

JAMIE L. PEELER

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EDUCATION

- Ph.D. **Penn State University, University Park, PA. Expected August 2021.** Geography.
Dissertation: Fire, forests, and spatial resilience: the role of landscapes in post-fire tree recovery
Advisor: Dr. Erica Smithwick
Certification: Penn State Graduate School Teaching Certificate
- 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

PUBLICATIONS

Peer-Reviewed Journal Articles

- 2020 Peeler JL and Smithwick EAH. Seed source pattern and terrain have scale-dependent effects on post-fire tree recovery. *Landscape Ecology*, 35, 9, 1945-1959.
- 2018 Peeler JL and Smithwick EAH. 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. 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.

Peer-Reviewed Journal Articles (Under Review)

Peeler JL and Smithwick EAH. Interactions between landscape and local factors inform spatial action planning in post-fire forest environments. *Landscape Ecology*.

Peer-Reviewed Journal Articles (In Preparation)

Peeler JL, Shantz AA, and Smithwick EAH. Ecological memory as an integrative concept for ecosystem resilience. Target journal: *Frontiers in Ecology and the Environment*.

Robinson AC, Prestby T, Peeler JL, Anton K, McNeil DJ, and Grozinger C. Beescape: identifying user needs for environmental decision support in beekeeping. Target journal: *Agricultural Systems*.

Other Articles

- 2021 Peeler JL. Storytelling is the antidote to Americans' mistrust of science. *Massive Science*.
Weblink: tinyurl.com/PeelerMassiveScience

GRANTS

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
- 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

PRESENTATIONS

**Undergraduate mentee*

- 2021 Peeler JL, Nassry M, and Bright KD. Connecting hearts to water resources with digital storytelling. American Association for the Advancement of Science. Phoenix, AZ. Poster.
- 2020 Peeler JL. Seed supply, scale, and terrain shape post-fire tree recovery. Penn State College of Earth and Mineral Sciences Graduate Research Showcase. University Park, PA. Talk.
- Peeler JL and Smithwick EAH. Live seed source and terrain have scale-dependent effects on post-fire tree recovery. Ecological Society of America. Salt Lake City, UT. Poster.
- 2019 Peeler JL and Smithwick EAH. Scale-dependent effects of landscape context on post-fire forest regeneration in the Northern Rockies. American Geophysical Union. San Francisco, CA. Poster.
- Peeler JL and Smithwick EAH. Convergence research on landscape and seascape resilience in the Anthropocene. International Association for Landscape Ecology World Congress. Milan, Italy. Talk.
- 2018 Cabeza CA*, Peeler JL, and Smithwick EAH. Climate and topographic effect on wildfire burn severity in the Greater Yellowstone Ecosystem. American Geophysical Union. Washington, DC. Poster.
- 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. Chicago, IL. Poster.
- 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. Portland, OR. Talk.
- Peeler JL and Smithwick EAH. Exploring invasibility with species distribution modeling: how does fire promote cheatgrass invasion within lower montane forests? American Association of Geographers. Boston, MA. Talk.
- 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. Talk.
- Peeler JL and Menges ES. Effects of fire regime on serotiny of sand pine (*Pinus clausa*) in Florida scrub. Florida Native Plant Society. Fort Myers, FL. Talk.
- 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. Poster.

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. Talk.

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 decision-support tool called Beescape (beescape.org/)

TEACHING

Instructor of Record, Penn State University

2019 Science Communication and Water Resources (EMSC 100)
Designed lesson plans for 14 undergraduates on water resources and digital storytelling

2018 Geography of Water Resources (GEOG 431 Web)
Facilitated online lessons on water resources for 15 undergraduates and adult learners

2017 Geography of Water Resources (GEOG 431 Web)
Facilitated online lessons on water resources for 15 undergraduates and adult learners

Teaching Assistant, Penn State University

2020 Geographic Info in a Changing World: Intro to GIScience (GEOG 260)
Assisted 60 undergraduates with labs on ArcPro, ArcGIS Online, and ArcGIS StoryMaps

2019 Environment and Society in a Changing World (GEOG 30)
Designed recitations on human-environment systems for 90 undergraduates

2018 Introduction to Physical Geography (GEOG 10)
Designed 2 field trips and assisted 60 undergraduates with labs on physical geography

Global Parks and Sustainability (GEOG 1)
Graded assignments for 120 undergraduates that culminated with groups creating a digital story

2017 Environment and Society in a Changing World (GEOG 30)
Designed recitations on human-environment systems for 90 undergraduates

Global Parks and Sustainability (GEOG 1)
Graded assignments for 65 undergraduates that culminated with groups creating a digital story

2016 Geography of Water Resources (GEOG 431 Web)
Graded assignments on water resources for 50 undergraduates and adult learners

Introduction to Physical Geography (GEOG 10)
Led 2 field trips and assisted 50 undergraduates with labs on physical geography

2015 Introduction to Physical Geography (GEOG 10)
Led 3 field trips and assisted 50 undergraduates with labs on physical geography

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

SYNERGISTIC ACTIVITIES

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

- 2017 – 2021 **Science communication specialist**, College of Earth and Mineral Sciences Writing Center
Provide one-on-one coaching for undergraduates to improve their science communication skills
- Organizer**, Science Communication and Professional Development Workshops
Organized workshops to help undergraduates improve science communication skills, navigate career options, and secure job opportunities
- 2020 – 2021 **Organizer**, CUE (Celebration of Undergraduate Engagement) Wednesdays
Weblink: 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
- 2020 **Developer**, Digital Stories in Science
Weblink: tinyurl.com/DigitalStoriesScience
Designed an online guide to coach undergraduates and faculty on digital storytelling
- 2018 **Organizer**, Undergraduate Research Poster Exhibition
Provided feedback to undergraduate poster presenters and organized 30 faculty judges
- Developer**, Science Communication in Earth and Mineral Sciences
Weblink: tinyurl.com/SciCommEMS
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
Elected to coordinate K-12 outreach events that engage young women with geography

Public Outreach

- 2016 – 2020 **Organizer and volunteer**, Supporting Young Women in Geography Day
Organized hands-on workshops that taught 30 middle school girls about geography
- 2017 – 2019 **Organizer and volunteer**, ENVISION: STEM Career Day for Girls
Designed hands-on workshops that taught 30 middle and high school girls about remote sensing
- 2018 – 2019 **Volunteer**, Penn State Girl Scout Saturday
Facilitated hands-on workshops that taught 25 middle and high school girls about remote sensing

2016 – 2017 **Organizer**, Exploration-U: Community Science Night
Organized a tabletop activity that taught K-12 participants about fire and tree rings

Membership in Professional Associations

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

PROFESSIONAL SKILLS

Data Processing and Visualization

Software: RStudio, ArcPro, ENVI, Circuitscape, FRAGSTATS, Adobe Illustrator, ArcGIS StoryMaps

Languages: R (Advanced), Python (Beginner)

Wilderness

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

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

FIELDWORK

2019, 2016 **Field leader**, Penn State University
Planned logistical operations and supervised 4 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
Managed 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