Alistair M.S. Smith

[redacted]

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EDUCATION

PhD	Geography (focus: remote sensing), King's College London, University of London, 2004
MSc	Physics: Imaging and Digital Image Processing (with distinction), King's College London, University of London, 2000
BSc	Physics (with honors), University of Edinburgh, 1999
MInstP	Member, Institute of Physics, 1999 (professional post-nominal)

ADMINISTRATIVE POSITIONS

Current Leadership:

2025-present	Director, Idaho Museum of Natural History at the University of Idaho (northern branch)
2024-present	Academic Leadership Fellow, Office of the Vice Provost for Academic Initiatives
2022-present	Chair, Department of Earth and Spatial Sciences, College of Science

Past Leadership:

2021-2022	Vice-Chair, University of Idaho Faculty Senate
2018-2020[+]	Associate Dean for Research & Graduate Studies, College of Natural Resources
2016-2018	Director, Research and Graduate Studies, College of Natural Resources
2014-2017	Program Lead, Fire Ecology and Management B.S., University of Idaho
2014-2016	Faculty Secretary, College of Natural Resources

[+] *Position was eliminated at end of Summer 2020 due to pandemic-related institutional budget cuts. I was on sabbatical in Fall 2020 as it had been deferred while on administrative duties.*

ACADEMIC POSITIONS

2026-present	Distinguished Professor, University of Idaho
2026-present	Affiliate Faculty, Department of Civil and Environmental Engineering, University of Idaho
2022-present	Affiliate Faculty, Department of Forest, Rangeland, and Fire Sciences, University of Idaho
2021-present	Adjunct Faculty, School of the Environment, Washington State University
2022-2026	Professor, Department of Earth and Spatial Sciences, University of Idaho
2023-2025	Affiliate Faculty, Department of Forest & Rangeland Stewardship, Colorado State University
2018-2025	Executive Committee, Center for Resilient Communities
2017-2022	Professor, Department of Forest, Rangeland, and Fire Sciences, University of Idaho
2015-2018	Affiliate Faculty, Center for Resilient Communities, University of Idaho
2013-2021	Affiliate Faculty, Department of Geography, University of Idaho
2013-2017	Associate Professor, Department of Forest Resources, University of Idaho
2007-2013	Assistant Professor, Department of Forest Resources, University of Idaho
2005-2007	Affiliate Faculty, Department of Rangeland Ecology and Management, University of Idaho
2003-2007	ForestPARC Extension Coordinator, Department of Forest Resources, University of Idaho
2000-2003	Natural Environment Research Council PhD Fellowship, Department of Geography, Kings College London, University of London
2000-2003	Teaching Assistant, Department of Geography, Kings College London, University of London
1999-2000	MSc Fellowship, Department of Physics, Kings College London, University of London

MISCELLANEOUS WORK EXPERIENCE

2016	Consultant: Springer, Idaho Forest Group
2012	Consultant: Booz-Allen Hamilton
1999	Mis-sold pensions review team (summer), Gan Life & Pensions
1996-1999	Assistant Librarian, University of Edinburgh Science and Engineering Libraries
1996	Archeology lab and field technician (Mesolithic site in Oban, Scotland)
1995-1999	SCI-FUN demonstrator, Department of Physics, University of Edinburgh
1995-1997	Pensions Clerk (summer), Scottish Amicable Life Assurance

HIGHLIGHTS OF ADMINISTRATIVE POSITIONS

2024-present Academic Leadership Fellow, Office of the Vice Provost for Academic Initiatives

Responsibilities:
- Build university-wide capacity for the design of new academic programs.
- Streamline university curricular processes through cross-functional collaboration.
- Assist the Provost's Office with ongoing assessment and NWCCU accreditation processes.
- Support integrated planning and strategic university initiatives.
- Co-lead efforts to enhance support and pathways for transfer students.
- Pilot the use of Curricular Analytics at the University.

Key Accomplishments:
- **Developed a CANVAS Community of Practice** to guide faculty through curricular proposals, including modules on Courseleaf CIM, Curricular Analytics, and State Board of Education compliance; standardized submissions university-wide, significantly reducing administrative bottlenecks in the curriculum approval pipeline.
- **Leading effort to establish the *Vandal Transfer Academy*,** a dedicated unit for transfer student success. Currently co-leading a pilot study between North Idaho College and degree programs within three University of Idaho colleges.
- **Piloting Curricular Analytics** across campus for diverse applications: advising, learning outcomes assessment, and mapping transfer pathways.
- **Facilitated interdisciplinary degree development**, providing technical and administrative support for joint-college proposals, including the proposed *B.S.Construction Management and the Built Environment*, a joint degree between the *College of Art and Architecture, the College of Engineering,* and the *College of Business and Economics*.

2025-present Director, Idaho Museum of Natural History at the University of Idaho (branch)

Responsibilities:
- Partner with the IMNH Director to establish the northern branch and secure permanent funding from state appropriations, private donors, and foundations.
- Design and launch inaugural museum spaces, including public galleries, administrative offices, and permanent exhibits.

Key Accomplishments:
- **Established the North Idaho Affiliate** of the Idaho Museum of Natural History in June 2025, expanding the museum's reach through a new strategic partnership.
- **Developed and curated** a new public gallery and physical exhibits within shared department spaces.
- **Orchestrated the public launch**, including exhibit installation and coordinating a successful community opening event.
- **Collaborated with UI Landscape Architecture** leadership, faculty, and students to design outdoor public engagement spaces.
- **Resolved complex ownership and provenance disputes** in coordination with the University of Idaho Office of General Counsel.

2022-present Chair, Department of Earth and Spatial Sciences, College of Science

Former Department Name: *Department of Geological and Geographical Sciences*

Responsibilities:

- Develop strategies to increase undergraduate and graduate enrollment and improve student success.
- Lead the co-development and implementation of curriculum changes that improve course content and delivery, including the undergraduate teaching laboratories.
- Foster a culture of research and collaboration within the department.
- Assign duties and evaluate the services of each member of the unit's faculty and staff.
- Promote effective leadership of personnel and management of departmental resources.
- Foster excellence in teaching, scholarship, outreach and service for faculty, students, and staff.
- Provide leadership in the development and implementation of unit plans.
- Foster open and collegial communication with faculty, staff and students at all university levels.

Key Accomplishments:

- **Administer a diverse portfolio** 40+ personnel, including faculty, staff, and student employees.
- **Co-administer a joint-college Geological Engineering faculty** (15+ members) across the College of Science and College of Engineering.
- Spearheaded stewardship of $1.5M+ in new endowments while securing $90K in new gifts; provided administrative oversight for annual gift and endowment portfolios totaling $10M.
- **Architected the 2025-2029 Strategic Plan** for the department, establishing key action plans, goals, and performance metrics.
- **Championed the development of innovative curricula** in mining, climate science, and GIS in collaboration with industry partners; designed and launched targeted strategic enrollment campaigns that yielded significant enrollment increases.
- **Spearheaded** the redesign of high-enrollment introductory courses, achieving a **>30% reduction in DFW rates** for a 250-student physical geography course**.** Integrated active learning, online content, and inclusive pedagogy into curriculum design to improve student persistence and success. **Scaled new design elements department-wide**, leading to adoption by other instructors and pilot testing in physical geology courses.
- **Leading the institutional proposal** for a new, jointly administered **School of Mining and Mineral Science** to align the University of Idaho resources with state and industry demands.
- **Initiated partnership with university classroom design and landscape architects** to transform underutilized indoor and outdoor areas into modern, student-centric hubs, fostering a greater sense of community and academic collaboration.

Personnel Hired, Retained, and Guided Through Tenure and Promotion

- Hired new assistant professor: Dr. Meng Zhao.
- Hired new clinical assistant professor: Dr. Renee Love.
- Retained Renee Jensen-Hasfurther and secured salary increase and upgrade in job title.
- Dr. Grant Harley (Professor, pending).
- Dr. Jessica Stanley (Associate Professor with tenure, pending).
- Dr. Renee Love (Clinical Associate Professor, pending).
- Dr. Erika Rader (Associate Professor with tenure).
- Dr. Eric Mittelsteadt (Professor).
- Dr. Tim Bartholmaus (Associate Professor with tenure).
- Dr. Jeffrey Langman (Associate Professor with tenure).
- Dr. Thomas Wiliams (Clinical Professor).
- Guided multiple faculty through leaves (i.e., professional, medical, personal) and sabbaticals.

New Curricula Development

- M.S. Degrees: *Climate Science and Solutions* and *Geographic Information Science*.
- B.S. Degrees: *Geological Engineering (ABET, joint degree with Engineering), Geographical Information Systems*, *Climate Change and Solutions*, and *Earth and Spatial Sciences.*

- B.S. Geology options: *Mining Geologist*, *Sustainable Mining and Earth Resource Management*, *Energy Resiliency*, *Environmental Hydrogeology*, *Physical Geology.*
- Academic certificates: *Water and the Environment (undergraduate), Geographical Information Systems (graduate), Climate Change (graduate)*, *and Hydrology (graduate).*
- 4+1 degrees: *Geographic Information Science, Underground Hydrology, Geological Engineering.*

Financial Acumen and Strategic Resource Stewardship

- Oversight for ~$25M in departmental budgets, including scholarships, gifts, endowments, revenue, teaching assistantships, and oversight/approval of all faculty award expenditures.
- Secured $0.5M to hire a clinical faculty member and establish two online master's degrees.
- Secured $0.85M to convert online courses into stackable micro-credentials and establish a central online unit to ensure long-term revenue sustainability.
- Provided oversight for day-to-day operations of departmental motorpool, buildings (3), and facilities.
- Led the redesign and development of multiple student-centric spaces.

Communication, Enrollment Management, and Student Recruitment

- Developed multiple viewbooks (prospectus), swag, flyers, banners, door and van wraps, and tabling material to market the department's programs.
- Led the establishment of two LinkedIn profiles to highlight student success in the department.
- Conceived, developed, and implemented a College of Science K9-12 STEM Open Day with interactive demos from faculty labs, student talks, and more! First event was in April 2023 and April 2024 as *Earth Day Open Day*, now annually each fall as *Vandal Science Day*.
- Led recruitment strategy for the department's programs, including designing marketing and promotion materials and sending mailers to 2,500 high schools and developed articulation agreements with colleges.
- Led the development of a national recruitment campaign for the department's online professional master's degree and online certificates. Coordinated digital mailing campaign to >40,000 contacts across 50 states.
- Achieved +**40% increase** in undergraduate enrollment (Fall 23 to Fall 24).
- Achieved **+140%** increase in B.S. Geographic Information Systems (Fall 23 to Fall 24) and **+60%** increase (Fall 24 to Fall 25).
- Achieved **+600% increase** in online MS (Fall 23 to Fall 24) and **+100%** increase (Fall 24 to Fall 25).
- Achieved **+21% increase** in undergraduate certificates (Fall 23 to Fall 24).
- Achieved **+41%** increase in graduate certificates (Fall 24 to Fall 25).

Fundraising (*in partnership with College Director of Development*).

- Secured **$25,000** gift from Northwest Management Inc to support the graduate GIS program.
- Secured **$8,000** gift from M. Gunter to support student recruitment initiatives.
- Secured **$7,500** gift from Perpetua Resources to support student experiences in geology and mining.
- Co-facilitated **$50,000** Judy Parrish endowment (to support interdisciplinary geology research)
- Stewarded **$1.5M** Dreisner endowment (~$50K annual distribution), overseeing fund for mining education.
- Stewarded **$45,000** Zbozen endowment to support geography.
- Co-facilitating pending gift from Idaho Strategic Resources to support mining education.

Fostering Collaborations and Partnerships

- Leading a statewide effort to revitalize mining B.S. degrees in Idaho.
  - Successfully led faculty teams across two colleges to develop 2 mining focused B.S. degrees.
  - Successfully led initiative for the university to become a member of the Idaho Mining Association.
  - Representing the University of Idaho on the Idaho Mining Advancement Project.
  - Leading effort to propose a new *School of Mining and Mineral Science*, jointly administered under the College of Science and College of Engineering.
  - Leading team to propose a new institute focused on undergraduate and graduate mining education.
  - Leading team to develop a new mining focused workforce and continuing adult education unit with neighboring Career and Technical Education colleges.
  - Organized mining workshop courses: Core logging, belowground mine mapping, mine safety.

- Leading effort to build Geographic Information Systems education at the University of Idaho.
  - Successfully led the creation of a B.S. GIS and an online MS in GIS.
  - Leading a collaboration with North Idaho College to create a GIS pathway.
  - Established GIS Advisory board and held annual meetings with faculty.
- Established an agreement between Portland General Electric and the University of Idaho to collaborate on research associated with assessing wildfire flammability within power-line right-of-ways.
- Regularly met with industry representatives to discuss curriculum improvements.

Efforts to Build an Inclusive and Supportive Student-Centric Environment

- Created multiple student-centric spaces to increase sense of belonging and community.
  - Developing picnic areas and 'touchdown' spaces outside of department buildings.
  - Converted a wet lab into a *Student Success Space* with kitchen area, computers, and study spaces.
  - Remodeled GIS computer lab into a modern student-centric teaching space.
  - Remodeled a computer lab into a senior-design project studio, with virtual reality spaces.
  - Remodeling corridors to enable study and reading areas.
- Leading department to increase use of active learning, inclusive teaching, and accessibility strategies in my courses to drive student success.
  - Achieved a >30% drop in DFW rates by using active learning in a 136-enroll. 1st year science course.
  - Actively transferring similar approaches to other department courses.
  - Coordinated update of online courses to improve accessibility.
- Met with every single visiting potential student and gave tours of our department.
- Supported departmental seminar and short workshop speakers around DEI topics.
- Organized multiple student support events.
  - "*Laughing Yoga – wellness activity*" – for graduate students in the department;
  - "*Break the Ice Skate*" – annual open skate for all undergraduate and graduates in the department;
  - "*Pizza Lunches*" – annual introduction to the department for new undergraduate students.
  - "*Graduate Student Connectivity Weekend*" – annual graduate student networking event.
  - "*Department Christmas Party and White Elephant Gift Exchange*".
  - "*Departmental Awards Banquet*" – an annual evening event where we give out department prizes.

Advocating and Sustaining a Supportive Community for Faculty and Staff

Assisted Junior Faculty to Acquire Competitive Funding

- 2024: Dr. Meng Zhao (Earth and Spatial Sciences) secured $750,000 NASA EPSCoR award.
- 2024: Dr. Renee Love (Earth and Spatial Sciences) secured $55,000 Idaho NSF EPSCoR award.
- 2023: Dr. Amy Skibel (Animal, Veterinary and Food Sciences) secured $779,000 NIFA award.

Faculty and Staff Nominated for Excellence Awards

- Dr. Meng Zhao: College of Science Early Career Award (2025, **awarded**).
- President's Professor Lilian Alessa: UI's Excellence in Research and Creative Activity Award (2023, 2024, 2025 **awarded**).
- Renee Jensen-Hasfurther: University of Idaho Outstanding Staff Award (2025, **awarded**).
- Renee Jensen-Hasfurther: College of Science Outstanding Staff Award (2023, 2024, 2025).
- Dr. Renee Love: College of Science Outstanding Teaching Award (2022, 2024, **awarded**).
- Dr. Grant Harley: UI's President's Mid-Career Award (2024, **awarded**).
- Dr. Jerry Fairley: College of Science Harding Fellowship (2024, **awarded**).
- Dr. Grant Harley: UI's Excellence in Research and Creative Activity Award (2024).
- Dr. Elizabeth Cassel: UI's President's Mid-Career Award (2023, **awarded**).
- Dr. Erika Rader: College of Science Early Career Award (2022, 2023, **awarded**).
- Dr. Raymond Dezanni: UI's General Education Teaching Award (2023).
- Dr. Thomas Williams: UI's Teaching Award (2023).
- Dr. Elizabeth Cassel: Dyess Faculty Fellowship (2023, **awarded**).
- Dr. Renee Love: College of Science Outstanding Teaching Award (2022).
- Renee Jensen-Hasfurther: College of Science Outstanding Service Award (2022).

2018-2020 Associate Dean for Research & Graduate Studies, College of Natural Resources
2016-2018 Director, Research and Graduate Studies, College of Natural Resources

Responsibilities:
- Led college-wide research initiatives, graduate programs, and fiscal reporting.
- Established and supervised the College Graduate Studies Office and Graduate Council.
- Developed policies for graduate applications, support programs, and fellowships.
- Spearheaded strategic enrollment marketing and student recruitment.
- Facilitated research compliance and oversight for facilities across the state.

Key Accomplishments:
- **Engineered a "50-state strategy"** for online MS recruitment during the 2020 pandemic, resulting in a **42.3% year-over-year enrollment increase**, followed by additional growth of 42.3% and 15.2% in subsequent years. This natural resources graduate program is now the largest in the country.
- **Established and provided strategic leadership** for the College of Natural Resources Graduate Studies Office (student support program for online and in person students): oversaw budget, hired and supervised staff, centralized procedures into a shared resource model across departments, and developed new college graduate student policies and procedures.
- **Developed an administrative model** for the 'Director of Graduate Studies' role, so successful it was adopted as the standard across the university.
- **Managed the college's COVID-19 research response**, authoring mitigation and reopening protocols for high-stakes fieldwork and laboratory operations.
- **Modernized the graduate lifecycle** by implementing Slate (CRM) for admissions, retention, and assessment workflows.
- **Secured and managed** college-wide graduate student fellowships and research support funding.

Financial Acumen and Strategic Resource Stewardship
- Provided oversight for ~$31M in college research budgets and ~$11M in annual expenditures
- Oversight for research compliance at all college statewide facilities and awards.
- Served as signature proxy for Dean on grant submissions, pre-award spending, cost transfers, etc. Liaised with ORA, ORED as needed. Represented UI/CNR on PNW CESU conference calls.

Communication, Enrollment Management, and Student Recruitment
- Developed multiple viewbooks, banners, and tabling material to market the college's graduate programs.
- Collaboratively designed the college's graduate programs, online programs, and research website that was used until an institution redesign in 2025.

Fundraising and Securing Unit Resources
- Secured ~$300K from the Forest Biometrics Research Institute to fund M.S. and PhD forestry students.
- MOU between the UI and the U.S. Air Force to share expertise on fire science research.
- MOU between the UI and Salish Kootenai College to support graduate education.

Fostering Collaborations and Partnerships
- 2020 : NSF ADVANCE (CoPI, not funded) pre-proposal to increase retention of female faculty.
- 2020 : NSF TCUP (CoPI, **awarded**) to help Salish Kootenai College establish a M.S. degree.
- 2020, 2022 : NSF (CoPI, not funded) to establish a VR-based indigenous knowledge network.
- 2019 : AFRI CAP (PI, not funded) to advance nursery and fire focused research.
- 2019 : NSF LSAMP-BD (SP, **awarded**) to increase the graduation of tribal PhD students.
- 2016, 2017, 2018: NSF NRT (PI, not funded) to develop graduates to support natural resources careers.
- 2016 : USDA (PI, **awarded**) to help Salish Kootenai College establish a M.S. degree.

Advocating and Sustaining a Supportive Community for Faculty and Staff

Faculty Nominated for Excellence Awards
- Dr. Crystal Kolden for the UI's President's Mid-Career Award (2018, 2019, **awarded**).
- Dr. Armando McDonald: UI's Distinguished Professor (2019 – awarded in 2023).

- Dr. Crystal Kolden: Excellence in Interdisciplinary or Collaborative Efforts (2019).
- Dr. Armando McDonald: UI's Excellence in Research or Creative Activity Award (2018).
- Dr. Luigi Boschetti: UI's President's Mid-Career Award (2018).
- Dr. Lisette Waits: Jean'ne M. Shreeve Idaho NSF EPSCoR Research Excellence Award (2017, **awarded**).
- Dr. Tim Link: UI's Excellence in Research or Creative Activity Award (2016).

Efforts to Build an Inclusive and Supportive Student-Centric Environment

- Established and provided strategic leadership for College of Natural Resources Graduate Studies Office: oversaw budget, hired and supervised staff, developed new college graduate student policies and procedures, and worked with college and department level staff and administrators.
- Organized several community events to build a supportive student-centric environment.
  - "*Ice Cream Socials*" – Spring events aimed at graduate students, faculty, and college staff
  - "*Battle of the Trees – Annual Ice Hockey Game"* – UI and USFS researchers (2017-present)
  - "*Graduate Student vs. faculty and Staff Softball Game*"
  - "*Graduate Student Title IX Workshop*" – annual ½ day training with the UI Office of Civil Rights and Investigation to help graduate students address Title IX situations.
  - "*New Graduate Student Orientation – with Pizza!*" – Annual half day orientation to new college graduate students followed by a pizza lunch with existing graduate students and faculty.
- Established and coordinated CNR Graduate Council to oversee college graduate processes and awards.
- Established and administered an annual ~$200K Graduate Fellowship Program
- Served as an interim advisor for graduate students that had an irrevocable breakup with their major professor. This role provided crucial stability and support academic progression for numerous students, which I achieved by effectively balancing faculty expectations with individual student needs.
- Developed and taught 4 courses (Undergraduate Research Experience, Interview Skills, among others).

2014-2017 Program Lead, Fire Ecology and Management B.S., University of Idaho

Responsibilities:

- Tasked with revitalizing the B.S. in Fire Ecology and Management following a 30% enrollment decline (2011–2014).
- Directed undergraduate assessment, self-study reporting, and accreditation compliance.

Key Accomplishments:

- **Reversed Enrollment Decline:** Achieved a **22% increase in enrollment** (2017–2020) by implementing curriculum changes informed by a 2014 Employers' Summit.
- **Founded Wildfire Combustion Facility:** Established a research hub that has secured **>$27M in external funding** as of 2026. The facility supports immersive VR labs, engineering capstone teams, and high-impact research for high school and undergraduate students.
- **Led Accreditation Excellence:** Authored the self-study reports and navigated faculty through successful Association for Fire Ecology (AFE) certification and Society of American Foresters (SAF) reaccreditation.
- Strengthened Tribal Partnerships: Led recruitment and outreach efforts at the **Intertribal Timber Council** annual meetings to diversify the student pipeline.
- **Championed Institutional Honors:** Successfully led the nomination and awarding of honorary doctorates for distinguished USFS scientists Nicholas Crookston and Roger Ottmar.
- **Community Engagement:** Created "high-touch" student recruitment and retention events, including organizing for the University of Montana "G-Wiz Fire Chemistry" public science demonstration to present in the first year College of Natural Resources experience course.

SCHOLARLY ACCOMPLISHMENTS

Publications

h-index = 56, citations = 12119, Ψ student or postdoc led
i1000=1, i100=37, i10=114 (ij = papers cited at least j times)
Included in Elsevier's Top 2% of worldwide scientists list since 2023.

Plant science: *This research assesses the physiological mechanisms by which fire, drought, and nutrient dynamics affect individual plants. It encompasses diverse ecosystems, including forests, rangelands, and agricultural systems. Research centered on plant community dynamics, landscape patterns, and regional analysis is included in the Wildland fire science section.*

Scheduled / In Review

Ψ Cauquil I, Blanco AS, Adams HD, **Smith AMS**. Scorched and parched: the interaction of drought and fire in physiological mechanisms of tree death. *Fire Ecology.* (May 2026).

Ψ Rainsford SW, Bhatta RP, Wilson DR, Brown LM, Adams HD, Kimsey MJ, Nelson AS, Harley GL, Sparks AM, Whippe B, **Smith AMS.** Needing a quick fix? Exploring the potential of pre-fire fertilization to mitigate fire severity in ponderosa pine saplings. *Fire Ecology.* (April 2026).

Ψ Lad LE, Tinkham WT, Stevens-Rumann CS, Vanderhoof M, Vogeler K, **Smith AMS**. Drought on the Fly: UAS Mapping of Conifer Drought Stress. *Forest Science.* Under revision.

Ψ Eldridge GM, Stanley MF, Harley GL, Foley ZW, Wilson DR, Sparks AM, Halsey CW, Swanson SL, Adams HD, You R, Johnson DM, Lutz JA, Keefe RF, Huang L, Logan JA, **Smith AMS**. Phoenix of the Forest: assessing top kill and post-fire stem growth in aspen saplings using a pyro-ecophysiology approach. *Fire Ecology*. Under revision.

In Press / Published

Ψ Blanco AS, Wilson DR, Rainsford SW, Harley GL, Bhatta RP, Halsey CW, Eldridge GM, Garza DPE, Brown LM, Stanley MF, Logan JA, Sparks AM, Adams HD, Johnson DM, Hudak AT, Huang L, **Smith AMS**. **2026.** Assessing the potential fire severity of conifer saplings in cold and wet environments using a pyro-ecophysiology approach. *Fire Ecology.* 22, 14. doi: 10.1186/s42408-025-00443-7

Ψ Rainsford SW, Brown LM, Sparks AM, Swanson SL, You R, Adams HD, Huang L, Wilson DR, Halsey CW, **Smith AMS**. **2025.** Spectral Indices Enable Early Detection of Top Kill in Quaking Aspen (*Populus tremuloides*) Saplings Exposed to Varying Fire Intensity Levels, *Remote Sensing.* 17, 24, 4005. doi: 10.3390/rs17244005

Partelli-Feltrin R, **Smith AMS**, Sparks AM, Foley ZA, Rainsford SW, Harley GL, Moberely JG, Adams HD, Schwilk DW, Tinkham WT, Hardman DD, Kok JR, Thompson RA, Hudak AT, Wilson DR, Hoffman CM, Lutz JA, Blanco AS, Cochrane MA, Kremens RL, Dahlen J, Boschetti L, Li L, Johnson DM. **2025**. Methods to assess fire-induced tree mortality: Comparing heated water baths to experimental laboratory fires. *International Journal of Wildland Fire*. 34, 12, WF24144. doi: 10.1071/WF24144.

Ψ Blanco AS, Wilson DR, Hardman DD, Rainsford SW, Sparks AM, Bhatta RP, Adams HD, Johnson DM, Schwilk DW, Lutz JA, Knoblauch M, Huang L, Eldridge GM, Stanley MF, Logan JA, **Smith AMS**. **2025**. Predicting immediate and delayed fire-induced mortality of *Pinus monticola* and *Pseudotsuga menziesii* saplings using a pyro-ecophysiology fire severity approach. *International Journal of Wildland Fire.* 34, 11, WF25003. doi: 10.1071/WF25003.

Schwilk DW. Alam MA, Gill N, Murray BR, Nolan RH, Ondei S, Perry GLW, **Smith AMS**, Bowman DMJS, Fidelis A, Jaureguiberry P, Menor IO, Rosado BHP, Roland H, Yebra M, Yelenik SG, Curran TJ. **2025**. From plant traits to fire behavior: scaling issues in flammability studies. *American Journal of Botany.* 112, 10, e70040. doi: 10.1002/ajb2.70040

Smith AMS, Partelli-Feltrin R, Sparks AM, Moberly JG, Adams HD, Schwilk DW, Tinkham WT, Kok JR, Wilson DR, Thompson RA, Hudak AT, Hoffman CM, Lutz JA, Blanco AS, Cochrane MA, Kremens RL, Dahlen J, Harley GL, Rainsford SW, Huang L, Hardman DD, Johnson DM. **2025.** Methods to assess fire-induced tree mortality: Review of fire behavior proxy and real fire experiments. *International Journal of Wildland Fire.* 34, 1, WF24136 doi: 10.1071/WF24136

Sparks AM, Blanco AS, Lad LE, **Smith AMS**, Adams HD, Tinkham WT. **2024.** Pre-fire drought intensity drives post-fire recovery and mortality in *Pinus monticola* and *Pseudotsuga menziesii* saplings. *Forest Science*. 70, 2, 189-201. (Editor's Choice) doi: 10.1093/forsci/fxae013

Ψ Lad LE, Tinkham WT, Sparks AM. **Smith AMS**, **2023.** Evaluating Predictive Models of Tree Foliar Moisture Content using Multispectral UAS Data: A Laboratory Study, *Remote Sensing. 15, 5703.* doi: 10.3390/rs15245703

Sparks AM, Blanco A, Wilson DR, Schwilk DW, Johnson DM, Adams HD, Bowman DMJS, Hardman DD, **Smith AMS**. **2023.** Fire intensity impacts on physiological performance and mortality in *Pinus monticola* and *Pseudotsuga menziesii*: a dose-response analysis. *Tree Physiology*. 43, 8, 1365-1382. doi: 10.1093/treephys/tpad051

Ψ Partelli-Feltrin R, **Smith AMS**, Adams HD, Thompson A, Kolden CA, Yedinak KM, Johnson DM, **2023.** Death from hunger or thirst? Phloem dysfunction, rather than xylem hydraulic failure, as a driver of fire-induced conifer mortality, *New Phytologist*. 237, 4, 1154-1163. doi: 10.1111/nph.18454

Ψ Wilson LA, Spencer RN, Aubrey DP, O'Brien JJ, **Smith AMS**, Thomas RW, Johnson DM. **2022**. Longleaf Pine Seedlings are Extremely Resilient to the Combined Effects of Experimental Fire and Drought, *Fire*. 5, 5, 128. doi: 10.3390/fire5050128

Ψ Partelli-Feltrin R, **Smith AMS**, Adams HD, Kolden CA, Johnson DM. **2021.** Short- and long-term effects of fire on stem hydraulics in Pinus ponderosa saplings, *Plant, Cell, and Environment,* 44, 3, 696-705. doi: 10.1111/pce.13881

Ψ Partelli-Feltrin R, Johnson DM. Sparks AM, Adams HD Kolden CA, Nelson AS, **Smith AMS**. **2020**. Drought increases vulnerability of *Pinus ponderosa* saplings to fire-induced mortality, *Fire,* 3, 56. doi: 10.3390/fire3040056

Ψ Steady WD, Partelli-Feltrin R, Johnson DM, Sparks AM, Kolden CA, Talhelm AF, Lutz JA, Boschetti L, Hudak AT, Nelson AS, **Smith AMS**. **2019**. The survival of *Pinus Ponderosa* saplings subjected to increasing levels of fire intensity and impacts on post-fire growth, *Fire*, 2, 2, 23. doi: 10.3390/fire2020023

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ACADEMIC AWARDS

2026 Distinguished Professor (award and rank), University of Idaho
2024 College of Science Distinguished Faculty Award, University of Idaho
2024 Top Researcher (College of Science) 2023, University of Idaho
2024 Top Sponsored Project 2023, University of Idaho
2023 Jean'ne M. Shreeve Idaho NSF EPSCoR Research Excellence Award (statewide)
2017 Research and Creative Activity Excellence Award, University of Idaho
2016 Presidential Mid-Career Award, University of Idaho
2012 Alumni Award of Excellence, University of Idaho
2012 Outstanding Continuing Education and Service Award, College of Natural Resources, University of Idaho
2011 Outstanding Researcher, College of Natural Resources, University of Idaho
2009 Outstanding Researcher, College of Natural Resources, University of Idaho
1998 Second Class Merit Certificate, Physics 3, University of Edinburgh
1997 Second Class Merit Certificate, Geophysics 2Ah, University of Edinburgh
1996 Second Class Merit Certificate, Archaeology 1, University of Edinburgh
1996 Second Class Merit Certificate, Mathematics 1C2h, University of Edinburgh
1995 Credit Award: Young Enterprise Scotland
1994 Bronze Certificate (United Kingdom National Mathematics Contest)
1993 School Award, Civil Engineering & Building Sciences, University of Edinburgh
1992 School Award, Civil Engineering & Building Sciences, University of Edinburgh
1992 Bronze Certificate (United Kingdom National Mathematics Contest)
1992 Highly Commended Award (The Scottish Mathematical Council: Mathematical Challenge)
1991 Highly Commended Award (The Scottish Mathematical Council: Mathematical Challenge)
1990 Highly Commended Award (The Scottish Mathematical Council: Mathematical Challenge)
1989 Blue Peter Badge (Conservation)

GRANTS AND CONTRACTS EXPERIENCE

Total Grants Awarded as PI, CoPI, CoI, or SP: $48,076,595

Including NSF EPSCoR activities where I played a significant concept and writing role: **$71,153,895**

Mentoring Junior Scientists:

Resilient Transportation and Power Systems in The Pacific Northwest: Enhancing Wildfire Preparedness through a Data-Driven and Integrated Mitigation Approach ($145,656, PacTrans Region 10 Transportation Center). Collaborator with PI F. Liao. *Pending.*

Improving global dryland streamflow modeling by better characterizing vegetation use of deep water resources using NASA's GRACE/GRACE-FO, SWOT, and LIS ($750,000, NASA, EPSCoR) Co-Investigator with Science PI M Zhao and PI M Bernards. 2025-2028.

PARTNERSHIP: Wildfire smoke and the dairy industry: discovering impacts on animal performance and health, and the molecular and cellular mechanisms involved ($779,000, NIFA), Collaborator with PI A Skibel. 2023-2025.

PARTNERSHIP: Revisioning Precision Forestry Through Tree Level Monitoring And Modeling ($720,000, USDA NIFA), Co-PD with PD M. Kimsey, 2022-2025.

Effects of different fire intensities on Pinus ponderosa saplings physiology and mortality, JFSP, $25,000, PI with Student Investigator: Raquel Partelli Feltrin, 2019-2021.

Enhancing Tools and Geospatial Data to Support Operational Forest Management and Regional Forest Planning in the Face of Climate Change (NASA ROSES New Investigator, no UI funding), Collaborator with PI MJ Falkowski. 2014-2017 ($266,028, Michigan Tech)

Wildland Fire Infrasound, CoPI with PI K Yedinak, USDA FS, $61,605. 2016-2017.

Fuel Consumption and Carbon cycling in northern peatland ecosystems: Understanding vulnerability to burning, fuel consumption, and emissions via remote sensing of fuel moisture and fire radiative energy (NASA ROSES Terrestrial Ecology, $480,000, no UI funding), Collaborator with PI MJ Falkowski. 2012-2015.

Masticated fuels and carbon storage: effects of particle size and fuel moisture on black carbon production ($24,919, JFSP), PI with Co-Principal Investigator Nolan W Brewer, 2011-2012.

Education and Extension:

General Education Online and Continuing Adult Science Education (CASE), UI Strategic Plan Investment Grant Program ($849,831). CoPI Smith, Udas, Kirchmeier, and Pinnell. 2026-2028.

Vandal Idaho Science and Aerospace Scholars ($1,911,291, Idaho Department of Education), Senior Personnel with PI K. Schiffelbein.

EPSCoR GFP: Idaho WildFIRE Quest. ($1,431,000, NSF), Co-Principal Investigator with PI J. McMurtry, 2025-2028.

NSF ICE-TI: Forging Pathways to Tribal College Graduate Education in Natural Resources ($2.5M, National Science Foundation, 1951483, no UI funding by congressional mandate), Co-Principal Investigator with PI C. Frissell (SKC). 2020-2026.

Developing Fire Professionals and Science Collaborations - IV, ($350,000, USFS), Co-PI with PI Eva Strand. 2022-2024.

LSAMP BD: University of Idaho All-nations ANLSAMP ($1,074,990, National Science Foundation, 1906157), Senior Personnel with PI CS. Green, 2019-2023.

Developing Fire Professionals and Science Collaborations - III ($300,000, USDA FS), Co-PI with PI Eva Strand, 2020-2022.

Developing Professionals and Science in the Wildland Fire Program, University of Idaho ($482,000, USDA Forest Service), Co-PI with PI Strand and CoPI Morgan, 2017-2019.

Wildfire decisions and air quality: 4-hour online course ($149,854 National Park Service), PI, 2015-2017.

Smoke Management Guide for Prescribed and Wildland Fire, 2001 Edition Revision Project ($75,161, National Park Service), PI, 2011-2017.

Air Quality and Smoke Management for Land Managers and Smokepedia for use by Fire Managers in the IMR ($29,997, Department of Interior). PI, 2011-2015

Smoke Management Guide for Prescribed and Wildland Fire, 2001 Edition Revision Project (Phase 1: $92,568, NPS), PI, 2010-2012.

Our Changing Climate: Interactive Online Modules Highlighting North Dakota Applications ($67,945, NASA via UND), PI with EK Strand, 2010-2011.

Assessment of NWCG Courses and Positions for Smoke and Air Quality Content, Training Requirements and Material Delivery (Phase 1: $30,000, Phase 2: $40,000 NPS), PI, 2008-2010.

Remote Sensing Extension via Interactive Online Environments: Highlighting Applications in North Dakota, ($70,817, NASA), PI with EK Strand and R Robberecht, 2008-2009

Forestry remote sensing extension to tribal colleges and land managers, ($75,586, NASA via UND), PI with EK Strand and R Robberecht, 2008.

Active learning environments for mastery-oriented learning: Integrating the *virtual tutor* in science education, ($56,000, Idaho SBOE). Co-PI with R Robberecht (PI). 2008-2009.

Smoke Management: Development of Online Training Resources and Workshops ($134,967, National Park Service), PI, With Co-PIs Penelope Morgan and Chad Hoffman. 2007-2012.

ForestPARC – Year 3 ($135,000, UMAC/NASA, PI, with Co-I Paul E. Gessler, 2007–2008.

ForestPARC – Year 2: The Forestry Remote Sensing Extension Program ($109,870 UMAC/NASA Co-I with PI Paul E. Gessler and Lee A. Vierling.), 2006-2007.

Meeting Fire Management Needs for Science Synthesis, Workshops and Online Academic Courses: An Innovative Technology Transfer Approach ($370,000 Joint Fire Sciences Program; Co-PI with PI Morgan), 2005-2007.

Forest Public Access Resource Center Continuation Funding ($103,400 UMAC/NASA; Co-PI with PI P.E Gessler), 2004-2005.

Plant Science, Remote Sensing, and Wildland Fire Science:

Switching from forests to infernos: How does drought stress amplify live plant flammability? Australian Research Council. Collaborator with PI Bowman (University of Tasmania). *Pending*.

Advancing remote sensing of pre-, active, and post-fire conditions through the FireSense Implementation Team ($337,873, NASA FSIT: 80NSSC24K1305), Principal Investigator. 2024-2028.

Advancing knowledge of the risk of wildfire ignitions in power line right-of-ways. (unfunded addendum to 80NSSC24K1305). 2025-2028.

Co-Production of an End-User Platform for Accessing Enhanced Soil and Vegetation Burn Severity Products ($100,000 subaward from MTU, from NASA SMDSS), Principal Investigator. 2026-2028.

PARTNERSHIP: Impacts of seasonality and fire behavior on post-fire growth and mortality of United States oak species, ($191,067, NIFA), Co-Project Director with PD Dan Johnson (UGA), 2024-2027.

PARTNERSHIP: Impacts of fire and fertilization treatments on the mortality and post-fire productivity of northwestern and southeastern Pinus timber species ($798,650, NIFA), Project Director. 2023-2026.

Understanding vulnerability of whitebark pine in eastern Idaho and furthering forestry graduate education on tribal lands, USDA McIntire-Stennis Award IDAZ-MS-0117, $75,615, PI with Collaborator Richard Everett (SKC), 2016-2021

Prototyping a methodology to develop regional-scale forest aboveground biomass carbon maps predicted from Landsat time series, trained from field and lidar data collections, and independently validated with FIA data, NASA CMS, $659,923, Co-I with PI Hudak, 2014-2019

How vegetation recovery and fuel conditions in past fires influences fuels and future fire management in five western U.S. ecosystems, $450,000, JFSP, Collaborator with PI Hudak. 2014-2018.

Masticated fuels and fire behaviour in forests of the Interior West, ($369.893, JFSP) Co-PI with PI P Morgan, 2013-2018.

Prototyping global industrial forest mapping, a Landsat spatio-temporal approach, Co-I with PI L. Boschetti, NASA. $700,000., 2013-2017.

Reconciliation of the MODIS active fire and burned product for improved emission and uncertainty estimation, ($22,428 component of $90K NASA: *Earth Science Applications Feasibility Studies Solicitation*), Co-I with PI Luigi Boschetti (UMD).

LiDAR remote sensing for Inventory and Management of Forest Landscapes, ($91,094, USDA FS Agenda 2020 program), Co-PI with A Hudak (PI). 2008-2013.

Wildfire inputs to regional air quality: remote spatial-temporal measures for improved inventory assessments ($204,104, Joint Fire Sciences Program), PI, with Co-PIs Brian Lamb (Washington State University) and Brian Potter (USDA FS). 2007-2010.

Integrated Multisensor Remote Sensing and Modelling to Manage Mixed-Conifer Forest Fuels, Agenda 2020 ($35,000) Co-PI with PI Hudak (USFS). 2005-2007.

Joint Venture Agreement between the US Forest Service and University of Idaho to Investigate the Fusion of Lidar and Hyperspectral Remote Sensing ($56,050 USDA FS; Co-I with PI Hudak), 2004-2005.

Rural Sociology:

Collaborative Research: RII Track-2 FEC: Where We Live (WWL): Local and Place Based Adaptation to Climate Change in Underserved Rural Communities ($2,435,509, NSF EPSCoR Track-2 FEC), Co-Principal Investigator with PI L. Alessa. 2023-2027.

FireEarth: Advancing Resilience to Compounding Disasters: An Integrated Natural-Human Systems Assessment of Wildfire Vulnerability, ($2.8M, National Science Foundation, 1520873) PI(formerly C Kolden, 2015-2020). 2020-2021.

Public Perceptions of Smoke: Evaluating Regional Variations Via a Comparison of the Interior West and the Southeastern United States ($380,052, JFSP). PI with Co-PI T.E. Hall, former PI. 2010-2014.

Interdisciplinary:

Collaborative Research: FIRE-WUI: CITY-FIRE-TWIN – A Digital Twin Platform for Ember-Driven Ignition Modeling and Immersive Web-Based Wildfire Resilience and Preparedness in the Wildland–Urban Interface ($450,000 – UI component). CoPI with PI H Jebelli (University of Illinois Urbana-Champaign), *pending.*

Idaho Community-engaged Resilience for Energy-Water Systems (I-CREWS) ($20,000,000, NSF; $4,000,000 State Match), Co-Principal Investigator and UI Site Lead (includes oversight of UI budget) with PI A. Kliskey. 2023-2028.

Reducing logging fatality and non-fatal trauma incidence rates with new real-time operational GPS-VHF communications, recommended safety procedures, and education, CDC, $823,000, Co-PI with PI Keefe. 2015-2019.

EPSCoR RII Track II: Collaborative Research: The Western Consortium for Watershed Analysis, Visualization, and Exploration (WC-WAVE) (NSF, IIA-$3,000,000), Participant (Visualization Team), with PI B. Michener, 2013-2017.

EPSCOR RII Track 1: Managing Idaho's Landscapes for Ecosystem Services, (NSF, IIA - $20,000,000), Science Team, with PI P Goodwin. 2013-2018.

Quantifying the characteristics and investigating the biogeoscientific and societal impacts of extreme wildland fires in the United States northern Rockies region ($1,221,279, NASA ROSES Interdisciplinary Research in Earth Science), PI, 2011-2016.

Idaho EPSCoR RII: Water resources in a changing climate, ($350K component of $15M, NSF), Junior Faculty, PI V. Walden. 2008-2013.

Equipment and Research Facilities:

Drone Lab Equipment Proposal, UI Strategic Plan Investment Grant Program ($202,887.50). Co-PI Smith, with PI Karl. 2025.

Acquisition of a drone-mounted aerial Lidar system to support agricultural and natural-resources research. ($110,865, NIFA) Co-PD with PD J. Karl. 2023-2025.

MRI: Development of a smart 3-D wireless sensor network for terrain-climate research in remote mountainous environments ($563,326 NSF), Co-PI with PI T. Link (formerly K. Kavanagh), 2010-2015.

Integrated cross-disciplinary vegetation, water, and energy research ($24,710, Idaho NSF EPSCoR Instrument Acquisition and Startup Augmentation Funds Competition), PI, 2007.

Development of Radiometric and Geometric Processing Steps for the UND AgCam Sensor ($30,000, NASA, PI, with Co-PI Peter Gorsevski), 2007–2008

National Science Foundation Graduate Research Fellowship Program (GRFP):

Jeffrey Logan, E-GRFP (awarded)

Jeffrey Logan, Honorable Mention | Hannah Funke, Honorable Mention

SELECTED PARTICIPATION IN CONFERENCES & PRESENTATIONS

Organization

"International Association of Wildland Fire: International Smoke Symposium:, Program Committee, Tall Timbers, March 2026

"International Association of Wildland Fire: Fire & Climate Conference", Program Committee, in Pasadena, CA, May 23-27, 2022

"2021 Virtual Pacific Northwest Interdisciplinary Wildfire Workshop", Program Committee

"Remote Sensing of Vegetation Biomass", Convener, *AGU Fall Meeting*, San Francisco, December 2016

"Vulnerability, Disturbance Impacts, and Responses", Convener + Session Chair, *AGU Fall Meeting*, San Francisco, December 2013

"Remote Characterization of Vegetation Structure, Function, and Condition: Parts I, II, III, and IV", Convener + Session Chair, *AGU Fall Meeting*, San Francisco, December 2012

"Disturbance Impacts and Responses: Parts I, II, and III ", Convener + Session Chair, *AGU Fall Meeting*, San Francisco, December 2012

Asia Oceania Geosciences Society / American Geophysical Union Joint Assembly, Biogeosciences Chair, Program Committee, Singapore, 13-17 August 2012.

"Remote Characterization of Vegetation Structure: Parts I, II, and III", Convener + Session Chair, *AGU Fall Meeting*, San Francisco, December 2009.

"AGU Fall Meeting, San Francisco, December 2009 – Biogeosciences Section", Organizing Committee

"AGU Fall Meeting, San Francisco, December 2008 – Biogeosciences Section", Organizing Committee

"Remote Characterization of Vegetation Structure: Parts I, II, III, IV, and V", Convener + Session Chair, *AGU Fall Meeting*, San Francisco, December 2008.

"Remote Characterization of Vegetation Structure: Parts I, II, and III", Convener + Session Chair, *AGU Fall Meeting*, B03, San Francisco, December 10-14, 2007.

"Fire Severity and Climate: Impacts on Biogeochemical and Ecological Processes: Parts I, II, and III", Convener + Session Chair, *AGU Fall Meeting*, B04, San Francisco, December 10-14, 2007.

"AGU Fall Meeting, San Francisco, December 2007 – Biogeosciences Section", Organizing Committee

"Remote Characterization of Vegetation Structure: Parts I, II, and III", Convener + Session Chair, AGU Fall Meeting, B07-Biogeosciences, San Francisco, December 11-15, 2006.

"Symposium to highlight to Senator Craig (ID) UI research activities public private partnerships" Assisted, Moscow, ID, September 2004

Other Presentations (since 2019)

"Integrating GRACE-Informed Root-Zone Storage Capacity into Noah-MP to Enhance Drought and Ecohydrological Simulations", Zhao M, Smith AMS. AGU Fall Meeting. 2025.

Participant, Wildfire Decadal Survey Workshop, National Academies, September 2025.

"Pyro-Health Synchrony: Integrating Wildland Fire into One Health to Benefit Plants, Animals, Ecosystems, and People". Gilvarg S.C., Leydet B., Dovciak, M., Smith, A.M.S., Miller, D.L., Luckhart, S., Lashley, M.A., Vander Yacht, A.L. The 11th World Conference on Ecological Restoration (SER2025), Denver, Colorado, 30 September – 4 October 2025.

"Pyro-ecophysiology: using physics and plant biology to advance the frontier of fire ecology". Smith A.M.S. and D.R. Wilson. University of Tasmania, 25 Nov 2024.

"Phloem and cambium death, rather than xylem hydraulic failure, is a driver of fire-induced conifer mortality". Johnson DM, Feltrin RP, Smith AMS, Adams H, Kolden C, Yedinak KM, Thompson A. AGU Fall Meeting.. 2022

"Keynote Address: Fire effects on vector-borne diseases". Smith, A.M.S. Biology of Vector-Borne Diseases Workshop, Institute for Health in the Human Ecosystem, University of Idaho, 18 June. 2022.

"Transforming Fire Ecology and Helping Communities to Coexist with Fire", Smith A.M.S. Washington State University CEREO seminar, 20 Nov. 2019.

"Current and future large tree mortality from 2000-2025 across the Western United States forests assessed using forest inventory and a Random Forest classification". McNellis B, Smith AMS. AGU Fall Meeting. 2019.

TEACHING AND ADVISING EXPERIENCE

I teach as needed in a wide range of topics, via in person, online, and laboratory/field modalities.
+ denotes courses where I have developed both in person and accessible online courses, including the use of recorded videos, close captioning, alt-text, and text-reader compatible transcripts.
^ General education courses.
$^{\beta}$ denotes courses using active learning teaching strategies.

Active Courses

Course	Details	Textbook
GEOG 1000 *Introduction to Planet Earth*	+^$^{\beta}$ (3cr. Spring, 2023, Fall 2025, 250+ enrol)	Living Physical Geography (*Gervais*)
GEOG 3010: *Meteorology*	+ (3cr. Fall)	Meteorology Today (*Ahrens and Henson*) Mountain Weather and Climate (*Barry*)
GEOL 4410 / FIRE 5410: *Air Quality, Pollution, and Smoke*	+ (3 cr. Spring, Summer)	Atmospheric Chemistry and Physics (*Seinfeld and Pandis*) Fundamentals of Air Pollution (*Vallero*)
FIRE 4490: *Fire Behavior*	+ $^{\beta}$ (2 cr. Spring)	Wildland Fire Behavior (*Finney, McAllister, Grumstrup, and Forthofer*) An Introduction to Fire Dynamics (*Drysdale*)
GEOG 4110/5610: *Natural Hazards*	+ (Summer)	Natural Hazards (*Keller and DeVecchio*)
GEOG 5150: *Pyrogeography*	+ (Summer)	Tropical Fire Ecology (*Cochrane*) Fire in California's Ecosystems (*various*) Fire Ecology of NW United States
GEOG 5870: *Topics in Geospatial Analysis: (i) Lidar* *(ii) Spatial Sampling Methods*	+ (Summer)	(i) Working with LiDAR using Arc GIS Pro (*Parece and McGee*) (ii) Forest Sampling Desk Reference (*Johnson*)
GEOG 5290: *World Savannas*	+ (Summer)	World Savannas (*Mistry*) Tropical Fire Ecology (*Cochrane*)
GEOG 2000: World Regional Geography	+^ $^{\beta}$ (3cr. Under Development)	World Regional Geography (*Hobbs*)

Past Courses

$^{\beta}$ NR 211: *Research Experience for Undergraduates I* (2cr., 2019)
$^{\beta}$ NR 212: *Research Experience for Undergraduates II* (1cr., 2020)
REM 244: *Introduction to Wildland Fire Management* (2012)
$^{\beta}$ FOR 274: *Forest Measurements and Inventory* (2007-2016)
FOR 275: *Forest Resource Sampling* (2019)
+ FIRE 326: Fire Ecology (3cr. 2021-2023)
FOR 373: *Forest Sampling Methods* (2011-2014)
+ GEOG 385: Foundations of GIS (2022)
FOR 401: *Forest Inventory Practicum* (various years)
+ FOR 435/535: *Remote Sensing of Active Fire and Post-Fire Effects* (2007-2010)
+ FOR 451: *Fuels Inventory and Mapping* (2007-2008) (hybrid)
FOR 472: *Remote Sensing of the Environment* (2006)
FOR 474: *Forest Inventory* (2007-2011)
FOR 501: *Exploring Biogeosciences* (2009)
FOR 501: *Virtual Landscapes* (2012)
+$^{\beta}$ INTR 501: *Navigating the Post-PhD Gauntlet: Interview Skills* (2019)
RNG 501: *Savannah Ecology* (2006)
NR 501: *Graduate Studies Seminar* (2016-2018)
FOR 504: *Graduate Skills: Preparing for a Faculty Position* (2007-2008)

+ FIRE 526: Fire Ecology (3cr. 2021-2023)
FIRE 535: *Remote Sensing of Fires* (2023)
FOR 570: *Advanced Remote Sensing Measurement Methods* (2005-2008)

Guest Speaker and Engagement with Senior Capstones

College of Art and Architecture:

- Landscape Architecture Design Class (LARC 2350/5560)
    - *Project: Activation of 7th Street to include student-centric touchdown and collaboration spaces, potential outdoor classrooms, and engagement with the new museum of natural history.*
- Senior Design Class (ARCH 4540) (2015, 2025, 2026)

College of Engineering:

- Senior Design (EXPO) Teams (2019-present):
    - *Project: Development of an ember generator: the Idaho Fire Dragon (multiple years)*
    - *Project: Integration of the Optris PI 640i thermal imager within a drone*
    - *Project: Development of a fire-proof wind tunnel*

College of Natural Resources:

- Guest lectures in various 1st year experience courses (ENVS 1010, NR 1010) (2007-2019)

College of Graduate Studies:

- UI College of Graduate Studies Prestigious Fellowship Seminars (7 seminars total) (2016-2017)

Student Club Mentoring

Advisor, Student Association for Fire Ecology, University of Idaho, 2010-2012
Advisor, Logger Sports Club, University of Idaho, 2008-2010

Current Graduate Students

Ψ Underrepresented § Veteran ¢ International

Ψ § Douglas Hardman (Major Advisor), Ph.D. Candidate Geography, 2018-present. *Improving understanding of dynamic forest ecosystems*. (exp 2026)
Ψ ¢ Roshan Bhatta (Major Advisor), Ph.D. Candidate Geography, 2024-present. *Multi-scale assessment of forest ecosystems under land use change and wildfire disturbances.* (exp 2026)
Ψ§ Alexander Siaz Blanco (Major Advisor), Ph.D. Candidate Geography, 2019-present. *Pyro-Ecophysiology of Conifer Saplings: Enhancing understanding of how conifer saplings respond through fire tolerance, physiological mechanisms, and predictive modeling* (exp 2026)
§ Scott Campbell (Major Advisor), Ph.D. Candidate Geography, 2024-present (exp 2026)
Ψ Jeffrey Logan (Major Advisor), Ph.D. Geography, 2024-present
Ψ Madeleine Stanley (Major Advisor), Ph.D. Geography, 2024-present
Ψ L. May Brown (Major Advisor), M.S. Geographic Information Science, 2025-present
Konrad Bailey (Major Advisor), M.S. Geographic Information Science, 2025-present (exp 2026)
Ψ Nicole Maly (Major Advisor), M.S. Geographic Information Science,, 2025-present (exp 2026)
Ψ Areonna Overle (Major Advisor), M.S. Environmental Science, 2025-present (exp 2026)
Ψ Madeleine Stanley (Major Advisor), M.S. Geographic Information Science, 2024-present (exp 2026)
Zachary Foley (Committee), Ph.D. Geography, 2025-present
Thomas Randolph (Committee), Ph.D. Candidate, Natural Resources, 2019-present

Doctoral Students Advised to Completion

1. Ψ Sasha White (Committee), Ph.D. Environmental Science, *Finding Fire's Form (Intersection of Art, Fire Ecology, and Prose).* 2025.
2. Ψ Lauren Lad (Committee), Ph.D. Colorado State University. *Predictive models of individual tree health: the utility of uncrewed aerial system data to inform forest management*. 2025.
3. Stephen Fillmore (Major Advisor), Ph.D. Natural Resources, *Towards a Theory of Default Suppression: Decision Making in the Context of Full Suppression and Polystrategic Wildfires on Federal Lands*, U.S.A.

2023.

4. Brandon McNellis *(*Committee), Ph.D. Natural Resources, *Trends in ecosystem disturbance across the western United States: inferring process through pattern*, 2020.
5. [Ψ¢] Raquel Partelli Feltrin (Major Advisor), Ph.D. Natural Resources, *The Physiological Response of Conifers to Fire,* 2020.
6. Chris Bowman-Prideaux (Committee), Ph.D. Natural Resources, *Wildfire and Rehabilitation History Effects on Artemisia tridentata subsp. wyomingensis Communities Invaded by Bromus tectorum,* 2019.
7. [Ψ¢] Nuria Sanchez Lopez (Committee), Ph.D. Natural Resources, *Reconstruction of the stand-level disturbance history of a temperate coniferous forest using LiDAR data and geographic object-based image analysis (GEOBIA)*, 2019
8. Eric Walsh (Committee), Ph.D. Natural Resources, *Forest Ecosystem and Avian Niche Modeling: Improving Climate Change Forest Modeling via Interdisciplinary Model Linking*, 2018
9. Aaron Sparks (Co-Major Advisor), Ph.D. Natural Resources, *Development of a spatial severity model for the quantification of wildland fire effects in coniferous forests*, 2017
10. Jack Cohen, (Committee), Ph.D. Natural Resources, "*Fuel Particle Heat Exchange During Wildland Fire Spread*", 2015
11. Chad Kooistra, (Committee), Ph.D., Natural Resources, 2011-2014 (transferred to OSU)
12. Jarod Blades (Committee), Ph.D., "*Bridging natural resource communication boundaries:*
13. [Ψ] Wade Tinkham (Major Advisor), PhD Natural Resources, "*Improved Assessments of Ecosystem Services through Active-Remote Sensing: Quantification of Timber and Snow Resources*", 2013
14. [Ψ¢] Javier Naupari (Committee), Ph.D. Rangeland Ecology & Management, "*Quantifying bidirectional reflectance factors for delineating shrub-steppe vegetation functional types across scales from the plant to the landscape*", 2010
15. Zachary Holden (Committee), Ph.D. Natural Resources, "*Twenty year (1984-2004) temporal and spatial burn severity patterns inferred from satellite imagery in the Gila national forest, New Mexico*", 2008

Masters Students Advised to Completion

1. [Ψ] Clara Abplanalp (Major Advisor), M.S. Environmental Science, *Paleodendrologic analysis of fossil wood from the Jurassic Morrison Formation and investigation of hothouse climate microbiomes.* 2025.
2. Kaden Ball (Major Advisor), (non-thesis), M.S. Geographic Information Science, 2025
3. [Ψ] Amanda Reimer (Major Advisor), (non-thesis), M.S. Geographic Information Science, 2025
4. Kevin Sakamoto (Major Advisor), (non-thesis), M.S. Environmental Science, 2025
5. [Ψ¢] Ines Cauquil (Committee), M.S. Washington State University, *Drought, burn, drought: Effects of drought before and after fire on mortality and physiological function of Pinus contorta*, 2024
6. Jonathan Pangburn (Major Advisor), M.N.R. (non-thesis), 2024
7. [Ψ] Caroline Verona (Major Advisor), M.S. Geography (non-thesis), 2024
8. Nathan Hurlocker (Committee), M.S. Integrated Architecture and Design, *Critique of Virtual Behaviorism: Applying Neurodiversity Principles to XR Design*, 2024
9. Matt Modlin (Major Advisor), (non-thesis), M.S. Geographic Information Science, 2024
10. Jayson Prentice (Major Advisor), (non-thesis) M.S. Environmental Science, 2024
11. [Ψ] Alexander Blanco (Major Advisor), (non-thesis) M.S. Environmental Science, 2024
12. [¢] Nemanya Petrovic (Major Advisor), (non-thesis) M.S. Environmental Science, *Descriptive factors of the Canadian Mountaineering GIS Database*, 2022
13. Kyle Nagy (Major Advisor), (non-thesis) M.S. Environmental Science, *How Researchers, Non-Profits, and Practitioners are Defining Regenerative Agriculture for Their Purposes*, 2021
14. [Ψ] Corinne Magnusson (Major Advisor), (non-thesis) M.S. Environmental Science, *Climate Change Impacts on Seabrook Station and Proposed Solutions,* 2021
15. [§] John Dodd (Major Professor), (non thesis), M.S. Natural Resources, 2021
16. Austin Smith (Major Professor), (non thesis), M.S. Environmental Science, 2021
17. [Ψ] Heather McIntyre (Major Advisor), (non-thesis) M.S. Environmental Science, *Air Quality and Smoke Management Resources for the State of Colorado and Southern Ute Tribal Lands*, 2020
18. [Ψ] Anne Dell'isola (Major Advisor), (non-thesis) M.S. Environmental Science, *Micro-Hydro Energy: What is it, where is it useful, and what are the costs and benefits*. 2020.

19. Joshua Clark (Committee). M.S. Natural Resources, *Verification of Red Flag Warnings Across the Northwestern U.S. as Forecasts of Large Fire Occurrence,* 2020.
20. Ψ Mikayla Geomaat (Major Advisor), (non-thesis) M.S. Environmental Science, *Water Scarcity in the Southwest United States*, 2020.
21. Keith Watson (Major Advisor), M.S. (non-thesis) Environmental Science, *Review: Wildfire and Salmonid Populations,* 2020.
22. Skylar Watson (Major Advisor), M.S. (non-thesis) Environmental Science, *The Effects of Hydraulic Fracturing Versus Traditional Drilling on the Environment*, 2020.
23. Philip Roth (Major Advisor), M.S. (non-thesis) Natural Resources, *Review: Fuel Bed* Monitoring, 2020.
24. Courtney Garnett (Major Advisor), (non-thesis) M.S. Environmental Science, *Case Study Review of the Rice Ridge Fire and the Risks to Public Health From Wildland Fire Smoke Exposure*, 2020.
25. Zethnouneay Dubois (Committee), M.S. Architecture, *Ecstatic [X] Reality*, 2020.
26. Ψ Toby Hamilton (Major Advisor), (non-thesis) M.S. Environmental Science, *Rainwater Harvesting*, 2019.
27. Ψ Anjel Tomayko (Major Advisor), M.S. Natural Resources, *Evaluation of Contributing Factors to Wildland Firefighter Fatalities in the United States*, 2019.
28. Jeffrey Keenum (Major Advisor), M.S. (non-thesis) Environmental Science. *Downstream impacts on endangered species from culvert repair and replacement,* 2019.
29. § Wade Steady (Major Advisor), M.S. Natural Resources, *The survival of Pinus ponderosa saplings subjected to increasing levels of fire behaviour and impacts on post-fire growth*, 2019.
30. Ψ Audrey Harris (Major Advisor), M.S. (non-thesis) Environmental Science, *A Comparison of Air Quality Resources in Idaho and Mississippi*, 2019.
31. § Cole Julson (Major Advisor), M.S. (non-thesis) Natural Resources, 2019.
32. Silas Whitley (Major Advisor), M.S. (non-thesis) Natural Resources, 2019.
33. Ψ Brandyn Gartelman (Major Advisor), M.S. (non-thesis) Environmental Science, *Compiling a comprehensive list of shark attacks in Louisiana's Lake Pontchartrain,* 2018.
34. Kevin Maier (Major Advisor), M.S. (non-thesis) Environmental Science, *The 2016 Pioneer Fire: A Case Study Analysis of Initial Attack Suppression*, 2018.
35. ¢ Darko Veljkovic (Major Advisor), M.S. Natural Resources, *Experimental burning of grassland fires.* 2018.
36. Ψ Andrea Stuen (Committee), M.S. Natural Resources, *Long-term impacts of marine derived nitrogen on forest productivity and carbon balance in central Idaho*, 2018
37. Ψ Carrie Minerich (Committee), M.S. Natural Resources, *Assessing fuel treatment effectiveness during wildfires under future climate conditions in southern California*, 2018.
38. Jeff Seebach (Major Advisor), M.S. (non-thesis) Environmental Science, 2017.
39. Patrick Mahoney (Major Advisor), MS. Natural Resources, *Applications of the United States Forest Inventory and Analysis dataset: a review and future directions*, 2017.
40. Everard Baker (Major Advisor), M.N.R. (non-thesis), 2017.
41. Devin Yeatman (Committee), M.S. Natural Resources, *Canopy cover in the home ignition zone not a strong driver of home loss in timbered wildland-urban interface fires*, 2017
42. Jacob Wesson (Major Advisor), M.S. (non-thesis) Environmental Science, "*Oil and Gas Development in the Eagle Ford Shale Play in Southwestern Texas and its Impact on Ambient Concentrations of Ozone and Ozone Precursors (NOx and VOC)*", 2016
43. Ryan McCarley, (Committee), M.S. Geography, "*Estimation of Landscape-scale Fire Effects from Multi-temporal LiDAR*", 2016
44. Ψ Lindsay Grayson (Major Advisor), M.S. Natural Resources, "*Statistical Applications in Natural Resources*", 2015
45. Ryan Jacobson, (Committee), M.S. Natural Resources, "*Spatially Explicit Simulation Modeling of Local, Regional, and International Bioenergy Scenarios in the Northern Rockies*", 2015
46. Kevin Satterberg (Committee), M.S. Natural Resources, "*Impact of Fire Severity on Mixed Conifer Forest Recovery Ten Years Post-Fire*", 2015
47. William Matthews (Committee), M.S. Natural Resources, "Estimating fire radiative power obscuration by tree canopies through laboratory experiments: estimating fire radiative energy in a longleaf pine forest from airborne thermal imagery", 2015

48. Erik Boren, (Committee), M.S. Natural Resources, "Spectral characterization of agricultural burned areas for satellite mapping", 2015
49. Tyler Bleeker (Committee), M.S. Geography, "*Sustainability of Historic Wildfire Refugia in Contemporary Fire Events*", 2015
50. Aaron Sparks (Major Advisor), M.S. Natural Resources, "*Characterizing Biomass Burning in Shrub-steppe: Burned Area and Seasonal Trace Gas Emission Factors*", 2014
51. Nate Weiner, (Committee), M.S. Natural Resources, "*Influence of Duff Distribution in Post-Fire Vegetation Recovery Patterns in Juniperus occidentalis Woodlands in Southwest Idaho*," 2014
52. [Ψ] Ashley Wells (Committee), M.S. Natural Resources, "*Multidecadal trends in burn severity and patch size in the Selway-Bitterroot Wilderness Area, 1900-2007*", 2013
53. Donovan Birch (Committee), M.S. Natural Resources, "Burn Severity and Areas of Daily Fire Growth for 42 Forest Fires in Idaho and Montana, 2005 – 2011", 2013
54. Nolan Brewer (Major Advisor), M.S. Forest Resources, "Influences of fuel moisture and repeated burning on black carbon production and loss in masticated fuels: an experimental combustion study", 2012
55. Christopher Bernau (Committee), M.S. Rangeland Ecology and Management, "Fuel bed response to two-year post vegetation treatments in juniper and cheatgrass invaded sagebrush steppe; and comparisons of fuel load data collected at two spatial scales", 2012
56. Ian Leslie (Committee), M.S. Soil Science, "Charactering soil pipes on forested hillslopes using *electrical resistivity tomography*", 2012
57. [Ψ] Wade Tinkham (Major Advisor), M.S Forest Resources, "*Influence of slope, elevation, and vegetative structure on lidar-derived DEM accuracy in mixed conifer forests with complex terrain*", 2010
58. [¢] Hongyu Huang (Major Advisor), M.S., Natural Resources, "A tale of two transects: preliminary assessment of small footprint discrete LiDAR-derived shrub height and ground elevation accuracy", 2010
59. Joshua Hyde (Major Advisor), M.S Forest Resources, "*Consumption of sound and rotten coarse woody debris from a North Idaho mixed conifer forest*", 2010
60. [Ψ] Diana Carson (Committee) M.S. Forest Resources, "*Snowpack mass and energy balance dynamics in discontinuous canopies*", 2010
61. [Ψ¢] Jessica Xu (Committee), M.S. Rangeland Ecology & Management, "*Measurement of Shrub Canopy Structures Using Terrestrial Laser Scanning and Implications for Airborne LiDAR Application"* 2010
62. [Ψ] Heather Heward (Committee), M.S. Forest Resources, "*Using in-situ observations by wildland fire fighters to assess detection by MODIS*", 2009
63. Chris Powell (Committee), M.S. Forest Resources, "*LIDAR Detection of Ladder Fuels in a North Idaho Mixed Conifer Forest*", 2008
64. [¢] Jan Eitel (Committee), M.S. Forest Resources "*Suitability of Selected Spectral Indices to Detect Water Deficiency in Poplars*", 2005

Postdoctoral Fellows

[¢] Dr Li Huang, 2024-present
[Ψ] Dr Kara Yedinak, 2013-2017
[Ψ] Dr Wade Tinkham, 2013-2014
[Ψ] Dr Karen Lannom, 2011-2014

Technicians

[¢] Darko Veljkovic, 2018-2019
Joshua Hyde, 2010-2017

Undergraduate and High School (HS) Researchers

[Ψ] Bee Phillips, 2025
[Ψ] Gabriella Eldridge, 2023-2025
Corbin Halsey (HS), 2024
[Ψ] Daisy Estrada Garza, 2023
[Ψ] David Wilson (HS), 2019-2024
Lane Quidas, 2019-2020
Wade Steady, 2016-2017
[Ψ] Krystal Krcma, 2014-2015
Patrick Mahoney, 2014
Grayson Stone, 2012

SERVICE

University, College, and Department Service Appointments

2025	Pillar 3 Strategic Planning Workgroup: Adapting the Educational Model
2025	College of Law, Tenure and Promotion Committee
2025	Chair, Director of the Center for Excellence in Teaching and Learning Search Committee
2023-2024	Chair, Faculty Affairs Committee
2023-present	College of Science Budget Model Group
2023-2024	Member, Environmental Historian Search Committee, Department of History
2022-2024	Member, Senate Student Evaluation of Teaching Taskforce
2022-2025	Member, UI Ethical Guidance and Oversight Committee
2022-2023	Chair, Faculty Appeals Hearing Board Panel
2022-2023	Member, Faculty Appeals Hearing Board and Panel
2022-present	College of Science Executive Board
2021-2022	Chair, Senate Student Evaluation of Teaching Taskforce
2021-2022	Vice-Chair, Faculty Senate
2021-2022	Chair, Committee on Committees
2021-2022	Co-lead, Online Learning Advisory Committee (developed strategic whitepaper)
2021	Member, College of Graduate Studies Assistant to Dean Search Committee
2021	Member, Sponsored Programs Administrator Search Committee
2021	Member, Vice Provost for Digital Learning Initiatives Search Committee
2019-	Lead, Center for Resilient Communities-Hazards Hub
2019-	Center for Resilient Communities Executive Committee
2020-2023	University of Idaho Faculty Senate
2019-2020	University of Idaho Faculty Senate
2019-2020	Chair, Senate Tools (Cost-Cutting) Ranking Taskforce
2019-2020	Member, IRIC Facility Committee
2019	Chair, CNR Graduate Programs Coordinator Search Committee
2018-2020	University Distinguished Professor Advisory Committee
2018-2020	AAALAC Task Force: UI achieved full accreditation in 2021
2018-2020	Associate Deans Group
2017-2019	Chair, IRIC Facility Committee
2017-2018	University Committee on General Education
2017	The UI Postdoc Association Working Group
2017	Academic Unit Program Prioritization Criteria Working Group
2016-2020	Chair, CNR Graduate Council
2016-2017	Chair, FRFS Department Chair Search Committee
2016-2017	Chair, Heady Endowed Chair Search Committee
2016-2017	Vice-Chair, IRIC Facility Committee - developed space usage policies
2016-2017	Northwest Knowledge Network Advisory Committee
2016-2017	Chair, College of Natural Resources Indirect Costs Taskforce.
2015-2020	Member, University of Idaho Graduate Council
2014-2016	Faculty Secretary, College of Natural Resources
2014-2015	Chair, Ecosystem Modeller Search Committee
2014-2025	Member, MNR Core Faculty
2013-2014	College of Natural Resources Faculty Secretary
2013	College of Art and Architecture, Tenure and Promotion Committee
2013-2014	Member, Ad-hoc Senate Committee on Instructors
2012-2014	University of Idaho Faculty Senate
2012-2013	Chair, Spatial Fire Science Search Committee
2011-2013	Chair, University Safety and Loss Control Committee
2010-2014	University Safety and Loss Control Committee
2010-2013	College of Natural Resources, Safety Committee

2008-2013	College of Natural Resources, Geospatial Committee
2008-2011	University Committee on General Education
2008-2009	Member, Fire Science Search Committee

Participation in College and University Strategic Planning

2025-present	Pillar 3 Strategic Planning Workgroup: Adapting the Educational Model
2025	Co-developed 2025-2029 departmental strategic plan action plan, goals, and metrics
2025	UI Leadership Retreat (participated in refinement of draft 2025-2029 Strategic Plan)
2019-2020	Chair, Senate Tools Ranking Taskforce
2018-2019	Participated in the Strategic Planning Process for the College of Natural Resources
2017	Academic Unit Program Prioritization Criteria Working Group

Assessment, Accreditation, and Program Review Experience

2025	Participated in the Northwest Commission on Colleges and Universities mid-cycle visit, including mock dry-run (participated in 2 meetings with accreditation panel).
2025	Participated in recorded panel on effective assessment approaches for administrators to be included in an Assessment Community of Practice training environment
2022-present	Co-developed new direct and indirect measures with faculty and coordinated annual reports on assessment metrics for the Department of Earth and Spatial Science programs.
2016-2020	Co-developed assessment surveys for the College of Natural Resources graduate programs. Coordinated and submitted assessment reports for the *M.S.* and *Ph.D. in Natural Resources*.
2016	Led the development of the self-study report for the Society of American Foresters Reaccreditation of the *B.S. Forest Resources* (Forestry), University of Idaho, pp 298.
2016	Led writing of the self-study report for external program review of *B.S. Forest Resources* (Forestry), University of Idaho, pp. 103.
2016	Led writing of the self-study report for external program review of *B.S. Fire Ecology and Management*, University of Idaho, pp. 113.
2016	Led the external program review for the FireCenter at the University of Montana and developed the executive report for university leadership. pp. 15.
2014-2017	Coordinated and submitted assessment reports for the *B.S. Fire Ecology and Management*.
2013	Co-led the certification/accreditation report for the Association of Fire Ecology for the *B.S. in Fire Ecology and Management*. Certification received August 2013.

Service to State Agencies and the United States Government

2024-present	Co-lead, NASA Wildland Fire Science and Applications Vision Synthesis
2024-present	Co-lead, NASA FireSense Implementation Team : Post-fire Use Area
2024-2025	United States Geological Survey Advisory Committee on Science Quality and Integrity (appointed by Secretary Haaland, Biden Administration).
2022-present	Idaho Geological Survey Advisory Board
2012-2013	Subject Matter Expert for the Fire Program Analysis (FPA): Business Process Review and Technical Review (2012), Booz Allen Hamilton for the Department of Interior
2008	National Park Service Sampling Protocols Reviewer for the Vital Signs Program

Service to Industry and Professional Societies

2025-2026	International Smoke Symposium Program Committee
2024-present	Board of Directors, International Association of Wildland Fire
2024-present	Member, Idaho Mining Association – Idaho Mining Advancement Project
2022	International Association of Wildland Fire: Fire & Climate Conference Program Committee
2021	Pacific Northwest Interdisciplinary Wildfire Workshop Program Committee
2017-2020	International Association of Wildland Fire (IAWF) Scholarship Committee
2014-2018	Education Committee, Association for Fire Ecology
2011-2017	Governing Board Member, National Coalition of Prescribed Fire Councils
2012	American Geophysical Union / Asia Oceania Geosciences Society Joint Assembly Committee
2007-2009	American Geophysical Union Fall Meeting Organizing Committee

Service to Scientific Journals and Books

2025-present	Editorial Advisory Committee, *International Journal of Wildland Fire*
2025-present	Guest Editor, *International Journal of Wildland Fire*
2009-present	Associate Editor, *International Journal of Wildland Fire*
2019-present	Editorial Board, *Forests*
2017-present	Editorial Board, *Fire*
2018-2024	Advisory Board, *Sci*
2022-2024	Section Editor, Fire Science Models, Remote Sensing, and Data, *Fire*
2017-2022	Founding Editor-in-Chief, *Fire*
2018-2021	Guest Editor, *Remote Sensing*
2007-2000	Editorial Board, *Sensors*
2016-2017	Guest Editor, *Land*
2016	Book Proposal Reviewer for Springer
2013-2014	Guest Editor, *Remote Sensing of Environment*
2011, 2013	Book reviewer for *Cambridge University Press*
2009-2016	Editorial Board, *Remote Sensing*
2008-2009	Guest Editor, *Journal of Geophysical Research - Biogeosciences*
2008-2009	Guest Editor, *Remote Sensing*
2007-2008	Guest Associate Editor, *Canadian Journal of Remote Sensing*

Service to External Panels and Reviewing

2017-present	Reviewed tenure and promotion packets for national universities (~3 a year)
2005-present	Panel reviewer for NSF, NASA, USDA NIFA, JFSP, and DoD SERDP
2015	Davidson Institute for Talent Development
2008-2018	Engineering design EXPO judge, University of Idaho
2007-2009	Fall Meeting Organizing Committee: AGU-Biogeosciences

Membership of Professional Organisations

2020-present	International Association of Wildland Fire (IAWF)
2018-present	Association of American Geographers (AAG)
2018-present	Committee on Publication Ethics (COPE)
2018-present	American Association for the Advancement of Science (AAAS)
2016-present	Xi Sigma Pi (Forestry Honours Society)
2014-present	Association for Fire Ecology (AFE)
2007-present	Society of American Foresters (SAF)
2005-present	Institute of Electronic and Electrical Engineers (IEEE) – GARS Section
2007-2011	Xigma Si
2004-2010	Ecological Society of America (ESA)
2002-present	American Geophysical Union (AGU)
1995-present	Institute of Physics (IoP)

EXTENSION, OUTREACH, AND COMMUNITY ENGAGEMENT

Outreach and Extension Experience:

2022-present Expanded focus to include mining industry outreach.
2015-present: Expanded focus to helping regional indigenous peoples and rural communities.
2007-present: As part of my faculty appointment, I developed my core outreach and extension program focused on smoke management and wildland fire science.
2003-2007: Forest Public Access Resource Center (ForestPARC) Extension Coordinator. Responsibilities: To work with researchers across the Upper Midwest Aerospace Consortium (UMAC: Idaho, Montana, Wyoming, North Dakota, and South Dakota) to extend remote sensing research into tools and products that farmers, ranchers, and foresters could use to aid in their decision-making.

Land Acknowledgement Statements:

The University of Idaho Moscow campus is located on the homelands of the *Nimiipu* (Nez Perce), *Palus* (Palouse) and *Schitsu'umsh* (Coeur d'Alene). I extend gratitude to the indigenous people that call this place home, since time immemorial. I recognize that it is our academic responsibility to build relationships with the indigenous people to ensure integrity of tribal voices. I also extend thanks to Indigenous Peoples that have permitted me to co-develop research with them related to their sovereign lands including the *Basarwa* peoples of Botswana, the *Schitsu'umsh* (Coeur d'Alene Tribe), the *Waptailnsim* (Confederated Tribes and Bands of the Yakama Nation, *Newenee* (Shoshones and Bannocks of the Fort Hall Reservation), the *Séliš u Qlispé, kupawiȼqnuk, kaniksu* (Confederated Tribes of the Salish and Kootenai Reservation), and the northern latitude *Jilkaat Kwaan, Teslin Tlingit,* and *Tetlit Gwich'in*.

Indigenous Peoples and Rural Communities Engagement

Ongoing Efforts:

- Working with the Coeur d'Alene Tribe (*Schitsu'umsh*) and the *Newenee* (Shoshones and Bannocks of the Fort Hall Reservation) on energy and water resilience projects (EPSCoR Track 1 I-CREWS project).
- Working with rural communities in Idaho to improve maps and tools to assess risk from fires, heat, and droughts (NSF EPSCoR Track 2 W2L project).

Previous Efforts:

- Served as an independent evaluator on a comparison between a lidar-based inventory and the Bureau of Indian Affairs inventory of the Confederated Tribes and Bands of the Yakama Nation's (*Waptailnsim*) forest inventory. This effort was published via a co-developed refereed article that includes the entire Confederated Tribes and Bands of the Yakama Nation as a co-author.
- Worked with the Confederated Tribes of the Salish and Kootenai Reservation (*Séliš u Qlispé, kupawiȼqnuk, kaniksu*) on NSF projects aimed at increasing the number of tribal students achieving graduate degrees related to land management (LSAMP: PhD, and TCUP: MS).
- Co-developed 2 NSF projects (not selected) with pan-arctic indigenous peoples (*Schitsu'umsh, Jilkaat Kwaan, Teslin Tlingit, and Tetlit Gwich'in*) focused on water resilience under climate change.
- Collaborated with the Intertribal Timber Council to improve UI fire ecology career options, including organizing tabling at multiple annual meetings (the first educational institution to do so).

Forestry Extension

Previous Efforts:

- Provided independent assessments of the use of lidar for the assessment of forestry inventory for industry (Northwest Management, Inc.) and regional tribal forestry (*Confederated Tribes and Bands of the Yakama Nation Tribal Forestry* and *Confederated Tribes of the Salish and Kootenai Reservation Tribal Forestry*).
- 2016: "LiDAR: What is it and what will it do for me?" Hudak, A.T., P.A. Fekety, B. Flagor, J. Jerman, C. Roth, P. Mahoney, A.M.S. Smith, M.J. Falkowski and R.E. Kennedy. Family Forest Landowners and Managers Conference and Exposition, Moscow, Idaho, 29 Mar 2016.
- 2016: "Mapping annual forest biomass from 2000-2012 across northern Idaho from field plot, airborne LiDAR, and Landsat image records" Hudak, A.T., P.A. Fekety, M.J. Falkowski, N.L. Crookston, R.E.

Kennedy, P. Mahoney, A.M.S. Smith, C. Roth and C. Woodall. Watershed Advisory Group, Coeur d'Alene, Idaho, 1 Feb 2016.

- 2006: 11th Biennial USDA Forest Service Remote Sensing Applications Center Conference, Organizing Committee,Salt Lake City, 24th-28th April 2006.
- 2006: Post Fire Mapping Session", *11th Biennial USDA Forest Service Remote Sensing Applications Center Conferenc*e, Session Chair, Salt Lake City, 24th-28th April 2006.
- 2006: Forestry remote sensing extension and research", *UMAC Annual Meeting* Session Chair, Grand Forks, ND, February, 2006.
- 2005: 2nd Annual ForestPARC Workshop: Lidar Concepts & Resource Applications, Organized, Salt Lake City Public Library, 17-19th May 2005
- 2005: Workshop on Lidar Concepts and Resource Applications", Session Chair, *Remote Sensing Applications Center (RSAC),* Salt Lake City, May, 2005
- 2004: ForestPARC Lidar Technical Workshop", Organized, Moscow, ID, 17th-19th May 2004

Wildland Fire Science Extension

Ongoing Efforts:

- NASA FireSense Implementation team - The goal of FireSense is to transfer NASA's unique Earth science and technological capabilities to operational agencies, striving to address challenges in US wildland fire management.
  - Co-lead of the FireSense Post-Fire Use Case.
  - Co-lead of an Official Vision paper for NASA's Wildfire Program.
  - Co-lead of 5 syntheses papers outlining NASA's potential role in wildfire science
  - Contributing to a community position paper for the next NASA Decadal Survey.
  - Co-leading a multi-part synthesis of wildfire behavior models.
  - Partnering with utility power companies in Australia (TasNetworks) and the northwestern United States (Portland General Electric) to help identify vegetation at most risk to ignition from transmission lines in order to target vegetation removal efforts.
  - Partnering with forest management to improve mapping of fire killed trees.
- *International Association of Wildland Fire* (IAWF)
  - Board of Directors.
  - IAWF Communications Committee.
  - IAWF Long Range Conference Planning Committee.
  - Editorial Advisory Committee, International Journal of Wildland Fire

Previous Efforts:

- 2022-2024: Worked with UNESCO to develop a wildland fire mitigation chapter for their first Fire Risk Management Guide aimed at protecting world heritage sites and structures from fire.
- 2019: Hosted demonstration at the IFIRE combustion lab for the United States Secretary of Agriculture, Sonny Perdue, as well as Idaho's Governor Otter and Lieutenant Governor Little.
- "Core Fire Science Forum Workshop", Organizing Committee, Moscow, June 1-2, 2017
- 2017: "Fire Resilient Communities Workshop: Community, Science, and Technology", Organizing Committee, Sun Valley, June 7-8, 2017
- 2014: Established the Idaho Fire Initiative for Research and Education (IFIRE) combustion lab and regularly hosted demonstrations for VIPs and youth groups (1-2 a year).
- 2011-2017: Served on the Governing Board of the *National Coalition of Prescribed Fire Councils*, focused on transferring best practices from research to state and local land managers.
- 2006-2012: Developed and co-taught and taught multiple Professional Online courses for forestry, rangeland, and fire management personnel to meet GS-0401 requirements.

Smoke Management Extension

In partnership with the National Wildfire Coordination Group (NWCG) Smoke Committee we updated federal smoke management trainings: https://www.frames.gov/smoke

- ***Online Case Studies:*** Describing recent smoke management situations (such as super fog incidents), how they were addressed by agency personnel, and the lessons learned from these events.

- ***Online Tutorial:*** Designed for Line Officers and Land Managers who are seeking an overview of air quality regulations and smoke management approaches. Contains sections on basic smoke management and air quality topics including impacts of smoke, air quality regulations, smoke management, and communication and collaboration.
- ***Smokepedia:*** An interactive glossary of air quality and smoke management terms.
- ***Air Quality Library:*** This page contains PDF links of several helpful air quality guides and links to related web sites, several of which were used in the development of this tutorial.
- ***2018 Revision of the Smoke Management Guide:*** The 2001 Smoke Management Guide was a valuable resource for fire managers wishing to learn more about protecting air quality while using fire for land and resource management purposes. As research, regulations, and methodology continue to evolve to reflect the latest knowledge, so must this resource. The revision will incorporate the latest science and policy pertinent to smoke management on a national level.
- ***Public Perceptions of Smoke from Wildland Fires:*** This webpage includes four YouTube webinars on the public values, beliefs, attitudes, and community aspects of smoke perceptions. This webpage also includes links to publications and other resources regarding public perceptions from fires.
- ***Smoke Photoguide for Communicating Smoke Impacts:*** The Photographic Guides are developed with images from US National Park and USDA Forest Service locations. The primary purpose of this guide is to serve as a tool for communicating potential particulate matter (PM 2.5) levels using visual representation. There are eight guides, one to represent each USDA forest service region in the continental United States. These guides were distributed to all Idaho county extension offices.
- ***Reviews and Synthesis:*** Review of the content of smoke management and air quality related trainings and position requirements of federal positions. The review assessed 125 position task books, 6 supporting policy and guidance documents from individual agencies including the interagency 310-1, and 91 NWCG trainings. This led to two agency reports.
- 2009: "Effective Communication for Smoke Management in a Changing Air Quality Environment II", Carl T. Curtis National Park Service Midwest Regional Headquarters**,** February 24 - 26, 2009.
- 2009: "Effective Communication for Smoke Management in a Changing Air Quality Environment", Great Smoky Mountains National Park, September 16-18, 2008.

Mining Industry Outreach

Ongoing Efforts:

- 2025-present: Creating employer celebration displays within the department to proactively introduce students to potential employers.
- 2025: UI College of Science and College of Engineering students to visit Perpetua Resources site of the Stibnite Project.
- 2024-present: Member, Idaho Mining Advancement Project – a forum connecting education, industry, and government agencies to coordinate mining opportunities for students in the state
- 2024-present: Arranged for North Idaho College to run annual MSHA (surface and underground mining safety trainings) at the University of Idaho
- 2023-present: Helped faculty convert mine visit field trips into formal courses: including core logging and underground mine mapping

Previous Efforts:

- 2025: Title Sponsor and Tabled at Organized table at the Idaho Mining Conference. Joint table between College of Science, College of Engineering, the Idaho Museum of Natural History, and the McClure Center. Arranged for UI students to attend the conference.
- 2024:Arranged for UI to become Title Sponsor of Idaho Mining Conference and Organized joint College of Science and College of Engineering table. Arranged for UI students to attend the conference.
- 2022-2023: Arranged for UI to sponsor Idaho Mining Conference and Tabled for the College of Science

Newspaper and Media Contributions

2026	Interview for Special Reports on the USA Mining Industry, USA Mining 2026 Report. Global Business Reports.
2025	Stopping wildfires before they spark, Vandal Theory Podcast Interview, August 1, 2025 (8:16). https://www.youtube.com/watch?v=9J7Xxhaq5no

https://www.uidaho.edu/newsroom/vtheory-stopping-wildfires

2025 Friday Letter (contributor), August 1, 2025.

2023 Live radio interview for Idaho Matters (National Public Radio – 12:27)
https://www.npr.org/podcasts/605235114/idaho-matters
https://cpa.ds.npr.org/s20/audio/2023/12/121923-im-seg-a-web.mp3?sc=siteplayer&aw_0_1st.playerid=siteplayer

2023 Video interview for KLEW News (Spokane) associated with Internal damage, not dehydration, the cause of fire-induced tree mortality in pines, U of I award winning research shows (Chris Mitchell)

2018 From pine cones to hobbit holes, mimicking nature can help humans adapt to wildfires Interview for Scientific American (and picked up by PBS) on "From pine cones to hobbit holes, mimicking nature can help humans adapt to wildfires: *Looking to fire-adapted trees and animals could reduce the impacts of California's deadly blazes"*
https://www.scientificamerican.com/article/from-pine-cones-to-hobbit-holes-mimicking-nature-can-help-humans-adapt-to-wildfires/

2018 Video Interview on Nieuwsuur, Dutch News

2018 How to survive a wildfire: let's copy tactics from nature
https://www.theguardian.com/environment/2018/nov/14/wildfire-survival-california-nature-trees?CMP=share_btn_tw

2016 http://dotearth.blogs.nytimes.com/2016/07/25/burning-issues-build-as-sand-fire-spreads-on-l-a-s-parched-wild-fringe/?partner=rss&emc=rss&_r=2

2016 Trees of life: tiny beetles turn California forests into tinder for energy, The Guardian,
https://www.theguardian.com/sustainable-business/2016/jun/19/bark-beetle-california-forests-trees-electricity-drought

2016 Addressing the 'wicked' wildfire problem, CDAPress, printed and online
http://cdapress.com/news/local_news/article_787e50c8-ca43-11e5-b158-ab647811c6d5.html

2015 National Public Radio: http://nwpr.org/post/fire-may-be-out-above-ground-not-below

2011 Lewiston Tribune (printed)

Philanthropic Activities

Established endowment to the University of Idaho Theatre Department:
Zoe Smith Theatre Design & Technology Award.

Established recurring gift to the Lewis Clark State College's Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) program.

Established recurring gifts to the University of Idaho Department of Earth and Spatial Sciences:
Student Professional Development Fund
U of I Natural History Museum

Backer/Patron to Christopher Tin to develop "*The Lost Birds*".

Palouse Ice Rink:
Member of *100 Club* (One of 100 families that donated at least $3,000)

Community Activities

2023 Taught course to seniors on Earth Science for 7 periods, Moscow High School, Moscow

2020 COVID-Response - Teaching/Learning/Assessment/PD/Student Engagement committee, Moscow School District

2018-2025 Palouse Ice Rink:
"Hucklebear" Mascot: Palouse Youth Hockey Association tournaments and Summer Camps
Regular volunteer (clean rink days, special events, etc.,)
C (Emerald) League Manager and Adult Learn to Play Hockey Contact (2019-2023)

2014-2015 Cub Scout Assistant Den Leader, Pack 323, Inland Northwest Council

2013-2014 Cub Scout Den Leader", Pack 323, Inland Northwest Council

PROFESSIONAL DEVELOPMENT

Administration/Management

Association for Undergraduate Education at Research Universities
- The University of Illinois Chicago Transfer Portal in Action (2025)
- Innovation in Undergraduate Research (2025)
- Science Leadership (2025)

Idaho Academic Leadership Academy (2024)
Academic Impressions Trainings (2022-present):
- Creating a Personal Leadership Philosophy
- Strategic Financial Management for Department Chairs
- Identifying and Communicating the ROI of External Partnerships
- Designing Creative Solutions for Your Toughest Challenges
- Four Leadership Practices for New or Aspiring Deans
- The Art of Influencing Up as Academic Dean
- Recognizing and Celebrating Faculty and Staff: A Panel Conversation
- Reinvigorate Your Meetings and Workshops: A Training for Deans
- Effective Donor Cultivation Strategies for Academic Deans
- Keys to a Successful Relationship Between Deans and Development Officers
- Deans Summit: Maintaining Strategic Focus Through Financial Challenges
- Identifying Funding Sources to Achieve Your Academic Unit's Strategic Plan
- Enhancing Campus Partnerships to Achieve Fundraising Success
- The College of The Future: Academic Program Innovation for Tomorrow's Student
- Alumni Relations Discussion Series: Our Value Proposition
- ChatGPT and Beyond: Artificial Intelligence
- From Surviving to Thriving: How Provosts and other Academic Leaders Can Best Use Data to Drive Enrollment Growth and Financial Sustainability

University of Idaho Stewardship of Resources & Ethical Conduct (2016)
University of Idaho Mission and Goals (2016)
University of Idaho Supervisor Training Modules (every 3 years)

Instruction

ACUE Promoting Active Learning (2023)
UI Center for Excellence in Teaching and Learning Online Faculty Readiness Institute (2022)
Section 508: What is It and Why is It Important to You? (2018)
How to be an Effective Science Communicator – Ninja Communications Training (2015)

Scholarship

Responsible Conduct of Research - SBE (2018)
NIH FCOI Online Tutorial (2015, 2018)
IRB Investigator Module (2015)
Annual CITI Investigators Training Modules:
Annual University Annual and Regular Trainings: