

JESSICA J. MITCHELL

University of Montana, Spatial Analysis Lab
32 Campus Drive, Natural Sciences 313, Missoula, MT 59812
406-544-9256 | jessica.mitchell@mso.umt.edu | www.linkedin.com/in/jessica-mitchell-14bb733b

PEER-REVIEWED PUBLICATIONS & RESEARCH OUTPUTS

Full list of publications, reports, and datasets available via ORCID: <https://orcid.org/0000-0002-3126-010X>

PROFESSIONAL EXPERIENCE

Spatial Analysis Lab Director University of Montana | 2018 - Present
GIS/ Remote Sensing Assistant Professor Appalachian State University, Department of Geography and Environmental Science Program | 2014 - 2018
Computer Visualization Lab Co-Director Appalachian State University | 2014 – 2018
GIS Visiting Assistant Professor University of Delaware, Dept. of Geosciences, 2013 - 2014
Research Associate Boise Center Aerospace Lab, Boise State University | 2011 - 2016
Visiting Instructor University of North Carolina Wilmington, 2012 - 2013
Postdoctoral Associate (Joint Appointment) Boise Center Aerospace Lab and the Idaho National Lab, Unmanned Vehicle Technologies, 2011
Subsurface Science Ph.D. Fellow, Geosciences Dept., Idaho State University | 2007 – 2010
Research Assistant Boise Center Aerospace Lab, Idaho State University | 2005 – 2007
Environmental Planner Biota Research and Consulting, Inc., Jackson, Wyoming | 2002–2005 (full-time); 2006 – 2012 (contract)
Transportation Planner, Edwards and Kelcey, Baltimore, MD | 2001 – 2002

EDUCATION

IDAHO STATE UNIVERSITY, Pocatello, ID

Ph.D., Engineering and Applied Sciences – Geosciences (May 2011)

Applications in LiDAR and Hyperspectral remote sensing to improve the characterization of low-height sparse vegetation ecosystems

IDAHO STATE UNIVERSITY, Pocatello, ID

M.S., Geographic Information Science (Aug. 2007)

Spectral and spatial detection limits of leafy spurge (*Euphorbia esula* L.): Sensor comparisons and matched filtered behavior

UNIVERSITY OF MARYLAND, Baltimore County, MD

B.S., Geography and Environmental Systems (Dec. 2001)

Independent research in collaboration with Baltimore Ecosystem Studies: anthropogenic inputs and heavy metal concentrations along roadside soil gradients

National Environmental Policy Act (NEPA) Certification (2004)

Utah State University, Logan, UT, USA. Natural Resource and Environmental Policy Program, The Shipley Group Training (Capstone: 2003-2004, Grand Teton National Park Fire Management Program Environmental Assessment).

Wetland Delineation Certification (2003)

Wetlands Training Institute, Kalispell, MT, USA. Lecture: 24 hours; Fieldwork: 16 hours.

WORKSHOPS (hosting, training material development, and instruction)

- U.S. Forest Service Northern Region and University of Montana Spatial Analysis Lab (Hosts), Mapping Cultural Values for Stewarding across Homelands: **Interviews with Séliš and Qlispé Elders to Map Tribal Values in Relation to Fire**, (12/2/24) and **Interviews with Ksanka Elders to Map Tribal Values in Relation to Fire**, (12/4/24).
- **Broadening the Use of NASA Datasets by the Species Distribution Modeling Community**, January 6th, 11th, 13th, 20th and Feb. 3rd, 4th, 2022. NASA Understanding User Needs to Broaden Outside Use of NASA Data

- (UNBOUND) Program (21-TWSC21-0005; Grant No. 80NSSC21K1984). Host and Lead Instructor.
[Recommendation Report](#).
- Jessica Mitchell, PI (University of Montana), invited instructor: Ryan Rock, [Introduction to Lidar](#) Workshop, presented at the Big Sky GeoCon, April 6, 2021 and April 4, 2022.
 - Jessica Mitchell, PI and Instructor (University Montana), invited instructors: Laurel Andersen (Ohio Wesleyan University), Michael Madritch (Appalachian State University), Megan Jones (NEON), Macrosystems Biology Workshop II: **Mapping Biodiversity Indicators with NEON Data**, October 2019, Swathmore College, 10 Ecological Research as Education Network (EREN) 10 Participants for 3 days.
 - Jessica Mitchell, PI and Instructor (University Montana), invited instructors: Laurel Andersen (Ohio Wesleyan University), Michael Madritch (Appalachian State University), David Barnett (NEON), Macrosystems Biology Workshop I: [Calculating Diversity Metrics with NEON Field Data](#), July 2018, Appalachian State University, 10 Ecological Research as Education Network (EREN) 10 Participants for 3 days.
 - Nancy Glenn, PI and Instructor (Boise State), invited instructors: Jessica Mitchell (Appalachian State University), Dar Roberts (UC Santa Barbara), Yi Qi (UC Davis), Nathan Leisso (NEON), **Mapping Species Composition (foliar chemistry) and Soil Properties with Spectroscopy**, August 2016, Boise State University, NSF-NEON, 25 students for 3 days.

SERVICE

NSF Regional Ecosystems Engine Phase I Planning – Forest and Rangeland technology Hub for Ecosystem Resilience (FARTHER), Leadership Team 2025

Joint Fire Science Review Panelist, Interactions between invasive plants and fire regimes and incorporation into wildland fire fuel models, risk assessments, and other decision support tools, October 2024

The Montana Land Cover Working Group, Theme Lead/ Co-Lead, 2020-present

NASA Surface, Biology and Geology (SBG) Technical Working Group, Member, 2018

NSF Macrosystem Biology PI Meeting Organizing Committee, Member, 2018-2020

The Montana Elevation Working Group (3DEP), Advisor, 2018-2020

NSF Division of Env. Biology & Division of Integrative Organismal Systems Oct. 2017, Feb., 2021, March 2022

NASA Earth and Space Science Fellowship (NESSF) Proposal Reviewer, April 2017

NSF Geography and Spatial Sciences Proposal Reviewer, November 2016

NASA Carbon Cycle Science Review Panelist, Artic / Boreal and Tropical Forests programs, October, 2016

US Regional Association of the International Association of Landscape Ecology Invited Special Symposia Convener, 2016 Meeting, April 3-7, Asheville, NC. Session: LiDAR Techniques for Advancing Applications in Landscape Ecology.

ASPRS Annual Conference: Confluence by the Bay – A Gathering of Geospatial Insights, Sessions Moderator (Technical and Commercial), March 24-28th 2013, Baltimore, MD

Peer-Reviewer, 26 manuscript/proposal reviews for 16+ journals and funding programs, including International Journal of Remote Sensing (4), Journal of Applied Remote Sensing (3), Remote Sensing of Environment (2), Digital Earth (2), Remote Sensing (2), and IEEE JSTARS (2), among others.

Dissertation Committee Member, Marie Johnson, PhD Candidate, A Multidimensional Framework to Estimate Ecosystem Resilience to Forest Fire, December 2026.

Dissertation Committee Member, Martha Gebhardt, PhD in Natural Resource Management, University of Az.: Shrub encroachment alters ecosystem processes: [Linking imaging spectroscopy and microbial biogeochemistry](#), August 2020.

Thesis Committee Member, Brecken Robb, MS in Biology, Boise State University: [Spectral fingerprints](#) predict functional phenotypes of a native shrub, August 2020.

Thesis Committee Chair, Megan Maloney, MA in Geography, Appalachian State University: A comparison of methods for scaling field data for use in mapping dryland ecosystem vegetation with [airborne imaging spectroscopy](#), August 2017

Thesis Committee Member, James Balcombe, MA in Geography, Appalachian State University: [Structure-from-motion](#) based vegetation modeling and shade estimation, May 2015

Thesis Committee Member, Michael Orefice, MS in Geology, University of Delaware: Quantifying [geomorphic change](#) to a point bar in response to high flow events using [terrestrial lidar](#), White Clay Creek, DE. June, 2015

Dissertation Committee Member, Farzana Atique, PhD in Transportation Engineering, University of Delaware: Copula Vine Approach in [Pipe Condition Monitoring](#), May 2014