

Winslow D. Hansen
Assistant Scientist
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Professional Preparation

- 2013-2018 **Ph.D.**, University of Wisconsin, Madison, Dept. of Zoology, Minor: Spatial Ecosystem Ecology. Dissertation: *Changing Climate and Fire: Implications for Post-fire Forest Regeneration in High-elevation and High-latitude Conifer Forests*. Advisor: Monica G. Turner
- 2011-2013 **M.S.**, University of Alaska, Fairbanks, Dept. of Forest Sciences. Thesis: *Linked Disturbance Interactions in South-central Alaska: Implications for Ecosystems and People*. Advisors: T. Scott Rupp, Terry Chapin
- 2005-2010 **B.A.**, University of Montana. Major: Biology with emphasis in Ecology
- 2005-2010 **B.A.**, University of Montana. Major: Economics

Appointments

- 2022-Present Adjunct Assistant Research Professor, International Arctic Research Center, University of Alaska, Fairbanks, Fairbanks, AK
- 2022-Present Adjunct Associate Research Scientist, Department of Ecology, Evolution, and Environmental Biology, Columbia University, New York City, NY
- 2021- Present Assistant Scientist, Cary Institute of Ecosystem Studies, Millbrook, NY.
- 2018-2020 Earth Institute Postdoctoral Fellow, Columbia University, New York City, New York.

Grants Awarded

- Hansen, W.D.**, L. Kueppers, A. Trugman, and A.P. Williams. Planning and launching the Western US Fire Ecology and Forest Resilience Science Collaborative. Gordon and Betty Moore Foundation (2023-2026). \$3,700,000.
- Hansen, W.D.**, C.D. Canham. Quantifying realistic current and future carbon storage in forests of the northeastern United States and western North America. Three-Cairns Foundation (2022-2025). \$150,000.
- Hayes, K., **W.D. Hansen**. OPP-PRF: Investigating fire-biotic disturbance interactions and their sensitivity to climate in the North American boreal biome. Nation Science Foundation (2023-2025). \$321,333.
- Hansen, W.D.**, C.D. Canham. Quantifying realistic current and future carbon storage in forests of the northeastern United States and western North America. Environmental Defense Fund (2022-2024). \$402,000.

Hansen, W.D. Projecting 21st-century fire risk and forest-ecosystem change in the western US. Gordon and Betty Moore Foundation (2022-2024). \$300,000.

Pickett, S.T.A., **W.D. Hansen**. SRS-RN: The continuum of urbanity as an organizing concept to promote sustainability in the mid-Hudson region. NSF Sustainable Regional Systems Research Network (2022). \$150,000.

Mack, M.C., L. Berner, A. Foster, **W.D. Hansen**, S. Goetz, and X Walker. Collaborative Research: Climate warming and increasing wildfire in the boreal forests of northwestern North America: Will vegetation change slow the feedback? NSF Arctic Systems Science (2022-2025). \$2,004,000. \$500,000 to Cary Institute.

Hansen, W.D., Cary Institute Development team. Empowering decision makers with state-of-the-art research about forest fires and climate change. Royal Bank of Canada (2021-2023). \$25,000.

Grants Pending

Hudiburg, T, L. Laumatia, **W.D. Hansen**, M Maughan, R.T. French. NSF ENGINES:Type-2: FIERCE: Fueling an innovative, equitable, and resilient climate smart economy. National Science Foundation (2023-2025). Pending: Advanced to site review. \$15,000,000. \$307,219 to Cary Institute.

Hudburg, T., C.J. Marx, N.C. Martinez-Gomez, **W.D. Hansen**, L. Lynch. BII: EMBER: Embedding molecular biology in ecosystem research in an era of increasing wildfire and drought. National Science Foundation (2023-2028). Pending: Advanced to site review. \$15,000,000. \$1,138,326 to Cary Institute.

Burrell, A. ... **W.D. Hansen**... Understanding the extent and drivers of postfire tree recruitment failure in North American forests. National Aeronautics and Space Administration (2023-2026). Pending. \$1,200,000. \$270,000 to Cary Institute.

Biro, A. S. Batterman, **W.D. Hansen**. OPP-PRF: Quantifying and scaling nitrogen fixation impacts on boreal carbon. National Science Foundation. Pending. \$321,000.

Fellowships and Scholarships

2019-2020 Columbia University Climate Center Award (\$10,000)

2018-2020 Earth Institute Postdoctoral Fellowship, Columbia University (~\$150,000)

2017-2019 Department of the Interior National Park Service Fuels Research Reserve Funds (~\$20,000)

2012-2016 NSF Graduate Research Fellowship (~\$120,000)

2016 Origins of alternate ecosystem states? Effects of 21st century drought on postfire tree regeneration and shifting dominance of western conifers. NSF Doctoral Dissertation Improvement Grant (~\$20,000)

2016 Shifting baselines: The changing role of smaller stand-replacing fires in high-elevation and high-latitude conifer forests. Alaska Climate Science Center (~\$25,000)

Publications

In Review

- Galioti, B.V., D.H. Mann, G.C. Wiles, L. Andreu-Hayles, **W.D. Hansen**, and N. Wiesenber. *In Review*. Diversified tree growth patterns buffer a temperate rainforest community from rapid climate changes. *Nature Communications: Earth and Environment*.
- Daum, K.L., **W.D. Hansen**, J. Gellman, A. Platinga, C. Jones, and A.T. Trugman. *In Review*. Do vegetation fuel reduction treatments alter forest fire severity and carbon stability in California forests? *Earth's Future*.

In Press or Published

34. Buch, J., A.P. Williams, C Juang, **W.D. Hansen**, P. Gentine. 2023. Modeling wildfire activity in the western United States with machine learning. *Geoscientific Model Development*, 16:3407–3433.
33. **Hansen, W.D.**, A. Foster, B. Gaglioti, R. Seidl, and W. Rammer. 2023. The permafrost and soil organic layer module for forest models (POLE-FM)1.0. *Geoscientific Model Development*, 16:2011-2023.
32. Shuman, J.K., J.K. Balch, R.T. Barnes, P.E. Higuera, C.I. Roos, D.W. Schwilk, E.N. Stavros, ... **W.D. Hansen**, ... and 79 other co-authors. 2022. Reimagine fire Science for the Anthropocene. *PNAS Nexus*, 2:pgac115.
31. **Hansen, W.D.**, N.B. Schwartz, A.P. Williams, K. Albrich, L.M. Kueppers, A. Rammig, C.P.O. Reyer, A.C. Staver, and R.Seidl. In Press. Global forest productivity is influenced by legacies of past inter-annual temperature variability. *Environmental Reports: Ecology*, 1:011001.
30. **Hansen, W.D.**, M.A. Krawchuk, A.T. Trugman, and A.P. Williams. 2022. The Dynamic Temperate and Boreal Fire and Forest-ecosystem Simulator (DYNAFFOREST): Development and evaluation. *Environmental Modelling and Software*, 156:105473.
29. Williams, A.P., B. Livneh, K.A. McKinnon, **W.D. Hansen**, J.S. Mankin, B.I. Cook, J.E. Smerdon, A.M. Varuolo-Clarke, N.R. Bjarke, C.S. Juan, D.P Lettenmaier. 2022. Growing Impact of wildfire on western United States water supply. *Proceedings of the National Academy of Sciences*, e2114069119.
28. Gill, N.S., M.G. Turner, C.D. Brown, S.I. Glassman, S.L. Haire, **W.D. Hansen**, E.R. Pansing, S.B. St Clair, and D.F. Tomback. 2022. Dispersal limitations will constrain postfire forest recovery of plants and fungi. *BioScience*, biab139.
27. Turner, M.G., K.H. Braziunas, **W.D. Hansen**, T.J. Hoecker, W. Rammer, Z. Ratajczak, A.L. Westerling, and R. Seidl. 2022. The magnitude, direction, and tempo of mountain forest change in a warmer world with more fire. *Ecological Monographs*, e01485.
26. Abatzoglou, J.T., D.S. Battisti, A.P. Williams, **W.D. Hansen**, B.J. Harvey, and C.A. Kolden. 2021. Continued increases in western US forest fire despite growing fuel constraints. *Nature Communications Earth and Environment*, 2:227.

25. Rammer, W., K. Braziunas, **W.D. Hansen**, Z. Ratajczak, A. Westerling, M.G. Turner, and R. Seidl. 2021. Widespread regeneration failure in forests of Greater Yellowstone under scenarios of future climate and fire. *Global Change Biology*, 27:4339-4351.
24. Hernandez-Aguilera, J.N., W. Anderson, A.L. Bridges, M.P. Fernandez, **W.D. Hansen**, M.L. Maurer, E.K.I. Nébié, and A. Stock. 2021. Is academia supporting early-career scholars to tackle sustainability crises? *Nature Sustainability*, 4:374-375.
23. **Hansen, W.D.**, R. Fitzsimmons, J. Olnes, and A.P. Williams. 2021. An alternate vegetation type proves resilient and persists for decades following forest conversion in the boreal biome. *Journal of Ecology*, 109:85-98.
22. Hoecker, T., **W.D. Hansen**, and M.G. Turner. 2020. Topographic position amplifies consequences of short-interval stand-replacing fires on postfire tree establishment in subalpine conifer forests. *Forest Ecology and Management*, 478: 118523.
21. Albrich, K., R. Rammer, M.G. Turner, Z. Ratajczak, K. Braziunas, **W.D. Hansen**, and R. Seidl. 2020. Simulating forest resilience. *Global Ecology and Biogeography*, 29: 2082-2096.
20. Seidl, R., J. Honkaniemi, T. Aakala, A. Aleinikov, P. Angelstam, M. Bouchard, Y. Boulanger, P. Burton, L. De Grandpré, S. Gauthier, **W.D. Hansen**, J. Jepsen, K. Jögiste, D. Kneeshaw, T. Kuuluvainen, O. Lisitsyna, K. Makoto, A. Mori, D. Pureswaran, E. Shorohova, E. Shubnitsina, A. Taylor, N. Vladimirova, F. Vodde, and C. Senf. 2020. Globally consistent climate sensitivity of natural disturbances in extratropical forest ecosystems. *Ecography*, 43: 967-978.
19. **Hansen, W.D.**, D. Abendroth, W. Rammer, R. Seidl, and M.G. Turner. 2020. Can wildland fire management alter 21st-century subalpine fire and forests in Grand Teton National Park, Wyoming, USA? *Ecological Applications*, 30: e02030.
18. Turner, M.G., K. Braziunas, **W.D. Hansen**, and B.J. Harvey. 2019. Short-interval severe fire erodes the resilience of subalpine lodgepole pine forests. *Proceedings of the National Academy of Sciences*, 116:11319-11328.
17. **Hansen, W.D.** and M.G. Turner. 2019. Origins of abrupt change? Postfire subalpine conifer regeneration declines nonlinearly with warming and drying. *Ecological Monographs*, 89: e01340.
16. Braziunas, K.D., **W.D. Hansen**, R. Seidl, W. Rammer, and M.G. Turner. 2018. Beyond the mean: Drivers of variability in postfire stand development of Rocky Mountain conifers. *Forest Ecology and Management*, 430: 460-471.
15. **Hansen, W.D.**, K.H. Braziunas, W. Rammer, R. Seidl, and M.G. Turner. 2018. It takes a few to tango: Interactions between changing climate and fire can cause regeneration failure in two subalpine conifers. *Ecology*, 99:966-977.
14. **Hansen, W.D.**, K.E. Fisher, J.A. Klassen, J.P. Scholl, L. Calle, G.S. Kandlikar, N. Kortessis, D. Kucera, D.E. Marias, D.L. Narango, K. O'Keefe, W. Recart, E. Ridolf, M. Shea, A.E. Sorensen. 2018. Student reflections on careers and culture of 21st century ecology. *Ecosphere*, 9: e02099.
13. Morris, J.L., S. Cottrell, C.J. Fettig, R.J. DeRose, K.M. Mattor, V.A. Carter, J. Clear, J. Clement, **W.D. Hansen**, J.A. Hicke, P.E. Higuera, A.W.R. Seddon, H. Seppa, R.L. Sherriff,

- J.D. Stednick, and S.J. Seybold. 2018. Bark beetles as agents of change in social-ecological systems. *Frontiers in Ecology and the Environment*, 16: S34-S43.
12. Rose, K.C., R.A. Graves, **W.D. Hansen**, B.J. Harvey, J. Qiu, S.A. Wood, C. Ziter, and M.G. Turner. 2017. Foundations and future directions in macrosystems ecology. *Ecology Letters*, 20:147-157.
 11. Morris, J.L., S. Cottrell, C.J. Fettig, **W.D. Hansen**, R.L. Sherriff, V.A. Carter, J. Clear, J. Clement, R.J. DeRose, J.A. Hicke, P.E. Higuera, K.M. Mattor, A.W.R. Seddon, H. Seppa, J.D. Stednick, and S.J. Seybold. 2016. Managing bark beetle impacts on ecosystems and society: Priority questions to motivate future research. *Journal of Applied Ecology*.
 10. Brinkman, T.J., **W.D. Hansen**, F.S. Chapin III, G.P. Kofinas, S. BurnSilver, and T.S. Rupp. 2016. Perceptions of impacts of climate trends on subsistence resources: Importance of access. *Climatic Change*, 1-15.
 9. **Hansen, W.D.**, F.S. Chapin III, H.T. Naughton, T.S. Rupp, and D. Verbyla. 2016. Forest-landscape structure mediates effects of a spruce bark beetle (*Dendroctonus rufipennis*) outbreak on subsequent likelihood of burning in Alaskan boreal forest. *Forest Ecology and Management*, 369: 38-46.
 8. **Hansen, W.D.**, W.H. Romme, A. Ba, and M.G. Turner. 2016. Shifting ecological filters mediate postfire expansion of seedling aspen (*Populus tremuloides*) in Yellowstone. *Forest Ecology and Management*, 362: 218-230.
 7. **Hansen, W.D.** J.M. Mueller, and H.T. Naughton. 2014. Wildfire in hedonic property value studies. *Western Economics Forum*, 13(1): 23-35.
 6. **Hansen, W.D.** 2014. Generalizable principles for ecosystem stewardship-based management of social-ecological systems: Lessons learned from Alaska. *Ecology and Society*, 19(4):13.
 5. **Hansen, W.D.**, and H.T. Naughton. 2013. The effects of a spruce bark beetle outbreak and wildfires on property values in the wildland-urban interface of south-central Alaska, USA. *Ecological Economics*, 96: 141-154.
 4. Brinkman T.J., G.P. Kofinas, **W.D. Hansen**, F.S. Chapin, S. BurnSilver, and S. Rupp. 2013. Evaluating hunting opportunities: Shifting from *abundance* to *availability*. *The Wildlife Professional*, 7(3): 38-43.
 3. **Hansen, W.D.**, T.J. Brinkman, M. Leonawicz, F.S. Chapin, and G.P Kofinas. 2013. Changing daily wind speeds: Implications for a subsistence hunting system. *Arctic*, 66(4): 448-458.
 2. **Hansen, W.D.**, and H.T. Naughton. 2013. Social and ecological determinants of land clearing in the Brazilian Amazon: A spatial analysis. *Land Economics*, 89(4): 699-721.
 1. **Hansen, W.D.**, T.J. Brinkman, F.S. Chapin, and C. Brown. 2013. Meeting indigenous subsistence needs: The case for prey switching in rural Alaska. *Human Dimensions of Wildlife*, 18(2): 109-123.

Book Chapters

Hood, S.M., Harvey, B.J., Fornwalt, P.J., Naficy, C.E., **Hansen, W.D.**, Davis, K.T., Battaglia, M.A., Stevens-Rumann, C., and Saab, V. Fire ecology of Rocky Mountain forests. In:

Collins, B.; C. H. Greenberg, (Editors). 2021. Fire Ecology and Management: Past, Present, and Future of US Forested Ecosystems. SpringerNature.

Turner, M.G., D.C. Donato, **W.D. Hansen**, B.J. Harvey, W.H. Romme, and A.L. Westerling. Climate change and novel disturbance regimes in national park landscape. In: Beissinger, S.R., D.D. Ackerly, H. Doremus, and G. Machlis (Editors). 2016. Science for Parks, Parks for Science: The Next Century. University of Chicago Press, Chicago, Illinois

Professional Presentations (Presenting author only)

Invited

Hansen, W.D., 2023. Climate and disturbance impacts on forests: Scaling from tree seedlings to Continents, Department of Ecology and Evolutionary Biology, Cornell University.

Hansen, W.D., 2023. Climate and disturbance impacts on forests: Scaling from tree seedlings to Continents, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison.

Hansen, W.D. 2021. Modeling dynamic feedbacks between fire and forests. Department of Life Science Systems, Technical University of Munich, Digital.

Hansen, W.D. 2021. Causes and ecological consequences of increased forest fire in the western US. Cross-departmental seminar in climate science, University of California, Santa Barbara, Digital.

Hansen, W.D. 2020. Global hotspots of forest sensitivity to increasing climate variability. Pop-up Symposia on Life-science and Ecology, Digital.

Hansen, W.D. 2020. Resilience and reorganization of 21st-century forests at organismal to global scales. Stockholm Resilience Center, Stockholm, Sweden.

Hansen, W.D. 2019. Resilience and reorganization of 21st-century forests at organismal to global scales. Arizona State University, Tempe, AZ.

Hansen, W.D. 2019. Resilience and reorganization of 21st-century forests at organismal to global scales. Cary Institute for Ecosystem Studies, Millbrook, NY.

Hansen, W.D. 2019. Resilience and reorganization of 21st-century conifer forests in western North America. McGill University, Montreal, Quebec, CA.

Hansen, W.D. 2019. Resilience and reorganization: 21st-century forests as complex adaptive systems. University of California, Merced, Merced, CA, USA.

Hansen, W.D. 2019. Resilience and reorganization: 21st-century forests as complex adaptive systems. Columbia University Seminar on Complexity Science, Modeling, and Sustainability, New York, NY, USA.

Hansen, W.D., 2018. Forest resilience in high elevation and high latitude conifer forests of western North America. Lamont-Doherty Earth Observatory Biology and Paleo-environment Seminar Series, New York, NY, USA.

Hansen, W.D., 2016. Fire suppression in subalpine and boreal conifer forests: Impacts on subsequent fire and succession. Alaska Fire Science Consortium, Spring Fire Managers Workshop, Fairbanks, AK, USA.

Hansen, W.D., 2015. Climate warming and novel fire regimes in high-elevation and high-latitude conifer forests of western North America. University of Alaska, Fairbanks Resilience and Adaptation Program: All Resilience and Adaptation Seminar, Fairbanks, AK, USA.

Hansen, W.D., 2012. Linked disturbance interactions in south-central Alaska: Implications for ecosystems and people. Center for Alaska Coastal Studies, Homer, AK, USA.

Conferences

Hansen, W.D., M.A. Krawchuk, A.T. Trugman, and A.P. Williams. 2022. A new dynamic fire and forest model for diagnosing the causes and consequences of increased burning in the western United States. Ecological Society of America Annual Symposium, Montreal Quebec, CA. *Oral presentation.*

Hansen, W.D., M. Krawchuk, and A.P. Williams. 2021. A new dynamic fire and forest model for diagnosing the causes and consequences of increased burning in the western United States. Ecological Society of America, *Oral presentation.*

Hansen, W.D., A. Park Williams, and R. Seidl. 2019. Global hotspots of forest priming to climate variability. Presented at the American Geophysical Union Annual Symposium, San Francisco, CA, USA. *Oral Presentation.*

Hansen, W.D., A. Park Williams, and R. Seidl. 2019. Shuffling the deck: Reorganization of 21st century tree-species assemblages. Presented at the Ecological Society of America Annual Symposium, Louisville, KY, USA. *Oral Presentation.*

Hansen, W.D., A. Park Williams, and R. Seidl. 2019. Changing climate variability and the erosion of forest resilience. Presented at the International Association for Landscape Ecology World Congress, Milan, Italy. *Oral Presentation.*

Hansen, W.D., W. Rammer, R. Seidl, and M.G. Turner. 2019. How might we anticipate 21st-century fire and forest dynamics in subalpine landscapes? Presented at the International Association for Landscape Ecology North America. Fort Collins, CO, USA. *Oral Presentation.*

Hansen, W.D., W. Rammer, R. Seidl, and M.G. Turner. 2018. Effects of fire suppression on 21st century wildfire and subalpine forests of Greater Yellowstone. Presented at the 14th Biennial Scientific Conference on the Greater Yellowstone Ecosystem. Big Sky, MT, USA. *Oral Presentation.*

Hansen, W.D., W. Rammer, R. Seidl, and M.G. Turner. 2018. Effects of fire suppression on 21st century wildfire and subalpine forests of Greater Yellowstone. Presented at the Ecological Society of America Annual Symposium, New Orleans, USA. *Oral Presentation.*

Hansen, W.D., K.B. Braziunas, W. Rammer, R. Seidl, and M.G. Turner. 2017. The perfect storm: Multiple stressors interact to drive postfire regeneration failure of two widespread Rocky-mountain conifers. Presented at the American Geophysical Union Annual Symposium, New Orleans, USA. *Poster Presentation.*

Hansen, W.D., K.B. Braziunas, W. Rammer, R. Seidl, and M.G. Turner. 2017. The perfect storm: Multiple stressors interact to drive postfire regeneration failure of two widespread Rocky-mountain conifers. Presented at the Ecological Society of America Annual Symposium, Portland, OR, USA. *Oral Presentation.*

- Hansen, W.D.** and M.G. Turner. 2016. Origins of alternate ecosystem states? Effects of 21st century drought on postfire regeneration of two widespread rocky mountain conifers. 13th Biennial Scientific Conference on the Greater Yellowstone Ecosystem. Jackson Hole, WY, USA. *Oral Presentation.*
- Hansen, W.D.** and M.G. Turner. 2016. Origins of alternate ecosystem states? Effects of 21st century drought on postfire regeneration of two widespread rocky mountain conifers. Presented at the Ecological Society of America Annual Symposium, Fort Lauderdale, FL, USA. *Oral Presentation.*
- Hansen, W.D.,** W. H. Romme, A. Ba, and M.G. Turner. 2015. Shifting ecological filters mediate postfire expansion of seedling aspen (*Populus tremuloides*) in Yellowstone. Presented at the Ecological Society of America Annual Symposium, Baltimore MD, USA. *Oral Presentation.*
- Hansen, W.D.** 2015. Managing natural disturbances in human dominated landscapes. Presented at the Western Forest Insect Work conference, Santa Fe, NM, USA. *Oral Presentation.*
- Hansen, W.D.,** W. Romme, and M.G. Turner. 2014. Fire, climate, and reduced browsing foster an expansion of seedling aspen (*Populus tremuloides*) after the 1988 Yellowstone fires. Presented at the 12th Biennial Scientific Conference on the Greater Yellowstone Ecosystem. Mammoth, WY, USA. *Poster Presentation.*
- Hansen, W.D.,** W. Romme, and M.G. Turner. 2014. Fire, climate, and reduced browsing foster an expansion of seedling aspen (*Populus tremuloides*) after the 1988 Yellowstone fires. Presented at the Ecological Society of America Annual Symposium, Sacramento California, USA. *Oral Presentation.*
- Hansen, W.D.** 2014. Complex interactions between people and natural disturbance: Lessons learned and questions raised from a case study of beetle outbreak, wildfires, and property values in south-central Alaska. Presented at Large Wildland Fires: Social, Political, and Ecological Effects, Missoula Montana, USA. *Oral Presentation.*
- Hansen, W.D.** 2014. Generalizable principles for ecosystem-stewardship-based management of social-ecological systems: Lessons learned from Alaska. Presented at Resilience: The Third International Science and Policy Conference, Montpellier, France. *Oral Presentation.*
- Hansen, W.D.,** T.S. Rupp, F.S. Chapin, H.T. Naughton, and D. Verbyla. 2012. Linked Disturbance Interactions: Implications for Ecosystems and People. Presented at the Ecological Society of America Annual Symposium, Portland Oregon, USA. *Oral Presentation.*
- Hansen, W.D.,** T.S. Rupp, F.S. Chapin, H.T. Naughton, and D. Verbyla. 2012. Linked Disturbance Interactions: Implications for Ecosystems and People. Presented at the 2012 Alaska EPSCoR All Hands Meeting. University of Alaska, Fairbanks, Fairbanks, Alaska, USA. *Poster Presentation.*
- Hansen, W.D.,** T.J. Brinkman, M. Leonawicz, F.S. Chapin, and G.P. Kofinas. 2012. Changing Daily Wind Speeds: Implications for a Subsistence Hunting System. Presented at International Polar Year 2012 Conference. Palais des Congres, Montreal, Quebec, Canada. *Oral Presentation.*
- Hansen, W.D.,** T.S. Rupp, F.S. Chapin, H.T. Naughton, and D. Verbyla. 2012. Linked Disturbance Interactions: Implications for Ecosystems and People. Presented at the 2012

Alaska Chapter of the Society of American Foresters Meeting. Pikes Riverfront Lodge, Fairbanks, Fairbanks, Alaska, USA. *Poster Presentation.*

Hansen, W.D., T.S. Rupp, F.S. Chapin, H.T. Naughton, and D. Verbyla. 2012. Linked Disturbance Interactions: Implications for Ecosystems and People. Presented at the 2012 Alaska Cooperative Fish and Wildlife Research Unit Meeting. University of Alaska, Fairbanks, Fairbanks, Alaska, USA. *Poster Presentation.*

Hansen, W.D., T.J. Brinkman, M. Leonawicz, F.S. Chapin, and G.P. Kofinas. 2012. Changing Daily Wind Speeds: Implications for a Subsistence Hunting System. Presented at the Alaska Forum on the Environment. Dena'ina Civic and Convention Center, Anchorage, Alaska, USA. *Oral Presentation.*

Hansen, W.D., T.J. Brinkman, M. Leonawicz, F.S. Chapin, and G.P. Kofinas. 2011. Changing Daily Wind Speeds: Implications for a Subsistence Hunting System. Presented to the National Petroleum Reserve-Alaska Subsistence Advisory Panel. Organized by the US Bureau of Land Management. Fairbanks, Alaska, USA. *Oral Presentation.*

Hansen, W.D., T.J. Brinkman, F.S. Chapin, and C. Brown. 2011. Meeting indigenous subsistence needs: Prey switching in rural Alaska. Presented at the Annual Alaska Chapter of the American Fisheries Society. Alyeska Resort, Girdwood, Alaska, USA. *Oral Presentation.*

Hansen, W.D., T.J. Brinkman, F.S. Chapin, and C. Brown. 2011. Meeting indigenous subsistence needs: Prey switching in rural Alaska. Presented at the 96th Ecological Society of American Annual Symposium. Austin Convention Center, Austin, Texas, USA. *Oral Presentation.*

Hansen, W.D., T. Brinkman, and F.S. Chapin. 2011. Prey switching as an adaptive strategy to manage restrictions on subsistence wildlife harvest in rural Alaska. Presented at Resilience Second International Science and Policy Conference, Tempe, Arizona, USA. *Oral Presentation.*

Hansen, W.D., 2010. Deforestation in the Amazon: An exploration in how measurements of environmental quality may contribute to peasant land use decisions. Presented at The National Conference for Undergraduate Research, University of Montana, Missoula, Montana, USA. *Oral Presentation.*

Teaching Experience

Classroom

Spring 2022 Terrestrial Systems Modeling (GR6031), Department of Ecology, Evolution, and Environmental Biology, Columbia University, Instructor of Record.

Spring 2017 Graduate Teaching Assistant, Introductory Biology (Biology 152, 2nd semester), University of Wisconsin, Madison, Zoology Department, Discussion TA.

Fall 2016 Graduate Teaching Assistant, Honors Introductory Biology (Biology 381, 1st semester of four semester sequence), University of Wisconsin Madison, Zoology Department, Discussion TA.

Fall 2013 Graduate Teaching Assistant, Introductory Biology (Biology 152, 2nd semester), University of Wisconsin, Madison, Zoology Department, Laboratory TA.

Mentoring

Postdoctoral Research Associates Advised

3. Katherine Hayes 2023-present
2. Jazlynn Hall 2022-present
1. Sara Germain 2022-present

Research Associates Supervised

2. Manette Sandor 2022-present
1. Lora Murphy 2022-present

Graduate students mentored

3. Nick Link 2023-present, Northern Arizona University, Ph.D. committee member
2. Erich Eberhardt 2022-present, Columbia University, Ph.D. committee member
1. Kris Daum 2021-2023, UC Santa Barbara, MS committee member

Undergraduate theses supervised

- 2021 Louis Cai- Cary Institute REU participant
- 2016-2020 Ryan Fitzsimmons- University of Wisconsin, Madison Introductory Biology Mentored Research Program and UW Holstrom Undergraduate Research Fellowship “*Joint effects of herbivory, pathogens, and altered fire regimes on the stability of deciduous dominated boreal forest in interior Alaska.*”
- 2013-2016 Aisha Ba- University of Wisconsin, Madison Introductory Biology Mentored Research Program and UW Hilldale Undergraduate Research Fellowship “*Climate and forest productivity affect microbial communities in the young conifer forests of Yellowstone National Park.*”

Supervised field assistants

- 2023 Elizabeth Buhr
- 2016 Ryan Fitzsimmons
- 2015 Aisha Ba
- 2015 Matthew Norman
- 2014 Kari Forseth
- 2013 Sarah Winter

Professional Activities and Service

Cary Institute Committees

- 2021-present Cary Institute postdoctoral committee
- 2021-present Cary Institute environmental monitoring committee

Elected positions

- 2015-2016 Chair, Ecological Society of America Student Section. As elected chair, I was responsible for leading the ESA's second largest section of nearly 550 members. Responsibilities included overseeing preparation of student-focused events and content for the annual meeting and providing resources and updates to our student members throughout the year.
- 2014-2015 Vice Chair: Ecological Society of America Student Section. Assisted the co-chairs in preparing student-focused events and content for the annual meeting and providing resources and updates to student members throughout the year.
- 2014-2015 Vice President: UW Chapter Student Section Association for Fire Ecology. Helped found and run the UW-Madison chapter.
- 2011-2012 Student Representative: University of Alaska Fairbanks Resilience and Adaptation IGERT Steering Committee. Provided a student perspective to the steering committee as we successfully navigated the institutionalization of the IGERT at the end of NSF funding.

Workshops and Special Sessions

- 2023-2025 Participant: Western wildfire resilience index working group. National Center for Ecological Analysis and Synthesis. Santa Barbara, CA, USA.
- 2023 Participant: Wildfire big think. Conservation X Labs. San Francisco, CA, USA.
- 2022-2023 Participant: Wildland fire policy accelerator. Federation of American Scientists. Online
- 2022 Participant: Natural climate solutions working group. Environmental Defense Fund. Atlanta, Georgia, USA.
- 2022 Participant: To wildfire resilience in western North America: Progress and Priorities. Gordon and Betty Moore Foundation. Online.
- 2021 Participant: Innovation lab on wildfire and the Biosphere. National Science Foundation. Online.
- 2021 Participant: Recurrent Acute Disasters Online Symposium. Online.
- 2019 Participant: Special Session on seed dispersal in postfire environments. Ecological Society of America, Annual Symposium, Louisville, KY, USA.
- 2019 Organizer: Special Session on forest resilience to climate variability and change, International Association for Landscape Ecology World Congress, Milan, Italy.
- 2019 Participant: Community Land Model Tutorial, Boulder, CO, USA.
- 2018 Participant: Ecological Forecasting Summer Course, Boston University, Boston, MA, USA.
- 2017 Participant: The Novus Project for Integrating Paleo- and Neo-ecosystem ecology, Hubbard Brooke Experimental Forest, Woodstock, NH, USA.
- 2015-2016 Organizer: EcoFutures Initiative, envisioning 21st-century ecology careers, Online and Fort Lauderdale, FL, USA.

- 2014 Participant: Social-ecological Dimensions of Forest Bark Beetle Disturbances: Past Present and Future, Santa Fe, NM, USA.
- 2013 Organizer: Special Session on Social-ecological solutions to the wildfire paradox, Association for Fire Ecology Large Wildland Fire Conference, Missoula, MT, USA.

Professional Memberships

Ecological Society of America, American Geophysical Union

Media Coverage

General (Chronological)

- Hansen, W.D.** 2023. How to live sustainably with fires. The Hill (June 20, 2023). <https://thehill.com/opinion/energy-environment/4043138-how-we-can-live-more-sustainably-with-wildfires/>
- Harris, Alexandra, & Silberstein, R. 2023. Poor air quality threatens New Yorkers, but it's worse for these neighborhoods. Albany Times Union (June 14th, 2023). <https://www.timesunion.com/projects/2023/new-york-asthma-rates/>
- Cronin, Brian. 2023. Out there: Welcome to the age of fire. The Highlands Current (June, 16th, 2023). <https://highlandscurrent.org/2023/06/16/out-there-welcome-to-the-age-of-fire/>
- Van Deelen, Grace. 2023. Some fires are better than others. Sierra Magazine (April 15, 2023). <https://www.sierraclub.org/sierra/some-fires-are-better-others-wildfire-controlled-burn-carbon-sequestration>
- Nowakowski, Teresa. 2023. California's "zombie forests" are cheating death- but maybe not for long. Smithsonian Magazine (March 10, 2023). <https://www.smithsonianmag.com/smart-news/californias-zombie-forests-are-cheating-death-but-maybe-not-for-long-180981773/>
- Shao, Elena. 2023. Mapping California's Zombie Forests. New York Times (March 6, 2023). <https://www.nytimes.com/interactive/2023/03/06/climate/california-zombie-forests.html?searchResultPosition=1>
- Van Deelen, Grace. 2023. The Forests of the Sierra Nevada are Full of Zombies. Sierra Magazine (March 1, 2023). <https://www.sierraclub.org/sierra/forests-sierra-nevada-zombies-climate-change>
- Heal, Alexandra. 2022. The ancient subarctic forests at risk from climate change and war. Financial Times (September 11, 2022) <https://www.ft.com/content/e59c800f-3704-4504-91b0-06e583d9cd42>
- King, Anthony. 2021. Chemistry and Industry.
- Harvey, Chelsea. 2021. Northern forests are dramatically changing after wildfires. E and E News (April 16, 2021). <https://www.eenews.net/climatewire/2021/04/16/stories/1063730139>
- McDermott, Amy. 2020. News Feature: Forseeing fires. Proceedings of the National Academy of Sciences. 117: 21834-21838. <https://www.pnas.org/content/117/36/21834>

Schoen, John W. and Jordan McDonald. 2019. Warming climate, population sprawl threaten California's future with more destructive wildfires. CNBC (November 9, 2019)
<https://www.cnn.com/2019/11/09/why-californias-wildfires-are-going-to-get-worse.html>

Media reports by Research Publication

Hansen et al. 2019, Ecological Applications

- Jackson Hole News and Guide (September 23, 2020)
Mike Koshmerl. What's in the forecast? Lots of fire, less forest.
https://www.jhnewsandguide.com/special/conservation/what-s-in-the-forecast-lots-of-fire-less-forest/article_d3f7328c-bb3b-59c3-8868-bf4d0b5c7bfb.html
- Wyoming Public Radio (January 31, 2020)
Kamila Kudelsa, Large wildfires predicted for second half of century in Grand Teton National Park. <https://www.wyomingpublicmedia.org/post/large-wildfires-predicted-second-half-century-grand-teton-national-park>
- Jackson Hole Daily Guide (January 27, 2020)
Mike Koshmerl, Forecast: Burn, baby burn; 1,700% jump expected in acres burned.
https://www.jhnewsandguide.com/jackson_hole_daily/local/forecast-burn-baby-burn-jump-expected-in-acres-burned/article_884d1930-7829-59cd-b71a-0f0f66d36dbd.html
- Bozeman Daily Chronicle (October 9, 2019)
Michael Wright, What will we lose? Tracking climate change in Yellowstone. https://www.bozemandailychronicle.com/news/environment/what-will-we-lose-tracking-climate-change-in-yellowstone/article_2cd9181a-4a05-527c-aaf3-3fbad9596cee.html

Hansen and Turner 2019, Ecological Monographs

- UW-Madison News
Kelly Tyrrell, Resilience of Yellowstone's forest tested by unprecedented fire. <https://news.wisc.edu/resilience-of-yellowstones-forests-tested-by-unprecedented-fire/>
- Bozeman Daily Chronicle (May 22, 2019)
Michael Wright, Study: Short-interval fire hampers Yellowstone forest recovery. https://www.bozemandailychronicle.com/news/yellowstone_national_park/study-short-interval-fire-hampers-yellowstone-forest-recovery/article_81f44cc6-1372-551d-854f-793d33ba27e3.html
- Science Daily
Resilience of Yellowstone's forests may be tested by unprecedented fire.
<https://www.sciencedaily.com/releases/2019/05/190520153024.htm>
- State of the Planet

Climate-driven fires could turn Yellowstone forests to grassland by midcentury.
<https://blogs.ei.columbia.edu/2019/01/17/fire-could-turn-yellowstone-forests-to-grassland-by-midcentury/>

- Idaho Post Register (January 23, 2019)

Yellowstone is in our hands.

https://www.postregister.com/opinion/editorials/yellowstone-is-in-our-hands/article_76b40066-0827-58ef-b7e9-fa28259b6130.html

Hansen et al. 2013, Ecological Economics

- Alaska Dispatch News (December 16, 2013)

Yereth Rosen, Massive burns of beetle-killed trees benefit Alaska home values, study says. <http://www.adn.com/environment/article/large-burns-beetle-killed-trees-benefit-home-values-study-says/2013/12/16/>

Hansen et al. 2013, Arctic

- Alaska Dispatch News (December 2, 2013)

Yereth Rosen, Study: Windy weather increasingly deters Wainwright subsistence hunters. (<http://www.adn.com/science/article/study-windy-weather-increasingly-deterrent-wainwright-hunters/2013/12/04/>)

Professional References

1. Dr. Monica G. Turner, Eugene P. Odom Professor of Ecology and Vilas Research Professor, Department of Integrative Biology, University of Wisconsin-Madison. Email: turnermg@wisc.edu
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4. Dr. Terry Chapin, Professor Emeritus, University of Alaska Fairbanks. Email: terry.chapin@alaska.edu