. Wildfire reduces carbon dioxide efflux and increases methane uptake in ponderosa pine forest soils of the southwestern USA. *Biogeochemistry* 104(1), 251-265. Impact factor: 3.43
5. **Sullivan, B.W.**, S. Dore, T.E. Kolb, S.C. Hart, M.C. Montes-Helu. 2010. Evaluation of methods for estimating soil carbon dioxide efflux across a gradient of forest disturbance. *Global Change Biology* 16, 2449-2460. Impact factor: 8.44
4. Dore, S., T.E. Kolb, M. Montes-Helu, S.E. Eckert, **B.W. Sullivan**, B.A. Hungate, J.P. Kaye, S.C. Hart, G.W. Koch, A. Finkral. 2010. Carbon and water fluxes from ponderosa pine forests disturbed by wildfire and thinning. *Ecological Applications* 20(3), 663-683. Impact factor: 4.31
3. Montes-Helu, M.C., T.E. Kolb, S. Dore, **B.W. Sullivan**, S.C. Hart, G.W. Koch, B.A. Hungate. 2009. Persistent effects of fire-induced vegetation change on energy partitioning and evapotranspiration in ponderosa pine forests. *Agricultural and Forest Meteorology*, 149, 491-500. Impact factor 3.89
2. **Sullivan, B.W.**, T.E. Kolb, S.C. Hart, J.P. Kaye, S. Dore, M. Montes-Helu. 2008. Thinning reduces soil carbon dioxide but not methane flux from southwestern USA ponderosa pine forests. *Forest Ecology and Management* 255(12), 4047-4055. Impact factor: 3.06
1. Dore, S., T.E. Kolb, M. Montes-Helu, **B.W. Sullivan**, W.D. Winslow, S.C. Hart, J.P. Kaye, G.W. Koch, B.A. Hungate, T.E. Kolb. 2008. Long-term impact of a stand-replacing fire on ecosystem CO₂ exchange of a ponderosa pine forest. *Global Change Biology* 14(8), 1801-1820. Impact factor: 8.44

Reviews and Commentary

2. **Sullivan, B.W.**, P.C. Selmants, S.C. Hart. 2014. What is the relationship between soil methane oxidation and other C compounds? Response to Letter to the Editor regarding 'Does dissolved organic carbon regulate biological methane oxidation in semiarid soils?' *Global Change Biology* doi: 10.1111/gcb.12533. Impact factor: 8.44
1. Cleveland, C.C., **B.W. Sullivan**. 2012. Drought and tropical soil emissions. *Nature* 489, 211-212. Impact factor: 40.14

GRANTS AND CONTRACTS (PIs are listed first; co-PIs follow. When proposal budgets were clearly divided among PIs, the money allocated to Sullivan and co-PIs is indicated before the "/>). Please note that supplements to the original award are included in the project total. As with my publications, student grants are noted with "*" .)

Successfully funded externally competitive grants

Sullivan, B.W. 2019-2021. Nitrogen availability as a dominant control of carbon cycling in montane meadow ecosystems. USDA-AFRI (Nationally competitive). \$200,000.

- Wilcox, J. (Plumas Corporation), B.W. Sullivan. East Creek Meadow Restoration Carbon Monitoring. California Department of Fish and Wildlife (Regionally competitive). \$85,576/\$200,000.
- Hutchinson, R. (South Yuba River Citizens League), B.W. Sullivan. Van Norden Meadow Meadow Restoration Project. California Department of Fish and Wildlife (Regionally competitive). \$232,421/\$1,616,542.40.
- Sullivan, B.W., S. Bisbing, E. Hanan. 2018-2021. The Plumas Collaborative Forest Health Project. A grant from the California Department of Forestry and Fire Protection (CalFire) via partners at the Plumas County Fire Safe Council (H.Hepner, PI) (Regionally competitive). \$423,037/\$6,639,360.
- Sullivan, B.W. 2016-2019. The biogeochemical consequences of woody encroachment in Sierra Nevada meadows may be discovered with citizen scientists. Earthwatch Institute/Bella Vista Foundation (Nationally competitive). \$34,591.
- Stringham, T., B.W. Sullivan. 2015-2021. Enhancing Sustainable Habitat Restoration Utilizing Management Focused Research: The Desatoya Mountain Project. FOA L15AS00079, BLM-Nevada, CESU Great Basin Nevada Forest and Rangeland Research Project, Carson City District (Regionally competitive). \$147,586/\$323,000. Pending further support on an annual basis.
- Wilcox, J. (Plumas Corporation), B.W. Sullivan (UNR PI), S. Swanson. 2015-2020. Mountain meadows restoration project at Greenville Creek and Upper Goodrich and effects on greenhouse gases. California Department of Fish and Wildlife (Nationally competitive). \$260,368/\$679,566.
- *Reed, C, B.W. Sullivan. 2017-2018. Measuring soil carbon dynamics from space: Using remote sensing to measure soil carbon change in degraded Sierra Nevada meadows. NASA-EPSCOR (State competitive). \$18,000.
- Sullivan, B.W., S.C. Hart, R. Hutchinson. Greenhouse gas fluxes and carbon sequestration potential of restored and unrestored meadows in the Sierra Nevada. Earthwatch Institute (Internationally competitive). \$3,080/12,000.

Successfully funded internally competitive federal grants

- Johnson, B.G., A. Csank, B.W. Sullivan. 2019. Seeing the forest through the soil: Do soil chemical and physical characteristics explain variance in the response of *Pinus ponderosa* growth to climate? USDA McIntire-Stennis (University of Washington) \$50,000.
- Sullivan, B.W., T. Stringham, A. Nuss, M. Taylor. 2018-2021. Conserving soil carbon and sage grouse habitat in Great Basin meadows. USDA Hatch/McIntire-Stennis (University of Nevada). \$138,099.
- Sullivan, B.W., P. Verburg. 2015-2018. Identifying rates and proximate controls of soil methane flux in arid ecosystems. USDA Hatch/McIntire-Stennis (University of Nevada). \$127,538.
- Leger, E.A., B.W. Sullivan, W. Miller. 2015-2017. Research on soil/plant interactions in old fields, National Fish and Wildlife Foundation (University of Nevada, PI transfer to Sullivan after W. Miller retirement). \$220,223.

Outreach and Engagement Grants

- Sullivan, B.W., 2015-2019. Sierra Meadows Technical Advisory Committee Participation. California Trout. \$24,396.

Grants in review

- Sullivan, B.W., Sierra to Sea: Ecosystem Restoration. A grant to the Bella Vista Foundation, submitted with Earthwatch and South Yuba River Citizens' League partners. \$25,135/\$50,000. (Nationally competitive)

Gordon, S, et al. 2018. Major Research Instrumentation: Acquisition of an electron probe microanalyzer for research and education in the Mountain-West region. National Science Foundation (Nationally competitive). \$1,427,526.

Grants not supported

- Csank, A., B.W. Sullivan. 2018-2019. Applications of remote sensing to assess post-fire forest recovery and to support strategic restoration planning in three Eldorado National Forest watersheds (Panther Creek, Bear River, Cole Creek). National Fish and Wildlife Foundation (Nationally competitive). \$244,100.
- Sullivan, B.W., M. Gustin, A. Harpold. 2017. Subalpine meadow modulation of water quality and stream flow in response to forest management and climate change. California Wildlife Conservation Board (Nationally competitive). \$569,112.16.
- Newingham, B.A., B.W. Sullivan, M. Falkowski, A. Hudak. 2016. Roles of pre-fire vegetation, soil, and post-fire rehabilitation in Great Basin ecosystem recovery. Joint Fire Sciences Program (Nationally competitive). \$493,051.
- Sullivan, B.W., C.C. Cleveland, J. Maron, Y. Lekberg, Y. Yang. 2015. Breaking the Rules: Exploring mechanisms that drive large increases in net primary production following exotic plant invasion. NSF 15-500: Division of Environmental Biology, National Science Foundation (Nationally competitive). \$791,199.
- Stringham, T., B.W. Sullivan, K. Snyder. 2014. Investigating the role of piñon and juniper management on watershed hydrology: improving drought indicators for the Great Basin. USDA Hatch (Internally competitive). \$368,472.
- Cleveland, C.C., S. Reed, B.W. Sullivan, W. Wieder. 2014. Rates, patterns, and controls of biological nitrogen fixation in terrestrial ecosystems: Improving representation in Earth System models. US Department of Energy (Nationally competitive). \$1,473,849.

PRESENTATIONS (** indicates advisee authorship*)

51. Reed, C.C., J.A. Greenberg, A.S. Parra, W.K. Smith, B.D. Morrison, **B.W. Sullivan**. 2018. Modeling soil carbon losses following anthropogenic disturbance in Sierra Nevada meadows using field measurements, remote sensing products, and downscaled climate data. Oral presentation at the American Geophysical Union Fall Meeting, Washington, DC.
50. **B.W. Sullivan**, C.C. Reed*, S.M. Dunham-Cheatham*, S.C. Castle, D.C. Vuono. 2018. Of iron and microbes: linking Fe-reduction to C mineralization under changing redox conditions in Sierra Nevada montane meadows. Oral presentation at the American Geophysical Union Fall Meeting, Washington, DC.
49. **B.W. Sullivan**, S.M. Freund*, F.M. Soper, S.R. Poulson, P.C. Selman. 2018. Actinorhizal species influence plant and soil nitrogen in semiarid shrub-dominated ecosystems in the western Great Basin. Oral presentation at the Ecological Society of America Annual Meeting, New Orleans, LA.
48. *Reed, C.C., A.G. Merrill, M. Drew, B. Christman, R. Hutchinson, M. Odell, S. Swanson, P.S.J. Verburg, J. Wilcox, S.C. Hart, **B.W. Sullivan**** . 2018. Biogeochemical threshold response to disturbance causes large soil carbon losses in montane meadows. Oral presentation at the Ecological Society of America Annual Meeting, New Orleans, LA.
47. **Invited: B.W. Sullivan**. 2018. Can a soil carbon problem in montane meadows be an ecological and financial opportunity? Oral presentation at the University of Nevada Geography Colloquium, Reno, NV.

46. Ellis, J.C., C.M. Dencker, **B.W. Sullivan**, B.A. Newingham. 2018. Plant litter effects on cheatgrass growth in Mollisol and Aridisol soils. Poster presentation at the Society of Range Management Annual Meeting, Sparks, NV.
45. Greenberg, J., Z. Hou, C. Ramirez, R. Hart, N. Marchi, A. Parra, B. Gutierrez, R. Tompkins, A. Harpold, **B.W. Sullivan**, P. Weisberg. 2017. Vegetation response to the 2016-2017 extreme Sierra Nevada snowfall event using multitemporal terrestrial laser scanning: initial results. Poster presentation at the American Geophysical Union Fall Meeting, New Orleans, LA.
44. **Invited: B.W. Sullivan**. 2017. Tropical biogeochemistry: revisiting paradigms and new patterns. Oral presentation at the University of California, Merced.
43. *Craig, C., **B.W. Sullivan**. 2017. Rates of soil methane uptake vary across an elevation gradient in the central Great Basin, Nevada. Poster presentation at the Ecological Society of America Annual Meeting, Portland, OR
42. *Freund, S.M. S.M. Uselman, S.M. Dunham-Cheatham*, E.A. Leger, **B.W. Sullivan**. 2017. Comparison of plant-soil relationships between native salt desert shrub communities and a restored agricultural field. Oral Presentation at the Ecological Society of America Annual Meeting, Portland, OR.
41. *Reed, C.C., **B.W. Sullivan**. 2017. Restoring function: The impact of hydrologic restoration on soil C sequestration, nutrient cycling, and primary production in Sierra Nevada meadows. Oral Presentation at the Ecological Society of America Annual Meeting, Portland, OR.
40. Urza, A.K., P.J. Weisberg, **B.W. Sullivan**, J.C. Chambers. 2017. Sagebrush facilitation of pinyon pine juveniles varies by life stage and along a gradient of aridity. Oral Presentation at the Ecological Society of America Annual Meeting, Portland, OR.
39. Soper, F., M.K. Nasto, **B.W. Sullivan**, B.B. Osborne, S. Porder, C.C. Cleveland. 2017. Canopy foliar nitrogen heterogeneity influences denitrification rates in a tropical lowland forest. Oral Presentation at the Ecological Society of America Annual Meeting, Portland, OR.
38. *Reed, C.C., **B.W. Sullivan**, S.C. Hart, A. Merrill, M. Drew. 2016. Anthropogenic Disturbance of Montane Meadows May Cause Substantial Loss of Soil Carbon to the Atmosphere. Poster presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
37. **Sullivan, B.W.**, A. Wymore, J. Schade, W.H. McDowell. 2016. Dissolved organic carbon: nitrate ratios as a driver of methane biogeochemistry in stream ecosystems. Oral presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
36. **Sullivan, B.W.**, C.C. Reed*, J. Winters, R. Hutchinson, G. Venicx, M. Chandler, S.C. Hart. 2016. Building flux capacity: Citizen scientists increase resolution of greenhouse gas fluxes. Oral presentation at the Soil Science Society of America Meeting, Phoenix, AZ.
35. *Reed, C.C., S. Swanson, A. Merrill, M. Drew, S.C. Hart, **B.W. Sullivan**. 2016. Soil carbon stocks and greenhouse gas fluxes from unrestored Sierra Nevada Meadow

ecosystems. Oral presentation at the Soil Science Society of America Meeting, Phoenix, AZ.

34. Carter, Z., **B.W. Sullivan**, R. Blank, P. Verburg. 2016. The Role of Charcoal in Nutrient Cycling Following Prescribed Fires. Poster presentation at the Soil Science Society of America Meeting, Phoenix, AZ.
33. *Reed, C.C., **B.W. Sullivan**, S.C. Hart, A. Merrill. M. Drew, S. Swanson. 2016. Greenhouse gas dynamics in degraded montane meadows: contributions to climate change and opportunities for mitigation. Oral presentation at the Natural Areas Conference, Sacramento, CA.
32. Vuono, D., J. Grzymski, M. Winkler, R. Charaboty, R. Blank, **B.W. Sullivan**, D. Stahl. 2016. Nitrate dissimilatory pathway selection depends on carbon concentration in a novel denitrifier/respiratory ammonifier, *Intrasporangium calvum* C5. Oral presentation at the International Society for Microbial Ecology (ISME).
31. *Reed, C.C., S.C. Hart, A. Merrill, M. Drew, **B.W. Sullivan**. 2016. Rates and mechanisms of greenhouse gas fluxes in unrestored Sierra Nevada meadows. Oral presentation at the California Society for Ecological Restoration, Sacramento, CA.
30. **Sullivan, B.W.**, M.K. Nasto, S. Alvarez-Clare, R. Cole, S. Reed, R. Chazdon, E.A. Davidson, C.C. Cleveland. 2015. Trends in nitrogen and phosphorus cycling are consistent and constrained during secondary tropical forest succession. Poster presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
29. Marklein, A.R., M.K. Nasto, **B.W. Sullivan**, and C.C. Cleveland. 2015. Interactions among plants, symbiotic N-fixing bacteria, and arbuscular mycorrhizal fungi in tropical rain forest: Results from a theoretical model. Oral presentation at the Ecological Society of America Meeting, Baltimore, MD.
28. Osborne, B.B., M.K. Nasto, G. Asner, C.C. Cleveland, **B.W. Sullivan**, P.G. Taylor, A.R. Townsend, S. Porder. 2015. Geomorphology and canopy chemistry influence soil nitrogen availability on variable time scales in a lowland tropical forest. Oral presentation at the Ecological Society of America Meeting, Baltimore, MD.
27. Castle, S.C., **B.W. Sullivan**, R. Jones, M.K. Nasto, A. Ballantyne, A. Hirsch, and C.C. Cleveland. 2015. Landuse determines soil microbial community resistance and resilience to climate change in the lowland tropics. Oral presentation at the Ecological Society of America Meeting, Baltimore, MD.
26. **Invited: Sullivan, B.W.**, M.K. Nasto, S. Alvarez-Clare, S.C. Reed, and C.C. Cleveland. 2015. Nitrogen and phosphorus fertilization alters biological nitrogen fixation in lowland tropical rainforest. Oral presentation at the Ecological Society of America Meeting, Baltimore, MD.
25. Townsend, A.R., C.C. Cleveland, G. Asner, S. Porder, P.G. Taylor, B.B. Osborne, M.K. Nasto, W. R. Wieder, and **B.W. Sullivan**. 2015. One size does not fit all: Multi-scale heterogeneity in the lowland tropical N cycle. Oral presentation at the Ecological Society of America Meeting, Baltimore, MD.

24. **Invited: Sullivan, B.W.** 2014. The often unexpected relationships among seasonal precipitation patterns, soil processes, and microbial communities. Oral presentation at the Graduate Program of Hydrologic Sciences Colloquium Series. Reno, NV.
23. Nasto, M.K., S. Alvarez-Clare, Y. Lekberg, **B.W. Sullivan**, A.R. Townsend, C.C. Cleveland. 2014. Interactions among nitrogen fixation and soil phosphorus acquisition strategies in lowland tropical rain forests. Oral presentation at the Ecological Society of America Meeting, Sacramento, CA.

Accepted position as Assistant Professor at UNR

22. **Invited:** Townsend, A.R., C.C. Cleveland, P. Taylor, K. Dahlin, W.R. Wieder, W.K. Smith, **B.W. Sullivan**, K.D. Chadwick, C. Doughty. 2013. An inter-comparison of plot-scale, satellite and earth system model estimates of tropical net primary productivity. Oral presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
21. **Invited:** Cleveland, C.C., **B.W. Sullivan**, M.K. Nasto. 2013. Nutrient constraints on carbon cycling in tropical forests. Seminar at the Department of Integrative Biology, University of Texas, Austin, TX.
20. Weintraub, S.R., **B.W. Sullivan**, C.C. Cleveland, and A.R. Townsend. 2013. Multiple indices of nutrient limitation in a topographically dissected wet tropical forest. Oral presentation at the Ecological Society of America Meeting, Minneapolis, MN.
19. **Sullivan, B.W.**, M.K. Nasto, W.K. Smith, S.C. Reed, R.Chazdon, C.C. Cleveland. 2013. Patterns and rates of biological nitrogen fixation during secondary succession in a lowland tropical rain forest. Oral presentation at the Ecological Society of America Meeting, Minneapolis, MN.
18. **Invited: Sullivan, B.W.**, M.K. Nasto, S.C. Reed, E. Ortiz, B. Vilchez, R. Chazdon, C.C. Cleveland. 2013. Rates and patterns of biological nitrogen fixation during secondary succession in a lowland tropical rain forest. Oral presentation at the Association for Tropical Biology and Conservation Meeting, San Jose, Costa Rica.
17. Nasto, M.K., **B.W. Sullivan**, C.C. Cleveland. 2013. Does biological nitrogen fixation enhance phosphorus acquisition in lowland tropical rainforests? Oral presentation at the University of Montana Graduate Research Symposium, Missoula, MT.
16. **Sullivan, B.W.**, M.K. Nasto, S.C. Hart, B.A. Hungate, R.A. Parnell. 2011. Soil fluxes of CO₂, CH₄, and N₂O after fertilization across a three million year old soil age gradient. Oral presentation at the Ecological Society of America Meeting, Austin, TX.
15. **Sullivan, B.W.**, S.C. Hart. 2010. Stability of soil organic matter is a non-linear function of soil age. Oral presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
14. **Sullivan, B.W.** 2010. Ecosystem development in the semi-arid southwest. Oral presentation at the Forestry Graduate Student Association Seminar Series, School of Forestry, Northern Arizona University, Flagstaff, AZ.
13. Dore, S., T.E. Kolb, M.C. Montes-Helu, S. Eckert, **B.W. Sullivan**, B.A. Hungate, J.P. Kaye, S.C. Hart, G.W. Koch. 2009. Carbon fluxes from ponderosa pine forests disturbed

by wildfire and thinning. Poster presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.

12. **Sullivan, B.W.**, S. Dore, S.C. Hart, M.C. Montes-Helu, T.E. Kolb 2009. Snowmelt causes pulse emissions of CO₂ to the atmosphere. Oral presentation at the Ecological Society of America Annual Meeting, Albuquerque, NM.
11. Kolb, T.E., S. Dore, M.C. Montes-Helu, **B.W. Sullivan**, S.E. Eckert, J.P. Kaye, S.C. Hart, G.W. Koch, A. Finkral, B.A. Hungate. 2009. Carbon and water fluxes from ponderosa pine forests disturbed by wildfires and thinning. Oral presentation at the Ecological Society of America Annual Meeting, Albuquerque, NM.
10. **Sullivan, B.W.**, S.C. Hart, T.E. Kolb. 2008. Methane uptake in forest soils is driven by diffusivity and methane oxidizer community size. Poster presentation at the American Geophysical Union Fall Meeting, San Francisco, CA.
9. T.E. Kolb, S. Dore, M. Montes-Helu, J.P. Kaye, **B.W. Sullivan**, A. Finkral, S.C. Hart, G.W. Koch, B.A. Hungate. 2008. Wildfire and silviculture impacts on carbon, water, and energy balances in ponderosa pine forests. Oral presentation at the national Society of American Foresters meeting; Reno, NV.
8. Dore, S., M. Montes-Helu, T.E. Kolb, **B.W. Sullivan**, J.P. Kaye, S.C. Hart, G.W. Koch, B.A. Hungate. 2007. Carbon dioxide and energy exchange in disturbed Southwestern ponderosa pine forests. Poster presentation at the American Geophysical Union Fall Meeting; San Francisco, CA.
7. **Sullivan, B.W.**, T.E. Kolb, S.C. Hart. 2007. Thinning reduces carbon dioxide, but not methane, fluxes in Southwest ponderosa pine forest soil. Oral presentation at the 9th Biennial Conference on Research on the Colorado Plateau; Flagstaff, AZ.
6. Kolb, T.E., S. Dore, M. Montes-Helu, **B.W. Sullivan**, W.D. Winslow, S.C. Hart, J.P. Kaye, G.W. Koch, B.A. Hungate. 2007. Carbon dioxide and energy exchange in disturbed Southwestern ponderosa pine forests. Oral presentation at the 9th Biennial Conference on Research on the Colorado Plateau; Flagstaff, AZ.
5. **Sullivan, B.W.**, T.E. Kolb, S.C. Hart, S. Dore, M. Montes-Helu, B.A. Hungate. 2007. Effects of wildfire on soil carbon dioxide and methane fluxes in a Southwest, U.S. ponderosa pine forest. Poster presentation at U.S North American Carbon Program Investigator's Meeting; Colorado Springs, CO.
4. Kolb, T.E., M. Montes-Helu, S. Dore, S.C. Hart, J.P. Kaye, **B.W. Sullivan**, B.A. Hungate, G. Koch. 2007. Carbon Dioxide and Methane Fluxes in Disturbed Southwestern Ponderosa Pine Forests. Poster presentation at U.S North American Carbon Program Investigator's Meeting; Colorado Springs, CO.
3. Dore, S., M. Montes-Helu, **B.W. Sullivan**, J.P. Kaye, S.C. Hart, G. Koch, B.A. Hungate. 2007. The Effect of Intense Wildfires on Ecosystem Gas Exchange of Ponderosa Pine Forests in Northern Arizona. Poster presentation at U.S North American Carbon Program Investigator's Meeting; Colorado Springs, CO.
2. Montes-Helu, M. S. Dore, **B.W. Sullivan**, S.C. Hart, J. Kaye, W. Winslow, G. Koch, B.A. Hungate, T.E. Kolb. 2006. Carbon fluxes in disturbed southwestern ponderosa pine forests. Poster presentation at the Ameriflux Science Meeting; Boulder, CO.

1. **Sullivan, B.W.**, S.C. Hart, S.T. Overby, D. Guido, D. Erickson, D. Neary, C. Edminster. 2005. Restoration treatment effects on soil enzyme activity and total carbon and nitrogen. Oral presentation at 8th Biennial Conference on Research on the Colorado Plateau; Flagstaff, AZ.

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (since 2005)

Ecological Society of America (since 2007)

Chair of ESA Biogeosciences section (2018-2020)

Soil Science Society of America (since 2014)