Department of Land Resources and Environmental Sciences

Shivali Banerjee, *Assistant Professor* Ph.D., 2021, *Indian Institute of Technology*; M.S. 2016, *Indian Institute of Technology*; B.S. (2014): *University of Delhi*. Research Interests: Agricultural Process Engineering; Circular Bioeconomy; Biorefinery Designs; Resource-efficient Bioprocessing; Closed-loop Biomass Utilization; Waste-to-Wealth Technologies; Farmer-centric Value Addition; Bioeconomy Policy & Systems Analysis; Techno-economic Analysis (TEA); Life Cycle Assessment (LCA)
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Jack Brookshire, *Associate Professor*, Ph.D. 2006, *Virginia Polytechnic Institute and State University*; M.S. 2000, B.S. 1997, *Oregon State University*. Biogeochemistry and ecosystem analysis with emphasis on nutrient cycling and limitation. Interests include: ecosystem response and feedback to atmosphere and climate variation; watershed biogeochemistry; plant-soil interactions; natural abundance isotope analysis; ecosystem modeling; global change.
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Timothy Covino, *Associate Research Professor*; Ph.D. 2012, *Montana State University*; M.S. 2005, *Montana State University;* B.A. 2000, *University of Colorado*. Implications of stream-groundwater exchange on streamflow magnitude and chemistry, stream-groundwater exchange, nitrogen transport and cycling, and stream network modeling of biogeochemical and hydrological processes.
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John E. Dore, *Associate Research Professor*; Ph.D. 1995, *University of Hawaii- Minoa*; B.S. 1987, *University of California-Berkeley*. Aquatic biogeochemistry and microbial ecology; nutrient cycling and ecological stoichiometry; greenhouse gases; effects of climate variability on aquatic ecosystems; stable isotope biogeochemistry; applied phycology and microbiology.
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Frank Dougher, *Instructor*, M.S. 2002, *Utah State University*; B.S. 1992, Southern Illinois University at Carbondale. Interests: GIS; Remote Sensing; GPS; Geospatial Sciences; Geomorphometry. Consults about and helps support geospatial technologies across campus, with respect to field collection of spatially explicit data, including field preparation and post processing.
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Mari Eggers, *Associate Research Professor;* Ph.D. 2014, *Montana State University;* M.S. 2005, *Montana State University;* M.A. 1980, *Stanford University*; B.A. 1978, *Stanford University*. Research Interests: Community based environmental health research, Tribal environmental health and EH disparities, Water quality and human health risk assessment, and Climate change and human health.
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Stephanie A. Ewing, *Associate Professor*; Ph.D. 2007, *University of California, Berkeley*; M.S. 2000, *University of California, Davis*; B. A. 1989, *Oberlin College*. Isotope biogeochemistry of soils in the Earth system. Effects of disturbance (pollution, climate change) on soil-atmosphere and soil-hydrology interactions. Innovative use of multiple isotope systems to explore the interaction of geochemical, geomorphic and biological processes driving biogeochemical cycling in terrestrial environments.
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Andrew J. Felton, *Assistant Professor*; Ph.D. 2018, *Colorado State University*; B. A. 2014, University of Minnesota. Understanding how water-limited ecosystems respond to climate-driven changes in water availability to discover the mechanisms underpinning large-scale patterns of climate vulnerability.
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Shilan Felehgari, *Assistant Research Professor*, Ph.D. 2023, *University of Zanjan*; M.S. 2016, *Bu-Ali Sina University*; B.S. 2012, *Bu-Ali Sina University*. Soil Science and Remote Sensing. Interests include: Remote sensing of soil properties (soil organic carbon, soil pH, soil moisture, heavy metals), precision agriculture and digital soil mapping, climate impacts on soil quality, and machine learning.

Anthony S. Hartshorn, *Associate Professor*, Ph.D. 2003, *University of California, Davis;* B.S. 1989, *Dartmouth College*. Soil-landscape research and education. Interests include geoscience education, plant-soil interactions, soil respiration, nutrient cycling, land rehabilitation, global change.
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Clain A. Jones, *Professor*, Ph.D. 1998, *Montana State University*; M.S. 1988, *University of Washington;* B.S. 1986, *Cornell University.* Developing educational resources and materials on soil fertility and nutrient management for county agents, crop advisers, producers and other agricultural professionals; current primary research emphasis on soil fertility in cropping systems, nutrient management in conservation tillage systems, and soil testing.
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William Kleindl, *Assistant Research Professor,* Ph.D. 2014, *University of Montana, Missoula;* M.S. 1995, *University of Washington, Seattle;* B.S. 1987, *University of Wisconsin, Madison.* Socioecological research and education. Interests focus on natural dynamics coupled with human land use decisions and their effects on ecological structure, function, and services. This work crosses scale from site to continent with a focus on aquatic systems.
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John Knowles, *Assistant Professor*, Ph.D. 2015, *University of Colorado*; M.A. 2010, *University of Colorado*; B.A. 2003, *Vassar College.* Land-atmosphere exchange of water and nutrients; Ecohydrology of water-limited systems; Critical Zone; Network science; Environmental gradients; Nature-based climate solutions.
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Jeffrey L. Littlefield, *Research Scientist*, Ph.D. 1986, *University of Wyoming*; M.S. 1980, *University of Idaho*; B.S. & B.S.F. 1975, *University of New Hampshire*. Biological control of weeds, including the determination of host and habitat specificity, bionomics, insect-plant interactions, quarantine screening, and field release of potential bio control agents.
jeffreyl@montana.edu

Jane M. Mangold, *Professor*, Ph.D. 2004, *Montana State University*; M.S. 1997, *Montana State University*; B.S. 1994, *Iowa State University*. Development and dissemination of information about ecologically-based, integrated invasive plant management for range and wild lands. Emphasis on restoration/revegetation of invasive plant-infested landscapes.
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Fabian D. Menalled, *Professor,* Ph.D. 1996**,** *University of Massachusetts;* B.S. 1985, *University of Buenos Aires-Argentina*. Cropland Weed Specialist**.** Research and extension focused on integrated management of agricultural weeds. Understanding the mechanisms conditioning the abundance and distribution of annual and perennial weeds in agricultural systems. Weed population and community dynamics, crop-weed competition, herbicide resistance, and weed management in conventional and alternative cropping systems.
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MONTANA STATE UNIVERSITY

Perry R. Miller, *Professor*, Ph.D. 1992, *University of Minnesota*; M.S. 1989, *University of Guelph*; B.S. 1984, **University of Saskatchewan.** Development of diversified cropping systems under water-limited conditions to maintain or improve soil quality, economic returns and sustainable practices. Resource-use-efficiency in no-till and organic systems, spring and winter pulse crop agronomy, annual pea forage and green manure systems, and farming strategies for reducing greenhouse gas emissions.
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Paul Nugent, *Assistant Professor*, Ph.D. 2016, *Montana State University*; M.S. 2008 *Montana State University*; B.S. 2005 *Montana State University*. Interests include: My research focuses on advancing precision agriculture by integrating cutting-edge technologies, including optical sensing systems (both remote and proximal), Internet of Things (IoT) devices, and digital tools for machine learning and automation.
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Robert A. Payn, *Associate Professor,* Ph.D. 2009, *Colorado School of Mines*; M.S. 2004 *Virginia Tech*; B.S. 1993, *The Ohio State University*. Role of water movement in the structure and function of watershed ecosystems; integration of biogeochemical and hydrologic models; inference of watershed ecosystem behavior from spatially distributed stream water quantity and quality; influence of valley floor hydrologic systems on whole-watershed behavior and on stream-riparian ecosystem behavior.
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Robert K. D. Peterson, *Professor*, Ph.D. 1995, M.S. 1991, *University of Nebraska;* B.S. 1987, *Iowa State University*. Human and ecological risk assessments for agricultural technologies, physiological responses of plants to biotic stressors, plant-insect interactions, economic decision level theory and development, and integrated pest management theory.
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Scott Powell, *Associate Professor and Department Head*, Ph.D. 2004, *Montana State University*; M.S. 1997, *Duke University*; B.A. 1993, *Macalester College*. Forest ecology and dynamics; integration of remote sensing data, GIS, and field data for ecological applications; modeling aboveground biomass and carbon sequestration; land cover and land use change analysis; and invasive species monitoring.
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Lisa J. Rew, *Professor,* Ph.D. 1993, *University of Reading, UK;* BSc (Hons) 1988 *University of Southampton, UK.* Weed ecology research, including sampling and predicting weed distributions, and impacts, in agricultural and wildland systems to improve management efficiency and environmental sustainability.
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Anish Sapkota, *Assistant Professor*, Ph.D. 2022, *University of California Riverside*; MS 2018, *Montana State University.* Research focus on precision agriculture, irrigation and nutrient management, drones and remote sensing, management zone delineation, evapotranspiration, and water and carbon fluxes.
anish.sapkota@montana.edu

Anna Schweiger, *Assistant Professor*, PhD 2015, *University of Zurich*, Switzerland; MS 2010, *University of Natural Resources and Applied Life Sciences Vienna*, Austria; BS 2007, *University of Graz*, Austria. Theory and methods for remote sensing of biodiversity and ecosystem function; remote sensing of plant traits and community composition, plant identification, stress and disease detection, remotely sensed biodiversity metrics, spectroscopy, grassland, resource, and movement ecology.
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Timothy F. Seipel, *Assistant Research Professor & Associate Cropland Weed Specialist*, Ph.D. 2012, *ETH-Zurich*; M.S. 2006 *Montana State University*; B.S. 2003 *Montana State University*. Plant and agricultural ecology research focused on patterns and processes associated with biodiversity; including extension focused on sustainable management of agricultural weeds.
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MONTANA STATE UNIVERSITY

Adam Sigler, *Assistant Professor*, Ph.D. 2020, *Montana State University*; M.S. 2008, *Montana State University*; B.S. 2001, *Utah State University*. Interdisciplinary water resource research focused on addressing questions for improving water resource management with sound science.
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Joao Souza, *Assistant Professor*, Ph.D. 2021 Oklahoma State University; M.S. 2018 Oklahoma State University; B.S. 2015 University of Sao Paulo. Soil Nutrient Management - Soil and Plant Analyses. Research includes: investigating best practices of nutrient management in agricultural settings to increase sustainable practices that improve crop yields and producer's profitability. By better understanding nutrient cycling, organic matter dynamics, soil acidification, and spatial/temporal variability drivers, I seek to develop site-specific techniques not only to increase agricultural productivity but also to decrease food and energy production footprint in the ecosystem.
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Sophie von Fromm, *Assistant Professor*, Ph.D. 2023, Max Planck Institute for Biochemistry; M.S. 2019 Technical University Bergakademie Freiberg; B.S. 2016 Technical University Bergakademie Freiberg. Research includes: the interface between soil, environment and climate, while promoting open science and sustainable management solutions to global environmental challenges.
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William Wetzel, Associate Professor, Ph.D. 2015, *University of California, Davis*; BA 2006, *Williams College.* Plant-insect and plant-herbivore interactions.
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Catherine A. Zabinski, Pr*ofessor*; Ph.D. 1991, *University of Minnesota*; B.A. 1983, *College of St. Benedict, Minn.* Teaching focus on restoration ecology and plant and soil ecology. Research interests in belowground plant ecology, invasive species biology, and restoration ecology, with an emphasis on soil biota.
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Ziahan Zou, *Assistant Professor*; Ph.D. 2022, *University of California, Davis*; M.S. 2019, *University of California, Davis*; B.S. 2016, *Donghua University*. Research Interests: Sustainable and resilient agriculture and food systems, circular bioeconomy and upcycling of agricultural byproducts, and biomaterials design and engineering for food loss reduction and food safety improvement

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