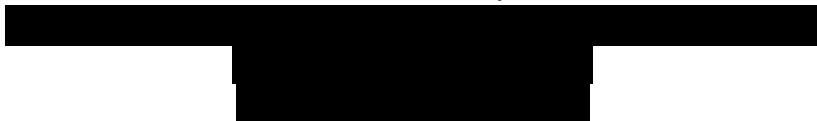


A. CARLA STAVER
Associate Professor
Ecology and Evolution Biology
Yale University



PROFESSIONAL APPOINTMENTS

2019- Associate Professor, Ecology and Evolutionary Biology, Yale University
2014-2019 Assistant Professor, Ecology and Evolutionary Biology, Yale University
2015-pres Secondary Appointment, Forestry & Environmental Studies, Yale University
2012-2014 Prize Postdoctoral Fellow, E3B, Columbia University
2012 Postdoctoral Researcher, EEB, Princeton University

EDUCATION AND TRAINING

2008-2012 Ph.D. in Ecology and Environmental Biology, Princeton University
2006-2008 M.Sc. in Botany, University of Cape Town (Distinction)
2001-2005 B.A. in Ecology, Evolution, & Environmental Biology, Columbia University

NOTABLE HONORS AND AWARDS

2017 Tansley Medal shortlist from the New Phytologist Trust
2015-2020 Early Career Fellow, Ecological Society of America
2015 Runner-up for Harper Prize, British Ecological Society
2013 Jasper Loftus-Hills Young Investigator Award, American Society of Naturalists
2012 George Mercer Award, Ecological Society of America
2005-2006 Fulbright US Student Fellowship

GRANTS AND FUNDING

2018-2023	Scaling Fire Size from Local Process to Continental Pattern (PI)	\$1,035,000
	NSF Macrosystems Biology (Total: \$1,035,000)	
2016-2019	Spatial Dynamics of Savanna-Forest Boundaries (PI)	\$250,000
	NSF Mathematical Biology (Total: \$400,000)	
2016-2019	NSF Graduate Research Fellowship to Madelon Case	\$132,000
2015	Reading the Historical Record of the Mara Using Sediment Cores from the Mara Wetland (Co-PI; PI David Post, Yale)	\$65,641
	World Wildlife Fund for Nature	
2012-2015	Fire, land use, and the savannization of seasonally dry Amazon forests (Co-PI)	
	Gordon and Betty Moore Foundation	\$112,838
	Sub-award from Woods Hole Research Center (PI: M. Coe, Total \$1,344,453)	

SERVICE AND SYNERGISTIC ACTIVITIES

Reviewer: *American Naturalist, Ecology, Ecology Letters, Ecological Applications, Journal of Applied Ecology, Journal of Ecology, Journal of Theoretical Biology, Journal of Mathematical Biology, National Science Foundation (USA), National Research Foundation (South Africa), Natural Environmental Research Council (UK), Nature, Nature Climate Change, Nature Communications, Nature Geosciences, PLoS One, PNAS, Philosophical Transactions of the Royal Society B, The Royal Society Interface, Science, Theoretical Ecology, and others*

External PhD Examiner: Oxford University, University of Cape Town

Associate Editor: *Journal of Ecology* (2018-2021)

Member: Ecological Society of America (ESA), Association for Tropical Biology and Conservation (ATBC), American Geophysical Union (AGU)

2015-pres Advisory Board, Global PaleoFire Working Group

TEACHING EXPERIENCE

2014-present General Ecology (EEB 220), Yale University

2017-present Scientific Writing for EEB (EEB 720), Yale University

2018 Plant Ecology (EEB 305), Yale University

2016 Long-term Temporal Dynamics of Ecological Systems (EEB 740), Yale U.

2015 The Ecology of Global Change (EEB 720), Yale University

2014 Field Ecology in Savanna, Columbia University

2011-2012 Statistics Tutor (Senior Thesis Writing Group – EEB), Princeton University

2008, 2010 TA, Population and Community Ecology (EEB 321), Princeton University

2006-2009 TA, Field Botany (BOT 309), University of Cape Town

PUBLICATIONS (Staver lab postdocs‡, grad students† and undergrads°, indicated for work done while in the Staver lab)

For copies, see [my Google Scholar page](#)

Coetsee-Wigley, C. and **Staver**, A.C. *Accepted*. Grass community responses to drought in an African savanna. *African Journal of Range and Forage Science* (Special Issue).

Kulmatiski, A., *et al* [including A.C. **Staver**]. *Accepted*. Forecasting semi-arid biome shifts in the Anthropocene. *New Phytologist*.

Case†, M.F., Wigley, B.J., Coetsee-Wigley, C., and **Staver**, A.C. *Accepted*. Could drought disfavor woody encroachers in savanna? *African Journal of Range and Forage Science* (Special Issue).

Goel†, N., V. Guttal, S.A. Levin, and A.C. **Staver**. *Accepted*. The spatial dynamics of savanna-forest distribution change. *The American Naturalist*.

Daskin‡, J.H., Aires, F., and A.C. **Staver**. 2019. Determinants of tree cover in tropical floodplains. *Proceedings of the Royal Society B*.

Staver, A.C., P. Brando, J. Barlow, D. Morton, T. Paine, Y. Malhi, A. Murakami, J. de A. Pasquel. 2019. Thinner bark increases sensitivity of wetter Amazonian tropical forests to fire. *Ecology Letters*.

- Veldman, J.W., *et al.* [alphabetical] 2019. Comment on “The global tree restoration potential”. *Science*.
- Aleman‡, J., O. Blarquez, H. Elenga, J. Paillard, V. Kimpuni, G. Itoua, G. Issele, and A.C. **Staver**. 2019. Paleo-trajectories of forest savannization in the southern Congo. *Biology Letters* (Special Issue).
- Zhou‡, Y., and A.C. **Staver**. 2019. Enhanced activity of soil nutrient-releasing enzymes after plant invasion: a meta-analysis. *Ecology* (online).
- Case†, M.F., Wigley-Coetsee, C., Nzima, N., Scogings, P., and **Staver**, A.C. 2019. Severe drought limits trees in a semi-arid savanna. *Ecology* (online).
- Wigley, B.J., A.C. **Staver**, R. Zytowski, A. Jagodzinski, and C. Wigley-Coetsee. 2019. Root trait variation in African savannas. *Plant + Soil* (online).
- Hempson, G., S. Archibald, and A.C. **Staver**. 2019. Chapter 10: Fire-browser interactions. In Scogings, P., C Skarpe, and M. Sankaran (eds). *Herbivores and woody plants in savannas*. Wiley and Sons: Chichester.
- Archibald, S., W.J. Bond, W. Hoffmann, C. Lehmann, A.C. **Staver**, N. Stevens. 2019. Chapter 4: Distribution and Determinants Savannas. In Scogings, P., C Skarpe, and M. Sankaran (eds). *Herbivores and woody plants in savannas*. Wiley and Sons: Chichester.
- Abraham°, J., G.P. Hempson, and A.C. **Staver**. 2019. Drought-response strategies of savanna herbivores. *Ecology and Evolution* 9: 7047–7056.
- Li, Q., A.C. **Staver**, S.A. Levin, and W. E. 2019. Spatial feedbacks and the dynamics of savanna and forest. *Theoretical Ecology* 12: 237–262.
- Staver**, A.C., G. Asner, I. Rodriguez-Iturbe, S.A. Levin, I. Smit. 2019. Spatial patterning among savanna trees in high-resolution, large-scale data. *PNAS* 116: 10681-10685.
- Rodriguez-Iturbe, I., Z. Chen, A.C. **Staver**, and S.A. Levin. 2019. Tree clusters in savannas result from islands of soil moisture. *PNAS* 116: 6679-6683.
- C.L. Dutton, A.L. Subalusky, T.D. Hill, J.C. Aleman‡, E.J. Rosi, K.B. Onyango, K. Kanuni, J.A. Cousins, A.C. **Staver** and D.M. Post. 2019. A 2000-year sediment record reveals rapidly changing sedimentation and land use since the 1960s in the Upper Mara-Serengeti Ecosystem. *Science of the Total Environment* 115: E1336-E1345.
- Staver**, A.C., C. Wigley-Coetsee, J. Botha. 2019. Grazer movements exacerbate grass declines during drought in an African savanna. *Journal of Ecology* 107: 1482-1491.
- Staver**, A.C. and E. Schertzer. 2018. Fire spread and the issue of community-level selection in the evolution of flammability. *Journal of the Royal Society Interface* 15: 20180444.
- Case†, M.F. and A.C. **Staver**. 2018. Soil texture mediates tree responses to rainfall intensity in African savannas. *The New Phytologist* 219: 1363-1372.
- ◊ Winner of the Robert McIntosh Award from the ESA Vegetation Section
- Aleman‡, J.C. and A.C. **Staver**. 2018. Spatial patterns in the global distributions of savanna and forest. *Global Ecology and Biogeography* 27, 792-803.
- Touboul, J.D., A.C. **Staver**, and S.A. Levin. 2018. On the complex dynamics of savanna landscapes. *PNAS* 115, E1336-E1345.
- Aleman‡, J.C., M. Jarzyna, and A.C. **Staver**. 2018. Forest extent and deforestation in sub-Saharan Africa since 1900. *Nature Ecology and Evolution* 2, 26-28.
- Pellegrini, A.F.A., A. Ahlström, S.E. Hobbie, P.B. Reich, L.P. Nieradzik, A.C. **Staver**, B.C. Scharenbroch, A. Jumponnen, W.R.L. Anderegg, J.R. Randerson, and R.B. Jackson.

2018. Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity. *Nature* 553, 194-198.
- Staver**, A.C. 2018. Tansley Insight: Prediction and scale in savanna ecosystems. *New Phytologist* 219: 52-57.
- ◇ Runner up for the Tansley Medal from the New Phytologist Trust
- Staver**, A.C., J. Botha, and L. Hedin. 2017. Soils and fire jointly determine vegetation structure in an African savanna. *New Phytologist* 216: 1151-1160.
- Case†**, M.F. and A.C. **Staver**. 2017. Fire prevents woody encroachment only at higher-than-historical frequencies in a South African savanna. *Journal of Applied Ecology* 54, 955–962.
- ◇ Runner up for the Southwood Prize from the British Ecological Society
- Staver**, A.C., H. Beckett, and J. Graf. 2017. Chapter 3: Long-term vegetation dynamics. In Cromsigt, J., S. Archibald, and N. Owen-Smith (eds). *Savanna Ecology and Management: Conserving Africa's Mega-Diversity in the Hluhluwe-iMfolozi Park*. Cambridge UP: Cambridge.
- Bond, W.J., A.C. **Staver**, M. Cramer, J. Wakeling, J.J. Midgley, and D. Balfour. 2017. Chapter 9: Demographic bottlenecks and savanna trees. In Cromsigt, J., S. Archibald, and N. Owen-Smith (eds). *Savanna Ecology and Management: Conserving Africa's Mega-Diversity in the Hluhluwe-iMfolozi Park*. Cambridge UP: Cambridge.
- Archibald, S., H. Beckett, W.J. Bond, D. Druce, A.C. **Staver**, and C. Coetsee. 2017. Chapter 10: Interactions between fire and ecosystem processes: implications for fire management. In Cromsigt, J., S. Archibald, and N. Owen-Smith (eds). *Savanna Ecology and Management: Conserving Africa's Mega-Diversity in the Hluhluwe-iMfolozi Park*. Cambridge UP: Cambridge.
- Pellegrini, A.F.A., A.C. **Staver**, L.O. Hedin, T. Charles-Dominique and A. Tourgee. 2016. Aridity, not fire, favors nitrogen-fixing plants across tropical savanna and forest biomes. *Ecology* 97 (9), 2177-2183.
- Aleman‡**, J.C., O. Blarquez, and A.C. **Staver**. 2016. Land use change outweighs projected effects of changing rainfall on tree cover in sub-Saharan Africa. *Global Change Biology* 22 (9), 3013-3025.
- Charles-Dominique, T., A.C. **Staver**, G.F. Midgley, and W.J. Bond. 2015. Functional differentiation of biomes in an African savanna/forest mosaics. *South African Journal of Botany* 101: 82-90.
- Pellegrini, A.F.A., L. Hedin, A.C. **Staver**, and N. Govender. 2015. Fire alters ecosystem carbon and nutrients but not plant nutrient stoichiometry or composition in tropical savanna. *Ecology* 96: 1275–1285.
- Staver**, A.C., and M. Hansen. 2015. Analysis of stable states in global savannas: is the CART pulling the horse? – a comment. *Global Ecology and Biogeography* 24: 985–987.
- Schertzer, E, AC **Staver**, & S Levin. 2015. Implications of the spatial dynamics of fire spread for the bistability of savanna and forest. *Journal of Mathematical Biology* 70:329-341.
- Staver**, A.C. and S. Koerner. 2015. Chapter 5: Top-Down and Bottom-Up Interactions Determine Tree and Herbaceous Layer Dynamics in Savanna Grasslands. In LaPierre, K. and T. Hanley (eds). *Trophic Ecology: Bottom-Up and Top-Down Interactions across Aquatic and Terrestrial Systems*. Cambridge UP: Cambridge.

- Staver, A.C.**, and W.J. Bond. 2014. Is there a ‘browse trap’? Dynamics of herbivore impacts on trees and grasses in an African savanna. *Journal of Ecology* 102: 595-602.
 ◇ Runner up for the Harper Prize from the British Ecological Society
- Pérez-Harguindeguy, N. *et al.* 2013. New handbook for standardised measurement of plant functional traits worldwide. *Australian Journal of Botany* 61:167–234.
- Staver, A.C.**, and S.A. Levin. 2012. Integrating theoretical climate and fire effects on savanna and forest systems. *The American Naturalist* 180: 211-224.
- Staver, A.C.**, W.J. Bond, M. J. Cramer, and J. L. Wakeling. 2012. Top-down determinants of niche structure and adaptation among African Acacias. *Ecology Letters* 15: 673–679.
- Archibald, S., A.C. **Staver**, and S.A. Levin. 2012. The evolution of human-driven fire regimes in Africa. *Proceedings of the National Academy of Sciences, USA* 109: 847–852.
- Staver, A.C.**, S. Archibald, and S.A. Levin. 2011. The global extent and determinants of savanna and forest as alternative biome states. *Science* 334: 230-232.
- Wakeling, J.L., A.C. **Staver**, and W.J. Bond. 2011. Simply the best: the transition of savanna saplings to trees. *Oikos* 120: 1448-1451.
- Staver, A.C.**, S. Archibald, and S.A. Levin. 2011. Tree cover in sub-Saharan Africa: rainfall and fire constrain forest and savanna as alternative stable states. *Ecology* 92: 1063-1072.
 ◇ Winner of the George Mercer Prize from the Ecological Society of America
- Staver, A.C.**, E.C. February, and W.J. Bond. 2011. History matters: tree establishment variability and species turnover in an African savanna. *Ecosphere* 2: art49.
- Staver, A.C.**, W.J. Bond, W.D. Stock, S.J. van Rensburg, and M.S. Waldram. 2009. Browsing and fire interact to suppress tree density in an African savanna. *Ecological Applications* 19: 1909-1919.
- Debroux, L., T. Hart, D. Kaimowitz, A. Karsenty and G. Topa (eds). 2007. Forests in post-conflict Democratic Republic of Congo: analysis of a priority agenda. A joint report by teams of the World Bank, CIFOR, CIRAD, AWF, CNONGD, CI, GTF, LINAPYCO, SNV, REPEC, WCS, Woods Hole Research Center, ICRAF, and WWF. xxii, 82p.
- Staver, A.C.**, W. de Jong, and D. Kaimowitz. 2007. Nicaragua's Frontier: the Bosawas Biosphere Reserve. In De Jong, W., D. Donovan, and A.K. Ichi (eds). *Extreme conflicts and tropical forests*. Springer: Berlin.

SEMINARS

- Harvard University, Harvard Forest, Invited Seminar (February 2020)
- University of Florida, Center for African Studies, *Student Invited Speaker* (September 2019)
- University of Victoria, Plenary Speaker at ‘LevinFest’ for Simon Levin Honorary Doctorate (June 2019)
- University of Texas, Austin, Invited Seminar (February 2019)
- Cornell University, Ecology and Evolutionary Biology, Invited Seminar (January 2019)
- Columbia University, Lamont Doherty Earth Observatory, Invited Seminar (January 2019)
- ETH Zurich, Institute of Integrative Biology, Invited Seminar (January 2019)
- Brown University, EEB, Departmental Seminar (December 2018)
- Duke University, Mathematics, Probability Seminar Series (September 2018)
- Smithsonian Tropical Research Institute, Invited Seminar (August 2018)
- Utrecht Uni., Copernicus Institute of Sustainable Development, Invited Seminar (June 2018)

Goethe Uni., Senckenberg Biodiversity & Climate Research Center, Invited Sem. (June 2018)
Oxford University, Center for the Environment, Invited Seminar (June 2018)
Cary Institute for Ecosystem Studies, Invited Seminar (February 2018)
Indian Institute for Science, Bangalore, Invited Seminar & Workshop (January 2018)
Instituto de Ecología (INECOL), Xalapa, Invited Seminar (in Spanish) (December 2017)
Texas A&M University, Departments of Ecosystem Science & Management and Ecology & Evolutionary Biology, Student Invited Speaker (October 2017)
University of Notre Dame, Biology, Departmental Seminar (September 2017)
University of the Witwatersrand, School of Animal, Plant and Environmental Sciences, Departmental Seminar (April 2017)
University of Edinburgh, School of Geosciences, Departmental Seminar (October 2016)
Utah State University, Ecology Center, Student Invited Speaker (September 2016)
Brown University, EEB, Departmental Seminar (September 2016)
College de France, Invited Seminar, Symposium: Modelling & Predicting Ecological Transitions (June 2016)
Yale University, School of Forestry & Environmental Studies Seminar (March 2016)
Harvard University, Arnold Arboretum Seminar (December 2015)
Stanford University, Biology, Departmental Seminar (December 2014)
Columbia University, Schools of Arts and Sciences, Invited Colloquium (April 2014)
Duke University, Mathematics, Departmental Seminar (April 2014)
College de France, Center for Interdisciplinary Research in Biology, Invited Seminar (December 2013)
Lehigh University, Earth & Environmental Sciences, Donnell Foster-Hewett Lecture (February 2013)
University of California Berkeley, ESPM, Departmental Seminar (March 2013)
University of Maryland, Biology, Departmental Seminar (January 2013)
University of California Davis, Ecology & Evolution, Departmental Seminar (January 2013)
Yale University, Ecology & Evolutionary Biology, Departmental Seminar (November 2012)
Columbia University, E3B, Departmental Seminar (February 2012)
NIMBioS, 'Disturbance Regimes & Climate-Carbon Feedbacks' Invited Colloquium (February 2012)

SELECTED COLLOQUIA

New Phytologist Symposium, Determinants of tropical vegetation structure and function (August 2019): Theoretical and empirical evidence for bistability in tropical vegetation (invited).
Society for Industrial and Applied Mathematics, Snowbird UT (May 2019): Vegetation distributions in the tropics: correspondence between models and reality (invited).
Savanna Science Networking Meeting, Skukuza, South Africa (March 2019): Vegetation-herbivore interactions during drought in savanna landscapes (contributed).
AGU, Washington, D.C. (December 2018): Spatial Patterning among Savanna Trees in High-Resolution, Large-Scale Data (invited).
ESA, New Orleans, LA (August 2018): Impacts of drought on interactions between grass and grazers (invited).

- Princeton Center for Theoretical Science, Workshop “Regular Patterns In Biology: Causes and Consequences”* (April 2018): Patterns in spatial heterogeneity in tree cover are consistent across diverse savannas in Kruger (invited).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2018): Meeting summary and concluding remarks (invited).
- ESA, Portland, OR* (August 2017): Integrating Fire-Related PFTs into Predictions of Large-Scale Forest Responses to Fire in Amazonia (contributed).
- New Phytologist, Emerging Scientists Symposium* (July 2017): Evolution of flammability (invited).
- UC Irvine, NASA, and Woods Hole Research Center, Workshop “Fire Regime Changes in Amazonia: Understanding and managing risk”* (April 2017): Integrating fire-related PFTs into predictions of large-scale forest responses to fire in Amazonia (invited).
- ESA, Ft. Lauderdale, FL* (Aug 2016): Tree and grass responses to global change in extant savanna landscapes (contributed).
- ATBC, Montpellier, France* (June 2016): Seasonal feeding strategies determine population size among savanna herbivores (invited).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2016): Spatial and temporal patterns in grass and woody structure in South African savanna (contributed).
- ESA, Baltimore, MD* (Aug 2015): Spatial fire spread and the evolution of flammability among grasses (contributed).
- AGU, San Francisco* (December 2014): Global fire-related functional traits (invited).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2014): Grass, fire, and soil resources interact to determine tree dynamics in savanna (contributed).
- ATBC, Bonito, Brazil* (June 2012): Predicting biome responses to global change: Implications of savanna and forest as alternative stable states (contributed).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2012): Critical transitions in fire spread in savanna landscapes (contributed).
- ESA, Austin, TX* (August 2011): Resource limitation, fire and tree growth in savanna systems (invited).
- ATBC/SCB Africa Section, Arusha, Tanzania* (June 2011): Tree cover in sub-Saharan Africa: rainfall and fire constrain forest and savanna as alternative stable states (invited).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2011): Examining savanna ecosystem dynamics in Kruger National Park using the VCA dataset (contributed).
- ESA, Pittsburg, PA* (Aug 2010): Tree cover in sub-Saharan Africa: rainfall and fire constrain forest and savanna as alternative stable states (contributed).
- Savanna Science Networking Meeting, Skukuza, South Africa* (March 2007). Continuous vs. episodic recruitment in Acacia in Hluhluwe iMfolozi Park: implications for understanding savanna structure and dynamics (contributed).