Kyle Palmquist *Curriculum vitae, July 2020*

Marshall University
Department of Biological Sciences
1 John Marshall Drive
Huntington WV, 25755

Email: palmquist@marshall.edu
Cell: 860-608-1994
Office: 304-696-3987
Website: www.kylepalmquist.org

EDUCATION

2014 Ph.D. in Ecology, University of North Carolina at Chapel Hill
2006 B.S. in Biology, Environmental Studies minor, College of Charleston, *magna cum laude*

PROFESSIONAL EMPLOYMENT

January 2019 – present: Assistant Professor at Marshall University, Department of Biological Sciences, Huntington, WV

June 2014 – December 2018: Postdoctoral Research Associate and Instructor at the University of Wyoming, Laramie, WY (mentors: William Lauenroth & John Bradford)

January - May 2014: Adjunct Instructor at High Point University, High Point, NC
Instructor of record – Introduction to Biology and Environmental Science Labs

PUBLICATIONS (* denotes student author)

Peer-reviewed Publications

2020 Bradford, J.B., D.R. Schlaepfer, W.K. Lauenroth & **K.A. Palmquist.** Robust ecological drought projections for drylands in the 21st century. Global Change Biology 26(7): 3906-3919.

2020 Jordan, S.E.*, **K.A. Palmquist**, J.B. Bradford & W.K. Lauenroth. Soil water availability shapes species richness in mid-latitude shrub steppe plant communities. Journal of Vegetation Science 31(4): 646-657.

2019 Renne, R.R.*, D.R. Schlaepfer, **K.A. Palmquist**, J.B. Bradford, I.C. Burke & W.K. Lauenroth. Soil and stand characteristics explain patterns of shrub mortality following global change type-drought and extreme precipitation. Ecology 100(12): e02889.

2019 Bradford, J.B., D.R. Schlaepfer, W.K. Lauenroth, **K.A. Palmquist**, J. Chambers, J. Maestas & S. Campbell. Climate-driven shifts in soil temperature and moisture regimes suggest opportunities to enhance assessments of dryland resilience and resistance. Frontiers in Ecology and Evolution 7: 358 (*invited paper)*.

2019 Lindquist, L.W.*, **K.A. Palmquist**, S.E. Jordan* & W.K. Lauenroth. Impacts of climate change on groundwater recharge in Wyoming big sagebrush ecosystems are contingent on elevation. Western North American Naturalist 79(1): 4.

2019 Pennington, V.E.*, J.B. Bradford, **K.A. Palmquist** & W.K. Lauenroth. Patterns of big sagebrush community composition and stand structure in the Western US. Rangeland Ecology and Management 72(3): 505-514.

2018 **Palmquist, K.A.**, T.E. Martyn*, D.R. Schlaepfer, J.B. Bradford & W.K. Lauenroth. STEPWAT – a modeling framework for exploring the joint influence of climate change and altered disturbance regimes on dryland plant communities. Ecosphere 9(8): e02394.

2018 Rottler, C.M.*, I.C. Burke, **K.A. Palmquist**, J.B. Bradford & W.K. Lauenroth. Reclamation after oil and gas development does not speed up succession or plant community recovery in big sagebrush ecosystems in Wyoming. Restoration Ecology 26: 114-123.

2018 Peet, R.K., **K.A. Palmquist**, T.R. Wentworth, M.P. Schafale, A.S. Weakley & M.T. Lee. Carolina Vegetation Survey: an initiative to improve regional implementation of the U.S. National Vegetation Classification. Phytocoenologia 48(2): 171-179 (*invited paper*).

2017 Pennington, V.E.*, **K.A. Palmquist**, J.B. Bradford & W.K. Lauenroth. Climate and soil texture influence patterns of forb species richness and composition in big sagebrush plant communities across their spatial extent in the western US. Plant Ecology 218: 957-970.

2016 **Palmquist, K.A.**, D.R. Schlaepfer, J.B. Bradford & W.K. Lauenroth. Spatial and ecological variation in dryland ecohydrological response to climate change: Implications for management. Ecosphere 7(11): 1-20.

2016 Pennington, V.E.*, D.R. Schlaepfer, J.L. Beck, J.B. Bradford, **K.A. Palmquist** & W.K. Lauenroth. Sagebrush, greater sage-grouse, and the occurrence and importance of forbs. Western North American Naturalist 76(3): 298-312.

2016 **Palmquist, K.A.**, D.R. Schlaepfer, J.B. Bradford & W.K. Lauenroth. Mid-latitude shrub steppe plant communities: Climate change consequences for soil water resources. Ecology 97(9): 2342-2354.

2016 Lopez, B.L., K.R. Burgio, M.B. Carlucci, **K.A. Palmquist**, A. Parada, V.P. Weinberger & A.H. Hulbert. A new framework for inferring community assembly processes using phylogenetic information, relevant traits, and environmental gradients. One Ecosystem 1 (e9501): 1-24.

2016 Tessel, S.M., **K.A. Palmquist** & R.K. Peet. Species-Area Relationships. In Oxford Bibliographies Online: Ecology. Ed. David Gibson. New York: Oxford University Press.

2016 **Palmquist, K.A.**, R. K. Peet & S.C. Carr. Xeric longleaf pine vegetation of the Atlantic and East Gulf Coast Coastal Plain: an evaluation and revision of Associations within the U.S. National Vegetation Classification. Proceedings of the US National Vegetation Classification 1(1): 1-70.

2015 Mitchell, S.M, **K.A. Palmquist**, S. Cohen & N.L. Christensen. Patterns of vegetation composition and diversity in pine-dominated ecosystems of the lower Coastal Plain of North Carolina: Implications for ecosystem restoration. Forest Ecology and Management 356: 64-73.

2015 Martyn, T.*, C.W. Beltz*, **K.A. Palmquist**, V.E. Pennington*, C.M. Rottler* & W.K. Lauenroth. Daubenmire versus line-point intercept: a response to Thacker et al. (2015). Rangelands 37(4): 158-160.

2015 **Palmquist, K.A.**, R.K. Peet & S.R. Mitchell. Scale-dependent responses of longleaf pine vegetation to fire frequency and environmental context across two decades. Journal of Ecology 103: 998-1008.

2014 **Palmquist, K.A.**, R.K. Peet & A.S. Weakley. Reduced fire frequency and long-term drought drive species loss in one of the most species-rich longleaf pine savannas in the United States. Journal of Vegetation Science 25: 1426-1437.

2014 [+]Coyle, J.R., F.W. Halliday, B.E. Lopez, **K.A. Palmquist**, P.A. Wilfahrt & A.H. Hurlbert. Using trait and phylogenetic diversity to evaluate the generality of the stress-dominance hypothesis in eastern North American tree communities. Ecography 37: 1-13 (editor's choice). [+]all authors contributed equally.

Book Chapters

2018 Reeves, M.C., M.E. Manning, J.P. DiBenedetto, **K.A. Palmquist**, W.K. Lauenroth, J.B. Bradford, & D.R. Schlaepfer. Effects of climate change on rangeland vegetation in the northern Rockies. In: J.E. Halofsky, J.E. and D.L. Peterson, eds. *Climate Change and Rocky Mountain Ecosystems*, Chapter 7, First edition. Springer International Publishing, Switzerland. Pages 97-114.

2014 Peet, R.K., **K.A. Palmquist** & S.M. Tessel. Herbaceous layer species richness of southeastern forests and woodlands: patterns and causes. In: F.S. Gilliam, ed. *The Herbaceous Layer in Forests of Eastern North America*, Chapter 10, Second edition. Oxford University Press, New York, New York. Pages 255-276.

Manuscripts in Review or Revision

Schlaepfer, D.R., W.K. Lauenroth, J.B. Bradford & **K.A. Palmquist**. Solar geoengineering may increase climate change droughts in drylands. Earth's Future (*in revision*).

Smith, A.J., D.R. Schlaepfer, **K.A. Palmquist**, I.C. Burke & W.K. Lauenroth. Allometric modeling of bunchgrasses in big sagebrush plant communities. Rangeland Ecology and Management (*in review*).

Manuscripts in Preparation

Palmquist, K.A., J.B. Bradford, D.R. Schlaepfer, W.K. Lauenroth, S Torbit, G. Watson, K. Doherty & R. Renne. Climate change impacts on shrub steppe plant communities vary with environmental context and geography (*in prep*). Target journal: Global Change Biology.

Palmquist, K.A., R. Renne, J.B. Bradford, D.R. Schlaepfer, W.K. Lauenroth, S Torbit, G. Watson & K. Doherty. Grazing intensity interacts with climate to determine future dryland plant community composition (*in prep*). Target journal: Ecological Applications.

GRANTS AND FELLOWSHIPS ($538,771 awarded, $418,921 external)

2020	Faculty Summer Research Award, Marshall University	$2,000
2019	Department of Defense, MCRD Parris Island SC, Vegetation Survey and Assessment of Vegetation Vulnerability to Sea-level Rise (submitted)	$89,817
2019	MU-ADVANCE Path Forward Travel Grant	$1,000
2019	Quinlan Travel Grant, Marshall University	$500
2019	Faculty Summer Research Award, Marshall University	$2,000
2019	WV NASA EPSCoR Research Seed Grant, "Quantifying the vulnerability of longleaf pine woodlands to drought" (lead PI)	$20,000
2018	USGS North-Central Climate Adaptation Science Center, "Big sagebrush plant	$200,000

	community response to wildfire and invasive annual grasses in the 21st century" (lead PI)	
2017	US Geological Survey, "Modeling the response of big sagebrush plant communities to altered climate and disturbance" (co-PI)	$24,000
2016	WWISE travel grant, Wyoming-EPSCoR, University of Wyoming	$1,000
2015	University of Basel, Switzerland, "Albedo modification impact on global temperate dryland ecosystem water balance" (co-PI)	$73,612
2015	Biodiversity Institute, University of Wyoming, "Soil water dynamics and plant biodiversity in big sagebrush ecosystems across space" (lead PI)	$50,000
2015	US Geological Survey, "Analysis, revision, and documentation of longleaf pine associations of the National Vegetation Classification (Group 007) occurring in the Carolinas, Georgia, and Florida" (co-author)	$79,955
2015	WWISE travel grant, Wyoming-EPSCoR, University of Wyoming	$1,600
2015	INBRE Bioinformatics Training Travel Grant, University of Wyoming	$1,800
2014	International Association for Vegetation Scientist Young Scientist Travel Award	$2,300
2013	Graduate Professional School Travel Award, University of North Carolina	$400
2013	Dr. William Coker Fellowship, University of North Carolina	$11,500
2013	Alma Holland Beers Scholarship, University of North Carolina	$1,500
2013	North Carolina Native Plant Society Shin Grant	$1,000
2013	Graduate Student Transportation Grant, University of North Carolina	$250
2012	US Geological Survey, Subcontract to the University of North Carolina through the Ecological Society of America. "U.S. National Vegetation Classification peer review testing" (co-author)	$33,054
2012	Alma Holland Beers Scholarship, University of North Carolina	$1,500
2012	Dr. William Coker Fellowship, University of North Carolina	$1,500
2012	Caldwell Travel Scholarship, University of North Carolina	$500
2011	Dr. William Coker Fellowship, University of North Carolina	$1,850
2010	Alma Holland Beers Scholarship, University of North Carolina	$2,950
2008	Mrs. Coker Botany Fellowship, University of North Carolina	$20,000
2005	SURF, Effects of Irrigation Timing and Water Quality on Cotton Physiology and Development, College of Charleston	$5,000

TEACHING EXPERIENCE

2019 F, 2020 S	Instructor of record, Marshall University, Principles of Ecology Lecture and Lab
2019 S	Instructor of record, Marshall University, Plant Ecology Lecture and Lab
2016	Instructor of record, University of Wyoming, Terrestrial Ecosystem Ecology
2015	Instructor of record, University of Wyoming, Vegetation Ecology Lab
2014	Instructor of record, High Point University, Intro to Biology Lab
2014	Instructor of record, High Point University, Intro to Environmental Science Lab

STUDENT MENTORING

2019 – present **Adviser** of Maggie England's Master's degree in Biological Sciences. Marshall University.

2019 – present **Adviser** of Rebekah Shupe's Master's degree in Biological Sciences. Marshall University.

2019 – present **Committee member**: Katie Biggert (MS, Marshall U), Fen Annarino (MS, Marshall U), Madeline Thompson (MS, Marshall U), Chris Holredge (PhD, Utah State U), Joanna Spooner (PhD, U of North Carolina Chapel Hill)

2015 – present **Co-adviser** of Samuel Jordan's Master's degree in Forestry and Environmental Studies entitled "Impacts of grazing and ecohydrology on plant biodiversity patterns in big sagebrush ecosystems". Yale University.

2016 – 2018 **Co-adviser** of Lukas Lindquist's Wyoming Research Scholars undergraduate research project entitled "Sagebrush, climate change, and groundwater recharge in Wyoming". University of Wyoming.

2014 – present Additional students and computer programmers mentored at the University of Wyoming, Yale University, and Marshall University: Trace Martyn (MS, UWY), Caitlin Rottler (PhD, UWY), Rachel Renne (MS, Yale), Lexi Smith (MS, Yale), Victoria Pennington (MS, UWY), Ashish Tiwari (MS, UWY), Chandler Hakaup (BS, UWY), and Frederick Pierson (BS, MU).

INVITED PRESENTATIONS

2019 **Palmquist, K.A.** Plant biodiversity and climate change impacts in temperate ecosystems. Department of Biology Seminar Series, Miami University of Ohio. Oxford, OH. (October 10, 2019)

2019 **Palmquist, K.A.** The effects of fire and climate change in temperate plant communities. US Forest Service Northern Research Station. Delaware, OH. (April 21, 2019)

2017 **Palmquist, K.A.** How high-performance computing can benefit ecological research at the University of Wyoming. Advanced Research Computing Center workshop at the University of Wyoming. Laramie, WY.

2013 **Palmquist, K.A.** & R.K. Peet. Small-scale species richness in longleaf pine savannas: patterns and drivers. Botanical Society of America Annual Meeting. New Orleans, LA.

2012 **Palmquist, K.A.**, R.K. Peet, J.M. White & K. Israel. Long-term vegetation change in contrasting North Carolina ecosystems. ESA Annual Meeting, Portland Oregon.

2011 **Palmquist, K.A.**, R.K. Peet & A.S. Weakley. Species richness patterns, compositional shifts, and turnover in the longleaf pine ecosystem across 18 years. College of Charleston Biology Lecture Series, Charleston, SC.

SELECTED RECENT PRESENTATIONS

2019 **Palmquist, K.A.**, J.B. Bradford, D.R. Schlaepfer, R.R. Renne & W.K. Lauenroth. Climate change impacts on shrub steppe plant communities vary with environmental context and geography. ESA Annual Meeting, Louisville, KY.

2019 **Palmquist, K.A.** & R.K. Peet. Plant species richness patterns are shaped by multiple ecological processes across space in the longleaf pine ecosystem. Association for Southeastern Biologists Annual Meeting, Memphis TN.

2018 **Palmquist, K.A.** & W.K. Lauenroth. Herbarium specimens reveal shifts in the timing of big sagebrush reproduction over the last two centuries. ESA Annual Meeting, New Orleans, LA.

2017 **Palmquist, K.A.**, S.E. Jordan, J.B. Bradford, D.R. Schlaepfer & W.K. Lauenroth. Resource quantity and resource heterogeneity shape species richness and beta-diversity patterns in big sagebrush plant communities. ESA Annual Meeting, Portland, OR.

2016 **Palmquist, K.A.**, W.K. Lauenroth, J.B. Bradford & D.R. Schlaepfer. Spatial and ecological variation in big sagebrush ecohydrological responses to climate change: Implications for management and conservation. ESA Annual Meeting, Fort Lauderdale, FL.

2015 **Palmquist, K.A.**, W.K. Lauenroth, J.B. Bradford & D.R. Schlaepfer. Climate change impacts on future sagebrush ecohydrology across the western US. ESA Annual Meeting, Baltimore, MD.

2014 **Palmquist, K.A.** Fire and spatial scale mediate the strength of deterministic and stochastic processes in longleaf pine woodlands. International Association for Vegetation Science Annual Meeting (IAVS), Perth, Australia.

AWARDS

2016 Own It! Award Nominee, given by WY EPSCoR to honor outstanding women in STEM fields

2013 Eugene P. Odum Award, given by the SE Chapter of the Ecological Society of America for the best oral presentation on ecological research given by a student at the Association for Southeastern Biologists Annual Meeting, $500

2012 University of North Carolina Impact Award, recognizes graduate students whose research contributes to the educational, economic, physical or social well-being of the citizens of North Carolina, $500

PROFESSIONAL MEMBERSHIPS

Ecological Society of America – Member of Southeastern Chapter, Rangeland Ecology Section, Early Career Ecologist Section, and Vegetation Section

International Association for Vegetation Science (IAVS)

Association of Southeastern Biologists (ASB)

Southern Appalachian Botanical Society (SABS)

PROFESSIONAL SERVICE

2020 – present Associate Editor, Plant Ecology

2020 – present Southern Appalachian Botanical Society Council, Member at Large

2020 External reviewer for USGS Climate Adaptation Science Center proposals

2020 Reviewer of Ecological Society of America Abstracts

2019 – present Chair of the Vegetation Section of the Ecological Society of America

2019 – present Associate Editor, Southeast Coastal Plain Region, US National Vegetation Classification

2019 Reviewer of Ecological Society of America Organized Oral Session proposals

2017 – 2019	Vice Chair of the Vegetation Section of the Ecological Society of America
2015 – present	IAVS Vegetation Classification Working Group
2014 – present	Reviewer for *Journal of Vegetation Science* (7), *Western North American Naturalist* (4), *Plant Ecology* (2), *Global Ecology and Biogeography* (2), *Community Ecology* (1), *American Journal of Botany* (1), *Functional Ecology* (1), *Ecology* (1), *Global Change Biology* (1), *Landscape Ecology* (1), *Fire Ecology* (1), *Wetlands* (1), *Southwestern Naturalist* (1)
2017	External reviewer for NSF, Division of Environmental Biology
2015 – 2017	IAVS Young Scientist's Section Steering Committee
2015,18,19	Judge for the Tom Damman Award, the best student oral presentation in Vegetation Science at the annual meeting of the Ecological Society of America (ESA)
2015,18,19,20	Judge for the Murray F. Buell Award and E. Lucy Braun Award, the best student oral presentation and best student poster presentation at the annual meeting of the ESA
2014	Judge for the Quatterman-Keever Award, the best student poster in ecology at the annual meeting of the Association for Southeastern Biologists
2011,19	Peer reviewer for the US National Vegetation Classification

UNIVERSITY SERVICE

2020 – present	Marshall University Faculty Senator
2020 – present	Department of Biological Sciences Scholarships Committee, Marshall University
2020 – present	Chair of the College of Science Greenhouse Committee, Marshall University
2019 – present	Co-organizer of Department of Biological Sciences Seminar Series, Marshall University
2019 – present	Department of Biological Sciences Curriculum Committee, Marshall University
2019 – present	Member, Campus Tree Committee, Marshall University