

Jan 09, 2025

Bradley O. Christoffersen

Curriculum Vitae

School of Integrative Biological and Chemical Sciences | University of Texas Rio Grande Valley |
ESCNE 1.340 | Edinburg, TX 78539 |
Phone: 956-665-2468 | Email: bradley.christoffersen@utrgv.edu |
ORCID: <https://orcid.org/0000-0002-4890-9999> | Web page: <https://www.christoffersen-lab.net/>

EDUCATION

-
- | | |
|------|--|
| 2013 | Ph.D., Ecology & Evolutionary Biology, University of Arizona, Advisor: Scott Saleska. Dissertation: "The ecohydrological mechanisms of resilience and vulnerability of Amazonian forests to water stress" |
| 2012 | M.S., Atmospheric Sciences, University of Arizona, Advisor: Xubin Zeng. Dissertation: "A data-model intercomparison of supply- and demand-side mechanisms governing the magnitude and seasonality of evapotranspiration in the Amazon basin" |
| 2003 | B.S., Environmental Studies, Southern Nazarene University |

ACADEMIC & RESEARCH POSITIONS

-
- | | |
|--------------|--|
| 2023-present | <i>Associate Professor</i> , School of Integrative Biological and Chemical Sciences, University of Texas Rio Grande Valley, Edinburg, TX |
| 2017-2023 | <i>Assistant Professor</i> , Department of Biology, University of Texas Rio Grande Valley, Edinburg, TX |
| 2015-2017 | <i>Post-doctoral Research Associate</i> , Earth and Environmental Sciences, Los Alamos National Laboratory. Mentors: Nate McDowell, Chonggang Xu and Sanna Sevanto |
| 2013-2014 | <i>Post-doctoral Research Associate</i> , School of GeoSciences, University of Edinburgh. Mentor: Patrick Meir |
| 2012 | <i>Research Assistant</i> , Ecology & Evolutionary Biology, University of Arizona |
| 2008-2011 | <i>Graduate Research Environmental Fellow</i> , University of Arizona |
| 2007 | <i>Teaching Assistant</i> , Ecology & Evolutionary Biology, University of Arizona. |
| 2004-2006 | <i>Research Technician</i> , Houston Advanced Research Center (HARC), The Woodlands, TX. |
| 2003 | <i>Research Intern</i> , MacArthur Agro-Ecology Research Center, Lake Placid, FL |

HONORS AND AWARDS

-
- Nominee, Minnie Stevens Piper Professor Award* (teaching excellence & scholarhip) (2022)
Nominee, NSF Waterman Award (2022)
Faculty Excellence Award in Sustainability Education, UTRGV (2021)
Graduate Research Environmental Fellow, U.S. Department of Energy (2008-2011)

EXTRAMURAL FUNDING (total as PI - \$807K; total to UTRGV as PI or co-PI \$3.7M)

Pending

Active

- 2024-2027 “Tamaulipan Thornscrub Forest Restoration: Survivorship, Regeneration, and Climate Resilience”. (\$325,000), **Role: sole PI**. American Forests via USFWS.
- 2023-2026 “MRI: Track 1 Acquisition of a TEM for Multi-disciplinary Research and Education at University of Texas Rio Grande Valley-A Hispanic Serving Institution”. (\$439,413), **Role: co-PI** with PI N Sahoo, and co-PIs K Lozano, K Martirosyan, R Dearth (UTRGV). NSF-MRI.
- 2023-2026 “Strengthening national security through capacity building and private-university- government partnerships in food and agricultural sciences”. (\$35.7K), **Role: Institutional PI** with PI R Kariyat (UArkansas). USDA AFRI.
- 2021-2025 “Subtropical Soil Health Demonstration: On-Farm Trials of Cover Crops for Conservation Innovation in arid farms of south Texas” (\$1.9M), **Role: co-PI** with PI A Racelis and co-PIs R Kariyat and P Soti (all UTRGV). USDA NRCS.
- Completed
- 2022-2024 “Drought resilience strategy for reforestation in the Lower Rio Grande Valley.” (\$30K), **Role: sole PI**. American Forests
- 2021-2024 “Remote sensing detection of invasive species in the Rio Grande Valley for hazardous fuels reduction.” (\$310K), **Role: lead PI** (co-PI X Yang UVa). US Department of Interior / Fish and Wildlife Service
- 2021-2024 “Using plant hydraulic scaling to predict the drought vulnerability of the world’s tallest tropical trees” (\$1.1M; no funding to UTRGV) **Role: Project Partner** with PI L. Rowland (U Exeter). United Kingdom Natural Environment Research Council (UK NERC).
- 2022-2023 “Co-locating plant water status, soil moisture, and root structure monitoring in woody seedlings to understand the role of variable root architectures in drought performance.” (\$11,251), **Role: sole PI**. UTRGV COS Seed Grant
- 2018-2022 “Training, Research, and Education in Soil Science (TRESS),” (\$275K). PI- E. Pereira, UTRGV **Role: Senior Personnel**. Sponsored by USDA/NIFA Hispanic-Serving Institutions (HSI) Education Grants Program.
- 2018-2021 “Carbon capture and seedling survival at La Sal del Rey, Texas,” (\$29K). **Role: lead PI** with co-PI E. Pereira. Sponsored by Land Life Company, LLC.
- 2019-2020 “Plant Bloome Education and Outreach Grant,” (\$46K), PI Rupesh Kariyat. **Role: co-PI**. Sponsored by American Society of Plant Biologists (ASPB).
- 2018-2020 “Co-evolving plant traits and hydrologic environment within watershed models,” (\$60K), PI Ethan Coon (ORNL), **Role: Co-PI**. Sponsored by ORNL LDRD Director’s R&D Fund.
- 2018 “Code development of the plant hydrodynamics (Hydro) within the Functionally Assembled Terrestrial Ecosystem Simulator (FATES),” (\$17K). **Role: sole PI**. Sponsored by Lawrence Berkeley National Laboratory.
- 2016-2017 “Assessment of Risk and Uncertainty of Tree Mortality in Temperate & Tropical Forests,” to PI Chonggang Xu (600,000 CPU hours), **Role: Co-I**; provided scientific input to proposal. Sponsored by Los Alamos National Laboratory Institutional Computing.
- 2008-2011 “Assessing the relative importance of deep roots, hydraulic redistribution, and improved soil hydrology for modeling of water, energy, and carbon fluxes in Amazonia.” (\$60K) **Role: PI with mentors S. Saleska and I. Fung**.

Sponsored by US DOE Global Change Program – Graduate Research Environmental Fellowship (GREF) program.

PUBLICATIONS

[Google Scholar](#): h-index=29; i10-index=42; 4977 citations

key: lab members are in **bold**; ** graduate student; * undergraduate student; 'incl.' denotes one of more than 10 authors; † joint first authors; ‡ corresponding author

In Press

2024

Binks O, Meir P, Konings AG, Cernusak L, **Christoffersen BO**, Anderegg WRL, Wood J, Sack L, Martinez-Vilalta J, Mencuccini M. 2024. A Theoretical Framework to Quantify Ecosystem Pressure-Volume Relationships. *Global Change Biology*, 30: e17567. <https://doi.org/10.1111/gcb.17567>

Mainhart DE**, **Christoffersen BO†**, Thompson RA, Reemts CM, Fierro-Cabo At. Preparing for the Worst: Enhancing Seedling Traits to Reduce Transplant Shock in Semi-Arid Regions. *Forests*. 2024; 15(9):1607. <https://doi.org/10.3390/f15091607>.

Robbins Z, Chambers J, Chitra-Tarak R, **Christoffersen B**, Dickman LT, Fisher R, Jonko A, Knox R, Koven C, Kueppers L, McDowell N, Xu C. 2024. Future climate doubles the risk of hydraulic failure in a wet tropical forest. *New Phytologist*, 244: 2239-2250. <https://doi.org/10.1111/nph.19956>. Featured in Commentary here: <https://doi.org/10.1111/nph.20049>.

Cusack DF, **Christoffersen B**, Smith-Martin CM, Andersen KM, Cordeiro AL, Fleischer K, Wright SJ, Guerrero-Ramírez NR, Lugli LF, McCulloch LA, Sanchez-Julia M, Batterman SA, Dallstream C, Fortunel C, Toro L, Fuchslueger L, Wong MY, Yaffar D, Fisher JB, Arnaud M, Dietterich LH, Addo-Danso SD, Valverde-Barrantes OJ, Weemstra M, Ng JC, Norby RJ, 2024. Toward a coordinated understanding of hydro-biogeochemical root functions in tropical forests for application in vegetation models. *New Phytologist*, 242 (2), 351-371. <https://doi.org/10.1111/nph.19561>.

2023

Restrepo-Coupe N, **Christoffersen BO**, Longo M, Alves LF, Campos KS, da Araujo AC, de Oliveira RC, Prohaska N, da Silva R, Tapajos R, Wiedemann KT, Wofsy SC, Saleska SR, 2023. Asymmetric response of Amazon forest water and energy fluxes to wet and dry hydrological extremes reveals onset of a local drought-induced tipping point. *Global Change Biology*, 29, 6077–6092. <https://doi.org/10.1111/gcb.16933>.

Xu C, **Christoffersen B**, Robbins Z, Knox R, Fisher RA, Chitra-Tarak R, Slot M, Solander K, Kueppers L, Koven C, McDowell N, 2023. Quantification of hydraulic trait control on plant hydrodynamics and risk of hydraulic failure within a demographic structured vegetation model in a tropical forest (FATES-HYDRO V1.0), *Geoscientific Model Development*, 16, 6267–6283, <https://doi.org/10.5194/gmd-16-6267-2023>.

Ding J, Buotte P, Bales R, **Christoffersen B**, Fisher RA, Goulden M, Knox R, Kueppers L, Shuman J, Xu C, Koven CD, 2023. Coordination of rooting, xylem, and stoma strategies explains the response of conifer forest stands to multi-year drought in the

Southern Sierra Nevada of California, *Biogeosciences*, 20, 4491–4510,
<https://doi.org/10.5194/bg-20-4491-2023>.

2022

44. **Albrecht C****, **Contreras Z****, Wahl-Villareal K, Sternberg M, **Christoffersen BO**[†]. 2022. Winners and losers in dryland reforestation: species survival along a 33-year planting chronosequence. *Restoration Ecology* 30: e13559. <https://doi.org/10.1111/rec.13559> Part of [Cross-Society Special Feature on the Decade of Ecosystem Restoration](#)

2021

43. **Arias M****, **Mendez S***, Chavana J*, Wahl K, Kariyat K, **Christoffersen BO**[†]. 2021. Do early-successional weeds facilitate or compete with seedlings in forest restoration? Disentangling abiotic vs. biotic factors. *Ecological Solutions and Evidence* 2(3): e12095. <https://doi.org/10.1002/2688-8319.12095> Part of [Cross-Society Special Feature on the Decade of Ecosystem Restoration](#)
42. **Mohsin F****, **Arias M****, **Albrecht C****, Wahl K, Fierro A, **Christoffersen BO**[†]. 2021. Species-specific responses to restoration interventions in a Tamaulipan thornforest. *Forest Ecology and Management* 491:119-154. <https://doi.org/10.1016/j.foreco.2021.119154>.
41. Konings A, incl. **Christoffersen BO** and 34 coauthors. 2021. Detecting forest response to droughts with global observations of vegetation water content. *Global Change Biology* 27(23), 6005-6024. <https://doi.org/10.1111/gcb.15872>
40. Luera P*, Wahl-Villarreal K, **Christoffersen BO**, Treviño A**, Soti P, Gabler CA, 2021. Effects of scarification, phytohormones, soil type, and warming on the germination and/or seedling performance of three Tamaulipan thornscrub forest species. *Plants*, 10(8), 1489. <https://doi.org/10.3390/plants10081489>.
39. Ma W, Zhai L, Pivovarovoff A, Shuman J, Buotte P, Ding J, **Christoffersen BO**, Moritz M, Koven CD, Kueppers L, Xu C. 2021. Assessing climate change impacts on live fuel moisture and wildfire risk using a hydrodynamic vegetation model. *Biogeosciences* 18(13): 4005-4020. <https://doi.org/10.5194/bg-18-4005-2021>.
38. Fang Y, Leung RL, Wolfe BT, Detto M, Knox R, McDowell N, Grossiord C, Xu C, **Christoffersen BO**, Gentine P, Koven CD, Chambers JQ. 2021. Vapor pressure deficit as the main driver of canopy conductance limitation at BCI during the 2015 El Niño event. *JGR-Atmospheres* e2021JD035004. <https://doi.org/10.1029/2021JD035004>.
37. Pivovarovoff A, Wolfe BT, McDowell N, **Christoffersen BO**, Davies S, Grossiord C, Riley L, Rogers A, Serbin S, Wright SJ, Wu J, Xu C, Chambers J. Hydraulic architecture explains species moisture dependency but not mortality rates across a tropical rainfall gradient. *Biotropica* 53(4):1213-1225. <https://doi.org/10.1111/btp.12964>.
36. Chavana J*, Singh S*, Vasquez A**, **Christoffersen BO**, Racelis A, Kariyat RR. 2021. Local adaptation to continuous mowing makes the noxious weed *Solanum elaeagnifolium* a superweed candidate by improving fitness and defense traits. *Scientific Reports* 11(1): 1-15. <https://doi.org/10.1038/s41598-021-85789-z>.
35. Restrepo-Coupe N, incl. **Christoffersen BO** and 15 coauthors. 2021. Understanding water and energy fluxes in the Amazonia: Lessons from an observation-model

intercomparison. *Global Change Biology* 27(9): 1802-1819.

<https://doi.org/10.1111/gcb.15555>.

34. Perez KE, Najev BSL*, **Christoffersen BO**, Nekola JC. 2021. Biotic homogenization or riparian refugia? Urban and wild land snail assemblages along a subtropical precipitation gradient. *Journal of Urban Ecology* 7(1).
<https://doi.org/10.1093/jue/juab002>.

2020

33. Solander K, incl. **Christoffersen BO** and 26 coauthors. The pan-tropical response of soil moisture to El Niño. 2020. *Hydrology and Earth System Sciences* 24(5): 2303-2322.
<https://doi.org/10.5194/hess-24-2303-2020>.
32. Tayal M*, Somavat P, Rodriguez I**, Thomas T, **Christoffersen BO**, Kariyat R. 2020. Polyphenol-rich purple corn pericarp extract adversely impacts herbivore growth and development. *Insects* 11(2): 98. <https://doi.org/10.3390/insects11020098>.
31. Koven C, incl. **Christoffersen BO** and 26 coauthors. 2020. Benchmarking and Parameter Sensitivity of Predictions of Ecophysiological and Vegetation Dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. *Biogeosciences* 17(11): 3017-3044.
<https://doi.org/10.5194/bg-17-3017-2020>.

2019

30. Xu C, McDowell NG, Fisher RA, Wei L, Sevanto S, **Christoffersen BO**, Weng E, Middleton RS. 2019. Increasing impacts of extreme droughts on vegetation productivity under climate change. *Nature Climate Change* 9(12): 948-953.
<https://doi.org/10.1038/s41558-019-0630-6>.
29. Kasper S*†, **Christoffersen BO**†, Soti P, Racelis A. Abiotic and biotic limitations to nodulation by leguminous cover crops in South Texas. *Agriculture* 9(10): 209.
<https://doi.org/10.3390/agriculture9100209>.
28. Grossiord C†, **Christoffersen BO**†, Alonso-Rodríguez AM, Anderson-Teixeira K, Asbjornsen H, Aparecido LMT, Carter Berry Z, Baraloto C, Bonal D, Borrego I, et al. 2019. Precipitation mediates sap flux sensitivity to evaporative demand in the neotropics. *Oecologia* 191(3): 519-530. <https://doi.org/10.1007/s00442-019-04513-x>.
27. Mencuccini M, Manzoni S, **Christoffersen B**. 2019. Modelling water fluxes in plants: from tissues to biosphere. *New Phytologist* 222(3): 1207-1222.
<https://doi.org/10.1111/nph.15681>.
26. Massoud EC, Xu C, Fisher R, Knox R, Walker A, Serbin S, **Christoffersen BO**, Holm J, Kueppers L, Riciutto D, Wei L, Johnson D, Chambers J, Koven CD, Vrugt JA, McDowell N. 2019. Identification of key parameters controlling demographically structured vegetation dynamics in a land surface model: CLM4.5(FATES). *Geoscientific Model Development* 12(9): 4133-4164. <https://doi.org/10.5194/gmd-12-4133-2019>.
25. Fauset S, incl. **Christoffersen BO** and 23 coauthors 2019. Individual-Based Modeling of Amazon Forests Suggests That Climate Controls Productivity While Traits Control Demography. *Frontiers in Earth Science* 7(83).
<https://doi.org/10.3389/feart.2019.00083>.

24. Barros FdV, Bittencourt PRL, Brum M, Restrepo-Coupe N, Pereira L, Teodoro GS, Saleska SR, Borma LS, **Christoffersen BO**, Penha D, et al. 2019. Hydraulic traits explain differential responses of Amazonian forests to the 2015 El Niño-induced drought. *New Phytologist* 223(3): 1253-1266. <https://doi.org/10.1111/nph.15909>.
23. Massoud EC, Purdy AJ, **Christoffersen BO**, Santiago LS, Xu C. 2019. Bayesian inference of hydraulic properties in and around a Douglas white fir using a process based ecohydrologic model. *Environmental Modelling and Software* 115: 76-85. <https://doi.org/10.1016/j.envsoft.2019.01.022>.
22. Wei L, Xu C, Jansen S, Zhou H, **Christoffersen BO**, Pockman WT, Middleton RS, Marshall JD, McDowell NG. 2019. A heuristic classification of woody plants based on contrasting shade and drought strategies. *Tree Physiology* 39(5): 767-781. <https://doi.org/10.1093/treephys/tpy146>.

2018

21. Rammig A, incl. **Christoffersen BO** and 29 coauthors. 2018. A generic pixel-to-point comparison for simulated large-scale ecosystem properties and ground-based observations: an example from the Amazon region. *Geoscientific Model Development* 11(12): 5203-5215. <https://doi.org/10.5194/gmd-11-5203-201>.
20. McDowell N, incl. **Christoffersen BO** and 34 coauthors. 2018. Drivers and mechanisms of tree mortality in moist tropical forests. *New Phytologist*, 219: 851-869. <https://doi.org/10.1111/nph.15027>.

2017

19. **Christoffersen BO**[†], Meir P, McDowell N. 2017. Linking plant hydraulics and beta diversity in tropical forests. *New Phytologist*, 215(1): 12-14. <https://doi.org/10.1111/nph.14601>.
18. Fisher RA, Koven CD, Anderegg WRL, **Christoffersen BO**, Dietze MC, Farrior CE, Holm JA, Hurtt GC, Knox RG, Lawrence PJ, et al. 2017. Vegetation demographics in Earth System Models: A review of progress and priorities. *Global Change Biology* 24(1): 35-54. <https://doi.org/10.1111/gcb.13910>.
17. Christianson DS, Varadharajan C, **Christoffersen BO**, Detto M, Faybishenko BA, Jardine KJ, Negron-Juarez R, Gimenez BO, Pastorello GZ, Powell T, Warren J, Wolfe B, Chambers J, Kueppers LM, McDowell NG, Agarwal D. 2017. A metadata reporting framework (FRAMES) for synthesis of ecohydrological observations. *Ecological Informatics* 42: 148-158. <https://doi.org/10.1016/j.ecoinf.2017.06.002>.
16. Wu J, Guan K, Hayek M, Restrepo-Coupe N, Wiedemann K, Xu X, Wehr R, **Christoffersen BO**, Miao G, da Silva R, Araujo A, Oliveira R, de Camargo P, Monson R, Huete A, Saleska S. 2017. Partitioning the extrinsic and intrinsic controls on gross ecosystem productivity at hourly to inter-annual time scales in an Amazonian evergreen forest. *Global Change Biology* 23(3): 1240-1257. <https://doi.org/10.1111/gcb.13509>.
15. Restrepo-Coupe N, Levine NM, **Christoffersen BO**, Albert LP, Wu J, Costa MH, Galbraith D, Imbuzeiro H, Martins G, da Araujo, AC, Malhi Y, Zeng X, Moorcroft P, Saleska SR. 2017. Do dynamic global vegetation models explain the seasonality of carbon fluxes in the Amazon basin? A data-model intercomparison. *Global Change Biology* 23(1):191-208. <https://doi.org/10.1111/gcb.13442>.

2016

14. **Christoffersen BO**[†], Gloor M, Fauset S, Fyllas N, Galbraith D, Baker T, Kruit B, Rowland L, Fisher R, Binks O, Sevanto S, Xu C, Jansen S, Choat B, Mencuccini M, McDowell NG, Meir P. 2016. Linking tropical forest function to hydraulic traits in a size-structured and trait-driven model (TFS v.1-Hydro). 2016. *Geoscientific Model Development* 9(1-29): 4227–4255. <https://doi.org/10.5194/gmd-9-4227-2016>.
13. Johnson M, incl. **Christoffersen BO** and 48 coauthors. 2016. Variation in stem mortality rates determines patterns of aboveground biomass in Amazonian forests: implications for dynamic global vegetation models. *Global Change Biology* 22(12): 3996-4013. <https://doi.org/10.1111/gcb.13315>.
12. Wu J, incl. **Christoffersen BO** and 20 coauthors. 2016. Leaf development and demography explain photosynthetic seasonality in Amazon evergreen forests. *Science* 351(6276):972-974. <https://doi.org/10.1126/science.aad5068>.
11. Binks O, Meir P, Rowland L, da Costa ACL, Vasconcelos SS, de Oliveira AAR, Ferreira L, **Christoffersen BO**, Nardini A, Mencuccini M. 2016. Plasticity in leaf-level water relations of tropical rainforest trees in response to experimental drought. *New Phytologist* 211(2): 477-488. <https://doi.org/10.1111/nph.13927>.

2015

10. Rowland L, Lobo-do-Vale RL, **Christoffersen BO**, Melém EA, Kruijt B, Vasconcelos SS, Domingues T, Binks OJ, Oliveira AAR, Metcalfe D, da Costa ACL, Mencuccini M, Meir P. 2015. After more than a decade of soil moisture deficit, tropical rainforest trees maintain photosynthetic capacity, despite increased leaf respiration. *Global Change Biology* 21: 4662–4672. <https://doi.org/10.1111/gcb.13035>.
9. Rowland L, Harper A, **Christoffersen BO**, Galbraith DR, Imbuzeiro HMA, Powell TL, Doughty C, Levine NM, Malhi Y, Saleska SR, Moorcroft PR, Meir P, Williams M 2015. Modelling climate change responses in tropical forests: similar productivity estimates across five models, but different mechanisms and responses. *Geoscientific Model Development* 8(4): 1097-1110. <https://doi.org/10.5194/gmd-8-1097-2015>.

2014

8. **Christoffersen BO**[†], and 37 coauthors. 2014. Mechanisms of water supply and vegetation demand govern the seasonality and magnitude of evapotranspiration in Amazonia. *Agricultural and Forest Meteorology* 191: 33-50. <https://doi.org/10.1016/j.agrformet.2014.02.008>.
7. Oliveira RS, **Christoffersen BO**, Barros FV, Teodoro GS, Bittencourt P, Brum MMJ, Viani RAG. 2014. Changing precipitation regimes and the water and carbon economies of trees. *Theoretical and Experimental Plant Physiology* 26(1): 65-82. <https://doi.org/10.1007/s40626-014-0007-1>.
6. Joetzjer E, Delire C, Douville H, Ciais P, Decharme B, Fisher R, **Christoffersen BO**, Calvet JC, da Costa ACL, Ferreira LV, Meir P. 2014. Predicting the response of the Amazon rainforest to persistent drought conditions under current and future climates: a major challenge for global land surface models. *Geoscientific Model Development* 7(6): 2933-2950. <https://doi.org/10.5194/gmd-7-2933-2014>.

2013

5. Powell TL, Galbraith DR, **Christoffersen BO**, Harper A, Imbuzeiro HMA, Rowland L, Almeida S, Brando PM, da Costa ACL, Costa MH, Levine NM, Malhi Y, Saleska SR, Sotta E, Williams M, Meir P, Moorcroft PR. 2013. Confronting model predictions of carbon fluxes with measurements of Amazon forests subjected to experimental drought. *New Phytologist* 200: 350-364. <https://doi.org/10.1111/nph.12390>.
4. Restrepo-Coupe N, incl. **Christoffersen BO** and 24 coauthors. 2013. What drives the seasonality of photosynthesis across the Amazon basin? A cross-site analysis of eddy flux tower measurements from the Brasil flux network. *Agricultural and Forest Meteorology* 182–183: 128-144. <https://doi.org/10.1016/j.agrformet.2013.04.031>.
3. von Randow C, incl. **Christoffersen BO** and 27 coauthors. 2013. Inter-annual variability of carbon and water fluxes in Amazonian forest Cerrado and pasture sites, as simulated by terrestrial biosphere models. *Agricultural and Forest Meteorology* 182: 145-155. <https://doi.org/10.1016/j.agrformet.2013.05.015>.
2. de Gonçalves LGG, incl. **Christoffersen BO** and 33 coauthors. 2013. Overview of the Large-Scale Biosphere-Atmosphere Experiment in Amazônia Data Model Intercomparison Project (LBA-DMIP). *Agricultural and Forest Meteorology* 182-183: 111-127. <https://doi.org/10.1016/j.agrformet.2013.04.030>.

2011

1. Sakaguchi K, Zeng X, **Christoffersen BJ**, Restrepo-Coupe N, Saleska SR, Brando PM. 2011. Natural and drought scenarios in an east central Amazon forest: Fidelity of the Community Land Model 3.5 with three biogeochemical models. *Journal of Geophysical Research-Biogeosciences* 116: G01029, <https://doi:10.1029/2010jG001477>.

BOOK CHAPTER

1. Galbraith DR, **Christoffersen BO**. 2015. Modelling climate impacts on forest ecosystems. In: Peh K, Corlett R, Bergeron Y eds. *The Routledge Handbook of Forest Ecology*. New York, NY, USA: Routledge.

PUBLICATIONS, Not Peer-Reviewed

- Flores RI, Tanner AM, Tanner EP, Christoffersen BO, Dale J, Fierro-Cabo A, Najera S. 2024. *The Thorny Path to Restoration*, Caesar Kleberg Tracks, Vol 9, Issue 1, Spring 2024. <https://www.ckwri.tamuk.edu/sites/default/files/publication/pdfs/2024/CK%20Tracks%20Spring%202024.pdf>
- Gonzalez LA, **Christoffersen BJ**, eds. 2006. *The Quiet Invasion: A Guide to Invasive Plants of the Galveston Bay Area*. The Galveston Bay Estuary Program, Houston, TX.
- Rosen DJ, **Christoffersen BJ**. 2004. Rediscovery of *Cyperus cephalanthus* (Cyperaceae) in Texas. *Phytologia* **86**: 107-109.
- Christoffersen BJ**. 2002. Treefall light gaps: Percent area and average size in a Costa Rican cloud forest. In: Abstracts: *Proceedings of the Oklahoma Academy of Science* **82**.

LEAD DEVELOPER: MODELING & SOFTWARE

Christoffersen B, Christianson DS. 2017. EcoHydro WorkFlow, version 1.0: A set of R functions to read, quality-check, and harmonize ecohydrological data using FRAMES. NGEET Tropics Data Collection.

Plant Hydraulics in the Functionally Assembled Terrestrial Ecosystem Simulator (FATES-Hydro). A product of the US DOE-funded Next Generation Ecosystem Experiment-Tropics project. Available at <https://github.com/NGEET/fates/blob/master/biogeophys/FatesPlantHydraulicsMod.F90>

TEACHING

At UTRGV as instructor of record: Advanced Plant Physiology (BIOL 5405); Plant Physiology (BIOL 4405); Biological Communications (BIOL 4400), Advanced Ecology (BIOL 6300), Biology Seminar (BIOL 4100)

At University of Arizona: Mathematical Models in Biology (ECOL/MATH 380; *Grader*), Fundamentals of Ecology (ECOL 302; *Lab TA*), Introduction to Biology (BIO 182; *Lab TA*)

STUDENT THESES (9 as chair or co-chair, 19 as committee member)

key: chaired or co-chaired in **bold**

In Progress

28. Joshua Morris (August 2024 – present; M.S. in Biology, committee member), *Vector-borne diseases and their prevalence among known and suspected vectors and hosts in South Texas*
27. **Catarina Miranda** (Jan 2024 – present; M.S. in Biology, committee chair), *How does a forest sustain itself? The roles of microhabitat and succession on recruitment in Tamaulipan thornscrub (1st place grad student oral at TxSER 2024)*
26. Gabriela Garza (August 2023 – present; M.S. in Biology, thesis committee member).
25. **Fabrizio Pilco** (August 2022 – present; M.S. in AESS; committee chair), *Assessing the Impacts of Cover Cropping on Soil Hydraulic Properties, Water Dynamics, and Termination Times in Dryland Systems of the Lower Rio Grande Valley*
24. Shikha Bharti (Jan 2023 – present; M.S. in Biology, committee member), *Molecular Characterization of YTH Gene Family and Transcriptional Responses to Drought and Heat Stress in Sorghum*

Completed

23. Mia Martinez (Aug 2022 – Dec 2024; M.S. in Biology; committee member), *Exploring the effects of cover crops on soil health in a South Texas dryland farming system*
22. **Lance Santos** (June 2022 – Dec 2024; M.S. in Biology; chair) *A nursery study of the interplay between soil texture, rooting space, and nurse plants on seedling growth and root development in woody species of Tamaulipan thornscrub (Part-time lecturer, UTRGV)*
21. Carlos Garcia Patlan (August 2022 – Aug; M.S. in AESS; committee member), *Utilizing unmanned aerial systems (UAS) and computer software to assess effects of cover crops on cash crop volumetric mass and plant height*

20. Cassandra Po (August 2022 – May 2024; M.S. in Biology, thesis committee member).
Prospecting algae traits and stress treatments for biofuel production.
19. Daphne Zapsas (Aug 2021 – July 2023; M.S. in Biology; committee member)
Comparative analysis of soil properties, microbial community composition, and yield responses to cover crops in different ecoregions of south Texas dryland farms
18. **Manish Gautam** (Aug 2021 – July 2023; M.S. in Biology; chair) *Soil moisture dynamics in cover cropping systems: from local to global scales* (**PhD student in Entomology, University of Arkansas**)
17. Neetu Khanal (Aug 2021 – May 2023; M.S. in Biology; committee member)
Understanding the significance of aphid biotypes in agroecosystems
16. Adegboyega Fajemisin (Aug 2021 – May 2023; M.S. in AESS; committee member) *Cover crops influence arthropod community dynamics through seasonal variation and cascading effects*
15. Alejandro Vasquez (Jan 2021 – Dec 2022; M.S. in Biology; committee member) *Effects of disturbance (mowing) on florivory and floral defenses in Solanum elaeagnifolium, a noxious and worldwide invasive weed*
14. **Douglas Mainhart** (Jan 2021 – Dec 2022; M.S. in Biology; co-chair w/ A. Fierro-Cabo) *Efficacy of seedling elevated CO₂, antitranspirants, and drought hardening pre-treatments to reduce transplant shock in restoration.* (**lead author one publication; Ecological Restoration Specialist at ArcheWild**).
13. **Zarek Contreras** (Aug 2020 – Aug 2022; M.S. in Agricultural, Environmental and Sustainability Sciences; chair) *Quantifying and predicting drought performance in woody seedlings of semi-arid south Texas* (**coauthored one publication with two in prep; 1st place student poster competition 2022 SAES Annual Meeting**).
12. **Clifton Albrecht** (Jan 2019 – April 2021; M.S. in Biology; chair) *Winners and losers in reforestation efforts: Identifying physiological traits contributing to species survivorship along a planting chronosequence* (**two publications; one as lead author; co-1st place student poster competition 2019 Society for Ecological Restoration Texas Meeting; Ph.D. student in Forestry, Stephen F. Austin**)
11. **Mysten Arias** (Jan 2019 – Dec 2020; M.S. in Biology; chair) *Discerning competitive vs. facilitative relationships of weeds on forest restoration efforts at La Sal del Rey, TX* (**lead author one publication; Senior Manager, American Forests**)
10. Mauricio Peña (Aug 2019 – May 2021; M.S. in Biology; committee member) *Prospecting for and isolation of microalgae in south Texas*
9. Mandip Tamang (Aug 2020 – May 2021; M.S. in Biology; committee member) *Using plant growth-promoting rhizobacteria as rhizosphere engineering tools: opportunities and challenges*
8. Zachary Johnson (Aug 2020 – May 2021; M.S. in Biology; committee member) *Physical and chemical defense mechanisms in aloe barbadensis against insect herbivores*
7. Akanksha Gandhi (Jan 2019 – Dec 2020; M.S. in Biology; committee member) *Role of herbivore-associated elicitors in plant defense signaling*
6. Paula Luera (Aug 2018 – Dec 2021; M.S. in Agricultural, Environmental, and Sustainability Sciences; committee member) *Developing best practices for the propagation of native Tamaulipan thornscrub plant species for regional reforestation*
5. **Faeqa Mohsin** (Aug 2018 – Aug 2020; M.S. in Biology; chair) *Optimizing species selection for forest restoration in the Lower Rio Grande Valley*" (**lead author one publication**)

4. Mandeep Tayal (Aug 2018 – May 2020; M.S. in Biology; committee member) *Insect mediated species interactions: examining methods to improve artificial buzz pollination and testing the effects of plant based bioactive compounds on herbivore life-history traits*
3. Itohan Edokpolo (Aug 2018 – May 2020; M.S. in Agricultural, Environmental, and Sustainability Science; committee member) *Comparing outdoor vertical hydroponic farming systems and conventional hydroponics systems with a focus on efficiency*
2. Christopher Muñoz (Aug 2017 – Aug 2019; M.S. in Ocean, Coastal and Earth Sciences; committee member) *Comparative, lithology-based biogeography of phreatophytic and non-phreatophytic matrices along a north-south gradient of the south texas sand sheet*
1. Stephanie Kasper (Aug 2017 – May 2019; M.S. in Agricultural, Environmental and Sustainability Sciences; committee member) *Investigating controls over nodulation and nitrogen fixation in leguminous cover crops in subtropical South Texas" (Research Associate, UTRGV; lead author one publication)*

UNDERGRADUATE STUDENT RESEARCH (UTRGV)

20. Aaron Guerra (2024-present): greenhouse and native seed orchard maintenance; *paid intern*
19. Haley Olvera (2024-present): field seedling surveys; *paid intern*
18. Selma Mendez (2022-2023): best practices for seed germination (USDA-REEU intern at USFWS Marinoff native plant nursery, Santa Ana National Wildlife Refuge)
17. Lance Santos (2021-2022): root functional traits in thornscrub seedlings. **Now MS student in the lab**
16. Samantha Martin (2020-2021): phenological responses to drought
15. Sarah Godwin (2020-2021): mesquite propagation techniques
14. David Garza (2020): quantitative vessel anatomy in thornscrub seedlings
13. Stephany Mendez (2019-2020): insect community diversity and weeds in reforestation settings **co-authored 1 publication**
12. Marco Garza (2019-2020): leaf-root functional trait coordination in thornscrub seedlings
11. Jonnah Garza (2019-2020): leaf-root functional trait coordination in thornscrub seedlings
10. Deveny Montoya (2019): plant trait measurements & seedling field surveys (UTRGV Upward Bound freshman student)
9. Krys Salazar (2018-2020): nurse plants and seedling germination in reforestation settings
8. John Cortinas (2018-2019): native plant propagation and care; **Research Assistant II, Boston Children's Hospital**
7. Ricardo Almaguer (2018-2019): first-year seedling growth and mortality in reforestation
6. Gilberto Aguillon (2018-2019): first-year seedling growth and mortality in reforestation
5. Megan Hanks (2018-2019): first-year seedling growth and mortality in reforestation
4. Kayla Deleon (2018-2019): resistance to drought-induced embolism (P₅₀) in thornscrub species
3. Noe Rodriguez (2018-2019): first-year seedling growth and mortality in reforestation

2. Julissa Roman (2018-2019): first-year seedling growth and mortality in reforestation
1. Nicolas Ramos (2018-2019): first-year seedling growth and mortality in reforestation

HIGH SCHOOL STUDENT SUPERVISION (UTRGV)

1. Zaida Carballo (2018 Spring; MSA student; wood density variation in campus trees); 2. David Garcia (2018 Fall; gas exchange in sun vs shade leaves); 3. Daniela Garcia (Summer 2020 High Scholars Program; quantitative vessel anatomy in native tree species); 4. Maryam Khalil (Summer 2020 High Scholars Program; quantitative vessel anatomy in native tree species).

AFFILIATIONS

Ecological Society of America
Society for Ecological Restoration
American Geophysical Union
Association for Tropical Biology and Conservation

SERVICE

Department/College/University

Current:

- Chair; ad-hoc Greenhouse committee. (2023-present).
- Core Faculty, Ph.D. in Integrative Life Sciences Proposal (05/'23 – present).
- Peer Mentor, Dr. Eloi Camprubi-Casas. (09/'22 - present).
- Peer Mentor, Dr. Manohar Chakrabarti. (09/'22 - present).
- Member, SIBCS Research and Infrastructure Committee. (08/'23 – present).
- Member, Biology Graduate Program Committee. (12/'17 - present).

Past:

- Chair, search committee for greenhouse program specialist (Sept-Oct '24).
- Taskforce lead, new course design (Integrative Physiology BIOL 3325) (08/'23 – 05/'24).
- Faculty Advisor, Biology Club (Undergraduate). (08/'19 – 05/'24).
- Member, 3 YA Lecturer Search Committee. (07/'23).
- Member, Biology Research and Infrastructure Committee. (03/'22 – 07/'23).
- Member, UTRGV Phase II Taskforce- UT System Equitable Student Pathways (Lumina Foundation) Biology Undergrad Degree Redesign. (01/'23 – 07/'23).
- Judge, UTRGV COS Annual Research Conference (05/'23).
- Chair, Faculty Search in Biology (Brownsville) Committee. (09/'22-05/'23).
- Faculty Panelist, Sustainability at UTRGV, ¡Juntos al Exito! (06/28/'22).
- Member, 3 YA Lecturer Search Committee. (07/'22).
- Member, Plant Functional Genomics Search Committee. (09/'21–05/'22).
- Member, 3 YA Lecturer Search Committee. (09/'20 – 05/'21).
- Member, Applied Biology Search Committee. (09/'20 – 05/'21).
- Member, Virology Search Committee. (09/'20 – 05/'21).
- Member, Library Committee. (09/'18 – 08/'20).

- Member, McAllen Center for Urban Ecology (CUE) committee. (2018 - 2020).
- Faculty Reviewer for Undergraduate Engaged Scholar Awards. (2017, 2018).
- Member, Undergraduate Curriculum Committee, Ecology. ('17 - '18).

Professional

Societies and Activities

Current:

- Committee Member, Thornscrub Conservation Partnership (TCP), (2018 – present). Led by American Forests, TCP is a stakeholder coalition of agencies, institutions, nonprofits and industry members working to conserve this ecosystem for the benefit of the RGV's unique biodiversity.
- Contributing Author, Workshop report (in preparation) on Critical Knowledge Gaps for Coastal Systems. Advance executive summary here: <https://ess.science.energy.gov/southeast-coastal-systems-report/> (full report in 2025).

Past:

- Invited Participant, “Critical Knowledge Gaps for Coastal Systems: Research Priorities for the U.S. South Atlantic and Gulf of Mexico” workshop held in Gaithersburg, MD by the U.S. Department of Energy Biological and Environmental Research (BER) Environmental System Science (ESS) program. (Mar '24)
- Working Group member, The PAN tropical investigation of bioGeochemistry and Ecological Adaptation (PANGEA): Scoping a NASA-Sponsored Field Campaign. White paper here: https://cce.nasa.gov/terrestrial_ecology/pdfs/PANGEA_Draft_White_Paper.pdf (Sep '24)
- Scoping Participant, Adaptation and Response in Drylands (ARID): Scoping a NASA-Sponsored Field Campaign. (Apr – Aug 2024). White paper, here: https://cce.nasa.gov/terrestrial_ecology/pdfs/NASA_ARID_final.pdf (Sep '24)
- Section Director, Subtropical Agriculture and Environments Society, Weslaco, TX. (2018 - 2023).
- Judge, UTRGV COS Annual Research Conference (05/'24).
- Student Awards Judge, Subtropical Agriculture and Environments Society (SAES), 02/2020.
- AGU Outstanding Student Paper Awards (OSPA) Liaison – Biogeosciences. (12/2016)
- AGU Outstanding Student Paper Awards (OSPA) Judge – Biogeosciences. (12/2016)

Grant Panels & Reviewing

- Grant Reviewer, NSF Integrated Organismal Systems: Jan '25
- Panel Reviewer, DOE Environmental System Science- Cold Region Process: May '23
- Panel Reviewer, DOE Environmental System Science- Synthesis: May '23

Journal Reviewing/Editing

- Review Editor, *Frontiers in Forests and Global Change*, (Aug 2018-present)
- *Nature Communications, Nature Geoscience, Ecology Letters, New Phytologist, Plant Cell and Environment, Tree Physiology, Journal of Experimental Botany, Plant and Soil, Global Change Biology, Global Ecology and Biogeography, Journal of Applied Ecology, PLOS One, Plant Diversity, Plant Ecology & Diversity, Frontiers in Forests and Global Change, Forests, Journal of Geophysical Research – Biogeosciences, Reviews of Geophysics, Science of the Total Environment, Vadose Zone Journal, Water Resources Research*

COMMUNITY OUTREACH

Thornscrub Restoration Research Table, Planta Nativa, Quinta Mazatlan, McAllen (10/2023, 10/2024)

Root rhizotron construction and giveaway, SIBCS Science Day at IDEA Elsa High School, Elsa, TX (01/2024)

Native Seed Giveaway, UTRGV Earth Fest (04/2024)

Plant Drought Adaptations Demo, UTRGV AgDiscovery K12 outreach Program, Edinburg, TX (June 2024)

SIBCS Welcome Table, Edinburg, TX (08/2023, 01/2024, 08/2024, 01/2025)

Plant Roots Demo using Rhizotrons, Hidalgo Middle School, UTRGV C-STEM, (06/2023)

Stomatal Imprints Demo, Hidalgo Middle School, UTRGV C-STEM, Edinburg, TX (06/2023)

Plant Drought Adaptations Demo, UTRGV AgDiscovery Program, Edinburg, TX (06/2023)

Plant Display Table, IDEA Elsa High School, Elsa, TX (01/2022)

Native Plant Research Display Table, Planta Nativa, Quinta Mazatlan, McAllen, TX (10/2022)

K12 Teacher Training, trained 5 middle school teachers from McAllen ISD in stomata imprint methods, funded by American Society of Plant Biologists. UTRGV, Edinburg, TX. (06/2022)

Native Plant Booth (leaf gas exchange demo), Fall Earth Day, City of Edinburg (10/2021). Participant, Vaquero Roundup. (08/2019).

K12 Teacher Training, trained 6 high school teachers from PSJA in simple approaches for measuring plant hydraulic conductivity, funded by American Society of Plant Biologists. UTRGV, Edinburg, TX. (08/06/2019).

Participant, HESTEC Community Day 2018. (10/06/2018).

Participant, COS Booth for HESTEC. (10/01/2018-10/03/2018).

Field tour of ongoing research in the Tapajós National Forest on deep soil moisture and fine root dynamics (IFPA) (in Portuguese; 05/28/2011).

Advertisement Committee, Graduate Research in Atmospheric Science (GRATIS), '07-'08.

Entomological Species Surveys, Los Fresnos Flora and Fauna Survey, Students Integrating Academics and Conservation (SIAC), University of Arizona, 08/2006.

Volunteer Field Assistant, Herbaceous plant species diversity surveys, U.S. Fish and Wildlife Service, Clear Lake, TX, 2004.

SESSIONS CONVENED

- 07/17 Exploring the fate of tropical forests under drier climates: linking mechanisms to models. *54th Annual Meeting of the Association for Tropical Biology and Conservation (ATBC)*, Mérida, Mexico. Co-convener with Tom Powell and Stuart Davies.
- 12/16 Tropical forests under a changing climate. *AGU (2016) Fall Meeting*, San Francisco, CA USA. Co-convener with Jeff Chambers, Tom Powell, and Charlotte Grossiord.

PRESENTATIONS, INVITED

- 09/24 Christoffersen, B. Quantifying species diversity, carbon sequestration, and drought tolerance in regenerating Tamaulipan thorn forests, *Biology Seminar Series, Texas State University*, San Marcos, TX.
- 03/24 Christoffersen B. FATES-Hydro: Model structure, inputs, outputs. *Critical Knowledge Gaps for Coastal Systems: Research Priorities for the U.S. South Atlantic and Gulf of Mexico*, U.S. Department of Energy Biological and Environmental Research (BER) Environmental System Science (ESS) program. Gaithersburg, MD
- 09/23 Christoffersen B, Albrecht C**, Contreras Z**, Mohsin F**, Arias M**, Garcia D*, Garza J*, Garza M*, Khalil M*, Martin S*, Santos L*, Mendez S*. Reforestation in the Lower Rio Grande Valley of Texas: a chronosequence retrospective and future prospects, *School of Integrative Biological and Chemical Sciences Seminar Series*, Edinburg, TX.
- 03/23 Christoffersen B, Albrecht C**, Contreras Z**, Mohsin F**, Arias M**, Garcia D*, Garza J*, Garza M*, Khalil M*, Martin S*, Santos L*, Mendez S*. Reforestation in the Lower Rio Grande Valley of Texas: a chronosequence retrospective and future prospects, *Thornscrub Conservation Partnership Quarterly Meeting*, Laguna Vista, TX.
- 06/22 Christoffersen BO, Mencuccini M, Binks O, Wolfe BT. Scaling vegetation water content from tissues to landscapes in tropical forests. *2022 American Geophysical Union Frontiers in Hydrology Meeting*, San Juan, Puerto Rico.
- 03/22 Christoffersen BO. Quantifying species diversity, carbon sequestration, and drought tolerance in regenerating Tamaulipan thorn forests. *Annual Meeting of the Subtropical Agriculture and Environments Society (SAES)*, Weslaco, TX.
- 10/20 Christoffersen B, Mencuccini M, Binks O, Wolfe B, (October 26, 2020). Bottom-up scaling of canopy water content: Impacts of traits and allometry, Keck Institute - Sensing Forest Water Dynamics from Space Keck Institute for Space Studies (KISS) in Virtual.
- 12/19 Christoffersen BO, Grossiord C, McDowell N, and the NGEE-Tropics Team. The trait-rate linkage: How well do structural and hydraulic traits predict interspecific differences in response to drought? *2019 American Geophysical Union Annual Meeting*, San Francisco, CA.
- 11/18 Christoffersen BO. Scaling in Forest Ecosystems: How do traits of organs, trees, and canopies impact forest response to climate? *UTRGV Computational Biology Workshop*, Edinburg, TX.
- 08/18 Christoffersen BO, Grossiord C, McDowell N, and the NGEE-Tropics Team. Tropical tree hydraulic responses to the 2015-2016 ENSO: a cross-site analysis and insights from a model. OOS 26: "Insights into Tropical Forest Function from Data-Model Integration" (Organizers: Helene C. Muller-Landau, Isabel Martinez). *2018 Annual Meeting of the Ecological Society of America*, New Orleans, LA, USA.

- 04/18 Christoffersen BO. Forest ecosystem resilience under changing precipitation regimes: Key ecohydrological mechanisms. *Texas A&M Ecosystem Science and Management Spring 2018 Seminar Series*, College Station, TX.
- 07/19 Declined invitation to give a mini-symposium talk, *Society for Mathematical Biology*, Montreal, Canada.
- 12/14 Meir P, Rowland L, Christoffersen BO (presenting). Drought and tree mortality in a tropical rainforest: understanding and differentiating functional responses, *AGU Fall 2014 Meeting*, San Francisco, CA, USA.
- 03/13 Christoffersen BO. LBA-DMIP and Andes-Amazon Initiative model intercomparison projects: Key results and main challenges, *Wageningen UR*, Wageningen, The Netherlands.
- 01/13 Christoffersen BO. The ecohydrological mechanisms of resilience and vulnerability in Amazonian tropical forests to water stress: A critical assessment of models. *School of Geography, University of Leeds*, Leeds, UK.
- 01/13 Christoffersen BO. Integrating hydraulic and carbon balance traits into the Trait Forest Simulator framework. *Yadvinder Malhi lab group, University of Oxford*, Oxford, UK.
- 11/10 Christoffersen BO and Andes-Amazon Initiative Team. Infiltration and root uptake dynamics in four Dynamic Vegetation Models. *Andes-Amazon Initiative, Moore Foundation Headquarters*, Palo Alto, CA.
- 12/09 Christoffersen BO. Guest lecture, Environmental Physics (in Portuguese): Ecohidrologia na Flona Tapajós: Os papeis da agua no solo e a dinâmica das raizes finas na função da Floresta, followed by facilitating class discussion (1 hr total), *Federal University of West Para (UFOPA) Santarém*, PA, Brazil.

PRESENTATIONS, CONTRIBUTED (** graduate student; * undergraduate student)

- 12/24 Oral: Christoffersen B, Gautam M**, Pilco F**, Racelis A. How deep do cover crops deplete soil moisture globally, and does it matter for yield? *AGU Fall Meeting*, Washington DC, USA. **Featured in AGU's EOS:** <https://eos.org/articles/cover-cropping-may-not-be-cash-crop-panacea>
- 11/24 Oral: Pilco F**, Gautam M**, Racelis A, Christoffersen B. Cover Crop's Vertical Soil Moisture Impacts on Rain-Fed Systems: A Meta-Analysis across all climatic regions, *CCSA/SSSA Annual Meeting*, San Antonio, TX
- 11/24 Oral: Colunga S**, Fierro Cabo A, Christoffersen B, Pereira E. Soil organic carbon accumulation in reforested subtropical thorn woodlands: the dual roles of nitrogen fixation and land use history, *CCSA/SSSA Annual Meeting*, San Antonio, TX
- 11/24 Oral: Miranda C**, Olvera H*, Christoffersen B. How does a forest sustain itself? The role of microhabitat & succession on recruitment in Tamaulipan thornscrub, *Texas Society for Ecological Restoration, University of Houston-Downtown*, Houston, TX. **(1st place grad student oral)**
- 11/24 Oral: Christoffersen B. Quantifying ecosystem services and restoration outcomes in regenerating Tamaulipan thorn forests, *Texas Society for Ecological Restoration, University of Houston-Downtown*, Houston, TX.
- 08/23 Oral: Christoffersen BO, Contreras Z**, Santos L*, Martin S*, Dale J. Disentangling drought tolerance and avoidance, two key yet non-mutually exclusive ecological

- drought strategies: implications for drought resilience, *Annual Meeting of the Ecological Society of America*, Portland, OR.
- 08/23 Poster: Santos L**, Christoffersen BO. The interplay between soil texture and fine root density on seedling growth and drought tolerance in border palo verde, *Annual Meeting of the Ecological Society of America*, Portland, OR.
- 08/23 Oral: Lichstein J, Longo M, Bereswill S, Blanco C, Bonal D, Chave J, Christoffersen BO, Dantas de Paula M, Derroie G, Fisher R, Hickler T, Higgins S, Hiltner S, Hofhansl F, Hogan JA, Huth A, Jaideep J, Knapp N, Langan L, Lapola D, Marechaux I, Martinez Cano I, Ongole S, Rau E, Restrepo-Coupe N, Sakschewski B, Saleska S, Scheiter S, Stahl C, Thonicke K, Wirth C. A model intercomparison project to study the role of plant functional diversity in the response of tropical forests to drought, *Annual Meeting of the Ecological Society of America*, Portland, OR.
- 08/23 Oral: Norby R, Cusack D, Addo-Danso S, Andersen K, Christoffersen BO, Cordeiro A, Fisher J, Fleischer K, Guerrero-Ramirez N, Smith-Martin C, Weemstra M, Yaffar D. Model-data integration of belowground function in tropical forests: Exploring root strategies for nutrient and water acquisition in highly diverse ecosystems, *Annual Meeting of the Ecological Society of America*, Portland, OR.
- 04/23 Oral: Christoffersen KO, Christoffersen BO, Ciller J, Nicholson N. Reading Together: Social Annotation with Hypothes.is at UTRGV, *Excellence in Online Learning Conference 2023*, UTRGV Edinburg, TX.
- 12/22 Poster: Robbins Z, Christoffersen BO, Chitra-Tarak R, Jonko A, Koven C, McDowell N, Xu, X. Certain Plant Traits Mitigate the Risk of Hydraulic Failure Under Future Climate Change in the Tropical Forests of Panama, *AGU Fall Meeting*, Chicago, IL.
- 08/22 Poster: Mainhart D, Fierro Cabo A, Christoffersen BO, Reemts C. Nursery Treatments Improve Seedling Physiological Status But Do Not Reduce Transplant Shock, *Annual Meeting of the Ecological Society of America ESA and CSEE*, Toronto, Canada.
- 03/22 Poster: Contreras Z**, Santos L*, Martin S*, Christoffersen BO. Can moisture content accurately predict interspecific differences in seedling drought tolerance? Implications for enhancing drought-resilience in restoration, *Annual Meeting of the Subtropical Agriculture and Environments Society (SAES)*, Weslaco, TX. **(1st place student poster award)**
- 03/22 Poster: Martin S*, Contreras Z**, Christoffersen BO. Does species water use strategy predict phenological response to drought in thornscrub seedlings? *Annual Meeting of the Subtropical Agriculture and Environments Society (SAES)*, Weslaco, TX.
- 03/22 Poster: Gautam M**, Christoffersen BO, Racelis A. Evaluating the dynamics of plant available water (PAW) under cover cropping system. *Annual Meeting of the Subtropical Agriculture and Environments Society (SAES)*, Weslaco, TX.
- 01/22 Poster: Zapsas D**, Gautam M**, Fajemisin A**, Delgado D**, Kaur S**, Soti P, Kariyat R, Christoffersen BO, Liu X, Racelis A. Subtropical Soil Health Demonstration: On-Farm Trials of Cover Crops for Conservation Innovation in Arid Farms of South Texas, *Texas Organic Farmers and Gardeners Association (TOFGA)*, Austin, TX.
- 12/21 Restrepo-Coupe N, ... Christoffersen BO and 20 coauthors. Contrasting water and energy fluxes during dry (2015 El Nino) and wet (2008 La Nina) extreme events at an Amazonian tropical forest, *AGU Fall Meeting*, New Orleans, LA.
- 11/21 Oral: Contreras Z**, Christoffersen BO. Can moisture content accurately predict interspecific differences in seedling drought tolerance? Implications for enhancing

- drought-resilience in restoration. *UTRGV College of Sciences Annual Research Conference*, Edinburg, TX.
- 11/21 Oral: Gautam M**, Christoffersen BO, Racelis AE. Exploring the Impact of Cover Crops in Soil moisture Conservation. *UTRGV College of Sciences Annual Research Conference*, Edinburg, TX.
- 08/21 Oral: Christoffersen BO. Plant ecophysiology & vegetation dynamics – proposed integrative education and research at Southmost Preserve. *UTRGV* (Virtual).
- 08/21 Oral: Christoffersen BO. Plant water relations: proposed public engagement & research at the McAllen Center for Urban Ecology. *UTRGV* (Virtual).
- 12/20 Oral: Wu M, Zhai L, Pivovarovoff A, Shuman J, Buotte P, Ding J, Christoffersen B, Moritz M, Koven C, Kueppers L, Xu C. Assessing climate change impacts on live fuel moisture and wildfire danger using a dynamic vegetation model. *AGU Fall Meeting American Geophysical Union*, (Virtual).
- 12/20 Oral: Ding J, Knox R, Bales R, Buotte P, Christoffersen B, Fisher R, Goulden M, Johnson E, Kueppers L, Shuman J, Xu C, Koven C. Linking tree life history characteristics and population dynamics to plant hydraulics. *AGU Fall Meeting American Geophysical Union*. (Virtual).
- 12/20 Poster: Xu C, Christoffersen B, Knox R, Wolfe B, Wei L, Chitra-Tarak R, Slot M, Fisher R, Kueppers L, Chambers J, Koven C, McDowell N. The importance of hydraulic traits to tropical forest dynamics *AGU Fall Meeting American Geophysical Union*, (Virtual).
- 11/20 Oral: Conteras Z**, Christoffersen BO. Are interspecific differences in seedling drought tolerance predictive of species performance in restoration plantings? A case study in South Texas. *UTRGV College of Sciences Annual Research Conference*. (Virtual).
- 09/20 Christoffersen BO. From traits to rates: How a physiological lens to plant ecology can help predict plant responses to stress. *UTRGV Department of Biology Seminar Series*, Online Virtual.
- 08/20 Poster: Arias M*, Mendez S**, Chavana J*, Wahl K, Kariyat K, Christoffersen BO. Do early-successional weeds facilitate or compete with seedlings in forest restoration? *2020 Annual Meeting of the Ecological Society of America*. (Virtual).
- 11/19 Oral: Mohsin F**, Christoffersen BO. Assessing Species-Specific Responses to Forest Restoration Interventions in the Lower Rio Grande Valley, *Society for Ecological Restoration - Texas Chapter Annual Conference*, Galveston, TX. (**1st place student oral presentation**).
- 11/19 Oral: Arias M**, Christoffersen BO. Do early-successional weeds facilitate or compete with seedlings in forest restoration? *Society for Ecological Restoration - Texas Chapter Annual Conference*, Galveston, TX.
- 11/19 Poster: Albrecht C**, Christoffersen BO. Winners and losers in reforestation efforts: Identifying physiological traits contributing to species survivorship along a planting chronosequence, *Society for Ecological Restoration - Texas Chapter Annual Conference*, Galveston, TX. (**1st place student poster presentation**).
- 04/19 Oral: Grossiord C, Christoffersen BO, NGEE Tropics Team. Precipitation mediates transpiration sensitivity to evaporative demand in the neotropics, *European Geophysical Union - Biogeosciences Section, Annual Meeting* in Vienna, Austria.
- 03/19 Poster: Mohsin F**, Arias M**, Albrecht C**, Aguillon G*, Almaguer R*, Chavanna J*, Chavez R*, de Leon K*, Hanks M*, Muñoz C*, Ramos N*, Rodriguez N*, Roman J*,

- Salazar K*, Tolentino J, Janmaat T, Ramachandra G, Stoffels W, Wahl-Villarreal K, Christoffersen BO. Assessing Effectiveness of Forest Restoration Interventions in the Lower Rio Grande Valley, *UTRGV College of Sciences Research Symposium*, Edinburg, TX, USA.
- 03/19 Poster: Arias MA**, Kariyat RR, Christoffersen BO. Discerning competitive vs. facilitative relationships of weeds on forest restoration efforts at La Sal Del Rey, TX, *UTRGV College of Sciences Research Symposium*, Edinburg, TX, USA.
- 03/19 Poster: Albrecht C**, Christoffersen BO. Understanding differential growth and survivorship of tree species in reforestation efforts, *UTRGV College of Sciences Research Symposium*, Edinburg, TX, USA.
- 03/19 Oral: Mohsin F**, Arias M**, Albrecht C**, Aguillon G*, Almaguer R*, Chavanna J*, Chavez R*, de Leon K*, Hanks M*, Muñoz C*, Ramos N*, Rodriguez N*, Roman J*, Salazar K*, Tolentino J, Janmaat T, Ramachandra G, Stoffels W, Wahl-Villarreal K, Christoffersen BO. Assessing Effectiveness of Forest Restoration Interventions in the Lower Rio Grande Valley, *Texas Academy of Science Annual Meeting*, Brownwood, TX, USA.
- 04/17 Poster: Christoffersen BO, Grossiord C, McDowell N, and Ngee Tropics Team. Synthesis of Tropical Forest Sapflow Responses to the 2015-2016 ENSO Event: Insights into Key Plant Traits and Mechanisms, *DOE Environmental System Science Principal Investigator (ESS-PI) Meeting* (lead author), Potomac, MD, USA.
- 04/17 Poster: Wolfe BT, Christoffersen BO, Seasonal Fluxes in the Contribution of Stored Water to the Transpiration Stream: Testing a Hydraulic Transport Model Against Measurements, *DOE Environmental System Science Principal Investigator (ESS-PI) Meeting*, Potomac, MD, USA.
- 02/17 Poster: Singh A*, Christoffersen BO. Gap-filling trait data for use in Earth System Models. *USDA Hispanic Serving Institution Meeting*, Albuquerque, NM, USA.
- 12/16 Poster: Christoffersen BO, Xu C, McDowell N, Meir P. A physiologically-based plant hydraulics scheme for ESMs: impacts of hydraulic trait variability for tropical forests under drought *AGU Fall 2016 Meeting*, San Francisco, CA, USA.
- 06/16 Oral: Christoffersen BO, Xu C, McDowell N, Meir P. Integrating a model of plant hydraulics with coordination and trade-offs among plant trait spectra in tropical forests *Computational Methods in Water Resources (CMWR)*, Toronto, Canada.
- 12/15 Oral: Christoffersen BO, Saleska S. Up-regulation of Amazon forest photosynthesis precedes elevated mortality under natural drought *AGU Fall 2015 Meeting*, San Francisco, CA, USA.
- 12/15 Poster: Christoffersen BO, Xu C, McDowell N, Meir, P. Linking tropical forest function to hydraulic traits in a size-structured and trait-based model *AGU Fall 2015 Meeting*, San Francisco, CA, USA.
- 11/15 Oral: Christoffersen BO, Xu C, McDowell N, Meir, P. Linking tropical forest function to hydraulic traits in a size-structured and trait-based model *DOE workshop on tree mortality and the future of tropical forests*, Rockville, MD, USA.
- 08/15 Oral: Christoffersen BO, Xu C, McDowell N, Meir, P. Linking tropical forest function to hydraulic traits in a size-structured and trait-based model. *Centennial ESA Meeting*, Baltimore, MD, USA.
- 06/15 Oral: Christoffersen BO, Xu C, McDowell N, Meir, P. A trait-based plant hydraulics scheme for CLM(ED). *CESM Workshop*, Breckenridge, CO, USA.

- 10/14 Poster: Christoffersen BO, Meir P. What are the minimum traits needed for effective drought simulation? *AMAZALERT Project final meeting*, Alter do Chão, PA, Brazil.
- 12/11 Oral: Christoffersen BJ, Saleska S, and Andes-Amazon Initiative Team. Plant water availability in dynamic vegetation models applied to Amazonia: The role of root water uptake functions under contemporary and simulated drought conditions, *AGU Fall 2011 Meeting*, San Francisco, CA.
- 11/11 Oral: Christoffersen BJ, Saleska S, and Andes-Amazon Initiative Team. Plant water availability in dynamic vegetation models applied to Amazonia: The role of root water uptake functions under contemporary and simulated drought conditions, *Andes-Amazon Initiative Annual meeting*, Gordon and Betty Moore Foundation, Palo Alto, CA.
- 06/11 Poster: Christoffersen BJ, Saleska S, and Andes-Amazon Initiative Team. Root uptake functions and drought sensitivity of DGVMs applied to Amazonia: An intercomparison and validation using soil moisture data, *16th annual NCAR CESM workshop*, Breckenridge, CO.
- 04/11 Oral: Christoffersen BJ, Saleska S, and LBA-DMIP Team. Radiation and available water controls on modeled evapotranspiration across eight Amazonian flux tower sites, *LBA-DMIP meeting*, Biosphere2, Arizona.
- 10/10 Oral: Christoffersen BJ, Saleska S. CLM-DGVM and CN model description and initial drought results, *Andes-Amazon Initiative Disturbance Workshop*, Woods Hole Research Institute, MA.
- 08/10 Oral: Christoffersen BJ, Saleska S, and LBA-DMIP Team. A basin-wide intercomparison of ecosystem land surface models and carbon and water flux observations in Amazonia, *AGU Meeting of the Americas*, Foz do Iguassu, Brazil.
- 08/10 Poster: Christoffersen BJ, Saleska S. Gap phase & climate extremes influence deep soil moisture dynamics in a moist tropical forest, *AGU Meeting of the Americas*, Foz do Iguassu, Brazil.
- 08/10 Oral: Christoffersen BJ, Woodcock T, Saleska, S. Gap phase influences deep soil moisture dynamics in a moist tropical forest, *ESA Annual Meeting*, Pittsburgh, PA.
- 04/08 Oral: Christoffersen BJ, Saleska S, and LBA-DMIP Team. Radiation and available water controls on modeled evapotranspiration across eight Amazonian flux tower sites: Results from the LBA-MIP, *EGU Annual meeting*, Vienna, Austria.
- 09/07 Oral: Christoffersen BJ, Zeng X, Saleska, S. Reparameterizing the Richards' equation in the NCAR-CLM: Are deep roots really necessary? *LBA-ECO Science Meeting*, Salvador, Brazil.
- 12/03 Oral: Christoffersen BJ. Impacts of grazing activity and hydrologic fluctuations on denitrification in isolated subtropical wetlands, *Archbold Biological Station*, Lake Placid, FL.

LANGUAGES

Spanish (fluent, written and spoken)

Portuguese (near-fluent, written; fluent, spoken)

MEDIA

- 12/24 Ravi, P. (2024) "Cover Cropping May Not Be Cash Crop Panacea", AGU Eos105, <https://doi.org/10.1029/2024EO240550>. Published on 10 December 2024.
- 06/24 "Of thorns and claws: Returning forests to Texas' "Magic Valley", American Forests Magazine, <https://www.americanforests.org/article/of-thorns-and-claws-returning-forests-to-texas-magic-valley/>
- 09/23 "Summer research experience pipelines agriculture scientists", UTRGV Newsroom, <https://www.utrgv.edu/newsroom/2023/09/15/utrgv-students-study-ag-in-arkansas-through-usdafunded-collaboration.htm>
- 09/23 "UTRGV receives NSF grant for state-of-the-art electron microscope", UTRGV Newsroom, <https://www.utrgv.edu/newsroom/2023/09/14/utrgv-receives-nsf-grant-for-stateofheart-electron-microscope.htm>
- 02/11 Interviewed by local station (*TV Tapajós*) about ongoing research in the Tapajós National Forest on deep soil moisture and fine root dynamics (in Portuguese).