James A Lutz
Professor of Forest Ecology
SJ & Jessie E Quinney College of Natural Resources
Utah State University, 5230 Old Main Hill, Logan, UT 84322-5230

EDUCATION

University of Washington **Seattle, WA**

- PhD, Ecosystem Analysis, College of Forest Resources, 2008. Committee Chair; Jerry Franklin
- MS, Ecosystem Analysis, College of Forest Resources, 2005. Committee Chair; Charlie Halpern

Massachusetts Institute of Technology **Cambridge, MA**

- MS/MBA, Sloan School of Management. Committee Chair; John Hauser.
- MS with industrial internship, Department of Electrical Engineering & Computer Science. Committee Chairs; Jon Allen and Burnie West (Schlumberger).
- BS, Electrical Engineering.

APPOINTMENTS

7/2022 – Present	Professor, Utah State University, Logan, UT
7/2018 – 6/2022	Associate Professor, Utah State University, Logan, UT
8/2013 – 6/2018	Assistant Professor, Utah State University, Logan, UT
9/2013 – 12/2018	Affiliate Assistant Professor, University of Washington, Seattle, WA
3/2011 – 7/2013	Research Scientist (Principal), University of Washington, Seattle, WA
8/2008 – 2/2011	Research Associate, University of Washington, Seattle, WA

AWARDS

2019 – 2024	TW Daniel Endowed Professor in Forestry
2020 – 2021	Quinney College of Natural Resources Researcher of the Year
2017 – 2018	Quinney College of Natural Resources Graduate Mentor of the Year
2011	DISCCRS VI Scholar

Honor Societies: Xi Sigma Pi (Forestry), Eta Kappa Nu (Electrical Engineering), Sigma Xi (Science)

PUBLICATIONS

H-index = 53 and total citations = 11,334 as of January 1, 2025 (Google Scholar)

Peer-Reviewed Journal Publications

§Postdoc
† Graduate student
‡ Undergraduate student

[163] Henn, J., B. Sedio, C. Catano, E. Dewald-Wang, V. Diaz, **J. A. Lutz**, S. McMahon, G. Parker, J. A. Myers, and M. Spasojevic. 2024. Metabolomic and morphological trait diversity display contrasting patterns in temperate forest tree communities. *Ecosphere* 15(12): e70137.

[162] Birch§, J. D., R. J. DeRose, and **J. A. Lutz**. 2024. Spruce up your climate analysis: Dendroclimatology of *Picea engelmannii* and *Picea pungens*. *Ecosphere* 15(11): e70047.

[161] Journé, V., M. Bogdziewicz, B. Courbaud, G. Kunstler, T. Qiu, M-C. A. Acuña, D. Ascoli, Y. Bergeron, D. Berveiller, T. Boivin, R. Bonal, T. Caignard, M. Cailleret, R. Calama, J. J. Camarero, C-H. Chang-Yang, J. Chave, F. Chianucci, T. Curt, A. Cutini, A. Das, E. Daskalakou, H. Davi, N. Delpierre, S. Delzon, M. Dietze, S. D. Calderon, L. Dormont, J. M. Espelta, W. Farfan-Rios, M. Fenner, J. Franklin, C. Gehring, G. Gilbert, G. Gratzer, C. H. Greenberg, A. Guignabert, Q. Guo, A. Hacket-Pain, A. Hampe, Q. Han, M. E. Hanley, J. Hille Ris Lambers, J. Holík, K. Hoshizaki, I. Ibanez, J. F. Johnstone, J. M. H. Knops, R. K. Kobe, H. Kurokawa, J. Lageard, J. LaMontagne, M. Ledwon, F. Lefèvre, T. Leininger, J-M. Limousin, **J. A. Lutz**, D. Macias, A. Mårell, E. McIntire, E. V. Moran, R. Motta, J. Myers, T. A. Nagel, S. Naoe, M. Noguchi, J. Norghauer, M. Oguro, J-M Ourcival, R. Parmenter, I. Pearse, I. M. Pérez-Ramos, Ł. Piechnik, T. Podgórski, J. Poulsen, M. D. Redmond, C. D. Reid, P. Šamonil, C. L. Scher, W. H. Schlesinger, B. Seget, S. Sharma, M. Shibata, M. Silman, M. Steele, N. Stephenson, J. Straub, S. Sutton, J. J. Swenson, M. Swift, P. A. Thomas, M. Uriarte, G. Vacchiano, A. Whipple, T. Whitham, S. J. Wright, K. Zhu, J. Zimmerman, M. Żywiec, and J. S. Clark. 2024. The relationship between maturation size and maximum tree size from tropical to boreal climates. *Ecology Letters* 27(9): e14500.

[160] Wright, T., Y. Chikamoto, J. D. Birch§, and **J. A. Lutz**. 2024. Remote sensing detection of growing season freeze-induced defoliation in montane Quaking aspen (*Populus tremuloides*) of southern Utah, USA. *Remote Sensing* 16: 3477.

[159] Linger, E., **J. A. Lutz**, M. Cao, W-F. Zhang, X-F. Yang, X-B. Deng, Y. Tang, and Y-H. Hu. 2024. Phylogenetic effect on tree radial growth depends on drought and tree sizes. *Journal of Geophysical Research - Biogeosciences*. 129(8): e2023JG007607.

[158] Germain†, S. J., and **J. A. Lutz**. 2024. Stand diversity increases pine resistance and resilience to compound disturbance. *Fire Ecology* 20: 53.

[157] de Souza Leite, M., S. M. McMahon, P. I. Prado, S. J. Davies, A. A. de Oliveira, H. P. De Deurwaerder, S. Aguilar, K. J. Anderson-Teixeira, N. Aqilah, N. A. Bourg, W. Y. Brockelman, N. Castaño, C-H. Chang-Yang, Y-Y. Chen, G. Chuyong, K. Clay, Á. Duque, S. Ediriweera, C. E. N. Ewango, G. Gilbert, I.A.U.N. Gunatilleke, C.V.S. Gunatilleke, R. Howe, W. H. Huasco, A. Itoh, D. J. Johnson, D. Kenfack, K. Král, Y. T. Leong, **J. A. Lutz**, J-R. Makana, Y. Malhi, W. J. McShea, M. Bt. Mohamad, M. Nasardin, A. Nathalang, G. Parker, R. Parmigiani, R. Pérez, R. P. Phillips, P. Šamonil, I-F. Sun, S. Tan, D. Thomas, J. Thompson, M. Uriarte, A. Wolf, J. Zimmerman, D. Zuleta, M. D. Visser, and L. Hülsmann. 2024. Major axes of variation in tree demography across global forests. *Ecography* 2024(6): e07187.

[156] Luu, H., J. Hille Ris Lambers, **J. A. Lutz**, M. Metz, and R. Snell. 2024. The importance of regeneration processes on forest biodiversity in old-growth forests in the Pacific Northwest. *Philosophical Transactions B* 379: 20230016.

[155] Fang, J., H. H. Shugart, L. Wang, **J. A. Lutz**, X. Yan, and F. Liu. 2024. Optimal representation of spring phenology for predicting photosynthetic productivity across the Northern Hemisphere forests. *Agricultural and Forest Meteorology* 350: 109975.

[154] Hülsmann, L., R. Chisholm, L. Comita, M. Visser, M. Leite, S. Aguilar, K. Anderson-Teixeira, N. Bourg, W. Brockelman, S. Bunyavejchewin, N. Castaño Arboleda, C-H. Chang-Yang, G. Chuyong, K. Clay, S. Davies, Á. Duque, S. Ediriweera, C. Ewango, G. Gilbert, J. Holík, R. Howe, S. Hubbell, A. Itoh, D. Johnson, D. Kenfack, K. Král, A. Larson, **J. A. Lutz**, J-R. Makana, Y. Malhi, S. McMahon, W. McShea, M. Mohamad, M. Nasardin, A. Nathalang, N. Norden, A. Oliveira, R. Parmigiani, R. Pérez, R. Phillips, N. Pongpattananurak, I-F. Sun, M. Swanson, S. Tan, D. Thomas, J. Thompson, M. Uriarte, A. Wolf, T-L. Yao, J. Zimmerman, D. Zuleta, and F. Hartig. 2024. Latitudinal patterns in stabilizing density dependence in forest communities. *Nature* 627: 564-571.

[153] Perng, B-H., T. Y. Lam, S-T. Cheng, S-H. Su, K. J. Anderson-Teixeira, N. A. Bourg, D. F. R. P. Burslem, N. Castaño, Á. Duque, S. Ediriweera, N. Gunatilleke, **J. A. Lutz**, W. J. McShea, M. D. Md Sabri, V. Novotny, M. J. O'Brien, G. Reyolds, G. D. Weiblen, and D. Zuleta. 2024. Mapping distribution of woody plant species richness from field rapid assessment and machine learning. *Taiwania* 69(1): 1-15.

[152] Becker†, K. M. L., and **J. A. Lutz**. 2023. Predicting snag fall in an old-growth forest after fire. *Fire Ecology* 19: 71.

[151] Ku§, C-C., J. Tang, W-C. Chao, K-J. Chao, G-Z. M. Song, H-Y. Lin, and **J. A. Lutz**. 2023. Large-diameter trees buffer monsoonal changes to tree biomass over two decades. *Plant Ecology* 224: 1037-1048.

[150] Medeiros, C. D., C. Henry, S. Trueba, I. Anghel, S. D. D. de Leon Guerrero, A. Pivovaroff, L. Fletcher, G. P. John, **J. A. Lutz**, R. M. Alonso, and L. Sack. 2023. The power and importance of predicting climate preferences from mechanistic traits for species and ecosystems. *Functional Ecology* 37(11): 2786-2808.

[149] Birch§, J. D. and **J. A. Lutz**. 2023. Fire regimes of Utah: the past as prologue. *Fire* 6(11): 423.

[148] Delavaux, C. S., J. A. LaManna, J. A. Myers, R. P. Phillips, S. Aguilar, D. Allen, A. Alonso, K. J. Anderson-Teixeira, M. E. Baker, J. L. Baltzer, P. Bissiengou, M. Bonfirm, N. A. Bourg, W. Y. Brockelman, D. F. R. P. Burslem, L-W. Chang, Y. Chen, J-M. Chiang, C. Chu, K. Clay, S. Cordell, M. Cortese, J. den Ouden, C. Dick, S. Ediriweera, E. C. Ellis, A. Feistner, A. L. Freestone, T. Giambelluca, C. P. Giarina, G. S. Gilbert, F. He, J. Holík, R. W. Howe, W. H. Huasca, S. P. Hubbell, F. Inman, P. A. Jansen, D. J. Johnson, K. Král, A. J. Larson, C. M. Litton, **J. A. Lutz**, Y. Malhi, K. McGuire, S. M. McMahon, W. J. McShea, H. Memiaghe, A. Nathalang, N. Norden, V. Novotny, M. J. O'Brien, D. A. Orwig, R. Ostertag, G. G. Parker, R. Pérez, G. Reynolds, S. E. Russo, L. Sack, P. Šamonil, I-F. Sun, M. E. Swanson, J. Thompson, M. Uriarte, J. Vandermeer, X. Wang, I. Ware, G. D. Weiblen, A. Wolf, S-H. Wu, J. K. Zimmerman, T. Lauber, D. S. Maynard, T. W. Crowther, and C. Averill. 2023. Mycorrhizal feedbacks influence forest structure and diversity. *Communications Biology* 6: 1066.

[147] Birch§, J. D., M. B. Dickinson, A. Reiner, E. Knapp, **J. A. Lutz**, and J. R. Miesel. 2023. Heading and backing fire behaviors mediate the influence of fuels on wildfire energy. *International Journal of Wildland Fire* 32(8): 1244-1261.

[146] Qiu, T., M-C. Aravena Acuña, D. Ascoli, Y. Bergeron, M. Bogdziewicz, R. Bonal, T. Bovin, T. Caignard, M. Cailleret, R. Calama, J. J. Camarero, C-H. Chang-Yang, J. Chave, F. Chianucci, B. Courbaud, A. Cutini, A. Das, N. Delpierre, S. Delzon, M. Dietze, S. D. Calderon, L. Dormont, J. Espelta, T. Fahey, W. Farfan-Rios, J. F. Franklin, C. Gehring, G. Gilbert, G. Gratzer, C. Greenberg, A. Guignabert, Q. Guo, A. Hacket-Pain, A. Hampe, Q. Han, J. Holik, K. Hoshizaki, I. Ibañez, J. Johnstone,

V. Journé, T. Kitzberger, J. Knops, G. Kunstler, J. Lageard, J. LaMontagne, F. Lefevre, T. Leininger, J-M. Limousin, **J. A. Lutz**, D. Macias, E. McIntire, C. Moore, E. Moran, R. Motta, J. Myers, T. A. Nagel, M. Noguchi, R. Parmenter, P. Šamonil, I. Pearse, I. Perez-Ramos, L. Piechnik, T. Podgorski, J. Poulsen, R. M. Redmond, C. Reid, K. Roman, F. Rodriguez-Sanchez, J. Sanguinetti, C. Scher, B. Seget, S. Sharma, M. Silman, M. Steele, N. Stephenson, J. Straub, S. Sutton, J. Swenson, M. Swift, P. Thomas, M. Uriarte, G. Vacchiano, A. Whipple, T. Whitham, A. Wion, S. Wright, K. Zhu, J. Zimmerman, M. Zywiec, and J. Clark. 2023. Masting is uncommon in trees that depend on mutualist dispersers in the context of global climate and fertility gradients. *Nature Plants* 9: 1044-1056.

[145] Becker†, K. M. L., and **J. A. Lutz**. 2023. Differences in regeneration niche mediate how disturbance severity and microclimate affect forest species composition. *Forest Ecology and Management* 544: 121190.

[144] Birch§, J. D., and **J. A. Lutz**. 2023. Spatial patterns of seedlings dominated by proximity to deadwood and adult trees for *Pinus flexilis* and *Pinus longaeva*. *Forest Ecology and Management* 540: 121049.

[143] Francis, E. J., **J. A. Lutz**, and C. E. Farrior. 2023. Elevated mortality rates of large trees allow for increased frequency of intermediate trees: a hypothesis supported by demographic model comparison with plot and LiDAR data. *Forest Ecology and Management* 540: 121035.

[142] Bogdziewicz, M., M-C. Aravena Acuña, R. Andrus, D. Ascoli, Y. Bergeron, D. Brveiller, T. Boivin, R. Bonal, T. Caignard, M. Cailleret, R. Calama, S. D. Calderon, J. J. Camarero, C-H. Chang-Yang, J. Chave, F. Chianucci, N. L. Cleavitt, B. Courbaud1, A. Cutini, T. Curt, A. Das, H. Davi, N. Delpierre, S. Delzon, M. Dietze, L. Dormont, W. Farfan-Rios, C. A. Gehring, G. S. Gilbert, G. Gratzer, C. H. Greenberg, A. Guignabert, Q. Guo, A. Hacket-Pain, A. Hampe, Q. Han, K. Hoshizaki, I. Ibanez, J. F. Johnstone, V. Journé, T. Kitzberger, J. M.H. Knops, G. Kunstler, R. Kobe, J. G.A. Lageard, J. M. LaMontagne, M. Ledwon, T. Leininger, J-M. Limousin, **J. A. Lutz**, D. Macias, A. Marell, E. J.B. McIntire, E. Moran, R. Motta, J. A. Myers, T. A. Nagel, S. Naoe, K. Noguchi, M. Oguro, H. Kurokawa, J-M. Ourcival, R. Parmenter, I. M. Perez-Ramos, L. Piechnik, T. Podgórski, J. Poulsen, T. Qiu, M. D. Redmond, C. D. Reid, K. C. Rodman, P. Šamonil, J. Holik, C. L. Scher, H. S. Van Marle, B. Seget, M. Shibata, S. Sharma, M. Silman, M. A. Steele, J. N. Straub, I-F. Sun, S. Sutton, J. J. Swenson, P. A. Thomas, M. Uriarte, G. Vacchiano, T. T. Veblen, B. Wright, S. J. Wright, T. G. Whitham, K. Zhu, J. K. Zimmerman, M. Zywiec, and J. S. Clark. 2023. Linking seed size and number to trait syndromes in trees. *Global Ecology and Biogeography* 32(5): 683-694.

[141] Becker†, K. M. L., and **J. A. Lutz**. 2023. Fire-caused mortality within tree neighborhoods increases growth of *Pinus lambertiana* more than growth of *Abies concolor*. *Forest Ecology and Management* 533: 120845.

[140] Verdú, M., Garrido, J.L., Alcántara, J.M., Montesinos-Navarro, A., Aguilar, S., Aizen, M.A., Al-Namazi, A.A., Alifriqui, M., Allen, D., Anderson-Teixeira, K.J., Armas, C., Bastida, J.M., Bellido, T., Bonanomi, G., Brant-Paterno, G., Briceño, H., Camargo, R., Campoy, J.G., Chaieb, G., Chu, C., Collins, S.E., Condit, R., Constantinou, E., Degirmenci, C.Ü., Delalandre, L., Duarte, M., Faife-Cabrera, M., Fazlioglu, F., Fernando, E.S., Flores, J., Flores-Olvera, H., Fodor, E., Ganade, G., Garcia, M., García-Fayos, P., Gavini, S.S., Goberna, M., Gómez-Aparicio, L., González-Pendás, E., González-Robles, A., Hubbell, S.P., Ipekdal, K., Jorquera, M.J., Kikvidze, Z., Kütküt, P., Ledo, A., Li, B., Liu, H., Lloret, F., López, R.P., López-García, Á., Lortie, C.J., Losapio, G., **Lutz, J.A.**, Luzuriaga, A.L., Máliš, F., Manrique, E., Manzaneda, A.J., Marcilio-Silva, V., Michalet, R., Molina-Venegas, R., Navarro-Cano, J.A., Novotny, V., Olesen, J.M., Ortiz-Brunel, J.P., Pajares-Murgó, M., Parissis, N., Parker, G., Perea, A.J., Pérez-Hernández, V., Pérez-Navarro, M., Pistón, N., Pizarro-Carbonell, E., Prieto, I., Pugnaire, F.I., Ramírez, N., Retuerto, R., Rey, P.J., Rodriguez-Ginart, D.A., Rodríguez-Sánchez, M., Sánchez-Martín, R., Schöb, C., Tavsanoglu, Ç., Tedoradze, G., Tielbörger, K., Touzard, B., Tüfekcioglu, I., Turkis, S., Usero, F.M., Usta-Baykal, N., Valiente-Banuet, A., Vargas-Colin, A., Vogiatzakis, I. and Zamora, R. 2023. RecruitNet: A global database of plant recruitment networks. *Ecology* 104(2): e3923.

[139] Birch§, J. D., **J. A. Lutz**, S. Struckman†, J. R. Meisel, and J. Karst. 2023. Large-diameter trees and deadwood correspond to belowground ectomycorrhizal fungal richness. *Ecological Processes* 12: 3.

[138] Birch§, J. D., Y. Chikamoto, R. J. DeRose, V. Manvailer, E. H. Hogg, J. Karst, D. M. Love, and **J. A. Lutz.** 2022. Frost-induced defoliation in *Populus tremuloides* causes repeated growth reductions over 185 years. *Ecosystems*. https://doi.org/10.1007/s10021-022-00799-w

[137] Howe, A. A., S. A. Parks, B. J. Harvey, S. J. Saberi, **J. A. Lutz**, and L. L. Yocom. 2022. Comparing Sentinel-2 and Landsat 8 for burn severity mapping in western North America. *Remote Sensing* 14(20): 5249.

[136] Birch[§], J. D., **J. A. Lutz**, and J. Karst. 2022. Dancing with Douglas-fir: Determinism dominates fungal community assembly processes. *Journal of Ecology* 110(8): 1857-1870.

[135] Ren, H., J-C. Svenning, X. Mi, **J. A. Lutz**, J. Zhou, and K. Ma. 2022. Scale-dependent species-area relationship: niche-based versus stochastic processes in a typical subtropical forest. *Journal of Ecology* 110(8): 1883-1895.

[134] Fang, J., **J. A. Lutz**, H. H. Shugart, L. Wang, F. Liu, and X Yan. 2022. Continental-scale parameterization and prediction of leaf phenology for North American Forests. *Global Ecology and Biogeography* 31(8): 1603-1615.

[133] Journé, V., R. Andrus, M-C. Aravena, D. Ascoli, Y. Bergeron, R. Berretti, D. Berveiller, M. Bogdziewicz, R. Bonal, T. Boivin, T. Caignard, R. Calama, J. J. Camarero, C-H. Chang-Yang, B. Courbaud, F. Courbet, T. Curt, A. Das, E. Daskalakou, H. Davi, N. Delpierre, S. Delzon, M. Dietze, S. Donoso Calderon, L. Dormont, J. M. Espelta, T. Fahey, W. Farfan-Rios, C. Gehring, G. Gilbert, G. Gratzer, C. Greenberg, Q. Guo, A. Hacket-Pain, A. Hampe, Q. Han, J. HilleRisLambers, K. Hoshizaki, I. Ibanez, J. Johnstone, D. Kabeya, R. Kays, T. Kitzberger, J. Knops, R. Kobe, G. Kunstler, J. Lageard, J. LaMontagne, T. Leininger, J-M. Limousin, **J. A. Lutz**, D. Macias, E. McIntire, C. Moore, E. Moran, R. Motta, J. Myers, T. Nagel, K. Noguchi, J-M. Ourcival, R. Parmenter, I. Pearse, I. Perez-Ramos, L. Piechnik, J. Poulsen, R. Poulton-Kamakura, T. Qiu, M. Redmond, C. Reid, K. Rodman, F. Rodriguez-Sanchez, J. Sanguinetti, L. Scher, H. Schmidt Van Marle, B. Seget, S. Sharma, M. Silman, M. Steele, N. Stephenson, J. Straub, J. Swenson, M. Swift, P. Thomas, M. Uriarte, G. Vacchiano, T. Veblen, A. Whipple, T. Whitham, B. Wright, S. J. Wright, K. Zhu, J. Zimmerman, R. Zlotin, M. Zywiec, and J. Clark. 2022. Globally, tree fecundity exceeds productivity gradients. *Ecology Letters* 25(6): 1471-1482.

[132] Qiu, T., R. Andrus, M. A. Acuña, D. Ascoli, Y. Bergeron, R. Berretti, D. Berveiller, M. Bogdziewicz, T. Boivin, R. Bonal, D. Bragg, T. Caignard, R. Calama, J. J. Camarero, C-H. Chang-Yang, N. Cleavitt, B. Courbaud, C. Francois, T. Curt, A. Das, E. Daskalakou, H. Davi, N. Delpierre, S. Delzon, M. Dietze, S. D. Calderon, L. Dormont, J. Espelta, T. Fahey, W. Farfan-Rios, C. Gehring, G. Gilbert, G. Gratzer, C. Greenberg, Q. Guo, A. Hacket-Pain, A. Hampe, Q. Han, J. HilleRisLambers, K. Hoshizaki, I. Ibañez, J. Johnstone, V. Journé, D. Kabeya, C. Kilner, T. Kitzberger, J. Knops, R. Kobe, G. Kunstler, J. Lageard, J. LaMontagne, M. Ledwon, F. Lefevre, T. Leininger, J-M. Limousin, **J. A. Lutz**, D. Macias, E. McIntire, C. Moore, E. Moran, R. Motta, J. Myers, T. A. Nagel, K. Noguchi, J-M. Ourcival, R. Parmenter, I. Pearse, I. Perez-Ramos, L. Piechnik, J. Poulsen, R. P. Kamakura, M. Redmond, C. Reid, K. Rodman, F. Rodriguez-Sanchez, J. Sanguinetti, C. Scher, W. H. Schlesinger, H. S. Van Marle, B. Seget, S. Sharma, M. Silman, M. Steele, N. Stephenson, J. Straub, I-F. Sun, S. Sutton, J. Swenson, M. Swift, P. Thomas, M. Uriarte, G. Vacchiano, T. Veblen, A. Whipple, T. Whitham, A. Wion, B. Wright, S. Wright, K. Zhu, J. Zimmerman, R. Zlotin, M. Zywiec, and J. Clark. 2022. Limits to reproduction and seed size-number tradeoffs that shape forest dominance and future recovery. *Nature Communications* 13: 2381.

[131] Šamonil, P., P. Daněk, **J. A. Lutz**, K. J. Anderson-Teixeira, J. Jaroš, J. Phillips, A. Rousová, D. Adam, A. J. Larson, J. Kašpar, D. Janik, I. Vašíčková, E. Gonzalez-Akre, and M. Egli. 2022. Tree mortality may drive landscape formation: comparative study from ten temperate forests. *Ecosystems* https://doi.org/10.1007/s10021-022-00755-8

[130] Teich[§], M., K. M. L. Becker[†], M. S. Raleigh, and **J. A. Lutz**. 2022. Large-diameter trees affect snow duration in post-fire old-growth forests. *Ecohydrology* 15(2): e2414.

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Data Contributions

Data from Yosemite Forest Dynamics Plot and Wind River Forest Dynamics Plot contributed to: Ghazoul, J. 2015. Forests: A Very Short Introduction. Oxford University Press.

Data from Wind River Forest Dynamics Plot contributed to: Franklin, J. F., K. N. Johnson, and D. L.

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PRESENTATIONS Since 2020 (for all, first author = presenter)

Invited

Nevins, L. McKinley, Cheeke, T. E., Sotelo, G., **Lutz, J. A.**, Zambrano, J., Investigating the drivers of trees-associated mycorrhizal fungal communities in the Northwest, USA, Smithsonian ForestGEO Colloquium, Smithsonian Institution, Washington, D.C. September 18, 2024.

Lutz, J. A. The importance of large-diameter trees aboveground and belowground, National Chiayi University, National Chiayi University, Taiwan. December 20, 2023.

Lutz, J. A. Forest Ecology in the Western United States, National Chung Hsing University, National Chung Hsing University, Taiwan. December 19, 2023.

J. A. Lutz. "Land". Panel on the 2021 report to the Governor on the Land, Water, and Air of Utah. Salt Lake City, Utah, December 14, 2021.

Germain†, S. J. and **J. A. Lutz.** Canary in the old-growth: Yew survival limited by extreme drought. Society for American Foresters Regional Meeting, Online, April 23, 2021.

Lutz, J. A. 2020. Global importance of large-diameter trees. Nanyang Technological University, Singapore. February 12, 2020.

Lutz, J. A. 2020. The importance of deadwood in tropical forests. Nanyang Technological University, Singapore. March 12, 2020.

Contributed

Chien, H.-Y., Chao, W.-C., Struckman, S., Birch, J. D., **Lutz, J. A.** Causes of Tree Mortality in the Utah Forest Dynamics Plot, Forest Colloquium on Sustainable Development of Forest Resources, National Taiwan University, Taipei. October 18, 2024.

Liao, C.-Y., and six co-authors including, **Lutz, J. A.**, Identification of Longan Honey Origins Using ITS Sequencing and Next-Generation Sequencing Technology, Forest Colloquium on Sustainable Development of Forest Resources, National Taiwan University, Taipei. October 18, 2024.

Huang, T.-L., Chao, W.-C., Struckman, S., Birch, J. D., **Lutz, J. A.**, Patterns of Sapling Recruitment and Mortality in the Utah Forest Dynamics Plot, Forest Colloquium on Sustainable Development of Forest Resources, National Taiwan University, Taipei. October 18, 2024.

Jiang, T.-F., Chao, W.-C., Struckman, S., Birch, J. D., **Lutz, J. A.**, Population Dynamics in the Utah Forest Dynamics Plot: A High-Elevation Boreal Forest, Forest Colloquium on Sustainable Development of Forest Resources, National Taiwan University, Taipei. October 18, 2024.

Nevins, L. McKinley, **Lutz, J. A.**, and three co-authors, Investigating drivers of the composition of tree-associated mycorrhizal fungal communities in the northwestern US, ESA 2024, Ecological Society of America, Long Beach, CA. August 6, 2024.

Mi, X., **Lutz, J. A.**, and 28 co-authors, Canopy structural diversity modulates the effect of climate on primary productivity in forests, ESA 2024, Ecological Society of America, Long Beach, CA. August 5, 2024.

Johnson, D., **Lutz, J. A.**, and five co-authors, Seeing sick trees from the air or space: Opportunities and challenges in forest health assessments from remote sensing, IUFRO 2024, IUFRO, Stockholm, Sweden. June 24, 2024.

Dechant, B., and 10 co-authors, including, **Lutz, J. A.**, Examining the roles of inter- vs. intra-specific variation with foliar trait maps from imaging spectroscopy and detailed tree census data, AGU 2023, American Geophysical Union, San Francisco, CA. December 14, 2023.

Anderson-Teixeira, K., and 14 co-authors, including, **Lutz, J. A.**, Tree height, as opposed to crown exposure, drives the greater drought sensitivity of large trees, AGU 2023, American Geophysical Union, San Francisco, CA. December 13, 2023.

Peppe, D., and 9 co-authors including, **Lutz, J. A.**, Paleoclimate reconstructions of the Early Miocene fossil sites from Chamtwara, Legetet, and Koro, Tinderet, Western Kenya", GSA Confex, Geological Society of America, Philadelphia, PA. October 16, 2023.

Munyaka, V., and 11 co-authors including, **Lutz, J. A.**, Reconstructing the climate and ecology of an Early Miocene tropical forests on the flanks of the Tinderet Volcano, Kisumu County, Western Kenya, GSA Confex, Geological Society of America, Philadelphia, PA. October 16, 2023.

Luu, H., and four co-authors including, **Lutz, J. A.**, The importance of regeneration on forest biodiversity, ESA 2023, Ecological Society of America, Portland, OR. August 10, 2023.

Johnson, D., and six co-authors including, **Lutz, J. A.**, Seeing sick trees from above: Opportunities and challenges in forest mortality and health assessments from remote sensing", ESA 2023, Ecological Society of America, Portland, OR. August 9, 2023.

Birch, J. D., and six co-authors including, **Lutz, J. A.**, Small fire refugia maintain unique bacterial and fungal diversity nine years after fire, ESA 2023, Ecological Society of America, Portland, OR. August 9, 2023.

Johnson, D., and 4 co-authors including, **Lutz, J. A.**, Mortality agents driving forest turnover in eastern US forests, ESA 2023, Ecological Society of America, Portland, OR. August 8, 2023.

Cooper, J., **Lutz, J. A.**, Struckman, S., Meisel, J., Karst, J., Large-diameter trees and deadwood correspond with belowground ectomycorrhizal fungal richness", CanFunNet 2023, Canadian Fungal Research Network, Wolfville, Nova Scotia. June 2, 2023.

Henn, J., and nine co-authors including, **Lutz, J. A.**, Functional diversity of chemical and morphological traits reveals biotic and abiotic drivers of temperate forest tree community assembly, IALE NA, International Association of Landscape Ecology (North American Chapter), Riverside, CA. March 19, 2023.

Munyaka, V., K. Oringa, S. Cote, R. Kinyanjui, W. E. Lukens, **J. A. Lutz**, K. McNulty, L. Michel, and D. J. Pepppe. Reconstruction of Early Miocene paleoflora and paleoclimate of Koru region (Nyanza Province, western Kenya): Implications for early hominoid evolution. Geological Society of America annual meeting, October 9, 2022. Denver, Colorado.

Delavaux, C., and 92 co-authors including **J. A. Lutz**. 2022. Mycorrhizal feedbacks linked to global forest biodiversity gradient. The 11th annual International Conference on Mycorrhiza. Beijing, PRC.

Luu, H. J. Hille Ris Lambers, **J. A. Lutz**, M. Metz and R. S. Snell. 2022. Seed production response to climate and its effect on forest species composition. ESA Annual meeting.

Henn, J. J., **J. A. Lutz** and 15 co-authors. 2022. Functional diversity of morphological and chemical defense traits reveal abiotic and biotic drivers of tree community assembly. ESA Annual Meeting.

Furniss†, T. J. and **J. A. Lutz**. 2021. *Translating error into ecology: What uncertainty in fire severity maps and mortality models can tell us about fire effects*. Organized oral session at the Association for Fire Ecology 9th International Fire Ecology and Management Congress. Nov. 30, 2021.

Francis, E. J., **J. A. Lutz**, and C. E. Farrior. 2020. Integrating LiDAR measurements of canopy structure, forest inventory data, and a simple forest dynamics model to understand fundamental drivers of forest canopy structure. AGU Fall Meeting.

Kane, V. R., C. A. Cansler, J. T. Kane, B. Bartl-Geller, N. A. Povak, **J. A. Lutz**, D. Churchill, P. F. Hessburg, and A. J. Larson. 2020. Burn severity, repeat fires, and forest management interact to influence forest structure in northeastern Washington, USA. ESA 2020.

Clark, J., **J. A. Lutz**, and 55 co-authors. 2020. Interactions that control the pace of forest change in North America. ESA 2020

Nasto, M. K., E. M. Blomdahl[†], and **J. A. Lutz**. 2020.The Utah Fire Atlas: Quantifying wildfire size, severity, and frequency in the Beehive State. ESA 2020.

Furniss[†], T. J., and **J. A. Lutz**. 2020. Big plots, big trees, and big fires: Enhancing our ecological understanding of fire effects with unprecedented field data. ESA 2020.

Sharma, S. J**. A. Lutz**, and 53 co-authors. 2020. North American tree migration paced by fecundity and recruitment through contrasting mechanisms east and west. ESA 2020.

WORKSHOPS

Dimensions of Biodiversity, Smithsonian Institution, Zové Hrady, Czech Republic, July 16 – August 2, 2018

Software and Data Carpentry. Utah State University, Logan, Utah. February 9-10, 2017.

Dimensions of Biodiversity, Smithsonian Institution & Chinese Academy of Sciences, Hainan, People's Republic of China, July 8 – July 21, 2016.

ForestGEO Principal Investigators' Workshop, Smithsonian Institution, Washington, D.C., March 9-13, 2015.

Dimensions of Biodiversity, Smithsonian Institution & Chinese Academy of Sciences, Xishuangbanna, People's Republic of China, July 25 – August 10, 2014.

PHOENIX Fire Science, University of Idaho, Moscow, ID, April 14-16, 2014.

Dimensions of Biodiversity, Smithsonian Institution & Chinese Academy of Sciences, Front Royal, VA, August 2013.

Dimensions of Biodiversity, Smithsonian Institution & Chinese Academy of Sciences, Seattle, WA, August 2012.

Dimensions of Biodiversity, Smithsonian Institution & Chinese Academy of Sciences, Changbai and Beijing, People's Republic of China, July 17 – August 1, 2011.

TEACHING

Utah State University

WILD 3820 Forest Plants (undergraduate). 2014 – Present.

WILD 4560 Forest Ecology of the Sierra Nevada & White Mountains (field). 2014 – 2018.

WILD 6730 Forest Community Ecology (graduate). 2013, 2015, 2017, 2021, 2023.

CAS 6888 Leadership and Followership. 2017 – 2021.

University of Washington

ESRM 442 Forest Ecology of the Sierra Nevada & White Mountains (field). 2009 – 2013.

CFR 501 Forest Community Ecology (graduate). 2006, 2007

ADVISING

Graduate

Committee chair – Soren Struckman (PhD current), Kendall M. L. Becker (PhD 2022), Casey Snider (PhD current), Sara Germain (PhD 2022), Tucker J. Furniss (PhD 2021), Jelveh Tamjidi (MS 2020), Erika Blomdahl (MS 2018), Camille Stephens (MNR 2017), Tucker J. Furniss (MS 2016), Kendall M. L. Becker (MS 2014, UW).

Committee member – Ryan Stuart (PhD current), Nick Bergeron (MS current), Michael Procto (PhD current), Nadav Mouallem (MS 2024), Annie Schiffer (PhD current), McKinley Nevins (PhD current, Washington State University), Alex Howe (PhD current), Jan Ng (PhD 2022, UC Davis), Jessica Murray (PhD current), Megan Licht (PhD current), Douglas Hardman (PhD current, UI), José Camilo Fague (PhD 2018), Sean Jeronimo (PhD 2018, UW), Nate Hough-Snee (PhD 2016), Susan Dickerson-Lange (PhD 2016, UW), Cody Dangerfield (MS 2020), Kevin Turnblom (MNR 2015), Mark Raleigh (PhD 2013, UW), Kael Martin (MS 2012, UW).

SERVICE

Professional (Ongoing)

Ecological Society of America

2019 – Present: Associate Editor: *Ecological Processes*

2017 – Present: Associate Editor: *Fire*

2012 – Present: National Ecological Observation Network (NEON): Advisory committee, plant biomass

and productivity working group.

2010 – Present: Associate Editor: *Fire Ecology.*

Manuscript reviewer – *Biological Conservation, Canadian Journal of Forest Research, Ecological Applications, Ecological Monographs, Ecological Processes, Ecology, Ecosphere, Fire, Fire Ecology, Forest Ecology and Management, Geophysical Research Letters, Global Ecology and Biogeography, International Journal of Wildland Fire, Journal of Ecology, Journal of Forest Research, Landscape Ecology, Madroño, New Forests, Northwest Science, Plant Ecology, PLOS ONE,* Princeton University Press*, Remote Sensing of Environment, Restoration Ecology, Science of the Total Environment, Proceedings of the National Academy of Sciences,* Smithsonian Institution Press*,* The Pragmatic Bookshelf*, Western North American Naturalist,* University of California Press, US Forest Service, US Geological Survey, US National Park Service.

Proposal reviewer – National Science Foundation of Switzerland, National Science Foundation of the Czech Republic, Canadian Science Foundation, National Science Foundation (individual grant reviewer and panel member), Joint Fire Science Program (panel member), Smithsonian CTFS Research Grants (panel member), Kearney Foundation, National Park Service, Northern Arizona University Mission Research Board, UW School of Forest Resources Equipment Grants (chair).

External tenure/promotion reviewer – 2014, 2015, 2020, 2022, 2023, 2024.

Policy Review
2018 – Associate Editor for the Washington Forest Practices Board (Stand Structure, Tree Mortality and Large Wood Recruitment in Riparian Buffers on Fish-Bearing Streams in Eastern Washington: Comparison of the Standard Rule and the All Available Shade Prescription for Bull Trout Habitat)

2016 – Reviewer for the Washington Forest Practices Board (Riparian stand conditions and buffer tree mortality rates)

2015 – Reviewer for the California Spotted Owl Conservation Assessment (Forest Ecology and Fire Ecology)

2013 – Reviewer for the Yosemite National Park Merced River Plan (California black oak population monitoring)

FUNDING

As of 1/1/2023, over $6,000,000 in funding received from competitive grants as PI or Co-PI (amounts reflect institutional receipts only), with over $350,000 of internal grants. In addition, my students have obtained over $750,000 in funding with my assistance.

EMPLOYMENT

8/13 to present — **Utah State University, S. J. & Jessie E. Quinney College of Natural Resources** **Logan, UT**
Assistant, Associate, and Professor, Forest Ecology

Principal Investigator, Yosemite Forest Dynamics Plot, Wind River Forest Dynamics Plot, and Utah Forest Dynamics Plot. Plan, fund, organize and supervise research in these three Smithsonian-affiliated forest demography research programs. Field sampling is through largely volunteer (undergraduate students, graduate students, ecologists and citizens) research pulses. Project web sites: http://yfdp.org http://wfdp.org http://ufdp.org

2/11 to 7/13 — **University of Washington, College of the Environment** *Research Scientist* **Seattle, WA**
Investigated long-term vegetation change in western coniferous forests including climate-fire relationships, spatial and structural patterns of fire in Yosemite National Park (LiDAR/Landsat), multi-decadal trends in carbon sequestration in the presence of fire in Sequoia Kings Canyon and Yosemite National Parks, and relationships between canopy structure and snow accumulation and retention.

8/08 to 2/11 — *Research Associate*: Analyzed relationships between understory and overstory during canopy closure in *Pseudotsuga–Tsuga* forests, effects of scaling on species envelope models and climate change.

7/03 to 8/08 — *Teaching Assistant*: Ecosystem Management in the Sierra Nevada, Wildland Recreation and Amenity Management, Society and Sustainable Environments.

Research Assistant: Analyzed permanent sample plot data in *Pseudotsuga–Tsuga* forests. Field work at H. J. Andrews Experimental Forest and Cedar River Watershed. Led field crews.

2/01 to 7/03 **HSBC Investment Bank** *Managing Director and Global Head of Securities IT* **London, England**
Responsible for equity related systems world-wide (cash, derivatives, research, corporate finance, customer management, revenue analysis, risk, middleware, global order routing, and web delivery). Supported IT development for 8000-person international organization. Mentored staff in quantitative techniques, project management, and quality improvement. Reported to Investment Banking CEO and HSBC Group IT Manager. Annual budget: 100MM. Direct headcount: 289. Indirect headcount: 600.

1/99 to 2/01 **Hidden Light Consulting** *Principal* **Bellevue, WA**
Provided capital markets consulting. Specialized in exchange systems, straight through processing and process automation. Customers: HSBC Japan, Sanwa Securities Japan, Templeton Japan.

12/96 to 12/98 **HSBC Securities Japan** *Head of Front Office Systems* **Tokyo, Japan**
Responsible for all trading systems - arbitrage decision support, volume-weighted average price crossing automation and trading algorithmics, and automated link to back office. Mostly paperless system used Unix servers, Windows NT clients, Sybase, TIBCO, Cisco, Netscape, and Trimble GPS. Developed intranet for training. Team of 17 used VB, VC++, Perl, Softbench, Purify and Quantify, Apache and GNU. Implementation with “no single point of failure” philosophy with auditing capabilities.

12/93 to 12/96 **Lehman Brothers** *Vice President Trading Services* **Tokyo, Japan**
6/95 to 12/96 Responsible for index arbitrage technology. Improved transaction throughput and mean time to repair through bottleneck analysis and queue simulation. Developed Ministry of Finance required tracking for restricted stock. Managed development of Osaka Stock Exchange futures system and Baikai display. Familiar with trading techniques for stocks, warrants, convertible bonds, futures and options. Developed profitable statistical arbitrage model. Used BARRA (risk modeling), FAME (historical analysis) and parallel analytics running on 20+ workstations. Advised bankers and clients on trading technologies and extended character set (CJK) software. Extensive n+1 system redundancy.

12/93 to 6/95 Managed market data and distribution systems in Japan, Hong Kong and Singapore (10MM budget). Saved 2MM per year while user count increased 25%. Re-negotiated contracts; cut vendors 20%. Developed calculators (rate contribution, real time ratio calculation, Black-Sholes implied volatilities). Implemented Singapore system in new facility; Hong Kong system during restack.

7/92 to 12/93 **Teknekron Software Systems** *Client Technical Services Regional Manager Asia* **Tokyo, Japan**
Managed projects for CSFB, JP Morgan, and NAB throughout Asia. Responsible for 800K direct revenues and 5MM indirect revenues. Involved in consulting, sales, proposal generation, customer management and product specification. Negotiated contracts, license agreements, pricing policies, collections and channel management. Established distributors in Australia, HK and Singapore.

6/88 to 7/92 **Micrognosis** *Manager Trading Room Technology* **New York, NY**
6/91 to 7/92 Projects in dealing room design, market data services, cost optimization, trading network design, and network throughput optimization. Derivative and portfolio pricing, distributed computation.

1/89 to 6/91 *Manager Trading Room Technology* **Tokyo, Japan**
Manager for 15MM Mitsubishi Bank project. Supervised software sales, development, integration and acceptance. System "cut over" on schedule (70% new components).

6/88 to 1/89 *Product Manager* **Campbell, CA**
Marketing Manager for trading software. Presented products to sales force and distributors. Set pricing and discount structures (profit responsibility). Developed product and sales documentation.

1982-1988 **Schlumberger Technologies** *Project Leader* **San Jose, CA**
12/86 to 6/88 Developed object oriented graphical programming environment for Automatic Test Equipment (ATE). Supervised four engineers and capital budget of 360K. Developed presentations and demonstrations.

9/85 to 12/86 *Senior Product Marketing Engineer*
Analyzed ATE market growth rates, competition, finances, sales strategies, products and pricing. Managed X.25 network project. Recruited at MIT, RPI and Cornell.

1982-1985 *Associate Engineer* and *Summer Intern* (Summer '82, Summer '83, 7/84-1/85)
Developed extensible, rule-based Computer Aided Engineering (CAE) software. Designed, built, programmed and characterized high accuracy (±10 ρS) timing circuits and test fixtures.

SKILLS Software: Adobe Creative Suite, ArcGIS, C, C++, ENVI, Lisp, Matlab, Modtran, MySQL, PC-ORD, Perl, R, S-Plus, SPSS, Trimble Office, and VB. Surveying: Trimble, Leica, and Topcon GPS; Haglöf hypsometer; Nikon, Leica, and Topcon Total stations. Languages: rusty Japanese and French.

CERTIFICATIONS FAA licenses: Private Pilot (Airplane Single Engine Land, Rotorcraft Helicopter); Remote Pilot (Small Unmanned Aircraft System, Part 107). FCC licenses: GROL/Radar, GMDSS Operator/Maintainer, Amateur (General, KD7GJN). Wilderness First Responder. SCUBA (NAUI).