

CURRICULUM VITAE

University of Idaho

NAME: Strand Eva K.

DATE: December 31, 2021

RANK OR TITLE: Associate Professor

DEPARTMENT: Forest, Rangeland, and Fire Sciences

OFFICE LOCATION AND CAMPUS ZIP:
College of Natural Resources 205 C, 1135

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DATE OF FIRST EMPLOYMENT AT UI: December 1, 1996

DATE OF TENURE: July 2017

DATE OF PRESENT RANK OR TITLE: July 2017

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

PhD., University of Idaho, Moscow, ID, 2007, Natural Resources

M.S., University of Idaho, Moscow, ID, 1986, Chemical Engineering

B.S., Royal Institute of Technology, Stockholm, Sweden, 1983, Chemical Engineering

Certificates and Licenses: NA

EXPERIENCE:

Teaching, Extension and Research Appointments:

2017 – present: Associate Professor, Forest, Rangeland, and Fire Sciences, University of Idaho
Affiliate Faculty, Environmental Science, University of Idaho

2012-2017 Assistant Professor, Forest, Rangeland, and Fire Sciences, University of Idaho
Affiliate Faculty, Environmental Science, University of Idaho

2010 – 2012: Research Scientist, Forest, Rangeland, and Fire Sciences, University of Idaho

2007-2010: Research Assistant Professor, University of Idaho

2000 -2007: Associate Instructor and Director of Geospatial Learning Center, University of Idaho

Academic Administrative Appointments: NA

Non-Academic Employment including Armed Forces: (List title, brief description, date)

1996 – 2000: GIS Analyst, GAP Analysis Office Coop Unit, University of Idaho

1986 – 1990: Research engineer, Sunds Defibrator, Sundsvall, Sweden

Consulting: NA

TEACHING ACCOMPLISHMENTS:

Areas of Specialization: Landscape ecology, fire ecology, rangeland ecology, geospatial analysis, fire behavior & effects modeling, spatial statistics, online course development.

Courses Taught:

REM504 Plant Community Analysis (Directed study)

REM429 Landscape Ecology, 2015 – present

REM459 Rangeland Ecology, 2014 - present

REM507 Landscape and Habitat Dynamics, 2013-present

REM460 Integrating GIS and Field Studies in Rangelands, 2013-present
 FOR433 Fire and Fuels Modeling 2013-2014
 NR504 GIS Project in Fire Ecology, online, 2011
 REM402 Applied Spatial Analysis in Natural Resources 2009-2011
 NR402/NR502 GIS Applications in Natural Resources, online, 2000-2012
 NR505 Advanced GIS Applications in Wildlife Sciences, 2001-2012
 REM407 GIS Applications in Fire Ecology and Management, online, 2003- 2012
 Rnge504 Introduction to AML Programming, 2007
 NR101 Exploring Natural Resources, 2009
 NR100 Technology for Exploring Nature, online, 2009
 REM505 Technology for Exploring Nature, teacher continuing education, online, 2009

Students Advised to Completion of Degree:

Undergraduate Students:

BS in Rangeland Ecology and Management, 2, 2013
 BS in Rangeland Ecology and Management, 2, 2014
 BS in Fire Ecology and Management, 1, 2014
 BS in Rangeland Ecology and Management, 7, 2015
 BS in Rangeland Ecology and Management, 4, 2016
 BS in Rangeland Ecology and Management, 4, 2017
 BS in Rangeland Ecology and Management, 3, 2018
 BS in Fire Ecology and Management, 2, 2018
 BS in Rangeland Ecology and Management, 1, 2019
 BS in Rangeland Ecology and Management, 3, 2020
 BS in Rangeland Conservation, 4, 2021
 BS in Fire Ecology and Management, 1, 2021

Undergraduate Senior Thesis:

Martha Schmidt, Rangeland Ecology and Management, 2016
 Makenzie Groves, Ecology and Conservation Biology, 2017
 Daniel Salle, Ecology and Conservation Biology, 2018
 Tasia North, Ecology and Conservation Biology, 2019
 Quinn Buzzard, Ecology and Conservation Biology, 2020
 Leah Dreesmann, Ecology and Conservation Biology, 2021
 Christina Huggins, Environmental Science, 2021

Graduate Students:

Amber Morris, MS thesis, Rangeland Ecology and Management, 2010
 Jeffery Gillan, MS thesis, Environmental Science, 2011
 Nicholas Fordes, MS thesis Water Resources, 2011
 Virginia Harris, MS thesis, Rangeland Ecology and Management, 2011
 Nathan Weiner, MS thesis, Natural Resources, 2014
 Kevin Satterberg, MS thesis, Natural Resources, 2015
 William Mathews, MS thesis, Natural Resources, 2015
 Linda Tedrow, PhD, Water Resources, *inactive*
 Christopher Schachtschneider, MS thesis, Natural Resources, 2016
 Colton Bjerke, Master of Natural Resources, 2016
 Jamie Jarolimek, MS thesis (co-advised with Kerri Vierling), Natural Resources, 2017
 Christopher Devore, Master of Natural Resources, 2016
 Joshua Collette, Master of Natural Resources, 2015
 Darcy Hammond, PhD Natural Resources, 2020
 Cameron Packer, Master of Natural Resources, 2016
 Dawn Davis, PhD, Natural Resources, 2021
 Paris Edwards, PhD, Water Resources, 2019
 Tara Ball, MS Environmental Science, 2017
 Marie Wagner, MS Environmental Science, 2016
 Michael Neuenschwander, Master of Natural Resources, 2016

Eli Berman, Master of Natural Resources, 2018
 Jeremy Zagarella, Master of Natural Resources, 2017
 Katie Keefe, Master of Natural Resources, 2016
 Jessie Dodge, MS thesis, Natural Resources, 2019
 Justin Trujillo, MS non-thesis, Natural Resources, 2017
 Samuel Wozniak, MS thesis, Natural Resources, 2019
 Sarah Lewis Scholes, PhD, Natural Resources, *in progress*
 Mary Garner, MS Environmental Science, 2018
 Erik Bailly, MS Environmental Science, 2018
 Christopher Bowman-Prideaux, Forest, Rangeland, and Fire Sciences, PhD, 2019
 Martha Schmidt, MS non-thesis, Natural Resources, 2020
 Sierra Higheagel, Natural Resources and Society (co-advising with Teresa Cohn), MS, 2020
 Jennifer Dodd, MS non-thesis, Natural Resources, 2021
 Brandon McNellis, Natural Resources, PhD 2020
 Georgia Harrison, CNR and CALS (co-advising with Tim Prather), PhD *in progress*
 Natalie McDonald, Forest, Rangeland and Fire Sciences, MS *in progress*
 Kayla Johnston, CNR and CALS (co-advising with Tim Prather), PhD *in progress*
 Kate Masterson, Forest, Rangeland and Fire Sciences, MS *in progress*

Served on graduate committee

Hull-Jones, Natural Resources, PhD, *in progress*
 Price, Forest, Rangeland and Fire Sciences, MS, 2021
 Fletcher, Forest, Rangeland and Fire Sciences, MS, 2021
 Harvey-Marose, Forest, Rangeland and Fire Sciences, MS, 2021
 Yurcich, Natural Resources, PhD, *in progress*
 Spie, Natural Resources, PhD, *in progress*
 Faust, Biology, MS, 2021
 Tomayko, Forest, Rangeland and Fire Sciences, MS, 2019
 Guebling, Department of Plant Sciences, College of Agriculture & Life Sciences, MS 2020
 Durnin, Forest, Rangeland and Fire Sciences, MS, 2020
 Morales, Landscape Architecture, MS 2019
 Rabon, Fish and Wildlife Sciences, MS 2019
 Gilbert, Forest, Rangeland and Fire Sciences, MS-nonthesis 2019
 Ehlen, Fish and Wildlife Sciences, MS 2019
 Lachman, Fish and Wildlife Sciences, MS, 2019
 Veljkovic, Forest, Rangeland and Fire Sciences, MS, 2018
 Wempe, Forest, Rangeland and Fire Sciences, MS 2018
 Nobel, Natural Resources and Society, MS 2019
 Carmichael, Environmental Science, MS 2019
 Vega, Water Resources, MS, 2018
 Johnson, Biology, MS, 2018
 Walsh, Natural Resources, PhD, 2018
 Zimelman, Natural Resources, PhD *in progress*
 Jansen, Geography, PhD, 2018
 Hamilton, Computer Science, PhD, 2018
 Merrim, Fish and Wildlife Sciences, MS, 2017
 Robaszek, Fish and Wildlife Sciences, MS 2019
 Brown, Forest, Rangeland, and Fire Sciences, MS 2017
 Julson, Forest, Rangeland, and Fire Sciences, MS, 2017
 Bontrager, Forest, Rangeland, and Fire Sciences, MS 2016
 Lauer, Forest, Rangeland, and Fire Sciences, MS 2016
 Wyncoop, Forest, Rangeland, and Fire Sciences, MS 2017
 Lyons, Forest, Rangeland, and Fire Sciences, MS 2015
 Kaweck, Forest, Rangeland, and Fire Sciences, MS 2016
 Becker, Fish and Wildlife Sciences, MS 2016
 Soderquist, Natural Resources, PhD 2017
 Severson, Natural Resources, PhD 2016

Stevens-Rumann, Natural Resources, PhD 2015
 Williams, Water Resources, PhD, 2015
 Jageman, Natural Resources, PhD 2014
 Irizarry, Conservation Social Science, MS 2014
 Heauser, School of the Environment, Washington State University, MS 2014
 Ott, Natural Resources, PhD 2014
 Wilson, Env. Sci, MS 2013
 Hancock, Water Resources, MS 2012
 Bernau, Rangeland Ecology and Management, MS 2012
 Santini, Rangeland Ecology and Management, MS 2012
 Hobbs, Water Resources, MS 2011
 Herchmer, Forest Resources, MS 2010
 Xu, Plant and Soil Sciences, MS 2011
 Martinuzzi, Rangeland Ecology and Management, PhD. 2010
 Dalton, Natural Resources, WSU, MS, 2009
 Hoffman, Natural Resources, PhD, 2011
 Hatch, Rangeland Ecology and Management, MS, 2008
 Kilpatrick, Fish & Wildlife, MS, 2007
 Hancock, Range Ecology and Management, MS, 2006

Materials Developed:

Courses Developed:

REM504 Plant Community Analysis (Directed study), 2016
 REM507 Landscape and Habitat Dynamics, hybrid online course, 2013
 REM404 GIS Applications in Rangeland Management, 2013
 FOR433 Fire and Fuels Modeling 2013
 NR504 GIS Project in Fire Ecology, online, 2011
 REM402 Applied Spatial Analysis in Natural Resources, 2009-2011
 NR402 GIS Applications in Natural Resources, 2000-2012
 Online version of NR402/NR502 GIS Applications in Natural Resources, 2006 – 2012
 NR505 Advanced GIS Applications in Wildlife Sciences, 2001-2010
 NR406 Advanced GIS Applications in Fire Ecology and Management, 2003
 Online version of NR406 GIS Applications in Fire Ecology and Management, 2006 – 2007
 Rnge504 Introduction to AML Programming, 2006
 NR100 Technology for Exploring Nature, Dual Credit Course, Online hybrid, 2008
 REM407 GIS in Fire Ecology and Management, Online, 2008

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:

Upward Bound, June30-July3 2000 and July 7, 2001
 GPS with Trimble GPS units and Pathfinder Office, June 15, 2001
 Moscow High School Environmental Club, June 22, 2001
 Parcel mapping with ArcView 3.2 for Latah County, August 13-14, 2001
 Working with census data in ArcView 3.2 for WSU Library, November 19-20, 2001
 Mapping in GIS ArcView 8.1 for Idaho State Parks January 15 - 17, 2002
 GIS in Natural Resources ArcGIS 8.2 January 7-9, 2003 and March 19-21, 2003
 GIS in Latah County, ArcGIS 8.3 June 30 - July 1, 2003
 Introduction to Natural Resource GIS (ArcGIS 8.3)-Geodatabase – ArcPad, January 5-8, 2004
 Natural Resources GIS in ArcGIS 8.3 for the Nez Perce Tribe, March 11-12, 2004
 Spatial Analysis Techniques, August 18-19, 2004
 GIS and GPS technology workshop, National Park Service, March 14-16, 2005
 GIS in Natural Resources ArcGIS 9.1 for The Nature Conservancy, November 21-23, 2005
 Forestry applications using ArcGIS 9.1 for Society of American Foresters, March 31, 2006
 GPS training for the Umatilla Tribe, December 11, 2007
 Digital soil survey analysis with GIS for Society of American Foresters, March, 2008
 ArcGIS Training – Focus on Natural Resources, August 26-27, 2008
 Spatial Analyst – Focus on Raster Data, August 28, 2008
 Wildland Fire Assessment Tool – Spokane, Wa, October 25, 2010

Wildland Fire Assessment Tool – Technical Fire Management, Bothell, Wa, October 12, 2011
 Wildland Fire Assessment Tool - Association for Fire Ecology, Snowbird, Ut, Nov.14, 2011
 Wildland Fire Assessment Tool - Society for Range Management, Spokane, WA, Jan 30, 2012
 Fire Regime Condition Class - Society for Range Management, Spokane, WA, Jan 30, 2012
 Wildland Fire Assessment Tool – Interagency workshop, USFS Building, Bend, OR, Feb. 10, 2012
 Wildland Fire Assessment Tool - Association for Fire Ecology, Santa Fe, NM, February 27, 2012

Honors and Awards:

Outstanding Teacher 2005, College of Natural Resources, University of Idaho
 Outstanding graduate student 2007, College of Natural Resources
 Blackboard Exemplary Award Program for Exemplary Online Course, 2014, National Award
 Received the CNR Outstanding Continuing Education & Outreach Award, 2014

SCHOLARSHIP ACCOMPLISHMENTS: (Including scholarship of teaching and learning, artistic creativity, discovery, and application/integration)

Publications, Exhibitions, Performances, Recitals:

Refereed/Adjudicated: (i.e. books, book chapters, journals, proc., abstr., etc.; provide citations-author, date, title, publisher) Students are in italic bold font, * indicated they are my advisee or employee

1. *Hammond, D.H.**, **E.K. Strand**, P. Morgan, A.T. Hudak, B.A. Newingham. 2021. Environmental Influences on Density and Height Growth of Natural Ponderosa Pine Regeneration following Wildfires. *Fire* 4:80. <https://doi.org/10.3390/fire4040080>
2. **Strand E.K.** 2021. Review: Ecology of Fire-dependent Ecosystems. *Rangelands* 43(2):81.
3. *McNellis B.E.**, A.M.S. Smith, A.T. Hudak, **E.K. Strand** 2021. Future tree mortality in Western United States forests forecasted using forest inventory and Random Forest classification. *Ecosphere* 12(3): e03419
4. *Bowman-Prideaux, C.**, B.A. Newingham, and **E.K. Strand** 2021. The effects of seeding treatments and climate on fire regimes in Wyoming sagebrush steppe communities. *Fire* 4(2):16
5. McCarley, T.R., *T.M. Ball**, J.L. Ayrcrigg, **E.K. Strand**, L.K. Svancara, J.S. Horne, T.J. Johnson, M.K. Lonneker, M. Hurley 2020. Predicting fine-scale forage distribution to inform ungulate nutrition. *Ecological Informatics* 60:101170.
6. *Wozniak S.**, **E.K. Strand**, A. Hulet, T. Johnson, B. Roundy, K. Young 2020. Treatment Longevity and Changes in Surface Fuel Loads after Pinyon-Juniper Mastication, *Ecosphere* 11(8): e03226.
7. Rego, F.C., I.S.P. Cadima, **E.K. Strand**, 2020. A log-ratio vegetation index (LRVI) for discrimination and classification of remote sensing data. *Silva Lusitana* 28(1): 45 – 70.
8. Morgan P., E.K. Heyerdahl, **E.K. Strand**, S.C. Bunting, J.P. Riser II, J.T. Abatzoglou, M. Nielsen-Pincus, M. Johnson, 2020. Changing Land Cover and Fire in the Palouse Prairie-forest ecotone, Washington and Idaho, USA. *Fire Ecology* 16(1):2.
9. *Filippelli S.K.*, M.J. Falkowski, A.T. Hudak, P.A. Fekety, J.C. Vogeler, A. Henareh Khalyani, B. M. Rau, **E.K. Strand**, 2020. Monitoring pinyon-juniper cover and aboveground biomass across the Great Basin. *Environmental Research Letters* 15(2): 025004.
10. Stevens-Rumann C., A.T. Hudak, P. Morgan, A. Arnold, **E.K. Strand**, 2020. Fuel dynamics following wildfire in the US Northern Rockies forests. *Fire Ecology* 3 : UNSP 51.
11. *Kretchun, A.M.*, R.M. Scheller, D.J. Shinneman, *B. Soderquist*, K. Maguire, T.E. Link, **E.K. Strand**, 2020. Long term persistence of aspen in snow drift-dependent ecosystems *Forest Ecology and Management* 462:118005.

12. **Vega, S.P.***, C. J. Williams, E.S. Brooks, F.B. Pierson, **E.K. Strand**, P.R. Robichaud, R.E. Brown, M.S. Seyfried, K.A. Lohse, K. Glossner, J.L. Pierce, C. Roehner, 2020. Interaction of wind and cold-season hydrologic processes on erosion from complex topography following wildfire in sagebrush steppe. *Earth Surface Processes and Landforms* 45(4): 841-861.
13. **Dodge J.M.***, **E.K. Strand**, A.T. Hudak, B.C. Bright, **D.H. Hammond***, B.A. Newingham, 2019. Short- and long-term effects of ponderosa pine fuel treatments tested by the Egley Fire Complex (OR, USA), *Fire Ecology* 15:40.
14. **Hammond, D.H.***, **E.K. Strand**, A.T. Hudak, B.A. Newingham, 2019. Legacy of burn severity on Alaska boreal forest vegetation and fuels one and 12 years post-wildfire, *Fire Ecology* 15:32.
15. Hyde, J.* and **E.K. Strand**, 2019. Comparing modeled emissions from wildfire and prescribed burning of post-thinning fuel: A case study of the 2016 Pioneer Fire, *Fire* 2(2) 22, <https://doi.org/10.3390/fire2020022>.
16. **Strand, E.K.**, **K.L. Satterberg***, A.T. Hudak, J. Byrne, A. Henareh Khalyani, A.M.S. Smith, 2019. Does burn severity affect plant community diversity and composition in mixed conifer forests of the Intermountain United States a decade post-fire? *Fire Ecology* 15:25 <https://doi.org/10.1186/s42408-019-0038-8>.
17. **Martinez, A.J.**, A.J.H. Meddens, C.A. Kolden, **E.K. Strand**, A.T. Hudak, 2019. Characterizing persistent unburned islands within the Inland Northwest, *Fire Ecology* 15:20 <https://doi.org/10.1186/s42408-019-0036-x>.
18. **Wyncoop, M.D.*** P., Morgan, **E.K. Strand**, F. Sánchez-Trigueros, 2019. Getting back to fire *sumés*: exploring a multi-disciplinary approach to incorporating traditional knowledge into fuels treatments, *Fire Ecology* 15:17 <https://doi.org/10.1186/s42408-019-0030-3>.
19. Rego, F.C., S.C. Bunting, **E.K. Strand**, and P. Godinho-Ferreira 2019. *Applied Landscape Ecology*, John Wiley, & Sons Ltd, Hoboken, New Jersey, USA.
20. **Walsh, E.S.***, T. Hudiburg, K. Vierling, **E.K. Strand**, **K. Bartowitz**. 2019. Climate change, woodpeckers, and forests: Current trends and future modeling needs, *Ecology and Evolution* 9(4): 2305–2319.
21. Smith, A.M.S, **E.K. Strand**, 2018. Recognizing women leaders in fire science: Revisited, *Fire* 1(3), 45; <https://doi.org/10.3390/fire1030045>
22. **Bernau, C.R.***, **E.K. Strand**, and S.C. Bunting, 2018. Fuel Bed Response to Vegetation Treatments in Juniper Invaded Sagebrush Steppe, *Fire Ecology* 14:1-13 <https://doi.org/10.1186/s42408-018-0002-z>
23. Yedinak, K.M.*, **E.K. Strand**, J.K. Hiers and J.M. Varner, 2018. Embracing Complexity to Advance the Science of Wildland Fire Behavior, *Fire* 1, 20; doi:10.3390/fire1020020
24. **Lewis, S.A.***, A.T. Hudak, P.R. Robichaud, P. Morgan, **K.L. Satterberg***, **E.K. Strand**, A.M.S. Smith, J.A. Zamudio, L.B. Lentile, 2017. Indicators of burn severity at extended temporal scales: a decade of ecosystem response in mixed-conifer forests of western Montana. *International Journal of Wildland Fire* 26(9): 755-771, <https://doi.org/10.1071/WF17019>
25. **Zimbelman, E.G.**, R.F. Keefe, **E. K. Strand**, C.A. Kolden, **A.M. Wempe**, 2017. Hazards in Motion: Development of Mobile Geofences for Use in Logging Safety. *Sensors* 2017, 17(4):822; doi:10.3390/s17040822
26. **Williams, C. J.**, F. B. Pierson, K. E. Spaeth, J. R. Brown, O. Z. Al-Hamdan, M. A. Weltz, M. A. Nearing, J. E. Herrick, J. Boll, P. R. Robichaud, D. C. Goodrich, P. Heilman, D. P. Guertin, M. Hernandez, H. Wei, V. O. Polyakov, G. Armendariz, S. K. Nouwakpo, S. P. Hardegree, P. E. Clark, **E. K. Strand**, J. D. Bates, L. J. Metz, and M. H. Nichols. 2016. Application of Ecological Site Information to Transformative Changes on Great Basin Sagebrush Rangelands. *Rangelands* 38:379-388.

27. **Mathews, B.J. ***, **E.K., Strand**, A.M.S., Smith, A.T., Hudak, M.B., Dickinson and R.L., Kremens, 2016. Laboratory experiments to estimate interception of infrared radiation by tree canopies. *International Journal of Wildland Fire* doi: 10.1071/WF16007
28. **Stevens-Rumann C.**, S.Prichard, **E.K. Strand**, P. Morgan 2016. Prior wildfires influence burn severity of subsequent wildfires, *Canadian Journal of Forest Research* 40(11): 1375-1385
29. **Weiner, N.I. ***, **E.K. Strand**, S.C. Bunting, and A.M.S. Smith, 2016. Duff distribution influences fire severity in post-fire vegetation recovery in sagebrush steppe. *Ecosystems* doi: 10.1007/s10021-016-9994-x
30. **Williams, C.J.**, Pierson, F.B., Robichaud, P.R., Al-Hamdan, O.Z., Boll, J., and **Strand, E.K.** 2016. Structural and functional connectivity as a driver of hillslope erosion following disturbance. *International Journal of Wildland Fire* 25(3): 306-321. doi:10.1071/WF14114
31. Alistair M.S. Smith, A.M.S, C.A. Kolden, T.B. Paveglio, M.A. Cochrane, D.M.J.S. Bowman, M.A. Moritz, A.D. Kliskey, L.Alessa, A.T. Hudak, C.M. Hoffman, J.A. Lutz, L.P. Queen, S.J. Goetz, P.E. Higuera, L. Boschetti, M. Flannigan, K.M. Yedinak, A.C. Watts, **E.K. Strand**, J.W. van Wagtenonk, J.W. Anderson, B.J. Stocks and J.T. Abatzoglou, 2016. The Science of Firescapes: Achieving Fire-Resilient Communities. *Bioscience* 66(2): 130-146.
32. **Williams, C.J.**, Pierson, F.B., Spaeth, K.E., Brown, J.R., Al-Hamdan, O.Z., Weltz, M.A., Nearing, M.A., Herrick, J.E., Boll, J., Robichaud, P.R., Goodrich, D.C., Heilman, P., Guertin, D.P., Hernandez, M., Wei, H., Hardegee, S.P., **Strand, E.K.**, Bates, J.D., Metz, L.J., and Nichols, M.H. 2016. Incorporating Hydrologic Data and Ecohydrologic Relationships into Ecological Site Descriptions. *Rangeland Ecology and Management* 69: 4-19.
33. **Strand, E.K.**, S.C. Bunting, L. A. Starcevic, M.T. Nahorniak, G. Dicus, L.K. Garrett, 2015. Long-term monitoring of western aspen – Lessons learned, *Environmental Monitoring and Assessment* 187:528.
34. Hyde, J.* **E.K. Strand**, A.T. Hudak, **D. Hamilton***, 2015. Comparing LANDFIRE fuel layers and their application for predicting fire effects in a small mixed conifer forest in northern Idaho, USA, *Fire Ecology* 11(3): 108-127.
35. **Ott, T.M.***, **E.K. Strand**, and C. L. Anderson, 2015. Ecological Associations of the *Abies grandis*-*Abies concolor* Complex, *Plant Ecology* 216(3): 479-490.
36. Morgan P., R.E. Keane, G.K. Dillon, T.B. Jain, A.T. Hudak, E.C. Karau, P.G. Sikkink, Z.A. Holden, and **E.K. Strand**, 2014. The challenges of assessing fire and burn severity using field measures, remote sensing and modeling, *International Journal of Wildland Fire* 23(8):1045-1060.
37. Keane R.E., G.K. Dillon, S. Drury, R. Innes, P. Morgan, D. Lutes, S.J. Prichard, J. Smith, **E.K. Strand** 2014. New and revised fire effects tools for fire management, *Fire Management Today* 73(3): 37-47.
38. Lannom, K.O., **W.T. Tinkham**, A.M.S. Smith, J. Abatzoglou, B.A. Newingham, T.E. Hall, P. Morgan, **E.K. Strand**, T.B. Paveglio, J.W. Anderson, **A. Sparks**, 2014. Defining extreme wildland fires using geospatial and ancillary metrics, *International Journal of Wildland Fire* 23: 322-337.
39. **Strand E.K.**, K.L. Launchbaugh, R. Limb, A. Torell 2014. Livestock Grazing Effects on Fuels Loads for Wildland Fire in Sagebrush Dominated Ecosystems. *Journal of Rangeland Applications* 1: 33-57.
40. **Sadoti G.**, K.T. Vierling, T.P. Albright, **M. K. Pollock**, **E.K. Strand** 2014. Variogram models reveal habitat gradients predicting patterns of territory selection and nest survival among vesper sparrows. *Wildlife Biology* 20: 97–107.
41. **Strand E.K.**, S.C. Bunting and R. Keefe 2013. Influence of Wildland Fire Along a Successional Gradient in Sagebrush Steppe and Western Juniper Woodlands. *Rangeland Ecology and Management* 66(6):667-679.
42. Sankey T., R. Shrestha, J. Sankey, S. Hardegee, and **E.K. Strand**. 2013. Lidar-derived estimates of carbon sink in woody encroachment, *Journal of Geophysical Research Biogeosciences* 118(3): 1144-1155.

43. *Gillan J.K.**, J. Karl, **E.K. Strand**, K.P. Reese, T. Laninga 2013. Using spatial statistics and point-pattern simulations to assess the spatial dependence between greater sage-grouse and man-made features. *Wildlife Society Bulletin* 37: 301–310.
44. **Strand E.K.**, M.T. O’Sullivan, S.C. Bunting. 2012. Time series aerial photography can help land owners and managers understand local aspen dynamics. *Rangelands*, 34: 21-29.
45. Hudak A.T., **E.K. Strand**, L.A. Vierling, J.C. Byrne, *J. Eitel, S.Martinuzzi* 2012. Quantifying Aboveground Forest Carbon Pools and Fluxes from Repeat LiDAR Survey, *Remote sensing of Environment*, 123: 25–40.
46. *Hoffman, C.M.*, P. Morgan, W. Mell, R. Parsons, **E. Strand**, S. Cook. 2012. Numerical simulation of crown fire hazard following bark beetle caused mortality in lodgepole pine forests. *Forest Science* Available online <http://dx.doi.org/10.5849/forsci.10-137>.
47. Cosens B., F. Fiedler, J. Boll, L. Higgins, G. Johnson, B. Kennedy, **E.K. Strand**, P. Wilson, M. Laflin, 2011. *Interdisciplinary Methods in Water Resources, Issues in Integrative Studies*, 79:118-143.
48. Smith C.I, S. Tank, *W. Godsoe*, J. Levenick, **E.K. Strand**, T. Esque, O. Pellmyr, 2011. Comparative Phylogeography of a Coevolved Community: Concerted Population Expansions in Joshua Trees and Four Yucca Moths. *PLoS ONE* 6(10): e25628. doi:10.1371/journal.pone.0025628
49. *Roth A.*, S.C. Bunting, **E.K. Strand**, 2011. Relationships between landscape patterns and fire occurrence within a successional gradient in a sagebrush steppe/juniper woodland. *International Journal of Wildland Fire*, 20(1):69-77.
50. *Godsoe W.*, **E.K. Strand**, C.I. Smith, J.B. Yoder, T.C. Esque, O. Pellmyr 2009. Divergence in an obligate mutualism is not explained by divergent climatic factors. *New Phytologist* 183:589-599.
51. **Strand E.K.**, L.A. Vierling, S.C. Bunting, P.E. Gessler, 2009. Quantifying successional rates in western aspen woodlands: Current conditions, future predictions, *Forest Ecology and Management*, 257(8):1705-1715 doi:10.1016/j.foreco.2009.01.026
52. **Strand, E.K.**, L.A. Vierling, S.C. Bunting, 2009. A spatially explicit model to predict future landscape composition of aspen woodlands under various management scenarios. *Ecological Modelling*, 220:175-191. doi:10.1016/j.ecolmodel.2008.09.010
53. Smith A.M.S., **E.K. Strand**, C.M. Steele, D.B. Hann, *S.R. Garrity, M.J. Falkowski*, and J.S. Evans, 2008. Production of vegetation spatial-structure maps by per-object analysis of juniper encroachment in multi-temporal aerial photographs. *Canadian Journal of Remote Sensing* 34:268-285.
54. **Strand E. K.**, L. A. Vierling, A. M. S. Smith, S. C. Bunting, 2008. Net changes in aboveground woody carbon stock in western juniper woodlands, 1946–1998, *Journal of Geophysical Research Biogeosciences*, 113, G01013, doi:10.1029/2007JG000544.
55. **Strand E.K.**, A.P. Robinson, S.C. Bunting 2007. Spatial patterns on the sagebrush steppe / Western juniper ecotone, *Plant Ecology* 190: 159-173
56. *Hancock A.L.*, **E.K. Strand**, K.L. Launchbaugh, 2007. Wish upon a satellite: Applying GPS to Rangeland Management, *Rangelands* 29(2):51-56.
57. **Strand E.K.**, A.M.S. Smith, S.C. Bunting, L.A. Vierling, D.B. Hann, P.E.Gessler, 2006. Wavelet estimation of plant spatial patterns in multi-temporal aerial photography, *International Journal of Remote Sensing* 27, 9-10, 2049-2054.
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reserves of Mexico based on their capacity to protect geophysical features and biodiversity. *Biological Conservation*, 115:411-417.

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63. Cormack K., J.D. Landsberg, R.L. Everett, R. Zeleny, C.P. Giardina, **E.K. Strand**, T.D. Anderson, R. Averill, R. Smyrski, 2000. Assessing the Impacts of Severe Fire on Forest Ecosystem Recovery, *J. of Sustainable Forestry*, v. 11, p.177-228.
64. **Black A.E.**, **E.K. Strand**, R.G. Wright, J.M. Scott, P. Morgan, C. Watson. 1998. Land use history at multiple scales: implications for conservation planning. *Landscape and Urban Planning*. 55:1-12.
65. **Strand E.K.**, S. Moldenius, R. Koponen, 1988. Optimization of peroxide bleaching systems. *TAPPI Journal* 71: 130-134.

Peer Reviewed/Evaluated: (i.e. journals, articles, proceedings, abstracts, etc.)

Students are in italic bold font, * indicated they are my advisee

1. **Wozniak S.*** and **E.K. Strand**, 2019. Field guide for sagebrush and pinyon-juniper treatments: 10 years post-treatment. Technical Note 451. Bureau of Land Management, Boise, ID. BLM/OC/ST-19/002+9270. <https://www.blm.gov/documents/noc/blm-library/technical-note/fuels-guide-sagebrush-and-pinyon-juniper-treatments-10>
2. **Strand, E. K.**, N. Hupp, M. Lehman, S. Wright, and J. Lonneker. 2018. Mojave Desert Network I&M Program Aspen Monitoring Protocol Implementation Plan: Great Basin National Park (GRBA) and Grand Canyon Prashant National Monument (PARA). Natural Resource Technical Report NPS/MOJN/NRR—2018/1758. National Park Service, Fort Collins, Colorado
3. **Trujillo J.J.*** and **E.K. Strand** 2018. A Field Guide to Grasses and Grass-like Plants of Idaho. University of Idaho Extension Publishing, University of Idaho, Moscow, Idaho.
4. Shinneman, D.J., A.S. Halford, C. Howell, K.D. Krasnow, **E.K. Strand**, 2015. Management of aspen in a changing environment, Great Basin Fact Sheet Series No 12, 2015
5. **Strand, E. K.**, S. C. Bunting, Nahorniak, M.T. and L. A. Starcevich. 2013. Upper Columbia Basin Network aspen monitoring annual report 2012: City of Rocks National Reserve (CIRO). Natural Resource Technical Report NPS/UCBN/NRTR—2013/795. National Park Service, Fort Collins, Colorado.
6. **Strand, E. K.**, and S. C. Bunting. 2012. Upper Columbia Basin Network aspen monitoring annual report 2011: City of Rocks National Reserve (CIRO). Natural Resource Technical Report NPS/UCBN/NRTR—2011/XXX. National Park Service, Fort Collins, Colorado.
7. **Strand, E.K.**, S.C. Bunting, L.A. Vierling 2012. Landscape composition in aspen woodlands under various modeled fire regimes p. 197-214 *in* General Technical Report PNW-GTR-869, Proceedings of the First Landscape State-and-Transition Simulation Modeling Conference June 14-16, 2011, Portland, Oregon
8. Hudak, A.T., I. Rickert, P. Morgan, **E.K. Strand**, S.A. Lewis, P.R. Robichaud, C. Hoffman, Z.A. Holden, 2011. Review of fuel treatment effectiveness in forests and rangelands and a case study from the 2007 megafires in central, Idaho, USA. Gen. Tech. Rep. RMRS-GTR-252 Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 60 p.
9. **Strand, E. K.**, S. C. Bunting, and L. A. Starcevich. 2011. Upper Columbia Basin Network aspen monitoring annual report 2010: Craters of the Moon National Monument and Preserve (CRMO). Natural Resource Technical Report NPS/UCBN/NRTR—2011/456. National Park Service, Fort Collins, Colorado.
10. **Strand E.K.**, K.H. Schon, J. Jones, 2011. Tools, courses, and learning pathways offered by the National Interagency Fuels, Fire, and Vegetation Technology Transfer, Proceedings of 3rd Fire

Behavior and Fuels Conference, October 25-29, 2010, Spokane, Washington, USA. Published by the International Association of Wildland Fire, Birmingham, Alabama, USA

11. **Gillan J.K***, **E.K. Strand** 2010. Sage-Grouse Habitat in Idaho – A practical guide for land owners and managers, Rangeland Ecology and Management, College of Natural Resources, University of Idaho
12. **Strand E.K.**, S.C. Bunting, 2010. Aspen Monitoring Status Report 2009, Upper Columbia Basin Network. Natural Resource Technical Report NPS/PWR/UCBN/NRR—2010/386. National Park Service, Seattle, Washington.
13. **Strand E. K.**, S. C. Bunting. 2009. Monitoring aspen in the Upper Columbia Basin Network: 2008 monitoring report for City of Rocks National Reserve and Craters of the Moon National Monument and Preserve. Natural Resource Technical Report NPS/UCBN/NRTR—2009/196. National Park Service, Fort Collins, CO.
14. **Strand E. K.**, S. C. Bunting, R. K. Steinhorst, L. K. Garrett, G. H. Dicus. 2009. Upper Columbia Basin Network aspen monitoring protocol: Narrative version 1.0. Natural Resource Report NPS/UCBN/NRR—2009/147. National Park Service, Fort Collins, Colorado.
15. **Strand, E.K.**, S.C. Bunting. 2009. Classification of juniper woodland vegetation for the Owyhee Upland. Final report submitted to the USDI BLM Idaho State Office. January 8, 2009.
16. **Garrity S.R.**, L.A. Vierling, **E.K. Strand**, J.Hinson, A.M.S. Smith, J.N. Vasquez, M. Soulen. The use of aerial photography and satellite imagery for landcover mapping on a ranch in west-central Idaho. 2006. Proceedings of the Third National Grazing Lands Conservation Initiative.
17. Bunting S.C., **E.K. Strand**, J.L. Kingery. Landscape characteristics of sagebrush steppe/juniper woodland mosaics under varying modeled prescribed fire regimes. Tall Timbers Fire Ecology Conference Proceedings, October 2005.
18. Bunting S.C., **E.K. Strand**. 2001. Comparison of departure condition class of 4 watersheds assessed at 2 spatial and thematic scales (1900-Present). Special report submitted to US Forest Service, Washington Office, Fire Management. December 17, 2001.
19. Bunting, S.C., J.L. Kingery, **E. Strand**. 1999. Effects of succession on species richness of the western juniper woodland/sagebrush steppe mosaic. In: S.B. Monsen and R. Stevens, compilers. Proceedings: Ecology and management of pinyon-juniper communities within the Interior West. USDA For. Ser. Gen. Tech. Rep. RMRS-P-9, pp. 76-81.
20. Bunting S.C., J. L. Kingery, **E.K. Strand**. Effects of succession on species richness of the western juniper/sagebrush mosaic. Ecology and management of pinyon-juniper communities within the Interior West. USDA For. Ser. Gen. Tech. Rep. RMRS-P-9. Pp. 76-81, 1999
21. **Black, A.E.**, **E. K. Strand**, R.G. Wright, J.M. Scott, P. Morgan, and C. Watson. 1998. Biodiversity and land-use history of the Palouse bioregion: Pre-European to present. IN: T.D. Sisk, editor, Perspectives on the land use history of North America: a context for understanding our changing environment. Biological Science Report USGS/BRD/BSR-1998-0003. Washington, DC: US Department of the Interior, U.S. Geological Survey, Biological Resources Division. Web site: <http://www.nbs.gov/luhna/chap10.html>

Other: (reports, proceedings, papers, citations and references, performances) NA

Refereed/Adjudicated (currently scheduled or submitted): (provide citations)

Students are in italic bold font, * indicated they are my advisee

1. **Schachtschneider C.L***, **E.K. Strand**, K.L. Launchbaugh, S. Jensen, Targeted grazing applied to reduce fuel loads and fire behavior metrics in sagebrush ecosystems, Rangeland Ecology and Management (*in final stages of preparation*)
2. **Bowman-Prideaux, C.***, B.A. Newingham, and **E.K. Strand**. The effect of post-fire rehabilitation and climate on fire regimes in the sagebrush steppe. *Restoration Ecology*. (*final stages of preparation*)

3. **Bowman-Prideaux, C.***, B.A. Newingham, and **E.K. Strand**. The effect of species, environment, and post-fire treatments on *Bromus tectorum*. *Restoration Ecology*. (final stages of preparation)
4. Svejcar, L., K.L. Launchbaugh, C. Bernau, **E.K. Strand**. Global rangelands. *Rangeland Ecology and Management* (close to submission).
5. **Dodge, J.M*.**, **E.K. Strand**, S.P. Cook, A.T. Hudak. Long-term wildfire effects on plants and bee communities in a ponderosa pine forest (in revision).
6. **Dodge J.M*.**, **E.K. Strand**, A.T. Hudak. Effects of scale for assessing fuel treatment effectiveness and recovery post-fire in ponderosa pine (close to submission).
7. **Hammond D.H.***, **E.K. Strand**, P. Morgan, A.T. Hudak, B. A. Newingham. Gradient vs patch matrix landscape models: Characterizing burn severity patterns and their relation to post-fire recovery. *Landscape Ecology* (close to submission)
8. Ellsworth, L.M, B.A. Newingham, S. Shaff, C. Williams, **E.K. Strand**, M. Reeves, D.A. Pyke, E.W. Schupp, and J.C. Chambers. Fuel reduction treatments alter expected fire behavior in the sagebrush steppe. *Ecosphere* (submitted)
9. **Price, W.J.**, A. Hulet, K.S. Jensen, **E.K. Strand**, C.S. Boyd, K.W. Davies, D.D. Johnson, B. Perryman, Y. Di, S.A. Arispe. Wyoming big sagebrush; medusahead; dormant season grazing; fuels management; exotic annual grass. *Rangeland Ecology and Management* (submitted)
10. Shinneman, D.J., **E.K. Strand**, M. Pellant, J.T. Abatzoglou, M. Brunson, N.F. Glenn, J.A. Heinrichs, M. Sadegh, N.M. Vaillant. Future direction of fuels management and research in sagebrush rangelands, *Rangeland Ecology and Management* (Forum Paper close to submission)
11. **Strand E.K.**, S.C. Bunting. Effects of pre-fire vegetation on the post-fire plant community response to wildfire along a successional gradient in western juniper woodlands (close to submission)

Peer Reviewed/Evaluated (currently scheduled or submitted):

1. **Strand, E. K.**, S. C. Bunting, T. Johnson, G. Dicus and J. Loncker. 2017. Upper Columbia Basin Network aspen monitoring annual report 2017: City of Rocks National Reserve (CIRO). Natural Resource Technical Report NPS/UCBN/NRTR—2017/XXX. National Park Service, Fort Collins, Colorado (in review)

Other: (reports, proceedings, papers, citations and references, performances)

Presentations and Other Creative Activities: (i.e. slide sets, web pages, video productions, etc., provide date and location)

Fire Research and Management Exchange System (FRAMES), <http://www.frames.gov>

FRAMES connects fire scientists and managers by providing a searchable resource catalog, collaboration space, web hosting, Twitter communication, and conference presentations. There were 59,363 FRAMES records in the FRAMES Resource Cataloging System (RCS) at the end of 2020. We managed 3,599 National Advanced Fire & Resource Institute (NAFRI) online course registrations in 2018. We added three new partner pages in 2018: Fire Operations Maps (www.frames.gov/fire-ops-maps), Next Generation Fire Severity Mapping (www.frames.gov/NextGen-FireSeverity), and FireWorks (www.frames.gov/fireworks). Two new partner web sites were added in 2020: Idaho Prescribed Fire Council (<https://www.frames.gov/idahoprescribedfirecouncil/home>) and Southwest FireCLIME Annotated Bibliography (<https://www.frames.gov/swfireclime/bibliography>). Google Analytics shows a steady use of the FRAMES website pageviews increased from 325,700 in federal fiscal year 2018 to 397,832 federal fiscal year 2019, an increase of 22%. The number of view sessions has been consistent over the past three years (2018-2020) at 122,000 sessions each year. By the end of 2020 FRAMES had 842 Twitter followers. **Twitter** followers include USFS, USFS Southern Research Station, USFS PNW Research Station, USFS Fire-California, U.S. Department of the Interior (DOI), DOI Wildland Fire, USFWS Fire SE, USFWS PSW Fire Management, USFS Wildland Fire Management RD&A, NPS Fire and Aviation, NPS Fire SW, TNC Fire, Hawaii Wildfire

Management, Washington State DNR, Cohesive Strategy, the Fire Adapted Network, LANDFIRE, the Association for Fire Ecology (AFE), the International Association of Wildland Fire (IAWF), FireScience.gov and a number of their regional fire exchanges, Society of American Foresters (SAF), Southeast Rx Fire, several State and National Forests, Portland State University's Climate Science Lab, Humboldt State University Wildland Fire Lab, Tall Timbers Research Station, Montana Public Radio, U.S. Hotshots Association, Wildland Fire Canada, Leverhulme Centre for Wildfires, Environment and Society (London), Incendios Forestales (both Columbia and Chile), Guam Forestry, Arturo Beltran (Director, National Forestry Commission of Mexico), and Gustavo Lopez Mendoza (Manager, National Forestry Commission of Mexico).

Focus tasks for 2020 year included:

1. Resource Cataloguing System transition to a new Drupal web portal
2. Support partner web sites
3. Add new partner web sites

Wildland Fire Management Research, Development, and Application (WFM RD&A) collaboration and support

WFM RD&A was initiated in 2007. The program provides exemplary fire science and integration with wildland fire management. The WFM RD&A Program sponsors and guides the development and application of wildland scientific knowledge; develops decision support tools; and provides science application services to the interagency wildland fire community. The focus of the University of Idaho and WFM RD&A collaboration in 2016-present has been:

1. Development of support material for the Interagency Fuels Treatment Decision Support System (IFTDSS).
 - i. Videos produced include [Updated IFTDSS Webpages and Release Notes](https://iftdss.firenet.gov/landing_page/release-notes.html)
 - ii. Created and released a promotional video outlining the new FTEM system features in IFTDSS via YouTube https://www.youtube.com/watch?v=8Fcc614w_ns
 - iii. Enhanced IFTDSS and FTEM landing pages and supporting webpages
 - iv. Curated IFTDSS Help YouTube Channel <https://www.youtube.com/channel/UC-Rwe70dxm0FTbxWZnigQsQ>
2. Maintained the LANDFIRE Data Review Website for user feedback (<https://landfire.nkn.uidaho.edu/>)
3. Developed the LANDFIRE programmatic informational videos (<https://www.youtube.com/watch?v=p2EuMx7oaBg&t=40s>) and (<https://www.youtube.com/watch?v=FfhIB4RE1WY>)
3. Provided development, support and hosting for NAFRI and WFM&RDA online courses (<https://www.frames.gov/onlinecourses/>)

Professional Meeting Papers, Workshops, Showings, Recitals: (provide date and location)

Students are in italic bold font, * indicated they are my advisee, or I served on the committee

1. *Fletcher T.** J. Karl, C. Conway, V. Jansen, **E.K. Strand**. 2021. Assessing the impacts of scale on estimates of grazing intensity derived from livestock global positioning system collars. Virtual presentation at the Annual meeting of the Society of Range Management, February 15-18.
2. *Hammond D.H.**, **Eva K. Strand**. 2019. Site and climate influences on annual height growth of natural ponderosa pine regeneration following three wildfires. Oral presentation 8th International Fire Ecology Congress, November 18-22, Tucson, Arizona.
3. *Hammond D.H.**, **E.K. Strand**, P. Morgan. 2019. Gradient vs patch landscape models: Characterizing burn severity patterns and their relation to post-fire recovery. Poster presentation 8th International Fire Ecology Congress, November 18-22, Tucson, Arizona.

4. **Dodge J.M***, **E.K. Strand**, A.T. Hudak 2019. Effects of scale on remote sensing assessments of burn severity in a ponderosa pine forest. Poster presentation 8th International Fire Ecology Congress, November 18-22, Tucson, Arizona.
5. **McNellis B.E.***, A.M.S. Smith, A.T. Hudak, **E.K. Strand**. 2019. Current and future tree mortality from 2000 to 2025 across Western United States forests assessed using forest inventory and a Random Forest classification. AGU Fall Meeting December 9-13, San Francisco, California.
6. Trujillo, J.J.*, **E.K. Strand**. 2019. The top 25 grasses and grass-like plants of Northern Idaho. Oral presentation and workshop at the University of Idaho Extension meeting on Current Topics in Forest Health December 13, 2019, Coeur d'Alene, Idaho. (**Invited**)
7. Morgan P., E.K. Heyerdahl, **E.K. Strand**, S.C. Bunting, J.P. Riser II, J.T. Abatzoglou, M. Nielsen-Pincus, M. Johnson, Fire and Land Cover Change in the Palouse Prairie-forest Ecotone, WA and ID, USA, Poster presentation at the US International Association for Landscape Ecology Annual Meeting, April 7-11, Fort Collins, Colorado.
8. **Ball T.***, **E.K. Strand**, J.L. Aycrigg, R. McCarley, T.R. Johnson. 2019. Modeling summer habitat selection by Rocky Mountain elk (*Cervus elaphus Nelsoni*) in north-central Idaho. Oral presentation at the Northwest Scientific Association 90th Annual Meeting, March 26-29, 2019, Lewiston, Idaho.
9. Morgan P., E.K. Heyerdahl, **E.K. Strand**, S.C. Bunting, J.P. Riser II, J.T. Abatzoglou, M. Nielsen-Pincus, M. Johnson 2019. Palouse Prairie-forest ecotone: Ten, Now, and in the Future. Poster presentation at the Northwest Scientific Association 90th Annual Meeting, March 26-29, 2019, Lewiston, Idaho.
10. Trujillo, J.J, **E.K. Strand**. 2019. A Field Guide to Grasses and Grass-like Plants of Idaho. Poster presentation at the Northwest Scientific Association 90th Annual Meeting, March 26-29, 2019, Lewiston, Idaho.
11. Schachtschneider C.L.* and **E.K. Strand*** 2019. Targeted Grazing Applied to Reduce Fire Behavior Metrics and Wildfire Spread, Webinar Great Basin Fire Science Exchange, May 2019, 30 attendees
12. Morgan P.*, E.K. Heyerdahl, **E.K. Strand**, S.C. Bunting, J.P. Riser II, J.T. Abatzoglou, M. Nielsen-Pincus, M. Johnson, 2019. Fire and Land Cover Change in the Palouse Prairie-forest Ecotone, WA and ID, USA, Oral presentation at Native Plant Society Whitepine Chapter, February 2019, 1912 Center, Moscow, Idaho, 50 attendees. (**Invited**)
13. **Wozniak S.***, **E.K. Strand**, A. Hulet, T. Johnson, B. Roundy, K. Young. 2019. Treatment longevity and changes in surface fuel loads after Pinyon-juniper mastication. Poster presentation at the 72nd Society for Range Management Annual Meeting February 10-14, 2019 in Minneapolis, MN.
14. **Dodge, J.M.***, **E.K. Strand**, S.P. Cook, A.T. Hudak. 2018. Decadal Effects of Fuel Treatments and Wildfire on Pollinators in Ponderosa Pine Forests. Poster presentation at the Society for Ecological Restoration and Society of Wetland Scientists joint Pacific Northwest Regional conference, October 15-18, Spokane, Washington.
15. **Wozniak S.***, **E.K. Strand**, 2018. Analysis of Fuels at Utah SageSTEP Sites 10 Years Post-Treatment. Utah BLM Prescribed Fire and Fuels conference, October 17-18, Logan, UT (**Invited**).
16. **Edwards P.***, **E.K. Strand**, 2018. An Integrated Water Vulnerability Assessment for the Columbia River Basin: Tools for Targeted, Community-Based Adaptation. Poster presentation at the 9th Annual Northwest Climate Conference, October 9-11 in Boise, Idaho.

17. **Hammond, D.H. *, E. Mangini, E.K. Strand**, 2018. Validating A Non-Destructive Seedling Aging Method for Assessing Post-Wildfire Conifer Regeneration. Poster presentation at the 2018 Society of American Foresters National Convention, October 2018, Portland Oregon.
18. **Edwards P. *, E.K. Strand**, 2018. An Integrated Water Vulnerability Assessment for the Columbia River Basin: Tools for Targeted, Community-Based Adaptation. Poster presentation at the Rural Sociological Society Annual Meeting, July 26-29, Portland, Oregon.
19. **Dodge, J.M. *, E.K. Strand**, A.T. Hudak. B. Bright. 2018. How do fuel treatments impact trees and seedlings in a ponderosa pine forest 1 year vs 9 years post-fire? Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
20. **Hammond, D.H. *, E.K. Strand**, A.T. Hudak, 2018. Spatial characteristics of burn severity patches and effects on post-wildfire conifer regeneration in ponderosa pine forests. Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
21. **Mangini, E., D.H. Hammond*, E.K. Strand**, 2018. Assessing post-wildfire conifer regeneration: Validation of a non-destructive seedling aging method. Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
22. Hyde, J.*, A.M.S. Smith, **E.K. Strand**, L. Wells*, P. Lahm, M. Fitch, 2018. Smoke Management Information Resources on the FRAMES Emissions and Smoke Portal. Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
23. Hyde, J.*, K. Ernstrom K, **E.K. Strand**, 2018. The Interagency Fuels Treatment Decision Support System. Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
24. Wilson G.M.* , **E.K. Strand**. L. Wells. 2018. Learn and Publish Courses Online via the Fire Research and Management Exchange System (FRAMES) Online Course System. Poster presentation at the Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
25. **Wynecoop, M*** . P., Morgan, **E.K. Strand**, F. Sánchez-Trigueros, 2018. Incorporating Traditional Knowledge (TK) into Fire and Fuels Management. Fire Continuum Conference, International Association of Wildland Fire and Association for Fire Ecology, May 21-24, Missoula, Montana.
26. **Wozniak S. *, E.K. Strand**, 2018. Analysis of Fuels at Utah SageSTEP Sites 10 Years Post-Treatment. Annual SageSTEP meeting, May 16-18, 2018, **(Invited)**.
27. **Wozniak S. *, E.K. Strand**, 2018. Invited presentation at the National Interagency Fuels Committee in Boise, March 14, 2018, **(Invited)**.
28. **Strand, E.K. K.L. Satterberg***, A.T. Hudak, J.Byrne, A.M.S. Smith 2017. Does burn severity affect plant community composition in Northern Rockies Forests ten years post-fire? Oral presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida. **(Invited)**
29. **Strand, E.K.** and J. Kane 2017. Where are the GRIN recipients now? Values beyond the award. Oral presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida. **(Session organizer)**

30. **Hammond, D.H.***, **E.K. Strand**, A.T. Hudak, B.A. Newingham, J.Byrne, 2017. Burn severity effects on Alaska boreal forest understory. Oral presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida. **(Invited)**
31. **Dodge J.M.***, **E.K. Strand**, A.T. Hudak, B. Bright, 2017. Do fuel treatments impact fire severity and post-fire understory plant recovery in ponderosa pine forests? Oral presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida. **(Invited)**
32. Hudak, A.T., B.C. Bright, R.E. Kennedy, **S.A. Lewis***, **E.K. Strand**, P. Morgan, B.A. Newingham, 2017. Rates of post-fire vegetation recovery and fuel accumulation as a function of burn severity and time-since-burn in four western U.S. ecosystems. Oral presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
33. **Mangini E., D.H. Hammond***, **E.K. Strand**, 2017. Assessing post-wildfire conifer regeneration: Validation of a non-destructive seedling aging method. Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
34. **Martinez, A.J.**, A.J.H. Meddens, **E.K. Strand**, A.T. Hudak, C.A. Kolden, 2017. Characterizing persistent unburned islands within the Inland Northwest Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
35. **Tomayko A.M.**, P. Morgan, **E.K. Strand**, C. Stevens-Rumann, 2017. Vegetation response to mastication and burning in mixed-conifer forest. Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
36. Hann, W.* , **E.K. Strand**, C. Blair, H. Bastian, F. Fay, 2017. Make a difference: share your expertise for improving map products using the LANDFIRE Data Project Review website. Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
37. Hyde J.* , K. Ernstrom, **E.K. Strand**, 2017. Interagency Fuels Treatment Decision Support System. Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
38. Hyde, J.* , A.M.S. Smith, P. Lahm, M. Fitch, **E.K. Strand**, L. Wells*, 2017. Smoke management information resources on the FRAMES Emissions and Smoke portal. Poster presentation at the Association for Fire Ecology 7th International Fire Ecology and Management Congress, November 2017 in Orlando, Florida.
39. Wells, L*., **E.K. Strand**, J. Hyde*. 2017. FRAMES Exhibit Booth. 7th International Fire Ecology and Management Congress sponsored by AFE and the Southern Fire Exchange and held in Orlando, FL November 28 through December 2, 2017.
40. **Hammond, D.H.***, **E.K. Strand**, A.T. Hudak, B.A. Newingham, J.Byrne, 2017. Long-term effects of burn severity on boreal understory plant communities following large wildfires. Poster presentation at the Ecological Society of America Annual Conference 2017 in Portland, Oregon.

41. **Strand, E.K., K.L. Satterberg***, A.T. Hudak, D.H. Hammond, A.M.S. Smith, 2017. Impact of burn severity on plant community composition, diversity, and fuels in mixed conifer forests ten years post-fire. Poster presentation at the Ecological Society of America Annual Conference 2017 in Portland, Oregon.
42. **Dodge J.M.***, **E.K. Strand**, A.T. Hudak, B. Bright, 2017. Do fuel treatments impact fire severity and post-fire understory plant recovery in ponderosa pine forests? Poster presentation at the Ecological Society of America Annual Conference 2017 in Portland, Oregon.
43. **Bowman-Prideaux C.M.***, **E.K. Strand**, B.A. Newingham, 2017. Working together: Fire and post-fire rehabilitation create homogeneous plant communities. Oral presentation at the Ecological Society of America Annual Conference 2017 in Portland, Oregon. (received award for best graduate student presentation in the Ecology Section of ESA).
44. **Williams, C.J.***, Pierson, F.B., Spaeth, K.E., Brown, J.R., Al-Hamdan, O.Z., Wertz, M.A., Nearing, M.A., Herrick, J.E., Boll, J., Robichaud, P.R., Goodrich, D.C., Heilman, P., Guertin, D.P., Hernandez, M., Wei, H., Polyakov, V.O., Armendariz, G., Nouwakpo, S.K., Hardegree, S.P., Clark, P.E., **Strand, E.K.**, Bates, J.D., Metz, L.J., and Nichols, M.H. 2017. Application of Ecological Site information to transformative changes on Great Basin sagebrush rangelands. Poster presentation presented at the 70th Annual Meeting of the Society for Range Management, Red Rock and Rangelands, January 29-February 2, 2017, St. George, UT.
45. **Gicklhorn, J.M.**, **Bowman-Prideaux, C.M.***, **Strand, E.K.**, Newingham, B.A. 2016. Examining fire occurrence and burn severity in the Great Basin using Monitoring Trends in Burn Severity data. Great Basin Consortium Conference, Reno, NV.
46. **Trujillo, J.T.***, **E.K. Strand**, 2016. A field guide to grasses and grass-like plants of Idaho. Great Basin Consortium Conference, Reno, NV.
47. **Dodge, J.M.***, **E.K. Strand**, A.T. Hudak, 2016. Do fuel treatments impact fire severity and post-fire understory plant recovery in ponderosa pine forests?, (poster presentation) Association for Fire Ecology Southwest Fire Science Consortium, November 28-December 2, 2016, Tucson, AZ, USA.
48. Gicklhorn, J.M., **C.M. Bowman-Prideaux***, **E.K. Strand**, and B.A. Newingham. 2016. Examining fire occurrence and burn severity in the Great Basin using Monitoring Trends in Burn Severity data. 3rd Fire Ecology Conference, Tucson, AZ.
49. Hudak, A.T., S.A. Lewis, B.C. Bright, R.E. Kennedy, **K.L. Satterberg***, **E.K. Strand**, P. Morgan, B.A. Newingham, A.M.S. Smith and L.B. Lentile. Vegetation recovery since the 2003 wildfires in western Montana. Fire Sciences Lab Seminar Series, Missoula, Montana, 28 Apr 2016. (oral presentation, published abstract).
50. **Strand E.K.** 2016. Cascading effects of SDI on fuels accumulation and fire effects (oral presentation). Intermountain Forestry Cooperative Technical Meeting titled "Advancing Forestry in the Intermountain Northwest", Moscow, Idaho (**Invited**).
51. **Schachtschneider, C.L.***, **E.K. Strand**, K.L. Launchbaugh, S. Jensen, 2016. Targeted grazing applied to reduce wildfire spread in sagebrush steppe ecosystems (poster presentation). Society for Range Management National Annual Meeting, Corpus Christi, Texas, February 2016.
52. **Kaweck, M.***, K.L. Launchbaugh, A. Hulet, **E.K. Strand**, 2016. Impact of wild horses and grazing ungulates on riparian condition in Idaho (poster presentation). Society for Range Management National Annual Meeting, Corpus Christi, Texas, February 2016.
53. **Schmidt M.***, **Hammond, D.H.***, A.T. Hudak, B.A. Newingham, **E.K. Strand**, P. Morgan, 2016. Long-term burn severity and edge effects on non-native plant cover (poster presentation) Society for Range Management National Annual Meeting, Corpus Christi, Texas, February 2016.

54. **Strand E.K.** 2016. Understanding the Role of Fire in Great Basin Ecosystems (oral presentation) Great Basin Consortium Conference. Sagebrush Ecosystem Conservation: All Lands, All Hands, Salt Lake City, Utah, Feb 23 2016. (**Invited**)
55. Dodge, J., *C.M. Bowman-Prideaux**, **E.K. Strand**, B.A. Newingham, 2016. Pointing Cheatgrass Out the Door: Analyzing Spatial Distributions Among an Annual Invasive and Bunchgrasses. Great Basin Consortium Conference. Sagebrush Ecosystem Conservation: All Lands, All Hands, Salt Lake City, Utah, Feb 23 2016.
56. *Gicklhorn, J.M.*, *C.M. Bowman-Prideaux**, **E.K. Strand**, B.A. Newingham, 2016. Examining fire occurrence and burn severity in the Great Basin using Monitoring Trends in Burn Severity data. Great Basin Consortium Conference. Sagebrush Ecosystem Conservation: All Lands, All Hands, Salt Lake City, Utah, Feb 23 2016.
57. *Hammond, D.H**, **E.K. Strand**, A.T. Hudak, B.A. Newingham, P. Morgan, 2015. Long-term burn severity and edge effects on conifer seedling survival following large wildfires (poster presentation) 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
58. *Schmidt M. **, *Hammond, D.H**, A.T. Hudak, B.A. Newingham, **E.K. Strand**, P. Morgan, 2015. Long-term burn severity and edge effects on non-native plant cover (poster presentation) 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
59. Newingham, B.A., A.G. Smith, A.T. Hudak, **E.K. Strand**, 2015. What's still hot? Cross-ecosystem diversity responses a decade after fire (oral presentation) 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
60. Hudak, A.T., B.C. Bright, R.E. Kennedy, *K.L. Satterberg**, **E.K. Strand**, S.A. Lewis, B.A. Newingham, P. Morgan 2015. Monitoring site recovery as a function of burn severity and time-since-burn in four western U.S. ecosystems (oral presentation) 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
61. *Lauer, J.B. **, P. Morgan, **E.K. Strand**, *C. Stevens-Rumann **, 2015. Fire-on-Fire Interaction in the U.S. Northern Rockies 1900-2008. (poster presentation) 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
62. Hyde, J.*, P. Lahm, M. Fitch, A.M.S. Smith, **E.K. Strand** and L. Wells*, 2015. Training Tools for Smoke Management in the FRAMES Emissions and Smoke Portal. Poster presentation. 6th International Fire Ecology & Management Congress: Advancing Ecology in Fire Management. November 16-20, 2015. San Antonio, Texas, USA
63. *Schachtschneider C.L.** and **E.K. Strand**, 2015. Field Tour Presentation, Fuel-Fire-Future. Rangeland Center Forum, Jerome ID, October 22-23, 2015. (**Invited**)
64. *Weiner, N.I. **, **E.K. Strand**, S.C. Bunting, A.M.S. Smith, 2015. Influence of duff distribution on post-fire vegetation recovery patterns in Western Juniper woodlands, Society for Range Management National Annual Meeting, Sacramento, California, February 2015.
65. **Strand E.K.** 2014. Annual Grasses, Fuel and Fire. Rangeland Center Forum, Boise ID, October 22, 2014. (**Invited**)
66. *Soderquist, B.*, K. Kavanagh, T. Link, T. **E.K. Strand**, and M. Seyfried. 2014. Simulating the dependence of sagebrush steppe vegetation on redistributed snow in a semi-arid watershed. Poster presentation, American Geophysical Union Annual Meeting, San Francisco, CA, December 2014.
67. Hann, W.J.* and **E.K. Strand** 2014. Evaluating Landscape Wildland Fire and Fuel Management Effectiveness with Modeling and Validation: An Initial Investigation. Poster presentation. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.

68. Hyde, J.*, **E.K. Strand**, and A.T. Hudak 2014. A comparison of LANDFIRE fuel representation systems and their application in estimating fire effects across landscapes. Poster presentation. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.
69. Hyde, J.*, P. Lahm, M. Fitch, A.M.S. Smith, **E.K. Strand** and L. Wells*, 2014. Training Tools for Smoke Management in the FRAMES Emissions and Smoke Portal. Poster presentation. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.
70. **Strand, E.K.** W.J. Hann*, **L. Tedrow***, D. Hamilton 2014. Sensitivity to Scale and Fire Regime Inputs in Deriving Fire Regime Condition Class. Poster presentation. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.
71. Piper, T.R.* and **E.K. Strand** 2014. Fire and Fuels Management Tech Transfer and Training: Why Blended Learning is the only way to go. Poster presentation. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.
72. **Kooistra C.**, T.E. Hall, T. Paveglio, and **E.K. Strand**, 2014. Post-Wildfire Landscape Recovery: Perspectives from Remotely Sensed Images and Social Science Data. Large Wildland Fires Conference Missoula, MT May 19-23. International Association for Wildland Fire and the Association for Fire Ecology.
73. Hudak, A., M. Dickinson, R. Kremens, B. Bright, L. Loudermilk, B. Hornsby, J. O'Brien, R. Ottmar, **K. Satterberg*** and **E. Strand**. Landscape-level relationship of fire radiative energy density to surface fuel loads. AFE/IAWF Conference on Large Wildland Fires, Missoula, Montana, 19-23 May 2014. (oral presentation, published abstract).
74. **Haeuser, E.S.**, M.E. Swanson, R.A. Rupp, **E.K. Strand**. 2013. Spatiotemporal Encroachment Patterns of Conifers into Shrub-Steppe Areas in the Sinlahekin Wildlife Area, Washington State. Poster presented at the 84th Northwest Scientific Association Annual Meeting, Portland, OR, March 20-23, 2013.
75. **Satterberg, K.L.***, K.O. Lannom, A.M.S. Smith, **W.T. Tinkham**, **E. K. Strand** and C. Kolden 2013. Development of an extreme wildland fire recovery chronosequence. Poster presentation American Geophysical Union Fall meeting, December 2013 in San Francisco.
76. Hudak A., **K.L. Satterberg***, M. Dickinson, R. Kremens, B. Bright, L. Loudermilk, J. O'Brien, **E.K. Strand**, R. Ottmar, 2013. Fire Radiative Power and Fire Radiative Energy Estimated from Multi-temporal Airborne WASP Thermal Infrared Images of Active Fire at Eglin Air Force Base, Florida. Poster presentation American Geophysical Union Fall meeting, December 2013 in San Francisco.
77. **Strand, E.K.**, and S.C. Bunting 2013. Landscape scale assessment of fire response along a sagebrush steppe / western juniper successional gradient, Rangeland Center Annual Meeting, Marsing, Idaho, November, 2013. (**Invited**)
78. **Strand, E.K.**, and S.C. Bunting 2013. Fuel load, heterogeneity, spatial scale, and environmental conditions affect fire behavior in grasslands - Results from the WFDS physics based process model, Society for Range Management National Annual Meeting, Oklahoma City, Oklahoma, February 2013. (**Invited**)
79. **Strand, E.K.** and S. Barrett 2013 Fire Regime Condition Class: Concepts, Applications, and Mapping Tool, Society for Range Management National Annual Meeting, Oklahoma City, Oklahoma, February 2013.
80. **Strand, E.K.**, and J. Jones 2013. The Wildland Fire Assessment Tool (WFAT) - A Tool to Spatially Model Wildland Fire Behavior and First Order Fire Effects, Society for Range Management National Annual Meeting, Oklahoma City, Oklahoma, February 2013.
81. **Strand, E.K.**, and S.C. Bunting 2012. Remote sensing of burn severity along a sagebrush steppe/western juniper successional gradient, Association for Fire Ecology, 5th International Fire

Ecology and Management Congress, December 3-7, Portland, Oregon (**Invited**)

82. Vierling, L.A., **Finch, S.**, Vierling, K.T., **Strand, E.K.**, Hudak, A.T., **Vogeler, J.**, **Martinuzzi, S.**, **Eitel, J.**, and **Falkowski, M.J.** 2012. Lasers on the Landscape: Quantifying 3-D ecosystem structure to map continuous surfaces of aboveground carbon, avian species richness, and tree species distributions. AGU Fall Meeting, San Francisco, CA, December 2012. (**Invited**)
83. **Strand, E.K.**, Farris, C., Bunting, S.C., 2012. Fine-Scale Fuel Loading Maps: Support for Fire Management Planning in Altered Fire Regimes at Lava Beds National Monument (oral presentation), Northwest Science Annual Meeting, Boise, ID, March 28, 2012.
84. Ryan C. and **E.K. Strand** 2012. Learning to Predict Vegetation Change: a Step-wise Progression for Acquiring State and Transition Modeling Skills (poster presentation), Association for Wildland Fire, Santa Fe, NM, February 2012.
85. Hyde, J.*, **Strand E.K.**, K.H. Schon*, J. Jones, 2012. National Interagency Fuels, Fire, and Vegetation Technology Transfer, (poster presentation), Association for Wildland Fire, Santa Fe, NM, February 2012.
86. Hudak, A., **E.K. Strand**, L. Vierling, J. Byrne, **J. Eitel**, **S. Martinuzzi** and **M. Falkowski**. Estimating aboveground forest carbon pools and fluxes from repeat field and LiDAR surveys. Canadian Forest Service Northern Forestry Centre, Edmonton, Alberta, Canada, 29 Feb 2012. (oral presentation).
87. Vierling, L.A., **Martinuzzi, S.**, Adam, P., Finch, S., Hudak, A.T., **Eitel, J.U.H.**, **Strand, E.K.**, Falkowski, M.J., Vogeler, J., and Vierling, K.T. 2012. Lasers on the landscape: Quantifying 3-D ecosystem structure to map continuous surfaces of carbon and species distributions. University of Wisconsin Department Forest and Wildlife Ecology Visiting Seminar, Madison, WI, 17 February 2012 (**Invited**)
88. **Strand E.K.**, S.C. Bunting, L.K. Garrett, G.H. Dicus, 2012. Long-term Monitoring of Aspen within the NPS Upper Columbia Basin Network (oral presentation), Society for Range Management National Annual Meeting, Spokane, Washington, February 2012.
89. **Harris V. ***, **E.K. Strand**, and J. Rachlow, 2012. Applications of Remote Sensing Technology to Assess Landscape Structure of Pygmy Rabbit Habitat Selection at Multiple Scales (poster presentation), Society for Range Management National Annual Meeting, Spokane, Washington, February 2012.
90. Ryan C. and **E.K. Strand** 2012. Learning to Predict Vegetation Change: a Step-wise Progression for Acquiring State and Transition Modeling Skills (poster presentation), Society for Range Management National Annual Meeting, Spokane, Washington, February 2012.
91. Vierling, L.A., **Martinuzzi, S. ***, **Finch, S.**, Hudak, A.T., **Eitel, J.U.H.**, **Strand, E.K.**, **Falkowski, M.J.**, **Vogeler, J.**, and Vierling, K.T. 2012. The role of remote sensing data in understanding land use legacies. PolicyMix Marxan Conference: Spatially explicit analysis of policy mix effectiveness and efficiency, CATIE, Turrialba, Costa Rica, 30 January-3 February, 2012 (**Invited**)
92. **Strand, E.K.**, C.M. Hoffman, S.C. Bunting, 2011. Effects of fuel load, heterogeneity, and environmental condition on fire behaviour in grasslands: Results from a physics based process model (poster presentation), Association of Fire Ecology Intermountain Conference, Poster presentation, November 14-17, Snowbird, Utah, 2011
93. **Strand E.K.** C. Ryan 2011. Learning to Predict Vegetation Change: a Step-wise Progression for Acquiring State and Transition Modeling Skills, Association of Fire Ecology Intermountain Conference, Poster presentation, November 14-17, Snowbird, Utah, 2011.
94. Hudak, A, I. Rickert, P. Morgan, **E. Strand**, C. Hoffman, S. Lewis, P. Robichaud, J. Clark Z.E. Holden., 2011. Fuel treatments for protection of people, property, and valued resources. 1st International Conference on Safety and Crisis Management in the Construction, Tourism and SMEs Sectors, Nicosia, Cyprus, 27 Jun 2011. (oral presentation, published abstract).
95. Ryan C., **E.K. Strand** 2011. Learning to Predict Vegetation Change: a Step-wise Progression for

- Acquiring State and Transition Modeling Skills State-and-Transition Landscape Modeling Conference, Poster presentation, Portland, Oregon, June 15-17, 2011.
96. **Strand, E.K.**, S.C. Bunting, L.A. Vierling 2011. Landscape Dynamics in Aspen Woodlands on the Owyhee Plateau, Idaho, Oral presentation, State-and-Transition Landscape Modeling Conference Portland, Oregon June 15-17, 2011.
 97. Vierling L.A., *S. Martinuzzi**, A. Hudak, *S. Garrity, J. Eitel, E.K. Strand, M. Falkowski, J. Vogler, K.* Vierling 2011. The Role of Remote Sensing Data in Understanding Agro-Ecological Legacies, PCP/CATIE/University of Idaho Workshop, CATIE, Costa Rica, May 12, 2011.
 98. **Strand E.K.**, A. Hudak, L.A. Vierling, 2011. Quantifying Aboveground Forest Carbon Pools and Fluxes Across a Managed Landscape Using Multi-temporal LiDAR Poster presentation, The Regional Approaches to Climate Change in Pacific Northwest Agriculture Research Group, Moscow, Idaho, 9 May, 2011.
 99. Hudak,A., **E. Strand** and L. Vierling.2011 Inventory approaches to biomass supply assessment. Small-Scale Energy from Forest Biomass Workshop, University of Idaho Extension, Smeltonville, Idaho, 29 April 2011.
 - 100.Hudak,A., **E. Strand**, L. Vierling, *J. Eitel, S. Martinuzzi**. 2011. Multi-temporal LiDAR for mapping change in aboveground carbon pools in an actively managed coniferous forest. US-IALE 26th Annual Symposium, Portland, Oregon, 3-7 April 2011.
 - 101.**Strand E.K.** C.M. Hoffman, S.C. Bunting, 2011. Effects of fuel load, heterogeneity, and environmental condition on fire behaviour in grasslands: Results from a physics based process model (oral presentation), Society for Range Management National Annual Meeting, Billings, Montana, February 2011.
 - 102.*Harris V.**, **E.K. Strand**, J. Aycrigg 2011. Effects of spatial and thematic scale on habitat models for the greater sage grouse (poster presentation), Society for Range Management National Annual Meeting, Billings, Montana, February 2011.
 - 103.**Strand E.K.**, K.H. Schon, J. Jones, 2011. Tools, courses, and learning pathways offered by the National Interagency Fuels, Fire, and Vegetation Technology Transfer, Poster presentation, Society for Range Management National Annual Meeting, Billings, Montana, February 2011.
 - 104.Hudak A. I. Rickert, P. Morgan, S. Lewis, J. Clark, **E.K. Strand**, C. Hoffman, Z. Holden. 2010. Effectiveness of Fuel Treatments Tested by Wildfire in the Wildland Urban Interface of Central Idaho, oral presentation, 3rd Fire Behavior and Fuels Conference, International Association of Wildland Fire, October 25-29, 2010, Spokane, Washington, USA.
 - 105.*Ginder M., C. Hoffman**, **E.K. Strand**, W. Mell, 2010. Numerical Simulation of Fuel Treatment Effectiveness in Preventing Structure Ignitions. Poster presentation, 3rd Fire Behavior and Fuels Conference, International Association of Wildland Fire, October 25-29, 2010, Spokane, Washington, USA.
 - 106.**Strand E.K.**, K.H. Schon, J. Jones, 2010. Tools, courses, and learning pathways offered by the National Interagency Fuels, Fire, and Vegetation Technology Transfer, Poster presentation, 3rd Fire Behavior and Fuels Conference, International Association of Wildland Fire, October 25-29, 2010, Spokane, Washington, USA.
 - 107.Vierling L.A., *Martinuzzi**, S., Hudak, A.T., *Garrity, S.R., Eitel, J.U.H., Strand, E.K., Falkowski, M.J.*, and Vierling, K.T. 2010. Landsat Time Series-based Vegetation Change: Context for Understanding Ecological Legacies. Landsat Science Team Semi-Annual Meeting, Boise, ID, 16 June 2010.
 - 108.Hudak A.T., **E.K. Strand**, L.A. Vierling 2010. Utility of remotely sensed data for future forest inventory and monitoring. International Forestry Student Association (IFSA) Symposium, Kookmin University, Seoul, South Korea, 20 Aug 2010. (**Invited**)
 - 109.Hudak A.T., **E.K. Strand**, L.A. Vierling 2010. Assessment of coniferous forest carbon sequestration in the Northern Rockies, USA using LiDAR remote sensing, field surveys, and a forest growth model. International Union of Forestry Research Organizations (IUFRO) World

- Congress, Seoul, South Korea, 24 Aug 2010.
110. Hudak A., L. Vierling, **E.K. Strand**. Using multi-temporal LiDAR to quantify biomass change. Inland Northwest Growth & Yield (INGY) Cooperative Annual Winter Technical Meeting, Spokane, Washington, 9 Mar 2010. (oral presentation).
 111. Hudak A.T., **E.K. Strand**, L.A. Vierling, 2010. Quantifying growth and disturbance effects on forest biomass from repeated field plot and LiDAR measures, RMRS All Scientists Meeting in Fort Collins March 23-25, 2010. Oral presentation
 112. **Strand E.K.** S.C. Bunting, 2010. Remote sensing of burn severity in sagebrush steppe and juniper woodlands, Society for Range Management National Annual Meeting, Denver, Colorado, February 2010.
 113. **Strand E.K.** S.C. Bunting, 2010. Applications of State-and-Transition models in sagebrush steppe/ juniper woodlands, Society for Range Management National Annual Meeting, Denver, Colorado, February 2010. **Invited to WERA40 Symposium**
 114. **Strand E.K.** and S.C. Bunting, 2009. Applications of State-and-Transition models in sagebrush steppe/ juniper woodlands, WERA40 annual meeting, Steam Boat, Colorado, September 2009. **(Invited)**
 115. **Strand, E.K.**, 2009. Fine scale mapping of sagebrush, oral presentation Idaho BLM GIS and Resources Annual Meeting, Boise, Idaho, January 27, 2009. **(Invited)**
 116. **Strand, E.K.**, S.C. Bunting, M.T. O'Sullivan, 2009. Landscape scale change of aspen habitats in central Idaho, Oral presentation, Society for Range Management Annual Meeting, Albuquerque, New Mexico. February 2009.
 117. **Strand, E.K.**, 2009. Planning Landscape Treatments – The Big Picture, Oral presentation, Society for Range Management Annual Meeting, Albuquerque, New Mexico. February 2009. **(Invited) Keynote**
 118. Cosens B., R. Frey, F. Fiedler, J. Boll, A. Sowards, J. Long, J.D. Wulforst, **E.K. Strand**, 2009. Waters of the West Program, Soothing Waters Conference, College of Law, University of Idaho, Moscow, Id, March 27, 2009.
 119. **Strand E.K.**, 2009. Applications of State-and-Transition Models in Sagebrush Steppe and Western Juniper Woodlands, Presentation at the WERA40 meeting in Steamboat, Colorado, September 2009. **Invited by WERA40**
 120. Gillan J.K., **E.K. Strand**, J. Hinson, P. Makala. Illustrated Guidelines to Sage-Grouse Habitat in Idaho. Review of manuscript at steering committee meeting, October 2009.
 121. Vierling K., **E.K. Strand**, A.M.S. Smith, L. Lentile, 2008. An evaluation of fire severity classification techniques and implications for habitat studies of birds in burned environments, AOU/COS/SCO Ornithology Meeting, Portland August 4-9, 2008.
 122. Godsoe W., **E.K. Strand**, C.I. Smith, J.B. Yoder, O. Pellmyr, 2008. Co-divergence is not explained by divergent fundamental niches. Society for the Study of Evolution meetings in Minneapolis MN. June 20th to 24th
 123. Godsoe W., **E.K. Strand**, C.I. Smith, J.B. Yoder, O. Pellmyr, 2008. Co-divergence is not explained by divergent fundamental niches. Evolution Washington Idaho British Columbia and Oregon conference, Port Townsend WA. April 19-20
 124. **Strand E.K.**, S.C. Bunting, L.A. Vierling, 2008. Detecting aspen stands using SPOT and Landsat 7 ETM+ imagery – a comparison, Oral presentation Society for Range Management Annual Meeting, Louisville, Kentucky, January 2008.
 125. **Strand, E.K.**, S.C. Bunting, 2008. Landscape scale assessment of aspen habitats in the Owyhee Mountains, Idaho, Oral presentation Society for Range Management Annual Meeting, Louisville, Kentucky. January 2008, **Invited** presentation
 126. **Strand E.K.**, K.L. Launchbaugh, **B. Brockett, B. Goehring, S. Hatch, A. Kuchy, A. Stebleton** 2007. Literature Review – Fire, Grazing, Invasives, Society for Range Management, Idaho

Section, Twin Falls, Idaho December 2007.

127. **Strand, E.K.**, L.A. Vierling, A.M.S. Smith, S.C. Bunting, 2007. Net change in above ground woody carbon in western juniper woodlands 1946-1998, Oral presentation Society for Range Management Annual Meeting, Reno, Nevada. February 2007.
128. **Strand, E.K.**, L.A. Vierling, A.M.S. Smith, S.C. Bunting, 2006. Wavelet estimation of plant spatial patterns in multi-temporal aerial photography, Poster presentation American Geophysical Union Fall meeting, December 2006 in San Francisco.
129. **Strand, E.K.**, A.M.S. Smith, S.C. Bunting, L.A. Vierling, D.B. Hann, P.E. Gessler, 2005. Wavelet estimation of plant spatial patterns in multi-temporal aerial photography, Poster presentation American Geophysical Union Fall meeting, December 2005 in San Francisco.
130. **Strand, E.K.**, S.C. Bunting, L.A. Vierling, 2006. A Quantitative Approach to Development of a State-and Transition Model for Quaking Aspen. Society for Range Management Annual Meeting, Vancouver, Canada. Feb 11-18, 2006.
131. **Strand, E.K.**, L.A. Vierling, A.M.S. Smith, S.C. Bunting, D. Hann, P.E. Gessler. 2005. Wavelet estimation of multi-scale patterns in aerial photography. AGU Conference, Fall meeting, San Francisco, CA.
132. **Roth, A.**, S. Bunting, **E.K. Strand**. 2005. Fire-landscape patterns within a successional gradient of a sagebrush steppe/juniper woodland. Society for Range Management Annual Meeting, Ft Worth TX. Feb 6-11, 2005.
133. Blakely, A., K.L. Launchbaugh and **E.K. Strand**. 2005. Spatial Technology in Range Management, Society for Range Management Annual Meeting, Ft Worth TX. Feb 6-11, 2005.
134. **Strand, E.K.**, S.C. Bunting, J.L. Kingery, 2005. Predicting future landscape patterns under varying fire regimes in western juniper woodlands. Society for Range Management Annual Meeting, Ft Worth TX. Feb 6-11, 2005.
135. Bunting, S.C., **E.K. Strand**, J.L. Kingery. Landscape characteristics of sagebrush steppe/juniper woodland mosaics under varying modeled prescribed fire regimes. Poster presentation Tall Timbers Fire Ecology Conference, Bartlesville, OK. Oct 17-20, 2005.
136. Yanish, C.R., S.C. Bunting, J.L. Kingery, **E. K. Strand**. 2004. Western juniper succession: Changing fuels and fire behavior. Presentation at Society for Range Management 58th annual meeting in Salt Lake City, Utah, January 24-30, 2004.
137. Beck, J. L., J. M. Peek, D. J. King, **E. K. Strand**. 2004. Elk summer range carrying capacity in the Great Basin: nutritional estimates from a spatial perspective. Presentation at Society for Range Management 57th annual meeting in Salt Lake City, Utah, January 24-30, 2004.
138. Yanish C.R., S.C. Bunting, J.L. Kingery, **E.K. Strand**. 2004. Western juniper succession: Changing fuels and fire behavior. Presentation at Society for Range Management 57th annual meeting in Salt Lake City, Utah, January 24-30, 2004.
139. Beck J.L., J.M. Peek, D.J. King, **E.K. Strand**. 2003. Elk summer range carrying capacity in the Great Basin: nutritional estimates from a spatial perspective. The Wildlife Society Tenth Annual Meeting, Burlington, VT.
140. **Strand E.K.**, L.A. Eareckson, 2003. Amphibian Monitoring on the Palouse, Intermountain GIS Users Conference, Coeur d'Alene, April 2003
141. **Strand, E.K.** 2001. GIS education in the College of Natural Resources at the University of Idaho, Intermountain GIS conference, April 2001, Boise, Idaho.
142. **Strand, E.K.**, P.E. Gessler, S.C. Bunting, 2000. Poster: Analysis of structural stages in a western juniper/sagebrush mosaic using remote sensing techniques, Society of Range Management Meeting, February 12-18, 2000, Boise, Idaho
143. **Strand E.K.**, P.E. Gessler, S.C. Bunting, 1999. Poster: Analysis of structural stages in a western juniper/sagebrush mosaic using remote sensing techniques, Ecological Society of America, August 8-12, 1999, Spokane, Washington

144. Karl, J.W., J. M. Scott, **E. K. Strand**, Poster: An assessment of Idaho wildlife management areas for the protection of wildlife, Idaho Chapter of the Wildlife Society, Boise, ID, March 1999

145. Bunting, S.C., J.L. Kingery, **E.K. Strand**, 1997. Poster: Effects of succession on species richness of the western juniper-sagebrush mosaic, Ecology and Management of Pinyon-Juniper Communities within the Interior West Symposium, September 1997, Provo, UT

Patents: NA

Grants and Contracts Awarded: (provide principal and co investigators, title, sponsor, funding dates, amount)

1. **Strand E.K.**, L. Kobziar, A. Hulet. Great Basin Fire Science Exchange - Online Course Development, Subaward Joint Fire Science Program via University of Nevada Reno, #UNR-212-52, 9/15/2022-9/30/2023. **\$10,583**
2. **Strand E.K.**, T. Prather, E. Winford, K. Lee, K. Launchbaugh - Critical science needs to break the invasive grass and fire cycle, US Fish and Wildlife Service CESU 7/1/2021 – 12/31/2024. **\$117,000**
3. **Strand E.K.**, L. Kobziar, A. Hulet. Great Basin Fire Science Exchange - Online Course Development, Subaward Joint Fire Science Program via University of Nevada Reno, #UNR-212-52, 9/15/2020-9/30/2022. **\$20,769**
4. **Strand E.K.**, T. Prather, K. Lee, E. Winford. Assessment of fuel break performance – fire risk, ecology, and economy. Joint Fire Science Program proposal #20-2-01-10, 10/1/2020 – 9/30/2024. **\$409,580**
5. **Strand E.K.**, A.M.S Smith, L. Kobziar, Developing Professionals and Collaboration in Fire Science, University of Idaho, USDA Forest Service, 2020-2024, **\$300,000** (2020) + **\$340,000** (2021)
6. **Strand E.K.**, Technology transfer support and curricula development for wildland fire management training, fuels planning, vegetation management and risk-based wildland fire decision making, 9/1/2019 – 9/30/24, Modifications **\$215,836** (2019) + **\$293,137** (2020) + **\$112,355** (2021) + **\$293,590** (2021)+**\$150,000** (2021)
7. Chambers J., A. Urza, M. Reeves, B. Hanberry, K. Short, **E.K. Strand**, L. Ellsworth, K. Rollins, M. Taylor. Using Next Generation Fuels Data and Outcome-Based Metrics in Fire Risk Assessments for High Value Resources in the Sagebrush Biome, Joint Fire Science, 10/1/2019 – 9/30/2022, total \$498,481, UI **\$16,584**
8. **Dodge J.*** (student PI), **E.K. Strand**, Graduate Research Innovation Grant - Using Quickbird imagery to assess initial fuel treatment effectiveness post wildfire in a ponderosa pine forest, Joint Fire Science, 10/1/2018 – 9/30/2019, **\$24,842**
9. **Hammond D.H.*** (student PI), **E.K. Strand**, Graduate Research Innovation Grant - Validation of non-destructive aging method for post-wildfire seedling recovery studies, Joint Fire Science, 10/1/2017 – 9/30/2019, **\$24,842**
10. **Strand E.K.**, USDA Forest Service Fire Effects Monitoring on the Colville National Forest, USDA Forest Service, 6/9/2017-31/12/2018, **\$8,830** (2017) + **\$9,186** (2018)
11. **Strand E.K.**, P. Morgan, A.M.S Smith, Developing Professionals and Collaboration in Fire Science, University of Idaho, USDA Forest Service, 2017-2022, **\$290,500** (2017) + **\$290,500** (2018) + **\$300,000** (2019)
12. **Strand E.K.**, Technology transfer support and curricula development for wildland fire management training, fuels planning, vegetation management and risk-based wildland fire decision making, 9/1/2016 – 9/30/2019, Modification 2017 \$ **269,728** (2017) + **\$187,770** (2018)
13. **Strand E.K.**, Long-term Aspen Monitoring, National Park Service, 6/2016 – 8/2017, **\$14,779** (2016) + **\$39,859** (2017)
14. **Strand E.K.**, SageSTEP Ecological Monitoring Network – Fuels, May 2017 – September 2019, **\$45,000**
15. **Strand E.K.** and K. Launchbaugh, Development of a field guide and app for Idaho grasses and grass-like, American Society for Plant Biologists, 9/2015 - 9/2016, **\$33,692**

16. **Strand E.K.** and **C. Bowman-Prideaux***, How do post-fire fuel treatments and annual grass invasion interact to affect fire regimes in the Great Basin?; Department of Interior - Joint Fire Science Graduate Research Innovation Grant (GRIN), 8/2015 – 9/2017, **\$24,478**
17. **Strand E.K.**, Long-term Aspen Monitoring, National Park Service, 6/2015 – 8/2016, **\$14,048**
18. **Strand E.K.**, J. Aycrigg, R. Long, Development of Vegetation Map for Idaho, Idaho Fish and Game, 6/2015-7/2017, **\$266,000**
19. **Strand E.K.**, S. Jensen, Distribution of Fuel Components in Sagebrush Steppe- targeted grazing applied to reduce wildfire spread, David Little Endowment Funds, 1/2014-12/2015, **\$15,100+\$11,479**
20. **Strand E.K.**, P. Morgan, Maintenance and Development of the Fire Research And Management Exchange System Modification 2 (FRAMES), USDA Forest Service, 2012-2014 **\$1,131,435**; 2015 **\$180,070**; 2016 **\$164,344**
21. **Strand E.K.**, P. Morgan, A.M.S Smith, Developing Professionals and Science in the Wildland Fire Program, University of Idaho, USDA Forest Service, 2012-2014 **\$544,249**; 2015 **\$118,599**; 2016 **\$126,475**
22. **Strand E.K.**, Developing a Comprehensive Curricula for Assessing Fire Behavior, Fire Effects, Fire Regimes, and Vegetation Dynamics, US Forest Service, 2011-2014, **\$1,341,440**; 2015 **\$373,415**
23. **Strand E.K.**, K.L. Launchbaugh, S. Jensen, Developing Grazing Guidelines for Fuels Management in Sagebrush Ecosystems: Implications for Wildlife Habitat and Soil Conservation, Natural Resources Conservation Center – Conservation Innovation Grants, 9/2014 – 7/ 2016, **\$65,707**
24. Morgan P., **Strand E.K.**, C. Rumann-Stevens, S.C. Bunting, Great Basin Science Delivery Online Class Development, Joint Fire Science Program, 8/2012 – 6/2016, **\$137,357** + 7/2016-9/2017 **\$38,780** + **\$22,785** (2019-2020).
25. Newingham, B., **E.K. Strand**, Do post-fire fuel treatments and annual grasses interact to affect fire regimes in the Great Basin? Joint Fire Science Program, 10/2015-9/2017, **\$162,222**
26. Hudak, A.T., **E.K. Strand**, B. Newingham, P. Morgan, How vegetation recovery and fuel conditions in past fires influences fuels and future fire management in five western U.S. ecosystems, Joint Fire Science Program, 10/2014 – 9/2017, **\$168,070**
27. **Strand E.K.**, Idaho Power Sage Grouse Lek Pilot Project, Idaho Power Company, 2013, **\$5,094**
28. **Strand E.K.**, Estimating fire radiative energy emitted from surface fires beneath longleaf pine canopies from airborne thermal infrared imagery and lidar, USDA Forest Service, 5/2013 -9/2014, **\$30,737**
29. Shinneman, D., T. Link, K. Kavanagh, **E.K. Strand**, S. McIlroy, S. Powell, R. Scheller, J. Campbell, D. Marks, M. Seyfried, and A. Winstral, Projecting climate change effects on aspen distribution and productivity in the central and northern Rockies by coupling hydrological and landscape-disturbance models, USGS Northwest Climate Science Center, 8/2014 – 8/15, **\$476,295**.
30. **Strand E.K.**, A. Gearhardt, Distribution of Fuel Components in Sagebrush Steppe- targeted grazing applied to reduce wildfire spread, David Little Endowment Funds, 1/2013-12/2013, **\$12,039**
31. **Strand E.K.**, Laboratory experiments for predicting fire behavior and effects, Seed grant University of Idaho 7/2013 – 12/2014, **9,678**
32. **Strand E.K.**, S.C. Bunting, Implementation of Aspen Monitoring Protocol, National Park Service Upper Columbia Basin Network, 1/2007 – 12/2012, **\$86,027**
33. Gollberg G., **E.K. Strand**, Ongoing Maintenance and Development of the Fire Research And Management Exchange System (FRAMES), USDA Forest Service, 7/2010 - 6/2012, **\$1,277,060**
34. Gollberg G., **E.K. Strand**, Database and online access to the SERDP emissions database, USDA Forest Service, 2011, **\$15,000**
35. Smith, A.M.S, M. Carroll, P. Morgan, J. Hicke, **E.K. Strand**, B. Newingham), Quantifying the characteristics and investigating the biogeoscientific and societal impacts of extreme wildland fires in the United States northern Rockies region, NASA ROSES Interdisciplinary Research in Earth Science 2011 – 2015, **\$1,221,279**

36. Bunting S.C., **E.K. Strand**, Effects of pre-fire vegetation composition and burn severity on successional pathways in sagebrush steppe /western juniper woodland, McIntire-Stennis 2010-2014, **\$34,996**
37. Smith A.M.S, **E.K. Strand**, Forestry remote sensing extension to tribal colleges and land managers, development of online materials, NASA Shared Services Center 2010: Upper Midwest Aerospace Consortium, University of North Dakota, 2010-2011, **\$65,000**
38. **Strand, E.K.**, Development of a GIS Service Center, College of Natural Resources Entrepreneurship Program, Silvaris Cooperation, 2009, **\$5,700**
39. **Strand, E.K.**, Landscape scale assessment of the effect of livestock grazing on fire behavior under wildfire conditions, David Little Endowment Funds, 1/2009 – 12-2009, **\$21,339**
40. Vierling, L.A., **E.K. Strand**, A.T. Hudak, Quantifying Carbon Sequestration of Coniferous Forests in the Northern Rockies Using Field Surveys, Stand Growth Modeling, and Lidar Remote Sensing, Department of Energy via Montana State University 2009-10, **\$115,967**
41. **Strand E.K.**, S.C. Bunting, Fine-Scale Remote Sensing Applications to Support Vegetation and Fire Management Planning and Implementation, National Park Service Lava Beds National Monument, 2009-2011, **\$40,000**
42. **Strand E.K.**, An Application of GAP Principles in Local Conservation Planning and Implementation: Implications of Scale, Mapping and Modeling Techniques, USGS GAP Analysis Program, 2009-2010, **\$76,000**
43. Bunting S.C., **E.K. Strand**, Landscape scale assessment of fire response along a sagebrush steppe / western juniper successional gradient, Bureau of Land Management, 2008, **\$10,000**
44. **Strand E.K.**, Contribution to development of an 'Illustrated Guideline for Sage Grouse Habitat', Laura Moore Cunningham Foundation, 2008, **\$15,000**
45. **Strand E.K.**, Contribution to development of an 'Illustrated Guideline for Sage Grouse Habitat', Idaho Fish and Game/BLM/USFWS, 2008, **\$15,000**
46. **Strand E.K.**, Contribution to development of an 'Illustrated Guideline for Sage Grouse Habitat', Office of Species Conservation, Idaho State, 2008, **\$10,000**
47. Robberecht R., **E.K. Strand**, A.M.S. Smith, Enhancement of existing online courses with the Interactive Toolbook, Idaho State Board of Education Proposal, 2008, **\$51,000**
48. **Strand E.K.**, K.L. Launchbaugh, Dual Credit Course Development SBOE Technology Grant, Idaho State Board of Education, 2008, **\$34,200.00**
49. **Strand, E.K.**, K.L. Launchbaugh, University of Idaho Literature Review – Fire, Grazing, Invasives, Bureau of Land Management, 2007-2011, **\$20,000**
50. Bunting, S.C., **E.K. Strand**, Detecting aspen in aspen/conifer woodlands, remote sensing methods, Lava Lake Land and Livestock, 2007-2009, **\$8,313**
51. Vierling K., K.L. Launchbaugh, S.C. Bunting, S. Cook, **E.K. Strand**, Spatial heterogeneity in sagebrush steppe at Lava Lake, ID, McIntire-Stennis grant, 2006-2009, **\$176,235**
52. Bunting S.C., **E.K. Strand**, Development of a monitoring plan for quaking aspen in City of Rocks National Reserve and Craters of the Moon National Monument, National Park Service Upper Columbia Basin Network, 2005-2007, **\$26,600**
53. Campbell A., P. Morgan, S.C. Bunting, Han-Sup-Han, **E.K. Strand**, FireWorks: Web Courses in Fire Ecology, Management and Technology for On- and Off-campus Students State Board of Education Idaho Technology Incentive Grant Program, Idaho State Board of Education, 2006 – 2008, **\$107,565**
54. Vierling L.A., **E.K. Strand**, Net change in woody carbon, Seed Grant, University of Idaho, 2006, **\$9,100**
55. **Strand E.K.**, L.A. Vierling, Travel grant, NASA Idaho Space Grant Consortium, 2006, **\$512**
56. **Strand E.K.**, University of Idaho Travel grant, Graduate & Professional Student Association, 2006, **\$450**
57. Bunting S.C., **E.K. Strand**, Detecting small aspen stands using remote sensing, Bureau of Land Management, 2003- 2007, **\$30,000**

58. **Strand E.K.**, Metadata creation CAP grant, Federal Geographic Data Committee, 2001, **\$3000**
 59. **Strand, E.K.**, GIS Workshops, 2001 – 2007, **\$26,000**

Honors and Awards:

Graduate & Professional Student Association award, Graduate Research Excellence 2006, University of Idaho

SERVICE:

Major Committee Assignments: (National, State, District, County, University, College, Departmental and dates)

University

1. AGEP (National Science Foundation's Alliance for Graduate Education and the Professoriate Transformation) Internal Steering Committee (<https://www.uidaho.edu/cogs/awards-grants/pnw-cosmos>) 2015 – 2018
2. Tenure and promotion external review for Dr. P. Clayton Trauernicht, Department of Natural Resources and Environmental Management at the University of Hawaii at Mānoa
3. Tenure and Promotion 3rd year review committee (outside member) for Dr. Katie Lee in the Department of Agricultural Economics and Rural Sociology 2018
4. Search Committee for Instructional Designer for Distance and Extended Education 2015
5. University of Idaho Faculty Senate Alternate 2014
6. Search Committee for Instructional Designer for Distance and Extended Education (chair) 2010

College of Natural Resources

1. Search Committee CNR Budget Specialist 2021
2. CNR Committee on Committees 2018-2021 (chair in 2019).
3. CNR Curriculum Committee (chair) 2014-present.
4. CNR Geospatial Committee, 2000 – 2010 and 2012-present
5. Search Committee for Director of Research and Graduate Studies, 2015
6. Search Committee for Natural Resources and Society Department Head, 2015
7. Search Committee for Wildlife Habitat Ecologist, 2015

Department

1. Search Committee for Rangeland Extension Specialist, 2021
2. Search Committee for Wood Science Faculty, 2019
3. Search Committee for Curator for the Stillinger Herbarium, 2018
4. Search Committee for Natural Resources and Society Faculty, 2018
5. Search Committee for Forest, Rangeland, and Fire Sciences Department Head, 2016-17
6. Search Committee for Rangeland Extension Specialist, 2016
7. Search Committee for Clinical Faculty in Fire Science (chair), 2015
8. Search Committee for Rangeland Ecologist, 2015
9. Department Promotion and Tenure review committee, 2014.
10. Search Committee for Ecosystem Modeler, 2014
11. Search Committee for Department Head, 2012
12. Search Committee for Rangeland Extension Specialist, 2012
13. Search Committee for Rangeland Restoration Ecologist, 2010
14. Search Committee for Riparian Ecologist, 2008
15. Search for Spatial Ecologist, 2004

Professional and Scholarly Organizations (including memberships, committee assignments, editorial services, offices held and dates)

Memberships

1. Ecological Society of America, 2017 - present
2. Society for Range Management, 2000 – present
3. American Geophysical Union, 2006-2012
4. Association for Fire Ecology, 2010 – present
5. International Association of Wildland Fire, 2010-present
6. American Society for Plant Biologists, 2015 - present

Committee assignments

Served on the steering committee for the Great Basin Fire Science Exchange 2012-present

Editorial Service

Associate Editor for the Journal of Rangeland Ecology and Management 2011-2013
 Editorial Board for the Journal Fire 2017 - present

Journals: Ecography; Ecological Modeling; Ecosphere; Ecosystems; Environmental Management; Environmental Monitoring and Assessment; Fire; Forest Ecology and Management; International Journal of Wildland Fire, Landscape and Urban Planning; PLOS One, Rangeland Ecology and Management; Rangelands

Number of journal reviews per year: 2010 (5), 2011(17), 2012(6), 2013 (1), 2014 (3), 2015 (3), 2016 (8), 2017 (5), 2018 (3), 2019 (4), 2020 (4), 2021 (6)

Books: Environmental Research Systems Inc. 2012

Proposals: Joint Fire Science 2013, National Science Foundation 2014, University of Idaho Seed Grants 2015, Joint Fire Science 2016, Agricultural and Forestry Experiment Station University of Alaska Fairbanks 2016, Joint Fire Science GRIN 2017, Joint Fire Science GRIN 2018 (lead reviewer), FORMAS Swedish Research Council for Sustainable Development, Proposal review *The impacts of extreme weather events on people, society, and nature: heat waves, drought and forest fires* 2019, David Little Endowment grant 2021

Outreach Service: (Including popular press, interview articles, newspaper articles, workshops-seminars-tours organized, Extension impact statements)

Schachtschneider C.L. and E.K. Strand 2019. Targeted Grazing Applied to Reduce Fire Behavior Metrics and Wildfire Spread, Webinar Great Basin Fire Science Exchange, May 2019, 30 attendees

Potential Applications of Unmanned Aerial Systems (UAS) in Natural Resource Management – University of Idaho Extension, Coeur d’Alene, February 27 (40 participants), 2015 (**Invited**)

Workshops and Society Leadership:

Core Fire Science Forum, (30 participants), Moscow, Idaho, June 1-2, 2017

Aspen management workshop, (50 participants) Salmon Idaho, July 2017

Grass identification workshop at the Phillips Farm in Moscow (11 K4-9 participants) July 2017

Organized workshop titled “The vulnerability of aspen in a world with declining snow cover” held in Boise, ID on April 22, 2015. The workshop was attended by 22 scientists and managers.

Wildland Fire Assessment Tool - Spokane, WA, 2012, Society for Range Management

Fire Regime Condition Class - Spokane, WA, 2012, Society for Range Management

Wildland Fire Assessment Tool – Bend, OR, 2012, Interagency workshop (USFS/BLM)

Wildland Fire Assessment Tool - Santa Fe, NM, 2012, Association for Fire Ecology

Fire Regime Condition Class - Portland, OR, 2012, Association for Fire Ecology

Wildland Fire Assessment Tool – Portland, OR, 2012, Association for Fire Ecology

Wildland Fire Assessment Tool – Bothell, WA, 2011, Technical Fire Management

Wildland Fire Assessment Tool - Snowbird, UT, 2011, Association for Fire Ecology
 Wildland Fire Assessment Tool – Spokane, WA, 2010, Association for Fire Ecology
 Field tour presentation – Murphy Wildland Fire Tour 2008, Idaho Society for Range Management
 Field tour presentation – Owyhee Upland Field Tour 2006, Idaho Society for Range Management

Special Session Organizer:

Graduate Research Innovation (GRIN) competitive grant program – Association for Fire Ecology, Orlando, Florida, 2017
 Aspen Ecology and Management – Spokane, WA, 2012, Society for Range Management
 LANDFIRE - Data Products and Methods, Association for Fire Ecology, 5th International Fire Ecology and Management Congress, December 3-7, 2012 Portland, OR
 Looking back for a clear view of the future- 1999 to 2012, Association for Fire Ecology, 5th International Fire Ecology and Management Congress, December 3-7, 2012 Portland, OR

Invited lectures and seminars:

- 2021 Strand E.K. UI Presidents Tour at Rinker Rock Creek Ranch – Fire and Sagebrush, Field Trip Presentation, June 14 > 100 participants
- 2021 Strand E.K. Palouse Prairie Ecotone – Historical Perspectives and Implications for Conservation. Webinar lecture at Paul Smith’s University, April 27, 2021. ~20 participants
- 2021 Strand E.K. Overview of fuel break ecological considerations. Webinar for the Great Basin Fire Science Exchange, March 31, 2021. ~130 participants
- 2021 Strand E.K. Fire and Fuel breaks in Sagebrush Ecosystems. Guest lecture in ENVS400, March 24, 2021.
- 2021 Strand E.K. Wildfire and Fuels Treatments in Sagebrush Ecosystems, UI Extension Adams County, Webinar March 30, 2021.
- 2020 Strand E.K. Everything you ever wanted to know about diversity but were afraid to ask. White Pine Chapter of the Idaho Native Plant Society, Webinar September 24, 2020 ~ 40 participants.
- 2020 Strand E.K. Remote sensing and Ecosystem Response after Wildfire. Webinar lecture at Paul Smith’s University, October 19, 2020. ~20 participants
- 2020 Strand E.K. Palouse Prairie Ecotone – Historical Perspectives and Implications for Conservation. Webinar lecture at Paul Smith’s University, April 9, 2020. ~20 participants
- 2020 Strand E.K. Palouse Prairie Ecotone – Historical Perspectives and Implications for Conservation. Webinar lecture in NRS476 Environmental Project Management and Decision Making, April 3 2020. ~25 participants
- 2019 Strand E.K. Remote sensing and Ecosystem Response after Wildfire. Webinar lecture at Paul Smith’s University, December 3, 2019. ~20 participants
- 2018 Strand E.K. Remote sensing and Ecosystem Response after Wildfire. Webinar lecture at Paul Smith’s University, December 10, 2018. ~20 participants
- 2017 Strand E.K. Remote sensing and Ecosystem Response after Wildfire. Webinar lecture at Paul Smith’s University, November 13, 2017. ~20 participants
- 2016 Strand, E.K., Fuels, Grazing, and Fire Interactions. Northern Idaho Grazing Conference January 5, 2016, Lewiston, Idaho ~ 50 participants
- 2016 Strand E.K. Remote sensing and Ecosystem Response after Wildfire. Webinar lecture at Paul Smith’s University, December 13, 2016. ~20 participants

- 2016 Strand E.K. 2016. Grazing impacts on fuel and fire behavior in sagebrush steppe, Hermiston Fair, Hermiston, OR, Dec 1, 2016. ~20 participants
- 2016 Strand E.K. Impacts of earlier snow-melt on aspen woodlands; Grazing for fuels treatments in sagebrush steppe. Two oral presentations, Rangeland Center Forum Field Tour, Reynolds Creek, ID, Oct 21, 2016, ~50 participants
- 2016 Strand E.K. Seeing change across landscapes. Oral presentation, Rangeland Center Forum, Boise, ID, Oct 20, 2016, ~80 participants
- 2015 Webinar titled "Remote Sensing in Fire Science and Management, Paul Smith's College, New York, December 7
- 2015 Environmental Science Seminar: Integrating Field Data and GIS in Changing Landscapes, April 2014
- 2014 Integration of fieldwork and GIS, Department of Geography Seminar, University of Idaho
- 2014 Webinar titled "What is new with LANDFIRE", Paul Smith's College, New York, November 19
- 2014 Engineering for Women presentation/discussion with Idaho high school students
- 2014 Annual Grasses, Fuel and Fire, Rangeland Center Forum, Boise ID
- 2013 Landscape scale assessment of fire response along a sagebrush steppe / western juniper successional gradient, Rangeland Center Annual Meeting, Marsing, ID
- 2013 Fuel load, heterogeneity, spatial scale, and environmental conditions affect fire behavior in grasslands - Results from the WFDS physics-based process model, Society for Range Management National Annual Meeting, Oklahoma City, OK
- 2012 Remote sensing of burn severity along a sagebrush steppe/western juniper successional gradient, Association for Fire Ecology, Portland, OR
- 2010 Applications of State-and-Transition models in sagebrush steppe/ juniper woodlands, Society for Range Management National Annual Meeting, Denver, CO
- 2009 Applications of State-and-Transition models in sagebrush steppe/ juniper woodlands, Western Western Rangelands annual meeting, Steam Boat, CO
- 2009 Fine scale mapping of sagebrush, oral presentation Idaho BLM GIS and Resources Annual Meeting, Boise, ID
- 2009 Planning Landscape Treatments – The Big Picture, Society for Range Management Annual Meeting, Albuquerque, NM, Invited Keynote
- 2008 Landscape scale assessment of aspen habitats in the Owyhee Mountains, Idaho, Society for Range Management Annual Meeting, Louisville, Kentucky

Community Service: (non-academic unrelated to employment)

- Moscow High School, GIS demonstration, June 2001
- Moscow Jr. High School, GPS day, May 2003
- McDonald Elementary 6th graders, GIS demonstration, April 2007
- Moscow High School, GIS demonstration, April 2007
- Palouse Prairie School, Fire Ecology lecture, May 2013

Honors and Awards:

1. College of Natural Resources Outstanding Continuing Education and Outreach Award in 2014
2. Editorial Service Award for service as an Associate Editor for the Journal of Rangeland Ecology and Management in 2011-2013

PROFESSIONAL DEVELOPMENT: (workshops and seminars attended)

Teaching:

- Our Inclusive Workplace, University of Idaho, February 2015
- First Aid and CPR Red Cross Course Certification, University of Idaho, April 2014
- Mental Health First Aid Course, University of Idaho March 2014
- ArcGIS II – GIS software (November 2003, 3 days)

Scholarship:

Society for Range Management Virtual Annual Meeting, Feb 15-18, 2021
 North American Regional Association of the International Association for Landscape Ecology conference, Fort Collins, CO, April 2019
 Association for Fire Ecology conference, Missoula, MT, May 2018
 Association for Fire Ecology conference, Orlando, FL, November 2017
 Ecological Society of America conference, Portland, OR, August 2017
 Sagebrush Ecosystem Conservation Conference, Salt Lake City UT, February, 2016
 Society for Range Management, Annual Meeting, Corpus Christi TX, January, 2016
 Association for Fire Ecology Southwest conference, San Antonio TX, November 2015
 Society for Range Management, Annual Meeting, Sacramento, CA, February, 2014
 Large Wildland Fire Conference, Association of Wildland Fire and the International Association of Wildland Fire, Missoula, MT, May 2014.
 Society for Range Management, Annual Meeting, Oklahoma City, OK, January, 2013
 Association for Fire Ecology Southwest conference, Portland, OR, December 2012
 Association for Fire Ecology Southwest conference, Santa Fe, NM, February 2012
 Society for Range Management, Annual Meeting, Spokane, WA, January, 2012
 Association for Fire Ecology Intermountain West conference, Snowbird, UT, November 2012
 State-and Transition modeling with Path, professional training, Portland, Oregon, June 2011
 Southwest Association of Wildland Fire, Flagstaff, Az, March 2011
 Society for Range Management, Annual Meeting, Billings, Montana, 2011
 Wildland Fire Assessment Tool workshop, 3rd Fire Behavior and Fuels Conference, International Association of Wildland Fire, October 25-29, 2010, Spokane, Washington, USA.
 LANDFIRE Total Fuel Assessment Tool workshop, Missoula Montana, July 7-9, 2010
 Review of National Interagency Fuels Fire and Vegetation Technology Team's online courses, May 2010
 ArcFuels workshop, 2 days, Moscow Idaho, March 2010
 North American Carbon Program workshop, Reston, Virginia, October 2009
 Western Rangelands (WERA40) annual meeting and field excursion, Steam Boat, CO, September 2009
 Society for Range Management Annual Meeting, Albuquerque, New Mexico, 2009
 Society for Range Management Annual Meeting, Louisville, Kentucky, 2008
 Cooper's Meeting, Portland, Oregon, 2008
 Idaho Society for Range Management State Meeting, Twin Falls, Idaho, 2007
 Society for Range Management Annual Meeting, Reno, Nevada, 2007
 Idaho Society for Range Management State Meeting, Boise, Idaho, 2007
 Attended NSF Days in Spokane, March 2007
 American Geophysical Union Meeting, San Francisco, 2006
 Society for Range Management Annual Meeting, Vancouver, BC, 2006
 American Geophysical Union Meeting, San Francisco, 2005
 Society for Range Management Annual Meeting, Fort Worth, Texas, 2005
 Society for Range Management Annual Meeting, Salt Lake City, January 2004
 Intermountain GIS Users Conference, Coeur d'Alene, April 2003
 ERDAS Fundamentals – image processing software (December 2001, 2 days)
 ERDAS Advanced – image processing software (December 2001, 3 days)
 Society for Range Management Annual Meeting, Boise Idaho, February 2000
 Ecological Society of America Annual Meeting, Spokane, Washington, 1999

Outreach:

- Rangeland Center Virtual Fall Forum October 2021
- Rangeland Center Virtual Fall Forum October 2020
- Rangeland Center Fall Forum October 2019
- Rangeland Center Fall Forum October 2016
- Rangeland Center Fall Forum October 2015
- Rangeland Center Fall Forum October 2014

Administration/Management: NA