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EDUCATION

- 2013 Ph.D., Department of Biology, Stanford University, Stanford, CA
- 2008 B.A. (Distinction and Honors), Human Biology, Stanford University, Stanford, CA

PROFESSIONAL EXPERIENCE

- 2016 – Present Assistant Professor, School of Biological Sciences, University of Utah, Salt Lake City, UT
- 2015 – 2016 Associate Research Scholar, Princeton Environmental Institute, Princeton University, Princeton NJ
- 2013 – 2015 National Oceanic and Atmospheric Administration Climate & Global Change Postdoctoral Fellow, Princeton Environmental Institute, Princeton University, Princeton, NJ

PEER REVIEWED PUBLICATIONS (⁺ *Anderegg lab post-doc, graduate student, or undergraduate student*)

88. **Anderegg, W.R.L.**, A.T. Trugman⁺, D.R. Bowling, G. Salvucci and S. Tuttle (2019). Plant functional traits and climate influence drought intensification and land-atmosphere feedbacks. *Proceedings of the National Academy of Sciences*. doi.org/10.1073/pnas.1904747116
87. Yu⁺, K., W.K. Smith, A.T. Trugman⁺, 12 co-authors, and **W.R.L. Anderegg** (2019). Pervasive decreases in living vegetation carbon turnover time across forest climate zones. *Proceedings of the National Academy of Sciences*. doi.org/10.1073/pnas.1821387116
86. Tai⁺, X., D.S. Mackay, B.E. Ewers, A.D. Parsekian, D. Beverly, H. Speckman, P.D. Brooks and **W.R.L. Anderegg** (2019). Plant Hydraulic Stress Explained Tree Mortality and Tree Size Explained Beetle Attack in a Mixed Conifer Forest. *Journal of Geophysical Research – Biogeosciences*. 124: 3555-3568
85. Trugman⁺, A.T., L.D.L. Anderegg, J.S. Sperry, M. Venturas⁺, Y. Wang, and **W.R.L. Anderegg**. Leveraging plant hydraulics to yield predictive and dynamic plant leaf allocation in vegetation models with climate change. *New Phytologist*. Under review.
84. Sperry*, J.S., M.D. Venturas⁺, H. Todd, A. T. Trugman⁺, **W.R.L. Anderegg**, Y. Wang and X. Tai⁺ (2019). The impact of rising CO₂ and acclimation on the response of US forests to global warming. *Proceedings of the National Academy of Sciences*. doi.org/10.1073/pnas.1913072116 *=contributed equally
83. Kannenberg⁺, S.A., K.A. Novick, M.R. Alexander, J.T. Maxwell, D.J.P. Moore, R.P. Phillips, and **W.R.L. Anderegg** (2019). Linking drought legacy effects across scales: From leaves to tree rings to ecosystems. *Global Change Biology*. 25: 2978-2992
82. **Anderegg, W.R.L.**, L.D.L. Anderegg, K.L. Kerr⁺, and A. T. Trugman⁺ (2019). Widespread drought-induced tree mortality at dry range edges indicates that climate stress exceeds species' compensating mechanisms. *Global Change Biology*. 25: 3793-3802

81. Huang, C.Y., **W.R.L. Anderegg**, and G. P. Asner (2019). Remote sensing of forest die-off in the Anthropocene: From plant ecophysiology to canopy structure. *Remote Sensing of Environment*. 231: 111233
80. Sapes, G., R. Roskilly, S. Dobrowski, M. Maneta, **W.R.L. Anderegg**, J. Martínez-Vilalta, and A. Sala (2019). Plant water content integrates hydraulics and carbon depletion to predict population-level drought-induced seedling mortality. *Tree Physiology*. 39: 1300-1312
79. **Anderegg, W.R.L.**, L.D.L. Anderegg, and C.Y. Huang (2019). Testing early warning metrics for drought-induced tree physiological stress and mortality. *Global Change Biology*. doi: 10.1111/gcb.14655
78. Trugman⁺, A.T., L.D.L. Anderegg, B.T. Wolfe, B. Birami, N.K. Ruehr, M. Detto, M.K. Bartlett, and **W.R.L. Anderegg** (2019). Climate and plant trait strategies determine tree carbon allocation to leaves and mediate future forest productivity. *Global Change Biology*. doi: 10.1111/gcb.14680
77. Hammond, W., K. Yu⁺, L. Wilson, R. Will, **W.R.L. Anderegg**, and H. Adams (2019). Dead or dying? Quantifying the point of no return from hydraulic failure in drought-induced tree mortality. *New Phytologist*. doi: 10.1111/nph.15922
76. Rao, K., **W.R.L. Anderegg**, A. Sala, J. Martínez-Vilalta, and A.G. Konings (2019). Remotely Sensed Vegetation Optical Depth as an Indicator of Drought-driven Tree Mortality. *Remote Sensing of Environment*. 227: 125-136
75. Wang, Y., J.S. Sperry, M.D. Venturas⁺, A.T. Trugman⁺, D.M. Love, and **W.R.L. Anderegg** (2019). The stomatal response to rising CO₂ concentration and drought is predicted by a hydraulic trait-based optimization model. *Tree Physiology*. doi: 10.1093/treephys/tpz038
74. Zeppel, M.J.B., **W.R.L. Anderegg**, H.D. Adams, P. Hudson, A. Cook, R. Rumman, D. Eamus, D.T. Tissue, and S.W. Pacala (2019). Embolism recovery strategies and nocturnal water loss across species influenced by biogeographic origin. *Ecology and Evolution*. 9: 5348-5361
73. Yu⁺, K., P. D'Odorico, S. Collins, C. David, A. Porporato, **W.R.L. Anderegg**, et al. (2019). The competitive advantage of a constitutive CAM species over a C4 grass species under drought and CO₂ enrichment. *Ecosphere*. 10: e02721
72. Martínez-Vilalta*, J., **W.R.L. Anderegg***, G. Sapes, and A. Sala* (2019). Greater focus on water pools may improve our ability to understand and anticipate drought-induced mortality in plants. *New Phytologist*. doi: 10.1111/nph.15644 *Contributed equally
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70. Love, D.M., M. D. Venturas, J. S. Sperry, P. D. Brooks, J. L. Pettit, Y. Wang, **W.R.L. Anderegg**, X. Tai, and D. S. Mackay (2019). Dependence of Aspen Stands on a Subsurface Water Subsidy: Implications for Climate Change Impacts. *Water Resources Research*. 55: 1833-1848
69. **Anderegg, W.R.L.**, A.G. Konings, A.T. Trugman⁺, K. Yu⁺, D.R. Bowling, R. Gabbitas⁺, D. Karp, S. Pacala, J.S. Sperry, B. Sulman, N. Zenes⁺ (2018). Hydraulic diversity of forests regulates ecosystem resilience during drought. *Nature*. 561: 538–541
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68. Trugman⁺, A.T., M. Detto, M. K. Bartlett, D. Medvigy, **W.R.L. Anderegg**, C. Schwalm, B. Schaffer, and S. Pacala (2018). Tree carbon allocation explains forest drought-kill and recovery patterns. *Ecology Letters*. 21: 1552-1560
67. Liu, Z., A.P. Ballantyne, B. Poulter, **W.R.L. Anderegg**, W. Li, A. Bastos, and P. Ciais (2018). Precipitation thresholds regulate net carbon exchange at the continental scale. *Nature Communications*. 9: 3596
66. Venturas, M., J. Sperry, D. Love, E. Frehner, M. Allred, Y. Wang, and **W.R.L. Anderegg** (2018). A stomatal control model based on optimization of carbon gain versus hydraulic risk predicts aspen sapling responses to drought. *New Phytologist*. doi: 10.1111/nph.15333
65. Tai X., D.S. Mackay, J. Sperry, P. Brooks, **W.R.L. Anderegg**, L.B. Flanagan, S.B. Rood, and C. Hopkinson (2018). Distributed plant hydraulic and hydrological modeling to understand the susceptibility of riparian woodland trees to drought-induced mortality. *Water Resources Research*. 54: 4901-4915
64. **Anderegg, W.R.L.**, A. Wolf, A. Arango-Velez, B. Choat, D.J. Chmura, S. Jansen, T. Kolb, S. Li, F. Meinzer, P. Pita, V. Resco de Dios, J.S. Sperry, B.T. Wolfe, and S.W. Pacala (2018). Woody plants optimise stomatal behaviour relative to hydraulic risk. *Ecology Letters*. 21: 968-977
63. Trugman⁺, A.T., D. Medvigy, J. Mankin, and **W.R.L. Anderegg** (2018). Soil moisture stress as a major driver of carbon cycle uncertainty. *Geophysical Research Letters*. doi.org/10.1029/2018GL078131
62. Stuart-Haëntjens, E., H.J. De Boeck, N.P. Lemoine, P. Mänd, G. Kröel-Dulay, I.K. Schmidt, A. Jentsch, A. Stampfli, **W.R.L. Anderegg**, M. Bahn, J. Kreyling, T. Wohlgemuth, F. Lloret, A.T. Classen, C.M. Gough, and M.D. Smith (2018). Mean annual precipitation predicts primary production resistance and resilience to extreme drought. *Science of the Total Environment*. 636: 360-366
61. Pellegrini, A.F.A., A. Ahström, S. E. Hobbie, P. B. Reich, L. Nieradzik, K. M. Robertson, A. C. Staver, B. Scharenbroch, A. Jumpponen, **W.R.L. Anderegg**, J. Randerson, and R.B. Jackson (2018). Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity. *Nature*. 553: 194–198
60. Hartmann, H., C. Moura, **W.R.L. Anderegg**, and 14 others (2018). Research frontiers for improving our understanding of drought-induced tree and forest mortality. *New Phytologist*. 218: 15-28
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58. Fisher, R.A., C.D. Koven, **W.R.L. Anderegg**, BO Christoffersen, MC Dietze, C Farrior, J Holm, G Hurtt, RG Knox, PJ Lawrence, JW Lichtstein, M Longo, A Matheny, D Medvigy, H Muller-Landau, TL Powell, SP Serbin, H Sato, J Shuman, B Smith, AT Trugman⁺, T Viskari, H Verbeeck, E Weng, C Xu, X Xu, T Zhang and P Moorcroft (2018). Vegetation Demographics in Earth System Models: a review of progress and priorities. *Global Change Biology*. 34: 35-54
57. **Anderegg, W.R.L.** (2018) Quantifying seasonal and diurnal variation of stomatal behavior in a hydraulic-based stomatal optimization model. *Journal of Plant Hydraulics*. 5, e001. doi.org/10.20870/jph.2018.e001
56. Bowling, D., B.A Logan, K. Hufkens, D.M Aubrecht, A.D Richardson, S.P Burns, **W.R.L. Anderegg**, P.D Blanken and D. Eiriksson (2018). Limitations to winter and spring photosynthesis of a Rocky Mountain subalpine forest. *Agricultural and Forest Meteorology*. 252: 241-255

55. Truetter, C., **W.R.L. Anderegg**, F. Biondi, G.W. Koch, K. Ogle, C. Schwalm, M.E. Litvak, J.D. Shaw, and E. Ziaco. Seasonal Climate Responses and Drought Legacy Effects in Tree-Ring Chronologies from the Southwestern USA (2018). *Forest Ecology and Management*. doi: 10.1016/j.foreco.2018.01.044
54. Hartmann, H., B. Schuldt, T.G. Sanders, C. Macinnis-Ng, H.J. Boehmer, C.D. Allen, A. Bolte, T. Crowther, M.C. Hansen, B.E. Medlyn, N.K. RUEHR, and **W.R.L. Anderegg** (2018). Monitoring global tree mortality patterns and trends. Report from the VW symposium ‘Crossing scales and disciplines to identify global trends of tree mortality as indicators of forest health’. *New Phytologist*, 217: 984-987.
53. Klein, T., M. Zeppel, **W.R.L. Anderegg**, J. Bloemen, M. De Kauwe, P. Hudson, N. Ruehr, T. Powell, G. von Arx, and A. Nardini (2018). Embolism refilling and resilience against drought-induced mortality: Processes, trade-offs and life history strategies. *Ecological Research*. doi: 10.1007/s11284-018-1588y
52. Yu⁺, K., D. Carr, **W.R.L. Anderegg**, K. Tully, P. D’Odorico (2018). Response of a facultative CAM plant and its competitive relationship with a grass to changes in rainfall regime. *Plant and Soil*. 2: 321-333
51. C.R. Schwalm, **W.R.L. Anderegg**, A.M. Michalak, F. Biondi, G. Koch, M. Litvak, K. Ogle, J.D. Shaw, A. Wolf, D.N. Huntzinger, K. Schaefer, J.B. Fisher, R. Cook, Y. Wei, Y. Fang, A. Jain, D. Hayes, M. Huang, and H. Tian (2017). Global patterns of drought recovery. *Nature*. 548: 202–205
 - Reported by: Reuters, Pacific Standard; Highlighted in *Nature News & Views*
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49. Li, Y., K. Guan, P. Gentine, A.G. Konings, F.C. Meinzer, J.S. Kimball, X. Xu, **W.R. L. Anderegg**, N.G. McDowell, J. Martínez-Vilalta, D.G. Long, and S.P. Good (2017). Estimating global ecosystem iso/anisohdry using active and passive microwave satellite data. *Journal of Geophysical Research – Biogeosciences*. 122: 3306–3321
48. **Anderegg, W.R.L.**, A. Wolf, A. Arango-Velez, B. Choat, D.J. Chmura, S. Jansen, T. Kolb, S. Li, F. Meinzer, P. Pita, V. Resco de Dios, J.S. Sperry, B.T. Wolfe, and S.W. Pacala (2017). Plant water potential improves prediction of empirical stomatal models. *PLoS ONE*. e0185481: doi.org/10.1371/journal.pone.0185481
47. H.D. Adams, M.J.B. Zeppel, **W.R.L. Anderegg**, Henrik Hartmann, and 48 others (2017). A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. *Nature Ecology & Evolution*. 1: 1285–1291
46. Pellegrini, A.F.A., **W.R.L. Anderegg**, C.E.T. Paine, W.A. Hoffmann, T. Kartzinel, S. Rabin, D. Sheil, A.C. Franco, and S.W. Pacala (2017). Convergence of bark investment according to fire and climate structures ecosystem vulnerability to future change. *Ecology Letters*. 20: 307–316
 - Highlighted in *Nature* research highlights section
45. Ballantyne, A.P., W.K. Smith, **W.R.L. Anderegg**, P. Kauppi, J. Sarmiento, P.P. Tans, E. Shevliakova, Y. Pan, B. Poulter, A. Anav, P. Friedlingstein, R.A. Houghton, S. Running (2017) Accelerating net terrestrial carbon uptake during warming hiatus due to reduced respiration. *Nature Climate Change*. 7: 148-152
44. Tai, X., D.S. Mackay, **W.R.L. Anderegg**, J.S. Sperry, P.D. Brooks (2017). Plant hydraulics improves and topography mediates prediction of aspen mortality in southwestern USA. *New Phytologist*. 213: 113–127

43. Sperry, J.S., Y. Wang, **W.R.L. Anderegg**, M. Mencuccinni, D.S. Mackay, M. Venturas, and D. Love (2017). Predicting stomatal responses to the environment from the optimization of photosynthetic gain and hydraulic cost. *Plant, Cell & Environment*. 40: 816–830
42. Gazol, A., J.J. Camarero, **W.R.L. Anderegg**, and S.M. Vicente-Serrano (2017). Impacts of droughts on the growth resilience of Northern Hemisphere forests. *Global Ecology and Biogeography*. 26: 166–176
41. **Anderegg, W.R.L.**, T. Klein, M. Bartlett, L. Sack, A. Pellegrini, B. Choat, S. Jansen (2016). Meta-analysis reveals that hydraulic traits explain cross-species patterns of drought-induced tree mortality across the globe. *Proceedings of the National Academy of Sciences*. 113: 5024-5029
40. Wolf, A., **W.R.L. Anderegg**, and S.W. Pacala (2016). Optimal stomatal behavior with competition for water and risk of hydraulic impairment. *Proceedings of the National Academy of Sciences*. 113: E7222-E7230
39. Sperry, J.S., Y. Wang, B. Wolfe, D.S. Mackay, **W.R.L. Anderegg**, N.G. McDowell, and W.T. Pockman (2016). Pragmatic hydraulic theory predicts stomatal responses to climatic water deficits. *New Phytologist*. 212: 577–589
38. **Anderegg, W.R.L.**, J. Martinez-Vilalta, M. Cailleret, J.J. Camarero, B. Ewers, D. Galbraith, A. Gessler, R. Grote, C.Y. Huang, S. Leveck, T.L. Powell, L. Rowland, R. Sánchez-Salguero, V. Trotsiuk (2016). When a tree dies in the forest: Scaling climate-driven tree mortality to ecosystem fluxes. *Ecosystems*. 19: 1133–1147
37. Cook, J., N. Oreskes, P.T. Doran, **W.R.L. Anderegg**, B. Verheggen,^[1]E. Maibach, J.S. Carlton, S. Lewandowsky, A.G. Skuce, S.A. Green, D. Nuccitelli, P. Jacobs, M. Richardson, B. Winkler, R. Painting and K. Rice (2016). Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters* 11: 048002-9
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36. Smith, W.K., S.C. Reed, A.P. Ballantyne, C.C. Cleveland, **W.R.L. Anderegg**, W.R. Wieder, S.W. Running (2016). Large divergence of satellite and Earth system model estimates of global terrestrial CO₂ fertilization. *Nature Climate Change*. 6: 306-310
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34. **Anderegg, W.R.L.**, C. Schwalm, F. Biondi, J.J. Camarero, G. Koch, M. Litvak, K. Ogle, J.D. Shaw, E. Shevliakova, A.P. Williams, A. Wolf, E. Ziaco, S. Pacala (2015). Pervasive drought legacies in forest ecosystems and their implications for carbon cycle models. *Science*. 349: 528-532.
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33. **Anderegg, W.R.L.**, A. Ballantyne, W.K. Smith, J. Majkut, S. Rabin, P.E. Kauppi, C. Beaulieu, R. Birdsey, J. Dunne, R.A. Houghton, R.B. Myneni, Y. Pan, J. Sarmiento, N. Serota, E. Shevliakova, P. Tans, and S. Pacala (2015). Tropical nighttime warming as a dominant driver of variability in the terrestrial carbon sink. *Proceedings of the National Academy of Sciences*. 12: 15591-15596
32. **Anderegg, W.R.L.**, and N. Diffenbaugh. Observed and projected climate trends and hotspots across the National Ecological Observatory Network (NEON) regions (2015). *Frontiers in Ecology and the Environment*. 13: 547–552

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29. **Anderegg, W.R.L.**, J.A. Hicke, R.A. Fisher, C.D. Allen, J. Aukema, B. Bentz, S. Hood, J.W. Lichstein, A.K. Macalady, N. McDowell, K. Raffa, Y. Pan, A. Sala, J. Shaw, N.L. Stephenson, C. Tague, M. Zeppel (2015). Tree mortality from drought, insects, and their interactions in a changing climate. *New Phytologist*. 208: 674-683
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27. **Anderegg, W. R. L.** (2015). Spatial and temporal variation in plant hydraulic traits and their relevance for climate change impacts on vegetation. *New Phytologist*. 205: 1008-1014
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25. **Anderegg, W. R. L.**, E. Callaway, M. Boykoff, G. Yohe and T. Root (2014). Awareness of both type I and II errors in climate science and assessment. *Bulletin of the American Meteorological Society*. 95: 1445-1451
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23. **Anderegg, W. R. L.**, L.D.L. Anderegg, J.A. Berry, and C.B. Field (2014). Loss of whole-tree hydraulic conductance during severe drought and multi-year forest die-off. *Oecologia*. 175: 11-23
22. **Anderegg, W.R.L.**, and G. Goldsmith (2014). Public interest in climate change over the past decade and the effects of the 'climategate' media event. *Environmental Research Letters*. 054005: 1-8
21. **Anderegg, W. R. L.**, J. Kane, and L.D.L. Anderegg (2013). Consequences of widespread tree mortality triggered by drought and temperature stress. *Nature Climate Change*. 3: 30-36
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20. **Anderegg, W.R.L.**, L. Plavcova, L.D.L. Anderegg, U. Hacke, J. A. Berry, and C.B. Field (2013). Drought's legacy: Hydraulic deterioration underlies widespread aspen die-off and portends increased future vulnerability. *Global Change Biology*. 19: 1188-1196
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12. **Anderegg, W. R. L.**, L.D.L. Anderegg, C. Sherman, and D. Karp (2012). Widespread aspen mortality alters understory plant communities. *Conservation Biology*. 26(6):1082-90
11. **Anderegg, W. R. L.**, J. A. Berry, C.B. Field (2012). Linking definitions, mechanisms, and modeling of drought-induced tree death. *Trends in Plant Science*. 17(12): 693-700
10. Zeppel, M., **W.R.L. Anderegg**, and Adams, H.D. (2012). Forest mortality due to drought: latest insights, evidence and unresolved questions on physiological pathways and consequences of tree death. *New Phytologist*. 197(2): 372-374.
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8. Wolf, A., and **W.R.L. Anderegg** (2011). Technical Comment on Changes in Climatic Water Balance Drive Downhill Shifts in Plant Species' Optimum Elevations. *Science* 334, 177.
7. Zeppel, M., Adams, H.D., and **W.R.L. Anderegg** (2011). Mechanistic causes of tree drought mortality: recent results, unresolved questions and future research needs. *New Phytologist*. 192:800-803
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PUBLICATIONS IN REVIEW

Anderegg, W.R.L., A.T. Trugman, G. Badgley, C.M. Anderson, A. Bartuska, P. Ciais, D. Cullenward, C.B. Field, J. Freeman, S.J. Goetz, J.A. Hicke, D. Huntzinger, R.B. Jackson, J. Nickerson, S. Pacala, and J.T. Randerson. Forests as natural climate solutions: Integrating risks from a changing climate. *Science*. Under review

Anderegg, W.R.L., A. T. Trugman, G. Badgley, A. Konings, and J. Shaw. Divergent forest sensitivity to repeated extreme droughts. *Nature Climate Change*. Under review.

Trugman, A. T., L.D.L. Anderegg, J. Shaw, and **W.R.L. Anderegg**. Trait velocities reveal that mortality has driven widespread coordinated shifts in forest hydraulic trait composition. *Proceedings of the National Academy of Sciences*. Under review.

Pellegrini, A., **W.R.L. Anderegg**, W. Hoffmann, C.E.T. Paine, D. Sheil, A. Franco, J. Scheff, A.P. Williams, and S. Pacala. Coupling of fire and drought tolerance traits due to contrasting historical fire and climate conditions. *New Phytologist*. Under review.

Kerr, K., N. Zenes, A.T. Trugman, and **W.R.L. Anderegg**. Competition and functional traits mediate tree seedling drought response physiology and biomass allocation. *Tree Physiology*. Under review.

Zenes, N., K.L. Kerr, A.T. Trugman, and **W.R.L. Anderegg**. Competition and drought alter optimal stomatal strategy in seedlings. *Frontiers in Plant Science*. Under review.

Wang, Y., J. Sperry, **W.R.L. Anderegg**, M. Venturas, and A.T. Trugman. A theoretical and empirical assessment of stomatal optimization modeling. *New Phytologist*. Under review.

Kannenberg, S.A., C.R. Schwalm, and **W.R.L. Anderegg**. Ghosts of the past: How drought legacy effects shape forest functioning. *Ecology Letters*. Under review.

Resco de Dios, V., **W.R.L. Anderegg**, M. Bahn, D. Tissue, and A. Gessler. Circadian regulation does not optimize stomatal behavior. *Functional Plant Biology*. Under review.

Ballantyne, A., Z. Liu, **W.R.L. Anderegg**, Z. Yu, P. Stoy, B. Poulter, J. Vanderwal, J. Watts, K. Kelsey, and J. Neff. Reconciling carbon cycle processes from ecosystem to global scales. *Frontiers in Ecology and the Environment*. Under review.

Kannenberg, S.A., D.R. Bowling, and **W.R.L. Anderegg**. Hot moments in ecosystem fluxes: High GPP anomalies exert outsized influence on the carbon cycle and are differentially driven by moisture availability across biomes. *Environmental Research Letters*. Under review.

Campbell, M., P.E. Dennison, J.W. Tune, S.A. Kannenberg, K.L. Kerr and **W.R.L. Anderegg**. A multi-sensor, multi-scale approach to mapping tree mortality in pinyon-juniper woodlands. *Remote Sensing*. Under review.

Holm, J.A., A. Rammig, D.M. Medvigy, B. Smith, J.S. Dukes, M. Mishurov, X. Xu, J.W. Lichstein, C. Beier, C.D. Allen, K.S. Larsen, Y. Luo, C. Ficken, W.T. Pockman, and **W.R.L. Anderegg**. Exploring plant mortality and ecosystem recovery from unprecedented climate extremes: unifying hypotheses to guide modeling and experimental studies. *Global Change Biology*. Under review.

Batllori, E., F. Lloret, T. Aakala, **W.R.L. Anderegg** and 23 other authors. Forest replacement patterns following drought-induced mortality worldwide. *Science*. Under review.

BOOK CHAPTERS

Anderegg, W.R.L. and F.C. Meinzer (2015). Wood anatomy and plant hydraulics in a changing climate. *In* Functional and Ecological Xylem Anatomy. Springer. Ed U. Hack. Springer Publishing.

AWARDS

2018	Packard Foundation Fellow for Science and Engineering
2018	Early Career Fellow of the Ecological Society of America (2018-2022)
2016	Early Career Award, American Geophysical Union – Global Environmental Change Focus Group. Awarded to an early career scientist for outstanding contributions to research, education, or societal impacts in the area of global environmental change.
2016	Winner – Blavatnik Regional Award for Young Scientists. Awarded annually to top postdoctoral researcher in life sciences from New York, New Jersey, and Connecticut.
2014	Tansley Medal, New Phytologist Trust. International award for outstanding contributions to plant science research by an early career scholar.
2013	NOAA Climate and Global Change Postdoctoral Fellowship
2012	Melendez Wright Climate Change Fellowship, National Park Service, Declined
2011	Excellence in the Academy Award – New Scholar, National Education Association
2010	Graduate Research Fellowship (GRF), National Science Foundation (NSF), Declined
2010	Office of Science Graduate Fellowship (SCGF), Department of Energy (DOE)

GRANTS (Total: ~\$6.8 million as PI or Co-PI, 6.2\$ million at UU)		Amount
2019 – 2022	USDA Environmental Monitoring (PI): Why is the hardiest tree in the southwest dying: Quantifying the physiology, etiology, and topographic patterns of juniper mortality in the Four Corners region under climate change	\$150,000
2018 – 2023	Packard Foundation Fellowship (PI): Predicting the future of Earth’s forests in a rapidly changing climate	\$875,000
2018 – 2022	NSF Division of Environmental Biology (Co-PI): Collaborative Proposal: Forest carbon-water interactions in relation to the North American Monsoon climate system Predicting the future of Earth’s forests (PI: R. Monson, U Arizona)	\$1,460,000

2018 – 2021	NSF MacroSystems Biology (Co-PI): Leveraging NEON to Build a Predictive Cross-scale Theory of Ecosystem Transpiration (PI: G. Bowen, U Utah)	\$1,870,000
2018 – 2021	USDA National Institute of Food and Agriculture (PI): Can diversity of tree drought response traits improve productivity and sustainability of western US forests and their ecosystem services?	\$500,000
2017 – 2021	NSF Coupled Natural-Human Systems (PI/Co-lead with B. Codding): Climate change, ecosystem dynamics, and traditional livelihoods in Utah piñon-juniper woodlands	\$1,470,000
2015 – 2018	NSF Integrated Organismal Systems (Collaborator/Senior Personnel): Integrating plant hydraulics with climate and hydrology to understand and predict responses to climate change (PI: J. Sperry, U Utah)	\$661,000
2015 – 2016	NSF DEB (Collaborator/Senior Personnel): EAGER-NEON: Detecting disturbance and ecosystem response in continental observatory networks (\$8,000 to Anderegg Lab; PI: A. Ballantyne, U Montana)	\$300,000
2014 – 2016	NSF Macrosystems (PI): Extreme events and ecological acclimation: Scaling from cells to ecosystems	\$500,000
2013 – 2015	NOAA Climate and Global Change Postdoctoral Fellowship	\$140,000
2012 – 2014	NSF RAPID (lead): Using open-source ecology to examine tree physiological response and mortality across species during the 2012 United States drought	\$100,000

TEACHING

Course Instructor	University of Utah, Biology 3460: Global Environmental Issues (2017-present)
Course Instructor	University of Utah, Biology 7810: Scientific Speaking (2019-present)
Lectures	University of Utah: Biology of Variation, Biology in the 21 st Century, Introduction to Environmental Studies and Sustainability, Advanced Research Topics in Ecology and Evolution, ACCESS Summer Institute, Energy and Society, Plant Ecology in a Changing World, Graduate Bootcamp, Ecology of Residency: Field Methods in Environmental Humanities, Global Changes and Society (2016-present)
Course Instructor	Stanford University, Biology 323: California Plant Ranges with 20 th Century Climate Change Graduate Seminar. (2010)

MENTORING

Current and previous postdoctoral researchers: Grayson Badgely (2019-present), Richard Fiorella (jointly mentored with J. Ehleringer, 2018-present), Steven Kannenberg (jointly mentored with J. Ehleringer, 2018-present), Xiaonan Tai (jointly mentored with P. Brooks and J. Sperry, 2018-present), Anna Trugman (2017-present), Martin Venturas (2018-present), Kailiang Yu (2017)

Current graduate students: Kelly L. Kerr (Ph.D. student in Ecology, Evolution & Organismal Biology, 2017-present), Nicole Zenes (Ph.D. student in Ecology, Evolution & Organismal Biology, 2017-present)

Current and previous undergraduate students: Bryce Alex, Kristin Armstrong, Mary Beninati, Beth Blattenberg, Sophia Byusse, Jaycee Cappaeart, Will Dischmann, Robert Gabbitas, Shelby Jenkins, Sarah Johnson, Emily Johnston, Coleson Kastelic, Derek Kober, Michaela Lemen, Rosanise O'Dell, Elizabeth Schattle, Karrin Tennant, Charity Zitting

SELECTED INVITED PRESENTATIONS

The carbon cycle consequences of multiple drought events. Invited Speaker at the AGU Chapman Conference on Carbon Cycle Feedbacks, Caltech, August 2019.

Leveraging plant hydraulics to predict western U.S. forest responses to drought. Invited Speaker at School of Forestry, University of Montana, April 2019.

Predicting multi-scale forest responses to drought. Invited Speaker at the Program in Ecology, Duke University, January 2019.

Linking stomata and plant hydraulics to predict forest responses to drought. Invited Presentation at Gordon Research Conference: Multiscale Vascular Plant Biology, Mount Snow, VT, June 2018.

Quantifying carbon turnover time in forest inventory, satellite, and Earth system model data. Invited presentation at the European Geophysical Union annual meeting, April 2018.

Can plant diversity buffer ecosystem response to drought? Invited presentation at the American Geophysical Union annual meeting, December 2017.

Optimal stomatal control aims to manage hydraulic damage. Invited presentation at the American Geophysical Union annual meeting, December 2017.

Forest hydraulic diversity and climate change. **Invited Keynote** at the Inauguration of the Swiss Forest Lab, Zurich, Switzerland, September 2017.

Linking stomata and plant hydraulics to predict plant responses to drought. Invited Presentation at the New Phytologist Next Generation Plant Scientists Symposium, Norwich, UK, July 2017.

Towards a global forest mortality monitoring network: Lessons from physiology. **Invited Keynote** at the Volkswagen Foundation Mortality Symposium, Hanover, Germany, June 2017.

Global determinants of forest recovery from drought. Invited presentation at the American Geophysical Union annual meeting, December 2016.

Meta-analysis reveals that hydraulic traits explain drought-induced mortality across the globe. Invited presentation at the American Geophysical Union annual meeting, December 2016.

UNREFEREED PUBLICATIONS

Anderegg, W.R.L. Wildfires are white-hot signs of climate change in our backyard. *Denver Post*, Op-Ed. July 2018

Anderegg, W.R.L. When Forests Die: Climate Change and Our Heritage. *Hatch Magazine*, July 2017

Anderegg, W.R.L. Predictable Futures. *Analog: Science Fiction and Fact*, September 2014

Anderegg, W.R.L. Diagnosis Earth: The Climate Change Debate. *Thought and Action: Magazine of the Higher Education Association*, Fall 2010

- Awarded Excellence in the Academy Award for New Scholar by the National Education Association

Anderegg, W.R.L. Biosphere. In *The Encyclopedia of Climate and Weather*, Oxford University Press, 2010.

Anderegg, W.R.L. Good night, sweet trees: aspens, climate change, and the future of western forests. *High Country News*, March 1, 2010

Anderegg, W.R.L. and J. Harold. Climate science and the dynamics of expert consensus. *Stanford Center for Conservation Biology*, 2009.

<http://www.stanford.edu/group/CCB/articles/Anderegg_ClimateConsensus_Report2009.pdf>

SELECTED SERVICE

- | | |
|--------------|--|
| 2019-present | Search Committee for the Director of the School of Biological Sciences |
| 2018-2019 | Executive Committee of the Global Change and Sustainability Center at the University of Utah |
| 2018-present | Contributing Author, Intergovernmental Panel on Climate Change (IPCC), Special Report on Climate Change and Land
Chapter 2: Land-Climate Interactions |
| 2017-2019 | Co-Organizer, American Geophysical Union, Annual Meeting, Organized Oral Sessions related to plant hydraulics, drought stress, and Earth system models |
| 2017-present | Executive Committee, Society, Water, and Climate Research Group, University of Utah |
| 2017 | Panelist at “Warming Up to Climate Change: Risks and Opportunities in Utah: A Seminar for Utah Opinion Leaders.” Event for Utah and federal policy-makers. |
| 2016-present | Associate Deputy Editor, <i>Climatic Change</i> |
| 2016 | Search Committee, Society, Water, and Climate Cluster Hires, University of Utah. |
| 2014 | Co-Organizer, International Interdisciplinary Tree Mortality Workshop, Jena, Germany |
| 2014 | Co-Organizer, Ecological Society of America, Organized Oral Session: Physiological mechanisms, patterns, and modeling of drought-induced tree mortality |
| 2013 | Primary Organizer, Ecological Society of America, Organized Oral Session: Modeling drought and insect-induced tree mortality |
| 2013 | Primary Organizer, National Center for Ecological Analysis and Synthesis, Frontiers in modeling drought and insect-induced tree mortality working group |
| 2011 – 2014 | Chapter Scientist, Intergovernmental Panel on Climate Change (IPCC), Working Group II |

Chapter 26: North America

2011 – 2014 Contributing Author, Intergovernmental Panel on Climate Change (IPCC), Working Group II
Chapter 4: Ecosystems
Chapter 26: North America

Co-Organizer: Drought Open-Source Ecology project – a collaborative research coordination involving >50 research groups around the US to look at the impacts of the severe summer 2012 drought on forests; funded by NSF RAPID.

Reviewer: Advances in Water Resources, American Naturalist, Animal Conservation, Biogeosciences, BioScience, Bulletin of the American Meteorological Society, Canadian Journal of Forest Research, Climatic Change, Ecology, Ecology Letters, Ecological Applications, Ecosphere, Ecosystems, Environmental Management, Environmental Research Letters, Functional Ecology, Geophysical Research Letters, Global Change Biology, Global Ecology and Biogeography, Journal of Advances in Modeling Earth Systems, Journal of Geophysical Research, Journal of Applied Meteorology and Climatology, Nature, Nature Climate Change, Nature Geoscience, New Phytologist, Oikos, Plant, Cell & Environment, Plants, PLoS One, Proceedings of the Royal Society – Series B, Proceedings of the National Academy of Sciences, Science, Tree Physiology, Trees, Water Resources Research