

JAMIE L. PEELER

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EDUCATION

- Ph.D. **Penn State University, University Park, PA. Expected May 2021.** Geography.
Dissertation: Fire, pattern, and spatial resilience: the role of landscapes in post-fire tree recovery
Advisor: Dr. Erica Smithwick
Certification: Penn State Graduate School Teaching Certificate (completed in 2019)
- M.S. **Penn State University, University Park, PA. 2017.** Geography.
Master's paper: Exploring invasibility with species distribution modeling: how does fire promote cheatgrass (*Bromus tectorum*) invasion within lower montane forests?
Advisor: Dr. Erica Smithwick
- B.S. **Duke University, Durham, NC. 2012.** Biology.
Honors thesis: Trait plasticity of tree species in response to changing disturbance regimes in Kruger National Park, South Africa
Advisor: Dr. Justin Wright

RESEARCH INTERESTS

Disturbance dynamics and their effects on ecosystems, forest resilience, fire ecology, landscape ecology, environmental change, social-ecological systems, causes and consequences of spatial heterogeneity

GRANTS AND FELLOWSHIPS

External

- 2019 Joint Fire Science Program Graduate Research Innovation Award (\$25,000)
Project: Scale-dependent effects of landscape context on post-fire forest regeneration in the Northern Rockies
NSF Doctoral Dissertation Research Improvement Award (\$18,000)
Project: Doctoral dissertation research: spatial resilience in forests recovering from fires
NASA Pennsylvania Space Grant Consortium Graduate Research Fellowship (\$5,000)
- 2018 National Geographic Support for Women and Dependent Care Opportunity (\$3,585)
- 2017 National Geographic Early Career Grant (\$5,370)
Project: Quadruple whammy: exploring indicators of forest resilience to multiple disturbances in the Greater Yellowstone Ecosystem
NASA Pennsylvania Space Grant Consortium Graduate Research Fellowship (\$5,000)
- 2016 NASA Pennsylvania Space Grant Consortium Graduate Research Fellowship (\$5,000)

Penn State University

- 2020 C. Gregory Knight Academic Enrichment, Department of Geography (\$1,000)
- 2019 C. Gregory Knight Academic Enrichment, Department of Geography (\$1,000)
Fogel Award, Earth and Environmental Systems Institute (\$2,000)

- Center for Landscape Dynamics Graduate Research Award (\$540)
- 2018 C. Gregory Knight Academic Enrichment, Department of Geography (\$600)
- 2017 Center for Landscape Dynamics Graduate Research Award (\$1,000)
- C. Gregory Knight Academic Enrichment, Department of Geography (\$350)
- 2016 Center for Landscape Dynamics Graduate Research Award (\$995)
- C. Gregory Knight Academic Enrichment (\$430)
- 2015 Fund for Excellence in Graduate Recruitment (\$5,000)

AWARDS AND HONORS

External

- 2017 Honorable Mention, NSF Graduate Research Fellowship Program
- 2014 Honorable Mention, NSF Graduate Research Fellowship Program

Penn State University

- 2020 Outstanding Research Assistant Award, Department of Geography
- 2020 Best Ph.D. Paper, E. Willard Miller Award, Department of Geography
- 2019 Best Ph.D. Proposal, E. Willard Miller Award, Department of Geography
- 2018 Best M.S. Paper, E. Willard Miller Award, Department of Geography
- 2017 Best M.S. Proposal, E. Willard Miller Award, Department of Geography
- 2015 Environmental Scholar, Earth and Environmental Systems Institute

Duke University

- 2012 Graduation with Distinction, Department of Biology
- Excellence in Plant Science, Department of Biology
- 2010 Rachel Carson Research Scholar, Duke University Marine Lab

PUBLICATIONS

Peer-reviewed Articles

- Peeler JL** and Smithwick EAH. 2020. Seed source and terrain have scale-dependent effects on post-fire tree recovery. *Landscape Ecology*.
- Peeler JL** and Smithwick EAH. 2018. Exploring invasibility with species distribution modeling: how does fire promote cheatgrass (*Bromus tectorum*) invasion within lower montane forests? *Diversity and Distributions*, 24, 9, 1308-1320.
- Peeler JL** and Menges ES. 2018. Effects of fire history, tree age, and canopy seed bank size on serotiny of sand pine (*Pinus clausa*) in Florida scrub. *Florida Scientist*, 81, 1, 3-11.

PRESENTATIONS

- 2020 **Peeler JL** and Smithwick EAH. Live seed source and terrain have scale-dependent effects on post-fire tree recovery. Ecological Society of America Annual Meeting. Salt Lake City, UT.

- 2019 **Peeler JL** and Smithwick EAH. Scale-dependent effects of landscape context on post-fire forest regeneration in the Northern Rockies. American Geophysical Union Annual Meeting. San Francisco, CA.
- Peeler JL** and Smithwick EAH. Convergence research on landscape and seascape resilience in the Anthropocene. International Association for Landscape Ecology World Congress. Milan, Italy.
- 2018 Cabeza CA*, **Peeler JL**, and Smithwick EAH. Climate and topographic effect on wildfire burn severity in the Greater Yellowstone Ecosystem. American Geophysical Union Annual Meeting. Washington, DC.
- Peeler JL** and Smithwick EAH. Network theory and post-fire landscapes: linking connectivity to forest reorganization in the Greater Yellowstone Ecosystem. North American Regional Association of the International Association for Landscape Ecology Annual Meeting. Chicago, IL.
- 2017 **Peeler JL** and Smithwick EAH. Exploring invasibility with species distribution modeling: how does fire promote cheatgrass invasion within lower montane forests? Ecological Society of America Annual Meeting. Portland, OR.
- Peeler JL** and Smithwick EAH. Exploring invasibility with species distribution modeling: how does fire promote cheatgrass invasion within lower montane forests? American Association of Geographer Annual Meeting. Boston, MA.
- 2014 **Peeler JL** and Menges ES. Effects of fire history and tree age on serotiny of sand pine (*Pinus clausa*) in Florida scrub. Research Intern Seminar, Archbold Biological Station. Venus, FL.
- Peeler JL** and Menges ES. Effects of fire regime on serotiny of sand pine (*Pinus clausa*) in Florida scrub. Florida Native Plant Society Annual Meeting. Fort Myers, FL.
- 2012 **Peeler JL**, Vickers K, and Wright JP. Trait plasticity of tree species in response to changing disturbance regimes in the Kruger National Park. Distinction in Biology Poster Symposium, Duke University. Durham, NC.
- 2011 **Peeler JL**. Trait plasticity of tree species in response to changing disturbance regimes in the Kruger National Park. REU Student Research Seminar, South Africa National Parks. Skukuza, South Africa.

* Denotes presenter other than Peeler JL

RESEARCH

- 2019 **Research assistant**, GeoVISTA and Center for Pollinator Research, Penn State University
Supervisor: Dr. Anthony Robinson
 Secured Institutional Review Board approval and implemented a survey to improve a web tool called Beescape (<https://beescape.org/>)

TEACHING

College of Earth and Mineral Sciences, Penn State University

- 2017 – 2021 **Graduate writing tutor**, College of Earth and Mineral Sciences Writing Center
 Coached undergraduates to improve their science communication skills
- 2019 **Teaching assistant**, Science Communication and Water Resources (EMSC 100)
 Designed lesson plans for 14 undergraduates that culminated with students creating a digital story

Department of Geography, Penn State University

- 2020 **Teaching assistant**, Geographic Info in a Changing World: Intro to GIScience (GEOG 260)
 Helped 60 undergraduates complete labs in ArcPro, ArcGIS Online, and ArcGIS StoryMaps
- 2019, 2017 **Teaching assistant**, Environment and Society in a Changing World (GEOG 30)
 Designed recitations on human-environment systems for 90 undergraduates

- 2018, 2016, 2015 **Teaching assistant**, Introduction to Physical Geography (GEOG 10)
Designed two field trips and helped 50 undergraduates complete labs on physical geography
- 2018, 2017 **Instructor of record**, Geography of Water Resources (GEOG 431 Web)
Facilitated online lessons on water resources for 15 undergraduates and adult learners
- 2018, 2017 **Teaching assistant**, Global Parks and Sustainability (GEOG 1)
Graded assignments for 95 undergraduates that culminated with groups creating a digital story
- 2016 **Teaching assistant**, Geography of Water Resources (GEOG 431 Web)
Graded assignments on water resources for 50 undergraduates and adult learners

MENTORING

- 2020 **Mentor**, Undergraduate Research Opportunities Connection, Penn State University
Student and Project: Melody Sipe (Penn State University), Mapping post-fire tree cover using object-based image analysis
- 2019 **Mentor**, Undergraduate Research Opportunities Connection, Penn State University
Student and Project: Shelby Duncan (Penn State University), Mapping post-fire tree cover using object-based image analysis
- 2018 **Mentor**, NSF Research Experience for Undergraduates in Climate Science, Penn State University
Student and Project: Caroline Cabeza (Seattle University), Environmental heterogeneity in post-wildlife landscapes of the Greater Yellowstone Ecosystem

FIELDWORK

- 2019, 2016 **Field leader**, Penn State University
Planned logistical operations and supervised undergraduate field assistants while investigating forest-fire dynamics in Wyoming
- 2015 **Field technician**, Western Forest Initiative
Supervisors: Dr. Arjan Meddens and Dr. Jim Lutz
Completed Composite Burn Index surveys to characterize fire refugia in the Pacific Northwest
- 2014 **Fire ecology intern**, Tall Timbers Research Station and Land Conservancy
Supervisor: Dr. Kevin Robertson
Assisted a biennial census that examined wind and fire effects on forests in Florida
- Research intern**, Plant Ecology Lab, Archbold Biological Station
Supervisor: Dr. Eric Menges
Designed an independent project that investigated effects of fire history, tree age, and canopy seed bank size on serotiny in Florida
- 2013 **Field technician**, Desert Research Institute
Supervisor: Dr. Adam Watts
Completed Composite Burn Index surveys to evaluate post-fire mortality trends in Florida
- 2012 **Field technician**, Bioko Biodiversity Protection Program
Supervisor: Dr. Shaya Honarvar
PIT-tagged and recorded reproductive output data on leatherback sea turtles in Equatorial Guinea
- Field technician**, Silviculture and Applied Forest Ecology Lab, University of Minnesota
Supervisor: Mitch Slater
Conducted vegetation surveys to evaluate impacts of emerald ash borer on forests in Minnesota

- 2011 **NSF Research Experience for Undergraduates Participant**, Organization for Tropical Studies
Supervisors: Karen Vickers and Dr. Laurence Kruger
Designed an independent project that investigated functional responses of tree species to fire and herbivory in South Africa

SYNERGISTIC ACTIVITIES

Science Communication with College of Earth and Mineral Sciences, Penn State University

- 2020 **Co-developer**, Digital Storytelling Online Modules
Designing online modules to coach undergraduates faculty on digital storytelling
- 2020 **Co-organizer**, CUE (Celebration of Undergraduate Engagement) Wednesdays
Website: <https://www.ems.psu.edu/CUE>
Developed a weekly workshop series that coached undergraduates on communicating science through posters, 3-minute lightning talks, and digital stories
- 2017 – 2020 **Co-organizer**, Science Communication and Professional Development Workshops
Organized workshops to help undergraduates improve science communication skills, navigate career options, and secure job opportunities
- 2018 **Co-organizer**, Undergraduate Research Poster Exhibition
Provided feedback to undergraduate poster presenters and organized 30 faculty judges
- 2018 **Co-developer**, Science Communication in Earth and Mineral Sciences
Website: https://guides.libraries.psu.edu/EMS_science_communication
Worked collaboratively to develop content for a website on scientific writing styles

Leadership with Department of Geography, Penn State University

- 2019 – 2020 **Vice President**, Graduate Students in the Department of Geography
Elected to represent graduate students and advocate for their interests during faculty meetings
- 2018 – 2019 **Graduate representative**, Coffee Hour Speakers Committee
Organized a weekly seminar series on topics related to geography
- 2016 – 2017 **Vice President**, Penn State Chapter of Supporting Women in Geography
Expanded participation in K-12 outreach events to engage young women with geography

Public Outreach

- 2016 – 2020 **Co-organizer and volunteer**, Supporting Young Women in Geography Day
Organized hands-on workshops that taught 30 middle school girls about geography
- 2019, 2018, 2017 **Mentor and volunteer**, ENVISION: STEM Career Day for Girls
Facilitated hands-on workshops that taught 30 middle and high school girls about remote sensing
- 2019, 2018 **Volunteer**, Penn State Girl Scout Saturday
Organized hands-on workshops that taught 25 middle and high school girls about remote sensing
- 2017, 2016 **Volunteer**, Exploration-U: Community Science Night
Organized a tabletop activity that taught K-12 participants about tree rings

Membership in Professional Associations

Ecological Society of America
North American Regional Association of the International Association for Landscape Ecology
American Geophysical Union

PROFESSIONAL SKILLS

Data Science

Software: RStudio, ArcPro, ArcMap, ENVI, Jupyter, Circuitscape, FRAGSTATS

Language: R (Advanced), Python (Beginner)

Wilderness

2014 – 2022 Certified Wilderness First Responder (80 hours of training with SOLO)

2009 – 2012 Backpacking leader, Project WILD (Wilderness Initiatives Learning at Duke), Duke University

Diversity, Inclusion, and Equity

2020 Safer People Safer Places: LGBTQ+ Foundations Workshop, Penn State University

2019 Stand for State: Bystander Intervention Training, Penn State University