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Google scholar page: https://scholar.google.com/citations?user=V2rEBzcAAAAJ

EDUCATION

Princeton University
Ph.D. 2001, Ecology and Evolutionary Biology.
M.A. 1997, Ecology and Evolutionary Biology.
Swarthmore College
B.A. 1995, Mathematics and Statistics, with a concentration in Environmental Studies. Phi Beta Kappa. Sigma Xi.

PROFESSIONAL EXPERIENCE

Senior Scientist / Research Ecologist, Smithsonian Tropical Research Institute. 2022 – present.
Staff Scientist / Research Ecologist, Smithsonian Tropical Research Institute. 2008-2022.
Visiting Scholar, Ecology and Evolutionary Biology, Princeton University. 2015 – 2016.
Assistant Professor, Ecology, Evolution and Behavior, University of Minnesota, 2004-2007.
Research Associate, Ecology and Evolutionary Biology, Princeton University. Jan – Jun 2004.
Post-doctoral Researcher, National Center for Ecological Analysis and Synthesis. 2002-2003.
Post-doctoral Researcher, Ecology and Evolutionary Biology, Princeton University. Fall 2001.

PRIZES AND AWARDS

Fellow, American Association for the Advancement of Science. Elected 2025.
Member, American Academy of Arts and Sciences. Elected in 2024. Class speaker for Biological Sciences. Video. Text.
Smithsonian Secretary's Research Prize, 2025, for the 2024 edited book "The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science (Volumes 1 and 2)." Washington, D.C.: Smithsonian Institution Scholarly Press.
Smithsonian Secretary's Research Prize, 2021, for the 2020 book chapter titled "What determines the abundance of lianas and vines?", by Muller-Landau, H. C. and S. W. Pacala. Pages 239-264 in *Unsolved Problems in Ecology*, edited by A. Dobson, D. Tilman, and R. D. Holt. Princeton University Press.
Brinkmann Prize for the best undergraduate paper in mathematics at Swarthmore College. 1995.

GRANTS AND FELLOWSHIPS

National Aeronautics and Space Administration. "Quantifying the elusive tree mortality events that dominate the tropical forest carbon cycle." 2026-2029. $996,233 total to Cary Institute, with $ 55,447 subcontract to Smithsonian. Co-I, with PI E. Gora and co-Is A. Esquivel-Muehlbert, S. Beery, and E. Ordway.

Simons Foundation. "EDGE-BCI: Evolutionary Dynamics and Genomic Ecology of Barro Colorado Island." 2026-2029. $5,999,714. Co-I., with PI J. Tewksbury and co-Is F. A. Jones, O. McMillan, S. J. Wright, E. Spear, S. Davies, N. Whiteman, D. Rokhsar, P. Cleves, B. Sedio, and C. Zalamea.

National Aeronautics and Space Administration. "Field data collection for the AVUELO campaign in Panama." 2025-2026. $110,800. Sole PI.

Simons Foundation. "Ecology and evolution of tropical forest ecosystems." Award 429440. 2025-2028. $2M. Co-I, with PI J. Tewksbury and co-I E. Spear.

Yale Planetary Solutions. "AI-powered identification of tropical tree seedlings using hyperspectral and 3D data." 2024-2025. $120,000. Co-PI, with PI L. Comita and co-PIs N. H. Nunez, L. Browne.

Smithsonian Combined Support for Life on a Sustainable Planet, Science, and Research. "Building the basis for automated species identification of tropical plants from spectral and laser scanning data." 2024-2025. $75,000. PI, with co-PIs S. Joseph Wright and S. Davies.

Smithsonian Combined Support for Life on a Sustainable Planet, Science, and Research. "Characterizing the climate sensitivity of tropical tree woody growth across a diversity of climates and species." 2024-2025. $75,000. Co-PI, with PI K. Anderson-Teixeira and co-PI S. Davies.

National Aeronautics and Space Administration. "Monitoring the phenology, distribution, and mortality of selected tropical trees from space" (22-CSDSA22_2-0088). 2023-2025. $472,992. Co-I, with PI A. Ferraz, and co-Is S. Beery and E. Gora.

Bezos Earth Fund. "GEO-TREES Global Forest Biomass Reference System." 2023-2028. $12M. Senior Personnel, with PI S. Davies. Co-lead of Technical Implementation Group on Terrestrial Laser Scanning.

National Science Foundation. "NSFDEB-NERC: Gigante: Quantifying and upscaling the causes and drivers of death for giant tropical trees" (DEB 2241507). 2023-2026. $1,438,401 total from NSF to Cary Institute with $77,166.52 (revised budget) subcontract to Smithsonian, and UK£244,862 from NERC to the University of Birmingham. Subcontract PI, with NSF PI E. Gora and NERC PI A. Esquivel-Muelbert.

National Science Foundation. "Collaborative Research: Lightning-caused disturbance and patterns of recovery in tropical forests." (DEB 2213245 to Cary Institute, DEB 2213246 to University of Louisville, and 2213247 to University of Alabama). 2022-2025. $1,539,152 total. PI for Smithsonian subcontract from Cary ($33,359.19), with lead PI E. Gora and collaborating PIs S. Yanoviak, and P Bitzer.

Leverhulme Trust. "Escaping the enemy: Spatial ecology of rainforest tree-insect interactions" (RPG-2021-042). 2022-2026. £418,844, co-PI, with PI S. Gripenberg, and co-PIs O. Lewis and S. J. Wright.

National Science Foundation. "AccelNet: International Tropical Forest Science Alliance (ITFSA): A global multi-network initiative for science and training." (OISE 2020424)

January 1, 2021 – December 31, 2026. $1,999,818. Co-PI, with PI S. Davies and co-PIs S. Russo, G. Arellano, and L. Krizel.

United States – Israel Binational Science Foundation. "Interacting effects of moisture and biotic interactions on seedling recruitment in tropical forests: experimental tests of the consequences of climate variability." October 1, 2018 – September 30, 2023. $229,759. Co-PI, with PI E. Lebrija (University of Haifa) and co-PIs S. J. Wright (STRI) and K. McGuire (University of Oregon).

Smithsonian Institution Scholarly Studies. "How will the woody productivity of forests worldwide respond to climate change?" 2020-2021. $75,000. Co-PI, with PI K. Anderson-Teixeira and co-PI C. Piponiot.

Smithsonian Institution Scholarly Studies. "Analysis and development of the Smithsonian's global forest carbon database (ForC)." 2018-2019. $75,000. Co-PI, with PI K. Anderson-Teixeira.

National Science Foundation. "Collaborative Research: Lightning as an Agent of Tropical Tree Mortality." (DEB 1655346 and DEB 1655554) July 1, 2017 – June 30, 2020. $809,082. Senior Personnel, with PI S. Yanoviak and co-PIs P. Bitzer, K. Hunter, and S. Paton.

National Science Foundation. "Dimensions US-China: Integrating functional, phylogenetic and genetic components of diversity for an improved understanding of forest structure, dynamics, and change." (DEB 1545761) Jan 1, 2016 – Dec 31, 2017. $296,240. Co-PI with PI S. Davies and co-PIs L. Comita, F. Jones, and N. Swenson.

Smithsonian Institution Competitive Grants Program for Science. "In forests globally, are large trees more sensitive to aridity?" 2015-2016. $100,000. Co-PI, with PI K. Anderson-Teixeira and co-PI S. McMahon.

Smithsonian Institution Competitive Grants Program for Science. "Measuring the seasonal rhythms of leafing, flowering, and fruiting in tropical landscapes using unmanned aerial vehicles and computer vision." 2014-2015. $100,000. PI, with co-PIs K. Anderson-Teixeira, S. Bohlman, R. Condit, S. Davies, M. Detto, J. Hall, P. Jansen, S. Schnitzer, E. Tanner, and S. J. Wright.

Smithsonian Institution Competitive Grants Program for Science. "Species-specific effects of interannual climate variation on seed production and seedling establishment of tropical trees: A proposal to quantify patterns, test hypotheses, and project effects of future climate scenarios." 2013-2014. $99,828. PI, with co-PI S. Joseph Wright.

National Science Foundation. "Collaborative Research: LTREB RENEWAL – Long-term studies of flowering, fruiting and seedling recruitment in Neotropical forests: global change, climate variability and mechanisms of species coexistence." (DEB 1122325 and 1122634) 2011-2016. $450,000. Co-PI, with co-PIs N. C. Garwood, M. R. Metz, S. J. Wright, J. K. Zimmerman, N. G. Swenson, J. Thompson, and M. Uriarte.

Netherlands Organisation for Scientific Research (NWO). "Quantifying the importance of niches to tree species coexistence in a tropical forest" 2011-2015. 203,500 Euro. Promotor, together with promoter H. de Kroon, and co-promotor E. Jongejans.

Smithsonian Endowment. "Quantifying the importance of seedling establishment niches to plant species coexistence in a tropical forest." 2011-2012. $23,620. PI, with co-PIs S. J. Wright, H. de Kroon, and E. Jongejans.

National Science Foundation. "Dimensions IRCN: Diversity and forest change: characterizing functional, phylogenetic and genetic contributions to diversity gradients and dynamics in

tree communities." (DEB 1046113) 2011-2015. $631,640. Co-PI with PI S. Davies and co-PIs R. Condit, W. J. Kress, and N. G. Swenson.

National Science Foundation. "Temperature responses of leaf dark respiration and their implications for tropical forest carbon balance." (DEB 1051789) 2011-2014. $444,698. Co-PI, with PI K. Kitajima and co-PIs J. Lichstein, S. J. Wright, S. Bohlman, S. Gerber.

Smithsonian Institution Scholarly Studies. "Monitoring tropical forest change under a shifting climate: recensusing a network of tree inventory plots in Panama." 2010. $53,000. Co-PI with PI R. Condit.

McKnight Land-Grant Professorship at the University of Minnesota. "Mechanisms underlying tropical forest diversity." $60,000 and a paid full-year sabbatical (declined). 2007.

Packard Fellowship in Science and Engineering, awarded by the David and Lucile Packard Foundation. 2006. "Uniting ecological theory and empirical studies to investigate the maintenance of tropical diversity." $625,000. Sole PI.

National Science Foundation. 2006-2012. "LTER: Biodiversity, environmental change and ecosystem function at the prairie-forest border." (DEB0620652) $4,920,000. Senior investigator, collaborating with PIs D. Tilman, S. Hobbie, P. Reich, S. Polasky, and six other senior investigators.

National Science Foundation. 2006-2011. "Collaborative Research: LTREB - Long-term studies of flowering, fruiting and seedling recruitment in Neotropical forests: global change, climate variability and mechanisms of species coexistence." (NSF DEB 614055, 614525, and 614659; $450,000 total) Collaborating with N. Garwood of Southern Illinois University, S. J. Wright of the Smithsonian Tropical Research Institute, and J. Zimmerman and J. Thompson of the University of Puerto Rico.

National Science Foundation. 2005-2008. "Collaborative Research: Seed dispersal by wind and plant recruitment in tropical forests – an interdisciplinary investigation across multiple scales." (NSF DEB 0453445, 0453665, 0453296 and REU supplement 0536893; $449,741 total) Collaborating with R. Nathan and S. J. Wright of the Smithsonian Tropical Research Institute, and R. Avissar of Duke University.

Center for Tropical Forest Science Research Grant. 2003-2004. "Seed Rain in Tropical Forests: Patterns, Causes, and Consequences for Forest Dynamics." $8,000.

National Center for Ecological Analysis and Synthesis Postdoctoral Fellowship. 2002-2003.

Organization for Tropical Studies Advanced Comparative Neotropical Ecology award. 2001.

Princeton Environmental Institute Research Initiative in Science and Engineering Graduate Fellowship. 1998.

Smithsonian Institution Pre-Doctoral Fellowship. 1997.

Smithsonian Tropical Research Institute Short-Term Fellowship. 1997.

National Science Foundation Graduate Fellowship. 1995.

PEER-REVIEWED SCHOLARLY BOOK

Muller-Landau, Helene C. and S. Joseph Wright. 2024. *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science (Volumes 1 and 2)*. Washington, D.C.: Smithsonian Institution Scholarly Press. https://doi.org/10.5479/si.26048527

Web page for this edited volume and the chapters within it: https://striresearch.si.edu/books/bci100/

PEER-REVIEWED SCHOLARLY JOURNAL ARTICLES AND BOOK CHAPTERS (159)

Laliberté, Etienne, Antoine Caron-Guay, Vincent Le Falher, Guillaume Tougas, **Helene C. Muller-Landau**, Gonzalo Rivas-Torres, Thomas R. Walla, Hugo Baudchon, Mélvin Hernandez, Adrian Buenaño, Anna Weber, Jeffrey Q. Chambers, Jomber Chota Inuma, Fernando Araúz, Jorge Valdes, Andrés Hernández, David Brassfield, Paulo Araujo Filho, Vicente Vasquez, Adriana Simonetti, Daniel Magnabosco Marra, Caroline de Moura Vasconcelos, Jarol Fernando Vaca, Geovanny Rivadeneyra, José Illanes, Luis A. Salagaje-Muela, and Jefferson Gualinga. 2026. Seeing both the forest and the trees: An automated workflow for ultra-high-resolution drone imaging of tropical canopies. Methods in Ecology and Evolution. https://doi.org/10.1111/2041-210x.70415

Krishna Moorthy, Sruthi M., Felicien Meunier, Stefan A. Schnitzer, Kim Calders, David M. DeFilippis, Antonio Aguilar, Nancy Pausenberger, Marco D. Visser, **Helene C. Muller-Landau**, and Hans Verbeeck. 2026. Spatial variation in liana effects on host-tree allometry and biomass in an intact tropical forest. *Ecography* e08373. https://doi.org/10.1002/ecog.08373

Nunes, Matheus Henrique, **Helene C. Muller-Landau**, Eric Bastos Görgens, Adrian Pascual, and Ralph Duabayah. 2026. Heterogeneous climatic controls on tropical-forest biomass. *Nature.* https://doi.org/10.1038/s41586-026-10880-2

Wong, Michelle Y., Sarah A. Batterman, Jane M. Lucas, Katrin Fleischer, Mark S. Ashton, Marijn Bauters, David F. R. P. Burslem, KC Cushman, James W. Dalling, Sebastian Doetterl, Adriane Esquivel-Muelbert, Claire Fortunel, Jennifer A. Holm, Nohemi Huanca-Nunez, Guopeng Liang, Moses B. Libalah, Demetrius Lira-Martins, Jose A. Medina-Vega, **Helene C. Muller-Landau**, Jessica Needham, Elsa M. Ordway, Mareli Sánchez-Juliá, Laura Toro, Xiangtao Xu, S. Joseph Wright, Gabriela Zuquim, Evan M. Gora. 2026. Soil fertility controls on tropical forest productivity and mortality: synthesis and roadmap. *New Phytologist* 251:2314-2330. https://doi.org/10.1111/nph.71367

Park, John Y., Jeremy W. Lichstein, **Helene C. Muller-Landau**, S. Joseph Wright, and Stephanie A. Bohlman. 2026. Interspecific variation in leaf phenology and its relationship with plant traits in a seasonal tropical forest. *Functional Ecology* 40: 433-450. https://doi.org/10.1111/1365-2435.70240

Anujan, Krishna, Sean M. McMahon, Sarayudh Bunyavejchewin, Stuart J. Davies, **Helene C. Muller-Landau**, Nantachai Pongpattananurak, and Kristina J. Anderson-Teixeira. 2026. Drought response is not a species trait: tropical tree drought sensitivity is shaped by drought characteristics, species adaptations and individual microenvironments. *Ecology Letters*, 29 (1): e70291. https://doi.org/10.1111/ele.70291

Clemens Mosig, Janusch Vajna-Jehle, Miguel D. Mahecha, Yan Cheng, Henrik Hartmann, David Montero, Samuli Junttila, Stéphanie Horion, Mirela Beloiu Schwenke, Michael J. Koontz, Khairul Nizam Abdul Maulud, Stephen Adu-Bredu, Djamil Al-Halbouni, Muhammad Ali, Matthew Allen, Jan Altman, Lot Amorós, Claudia Angiolini, Rasmus Astrup, Hassan Awada, Caterina Barrasso, Harm Bartholomeus, Pieter S.A. Beck, Aurora Bozzini, Joshua Braun-Wimmer, Benjamin Brede, Fabio Marcelo Breunig, Stefano

Brugnaro, Allan Buras, Vicente Burchard-Levine, Jesús Julio Camarero, Anna Candotti, Luka Capuder, Erik Carrieri, Mauro Centritto, Gherardo Chirici, Myriam Cloutier, Dhemerson Conciani, KC Cushman, James W. Dalling, Phuong D. Dao, Jan Dempewolf, Martin Denter, Marcel Dogotari, Ricardo Díaz-Delgado, Simon Ecke, Jana Eichel, Anette Eltner, André Fabbri, Maximilian Fabi, Fabian Fassnacht, Matheus Pinheiro Ferreira, Fabian Jörg Fischer, Julian Frey, Annett Frick, Jose Fuentes, Selina Ganz, Matteo Garbarino, Milton García, Matthias Gassilloud, Antonio Gazol, Guillermo Gea-Izquierdo, Kilian Gerberding, Marziye Ghasemi, Francesca Giannetti, Jeffrey Gillan, Roy Gonzalez, Carl Gosper, Terry Greene, Konrad Greinwald, Stuart Grieve, André Große-Stoltenberg, Jesus Aguirre Gutierrez, Anna Göritz, Peter Hajek, David Hedding, Jan Hempel, Stien Heremans, Melvin Hernández, Marco Heurich, Eija Honkavaara, Bernhard Höfle, Robert Jackisch, Tommaso Jucker, Jesse M. Kalwij, Sebastian Kepfer-Rojas, Pratima Khatri-Chhetri, Till Kleinebecker, Hans-Joachim Klemmt, Tomáš Klouček, Niko Koivumäki, Nagesh Kolagani, Jan Komárek, Kirill Korznikov, Bartłomiej Kraszewski, Stefan Kruse, Robert Krüger, Helga Kuechly, Ivan H.Y. Kwong, Etienne Laliberté, Liam Langan, Hooman Latifi, Claudia Leal-Medina, Jan R.K. Lehmann, Linyuan Li, Emily Lines, Maciej Lisiewicz, Javier Lopatin, Arko Lucieer, Antonia Ludwig, Marvin Ludwig, Päivi Lyytikäinen-Saarenmaa, Qin Ma, Nicolas Mansuy, José Manuel Peña, Giovanni Marino, Michael Maroschek, M.Pilar Martín, Darío Martín-Benito, Pavan Matham, Sabrina Mazzoni, Fabio Meloni, Annette Menzel, Hanna Meyer, Mojdeh Miraki, Gerardo Moreno, Daniel Moreno-Fernández, **Helene C. Muller-Landau**, Mirko Mälicke, Jakobus Möhring, Jana Müllerova, Setti Sridhara Naidu, Davide Nardi, Paul Neumeier, Mihai Daniel Nita, Roope Näsi, Lars Oppgenoorth, Sagynbek Orunbaev, Melanie Palmer, Thomas Paul, Mattis Pfenning, Alastair Potts, Gudala Laxmi Prasanna, Suzanne Prober, Stefano Puliti, Antonio J. Pérez-Luque, Oscar Pérez-Priego, Chris Reudenbach, Jesús Revuelto, Gonzalo Rivas-Torres, Philippe Roberge, Pier Paolo Roggero, Christian Rossi, Nadine Katrin Ruehr, Paloma Ruiz-Benito, Christian Mestre Runge, Gabriele Giuseppe Antonio Satta, Bruno Scanu, Michael Scherer-Lorenzen, Felix Schiefer, Christopher Schiller, Jacob Schladebach, Marie-Therese Schmehl, Jonathan Schmid, Tristan Alexander Schmidt, Selina Schwarz, Rupert Seidl, Thomas Seifert, Ana Seifert Barba, Elham Shafeian, Aurélie Shapiro, Leopoldo de Simone, Hormoz Sohrabi, Salim Soltani, Laura Sotomayor, Ben Sparrow, Benjamin S.C. Steer, Matt Stenson, Benjamin Stöckigt, Yanjun Su, Juha Suomalainen, Elisa Tamudo, Mauro J. Tognetti Barbieri, Enrico Tomelleri, Michele Torresani, Katerina Trepekli, Saif Ullah, Sami Ullah, Josefine Umlauft, Nicolás Vargas-Ramírez, Can Vatandaslar, Vladimir Visacki, Michele Volpi, Vicente Vásquez, Christine Wallis, Ben Weinstein, Hannah Weiser, Serge Wich, Tagle Casapia Ximena, Pablo J. Zarco-Tejada, Katherine Zdunic, Katarzyna Zielewska-Büttner, Raquel Alves de Oliveira, Liz van Wagtendonk, Vincent von Dosky, Teja Kattenborn. 2026. deadtrees.earth — An open-access and interactive database for centimeter-scale aerial imagery to uncover global tree mortality dynamics. *Remote Sensing of Environment* 332:115027. https://doi.org/10.1016/j.rse.2025.115027

Magee, Lukas J., Daniel J. B. Smith, David Bauman, Po-Ju Ke, **Helene C. Muller-Landau**, Kristina J. Anderson-Teixeira, Jessica Shue, David A. Orwig, Sean McMahon, Stephanie Bohlman, Raelene M. Crandall, Ben Weinstein, Sergio Marconi, Jeremy W. Lichstein, James F. Gillooly, Robert Bagchi, Joseph A. LaManna, Daniel J. Johnson. 2025. Memories of trees past: coexistence implications of legacy conspecific density dependence. *Ecology Letters* 28(10): e70197. https://doi.org/10.1111/ele.70197

Araujo, Raquel Fernandes, Evan M. Gora, Carlos H. S. Celes, Stephen P. Yanoviak, and **Helene C. Muller-Landau.** 2025. Quantifying patterns of lightning-caused canopy disturbances via integration of drone imagery and field surveys. *Biotropica* 57: e70083. https://doi.org/10.1111/btp.70083

Jousse, Maximiliane, Salomon Aguilar, Hector Barrios, Davilio Chami, Daisy H. Dent, Iran Dogirama, Homilia Flaco, Matthias Kunz, Joseph Levitan, Edison Degaiza, Wiyan Valdespino, David Mitre, Edilberto Mosquera, **Helene C. Muller-Landau**, Alexis Ortega, Rolando Perez, Jorge Valdes, Juan-Carlos Villarreal, Camilo Alejo, and Catherine Potvin. 2025. Insights into the forests of Darién, Panama, from the new 10 ha Bacurú Drõa plot established through participatory methods within an Emberá territory. *Conservation Science and Practice*: e70163. https://doi.org/10.1111/csp2.70163

Ward, Rachel E., Huanyuan Zhang-Zheng, Kate Abernethy, Stephen Adu-Bredu, Luzmilla Arroyo, Andrew Bailey, Jos Barlow, Erika Berenguer, Liana Chesini-Rossi, Percival Cho, Cecilia A. L. Dahlsjö, Eder Carvalho das Neves, Bianca de Oliveira Sales, William Farfan-Rios, Joice Nunes Ferreira, Renata Freitag, Cécile Girardin, Walter Huaraca Huasco, Carlos A. Joly, Yadvinder Malhi, Beatriz Marimon, Ben Hur Marimon Junior, Alexandra C. Morel, **Helene C. Muller-Landau**, Karine da Silva Peixoto, Simone Reis, Terhi Riutta, Norma Salinas, Marina Seixas, Miles R. Silman, Lara M. Kueppers. 2025. Forest age rivals climate to explain reproductive allocation patterns in forest ecosystems globally. *Ecology Letters* 28: e70191. https://doi.org/10.1111/ele.70191

Gora, Evan M, Ian R. McGregor, **Helene C. Muller-Landau**, Jeffrey C. Burchfield, K. C. Cushman, Vanessa E. Rubio, Gisele Biem Mori, Martin J. P. Sullivan, Matthew W. Chmielewski, and Adriane Esquivel-Muelbert. 2025. Storms are an important driver of change in tropical forests. *Ecology Letters* 28: e70157. https://doi.org/10.1111/ele.70157

Gora, Evan M., **Helene C. Muller-Landau**, K. C. Cushman, Jeannine H. Richards, Phillip M. Bitzer, Jeffrey C. Burchfield, Pabloa Narvaez, and Stephen P. Yanoviak. 2025. How some tropical trees benefit from being struck by lightning: evidence for *Dipteryx oleifera* and other large-statured trees. *New Phytologist* https://doi.org/10.1111/nph.70062

Viblanc, Vincent A., and **Helene C. Muller-Landau**. 2025. Insights into ecology, evolution and global change responses from very long-term studies. *Ecology Letters* 28(4):e70072. https://doi.org/10.1111/ele.70072

Duque, Alvaro, Luisa F. Gómez-Correa, Andrés Alberto Barona-Colmenares, Nicolás Castaño, Stuart Davies, Daniel Zuleta, and **Helene C. Muller-Landau**. 2025. Local scale carbon stock measurements, including deep soil layers, in a terra firme forest in northwestern Amazon. *Journal of Tropical Ecology* 41(2):1-10. https://doi.org/10.1017/S0266467424000270

Muller-Landau, Helene C., and S. Joseph Wright. 2024. Looking Forward to the Next 100 Years of Plant and Ecosystem Science at Barro Colorado. Chapter 98 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 821-835. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26882656

Wright, S. Joseph, and **Helene C. Muller-Landau**. 2024. A Century of Plant and Ecosystem Research at Barro Colorado. Chapter 1 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 3-16. Washington, D.C.: Smithsonian Institution Scholarly Press. https://doi.org/10.5479/si.27180384

Muller-Landau, Helene C., and Jens-Christian Svenning. 2024. An Introduction to Landscape-Level Variation Across the Barro Colorado Nature Monument. Chapter 2 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 19-27. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26814820

Meakem, Victoria, S. Joseph Wright, and **Helene C. Muller-Landau**. 2024. Variation in Forest Structure, Dynamics, and Composition Across 108 ha of Large Forest Plots on Barro Colorado Island. Chapter 8 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 71-78. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26809618

Wright, S. Joseph, Osvaldo Calderón, Andres Hernández, and **Helene C. Muller-Landau**. 2024. Flower and Seed Production, Seedling Dynamics, and Tree Life Cycles. Chapter 10 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 91-101. Washington, D.C.: Smithsonian Institution Scholarly Press. https://doi.org/10.5479/si.26882626

Piponiot, Camille, Richard Condit, Stephen P. Hubbell, Rolando Pérez, Suzanne Lao, Salomon Aguilar, and **Helene C. Muller-Landau**. 2024. Woody Biomass Stocks and Fluxes in the Barro Colorado Island 50-ha Plot. Chapter 53 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 475-485. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26882404

Muller-Landau, Helene C., Camille Piponiot, Rolando Pérez, Salomon Aguilar, Suzanne Lao, David Mitre, and Richard Condit. 2024. Forest Biomass Carbon Stocks and Fluxes in a Broader Context: Insights and Opportunities Associated with the Central Panama Plot Network. Chapter 54 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 487-498. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26880790

Muller-Landau, Helene C., and S. Joseph Wright. 2024. The Importance and Diversity of Dominant Plant Species of Barro Colorado Island, and the Value of Focal Species Accounts. Chapter 69 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 617-628. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26880826

Williamson, Cecelia, and **Helene C. Muller-Landau**. 2024. *Socratea exorrhiza*: The Walking Palm. Chapter 76 in *The First 100 Years of Research on Barro Colorado: Plant and Ecosystem Science*, ed. H. C. Muller-Landau and S. J. Wright, pp. 671-677. Washington, D.C.: Smithsonian Institution Scholarly Press. http://doi.org/10.5479/si.26880847

Jackson, Toby D., P. Bittencourt, J. Poffley, J. Anderson, **Helene C. Muller-Landau**, Pablo A. R. Ramos, L. Rowland, and D. Coomes. 2024. Wind Shapes the Growth Strategies of Trees in a Tropical Forest. *Ecology Letters* 27: e14527. https://doi.org/10.1111/ele.14527

Lee, C. K. F., G. Song, **H. C. Muller-Landau,** S. Wu, S. J. Wright, K. C. Cushman, R. F. Araujo, S. Bohlman, Y. Zhao, Z. Lin, Z. Sun, P. C. Y. Cheng, M. K.-P. Ng, and J. Wu. 2023. Cost-effective and accurate monitoring of flowering across multiple tropical tree species over two years with a time series of high-resolution drone imagery and deep learning. *ISPRS Journal of Photogrammetry and Remote Sensing* 201: 92-103. https://doi.org/10.1016/j.isprsjprs.2023.05.022

Zuleta, D., **H. C. Muller-Landau**, A. Duque, N. Caro, D. Cardenas, N. Castaño, J. D. León-Peláez, and K. J. Feeley. 2022. Interspecific and intraspecific variation of tree branch, leaf and stomatal traits in relation to topography in an aseasonal Amazon forest. *Functional Ecology* 36:2955-2968. https://doi.org/ https://doi.org/10.1111/1365-2435.14199

Fang, Y., L. R. Leung, C. D. Koven, G. Bisht, M. Detto, Y. Cheng, N. McDowell, **H. Muller-Landau**, S. J. Wright, and J. Q. Chambers. 2022. Modeling the topographic influence on aboveground biomass using a coupled model of hillslope hydrology and ecosystem dynamics. *Geoscientific Model Development* 15: 7879-7901. https://doi.org/10.5194/gmd-15-7879-2022

Needham, J. F., G. Arellano, S. J. Davies, R. A. Fisher, V. Hammer, R. G. Knox, D. Mitre, **H. C. Muller-Landau,** D. Zuleta, and C. D. Koven. 2022. Tree crown damage and its effects on forest carbon cycling in a tropical forest. *Global Change Biology*, 28: 5560-5574. https://doi.org/https://doi.org/10.1111/gcb.16318

Cushman, K. C., M. Detto, M. García, and **H. C. Muller-Landau**. 2022. Soils and topography control natural disturbance rates and thereby forest structure in a lowland tropical landscape. *Ecology Letters* 25:1126-1138. https://doi.org/10.1111/ele.13978

Hanbury-Brown, A. R., T. L. Powell, **H. C. Muller-Landau**, S. J. Wright, and L. M. Kueppers. 2022. Simulating environmentally-sensitive tree recruitment in vegetation demographic models. *New Phytologist* 253:78-93. https://doi.org/10.1111/nph.18059

Piponiot, C., K. J. Anderson-Teixeira, S. J. Davies, D. Allen, N. A. Bourg, D. F. R. P. Burslem, D. Cárdenas, C.-H. Chang-Yang, G. Chuyong, S. Cordell, H. S. Dattaraja, Á. Duque, S. Ediriweera, C. Ewango, Z. Ezedin, J. Filip, C. P. Giardina, R. Howe, C.-F. Hsieh, S. P. Hubbell, F. M. Inman-Narahari, A. Itoh, D. Janík, D. Kenfack, K. Král, J. A. Lutz, J.-R. Makana, S. M. McMahon, W. McShea, X. Mi, M. Bt. Mohamad, V. Novotný, M. J. O'Brien, R. Ostertag, G. Parker, R. Pérez, H. Ren, G. Reynolds, M. D. Md Sabri, L. Sack, A. Shringi, S.-H. Su, R. Sukumar, I. F. Sun, H. S. Suresh, D. W. Thomas, J. Thompson, M. Uriarte, J. Vandermeer, Y. Wang, I. M. Ware, G. D. Weiblen, T. J. S. Whitfeld, A. Wolf, T. L. Yao, M. Yu, Z. Yuan, J. K. Zimmerman, D. Zuleta, and **H. C. Muller-Landau**. 2022. Distribution of biomass dynamics in relation to tree size in forests across the world. *New Phytologist*. 234:1664-1677. https://doi.org/10.1111/nph.17995

Zuleta, D., G. Arellano, **H. C. Muller-Landau,** S. M. McMahon, S. Aguilar, S. Bunyavejchewin, D. Cárdenas, C.-H. Chang-Yang, A. Duque, D. Mitre, M. Nasardin, R. Pérez, I. F. Sun, T. L. Yao, and S. J. Davies. 2022. Individual tree damage dominates mortality risk factors across six tropical forests. *New Phytologist* 233:705-721. https://doi.org/10.1111/nph.17832

Araujo, R. F., S. Grubinger, C. H. S. Celes, R. I. Negrón-Juárez, M. Garcia, J. P. Dandois, and **H. C. Muller-Landau**. 2021. Strong temporal variation in treefall and branchfall rates in a tropical forest is related to extreme rainfall: results from 5 years of monthly drone data for a 50-ha plot. *Biogeosciences* 18:6517-6531. https://doi.org/10.5194/bg-18-6517-2021

Meunier, F., M. D. Visser, A. Shiklomanov, M. C. Dietze, J. A. Guzmán Q, G. A. Sanchez-Azofeifa, H. P. T. De Deurwaerder, S. M. Krishna Moorthy, S. A. Schnitzer, D. C. Marvin, M. Longo, C. Liu, E. N. Broadbent, A. M. Almeyda Zambrano, **H. C. Muller-Landau**, M. Detto, and H. Verbeeck. 2022. Liana optical traits increase tropical forest albedo and reduce ecosystem productivity. *Global Change Biology* 28:227-244. https://doi.org/10.1111/gcb.15928

Cushman, K. C., S. Bunyavejchewin, D. Cardenas, R. Condit, S. J. Davies, A. Duque, S. P. Hubbell, S. Kiratiprayoon, S. K. Y. Lum, and **H. C. Muller-Landau**. 2021. Variation in trunk taper of buttressed trees within and among five lowland tropical forests. *Biotropica* 53:1442-1453. https://doi.org/10.1111/btp.12994

Banbury Morgan, R., V. Herrmann, N. Kunert, B. Bond-Lamberty, **H. C. Muller-Landau**, and K. J. Anderson-Teixeira. 2021. Global patterns of forest autotrophic carbon fluxes. *Global Change Biology* 27:2840-2855. https://doi.org/10.1111/gcb.15574

Anderson-Teixeira, K. J., V. Herrmann, R. Banbury Morgan, B. Bond-Lamberty, S. C. Cook-Patton, A. E. Ferson, **H. C. Muller-Landau**, and M. M. H. Wang. 2021. Carbon cycling in mature and regrowth forests globally. *Environmental Research Letters* 16:053009. https://doi.org/10.1088/1748-9326/abed01

Kunert, N., J. Zailaa, V. Herrmann, **H. C. Muller-Landau**, S. J. Wright, R. Pérez, S. M. McMahon, R. C. Condit, S. P. Hubbell, L. Sack, S. J. Davies, and K. J. Anderson-Teixeira. 2021. Leaf turgor loss point shapes local and regional distributions of evergreen but not deciduous tropical trees. *New Phytologist* 230:485-496 https://doi.org/10.1111/nph.17187

Muller-Landau, H. C., K. C. Cushman, E. E. Arroyo, I. Martinez Cano, K. J. Anderson-Teixeira, and B. Backiel. 2021. Patterns and mechanisms of spatial variation in tropical forest productivity, woody residence time, and biomass. *New Phytologist* 229:3065-3087. https://doi.org/10.1111/nph.17084 (Commissioned Tansley review)

Davies, S. J., I. Abiem, K. Abu Salim, S. Aguilar, D. Allen, A. Alonso, K. Anderson-Teixeira, A. Andrade, G. Arellano, P. S. Ashton, P. J. Baker, M. E. Baker, J. L. Baltzer, Y. Basset, P. Bissiengou, S. Bohlman, N. A. Bourg, W. Y. Brockelman, S. Bunyavejchewin, D. F. R. P. Burslem, M. Cao, D. Cárdenas, L.-W. Chang, C.-H. Chang-Yang, K.-J. Chao, W.-C. Chao, H. Chapman, Y.-Y. Chen, R. A. Chisholm, C. Chu, G. Chuyong, K. Clay, L. S. Comita, R. Condit, S. Cordell, H. S. Dattaraja, A. A. de Oliveira, J. den Ouden, M. Detto, C. Dick, X. Du, Á. Duque, S. Ediriweera, E. C. Ellis, N. L. E. Obiang, S. Esufali, C. E. N. Ewango, E. S. Fernando, J. Filip, G. A. Fischer, R. Foster, T. Giambelluca, C. Giardina, G. S. Gilbert, E. Gonzalez-Akre, I. A. U. N. Gunatilleke, C. V. S. Gunatilleke, Z. Hao, B. C. H. Hau, F. He, H. Ni, R. W. Howe, S. P. Hubbell, A. Huth, F. Inman-Narahari, A. Itoh, D. Janík, P. A. Jansen, M. Jiang, D. J. Johnson, F. A. Jones, M. Kanzaki, D. Kenfack, S. Kiratiprayoon, K. Král, L. Krizel, S. Lao, A. J. Larson, Y. Li, X. Li, C. M. Litton, Y. Liu, S. Liu, S. K. Y. Lum, M. S. Luskin, J. A. Lutz, H. T. Luu, K. Ma, J.-R. Makana, Y. Malhi, A. Martin, C. McCarthy, S. M. McMahon, W. J. McShea, H. Memiaghe, X. Mi, D. Mitre, M. Mohamad, L. Monks, **H. C. Muller-Landau**, P. M. Musili, J. A. Myers, A. Nathalang, K. M. Ngo, N. Norden, V. Novotny, M. J. O'Brien, D. Orwig, R. Ostertag, K. Papathanassiou, G. G. Parker, R. Pérez, I. Perfecto, R. P. Phillips, N. Pongpattananurak, H. Pretzsch, H. Ren, G. Reynolds, L. J. Rodriguez, S. E. Russo, L. Sack, W. Sang, J. Shue, A. Singh, G.-Z. M. Song, R. Sukumar, I. F. Sun, H. S. Suresh, N. G. Swenson, S. Tan, S. C. Thomas, D. Thomas, J. Thompson, B. L. Turner, A. Uowolo, M. Uriarte, R. Valencia, J. Vandermeer, A. Vicentini, M. Visser, T. Vrska, X. Wang, X. Wang, G. D. Weiblen, T. J. S. Whitfeld, A. Wolf, S. J. Wright, H. Xu, T. L. Yao, S. L. Yap, W. Ye, M. Yu, M. Zhang, D. Zhu, L. Zhu, J. K. Zimmerman, and D. Zuleta. 2021. ForestGEO: Understanding forest diversity and dynamics through a global observatory network. *Biological Conservation* 253:108907. https://doi.org/10.1016/j.biocon.2020.108907

Araujo R. F., J. Q. Chambers, C. H. S. Celes, **H. C. Muller-Landau,** A. P. F. de Santos, F. Emmert, G. H. P. M. Ribeiro, B. Oliva Gimenez, A. J. N. Lima, M. A. A. Campos, and N.

Higuchi. 2020. Integrating high resolution drone imagery and forest inventory to distinguish canopy and understory trees and quantify their contributions to forest structure and dynamics. *PLoS ONE* 15(12): e0243079. https://doi.org/10.1371/journal.pone.0243079

Gora, E. M., J. C. Burchfield, **H. C. Muller-Landau**, P. M. Bitzer, and S. P. Yanoviak. 2020. Pantropical geography of lightning-caused disturbance and its implications for tropical forests. *Global Change Biology* 26:5017-5026. https://doi.org/10.1111/gcb.15227

Martínez Cano I, E. Shevliakova, S. Malyshev, S. J. Wright, M. Detto, S. W. Pacala, and **H. C. Muller-Landau.** 2020. Allometric constraints and competition enable the simulation of size structure and carbon fluxes in a dynamic vegetation model of tropical forests (LM3PPA-TV). *Global Change Biology* 26:4478-4494. https://doi.org/10.1111/gcb.15188

Muller-Landau, H. C. and S. W. Pacala. 2020. What determines the abundance of lianas and vines? Pages 239-264 in *Unsolved Problems in Ecology*, edited by A. Dobson, D. Tilman, and R. D. Holt. Princeton University Press. https://doi.org/10.2307/j.ctvs9fh2n.23 https://www.researchgate.net/publication/341845219_What_Determines_the_Abundance_of_Lianas_and_Vines *Awarded the Smithsonian Secretary's Research Prize for 2020.*

Koven, C. D., R. G. Knox, R. A. Fisher, J. Q. Chambers, B. O. Christoffersen, S. J. Davies, M. Detto, M. C. Dietze, B. Faybishenko, J. Holm, M. Huang, M. Kovenock, L. M. Kueppers, G. Lemieux, E. Massoud, N. G. McDowell, **H. C. Muller-Landau**, J. F. Needham, R. J. Norby, T. Powell, A. Rogers, S. P. Serbin, J. K. Shuman, A. L. S. Swann, C. Varadharajan, A. P. Walker, S. J. Wright, and C. Xu. 2020. Benchmarking and parameter sensitivity of physiological and vegetation dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. *Biogeosciences* 17:3017-3044. https://doi.org/10.5194/bg-17-3017-2020

Gora, E. M., **H. C. Muller-Landau**, J. C. Burchfield, P. M. Blitzer, S. P. Hubbell, and S. P. Yanoviak. 2020. A mechanistically and empirically supported lightning risk model for forest trees. *Journal of Ecology* 108:1956-1966. https://doi.org/10.1111/1365-2745.13404

Rutishauser, E., S. J. Wright, R. Condit, S. P. Hubbell, S. J. Davies, and **H. C. Muller-Landau**. 2020. Testing for changes in biomass dynamics in large-scale forest datasets. *Global Change Biology* 26:1485-1498. https://doi.org/10.1111/gcb.14833

Yanoviak, S. P., E. M. Gora, P. M. Bitzer, J. C. Burchfield, **H. C. Muller-Landau**, M. Detto, S. Paton, S. P. Hubbell. 2020. Lightning is a major cause of large tree mortality in a lowland Neotropical forest. *New Phytologist* 225:1936-1944. https://doi.org/10.1111/nph.16260

Park, John Y., **H. C. Muller-Landau**, J. W. Lichstein, S. W. Rifai, J. P. Dandois, and S. A. Bohlman. 2019. Quantifying leaf phenology of individual trees and species in a tropical forest using unmanned aerial vehicle (UAV) images. *Remote Sensing* 11:1534. https://doi.org/10.3390/rs11131534

Martínez Cano, I., **H. C. Muller-Landau**, S.J. Wright, S.A. Bohlman, & S.W. Pacala. 2019. Tropical tree height and crown allometries for the Barro Colorado Nature Monument, Panama: a comparison of alternative hierarchical models incorporating interspecific variation in relation to life history traits. *Biogeosciences* 16: 847-862. https://doi.org/10.5194/bg-16-847-2019

Gora, E.M., R. C. Kneale, M. Larjavaara, and **H. C. Muller-Landau.** 2019. Dead wood necromass in a moist tropical forest: stocks, fluxes, and spatiotemporal variability. *Ecosystems* 22:1189-1205. https://doi.org/10.1007/s10021-019-00341-5

Broekman, M. J. E., **H. C. Muller-Landau**, M. D. Visser, E. Jongejans, S. J. Wright, and H. de Kroon. 2019. Signs of stabilisation and stable coexistence. *Ecology Letters* 22:1957-1975. https://doi.org/10.1111/ele.13349

Wright, S. J., O. Calderon, and **H. C. Muller-Landau**. 2019. A phenology model for tropical species that flower multiple times each year. *Ecological Research* 34:20-29. https://doi.org/10.1111/1440-1703.1017

Muller-Landau, H. C. and M. D. Visser. 2019. How do lianas and vines influence competitive differences and niche differences among tree species? Concepts and a case study in a tropical forest. *J. Ecology* 107:1469-1481. https://doi.org/10.1111/1365-2745.13119

Visser, M. D., **H. C. Muller-Landau**, S. A. Schnitzer, H. de Kroon, E. Jongejans, and S. J. Wright. 2018. A host-parasite model explains variation in liana infestation among co-occurring tree species. *Journal of Ecology* 106:2435-2445. https://doi.org/10.1111/1365-2745.12997

Detto, M., Wright, S.J., Calderon, O. and **Muller-Landau, H.C.** 2018. Resource acquisition and reproductive strategies of tropical forest in response to the El Niño-Southern Oscillation. *Nature Communications*. 9:913. https://doi.org/10.1038/s41467-018-03306-9

McDowell, N., C. D. Allen, K. Anderson-Teixeira, P. Brando, R. Brienen, J. Chambers, B. Christoffersen, S. Davies, C. Doughty, A. Duque, F. Espirito-Santo, R. Fisher, C. G. Fontes, D. Galbraith, D. Goodsman, C. Grossiord, H. Hartmann, J. Holm, D. J. Johnson, A. R. Kassim, M. Keller, C. Koven, L. Kueppers, T. o. Kumagai, Y. Malhi, S. M. McMahon, M. Mencuccini, P. Meir, P. Moorcroft, **H. C. Muller-Landau**, O. L. Phillips, T. Powell, C. A. Sierra, J. Sperry, J. Warren, C. Xu, and X. Xu. Drivers and mechanisms of tree mortality in moist tropical forests. 2018. *New Phytologist* 219:851-869. https://doi.org/10.1111/nph.15027

Fisher, R. A., C. D. Koven, W. R. L. Anderegg, B. O. Christoffersen, M. C. Dietze, C. Farrior, J. A. Holm, G. Hurtt, R. G. Knox, P. J. Lawrence, J. W. Lichstein, M. Longo, A. M. Matheny, D. Medvigy, **H. C. Muller-Landau**, T. L. Powell, S. P. Serbin, H. Sato, J. Shuman, B. Smith, A. T. 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* 24: 35-54. https://doi.org/10.1111/gcb.13910

Visser, M. D., S. A. Schnitzer, **H. C. Muller-Landau**, E. Jongejans, H. de Kroon, L. S. Comita, S. P. Hubbell, and S. J. Wright. 2018. Tree species vary widely in their tolerance for liana infestation: a case study of differential host response to generalist parasites. *Journal of Ecology* 106:781-792. https://doi.org/10.1111/1365-2745.12815

Clark, A. T., M. Detto, **H. C. Muller-Landau**, S. A. Schnitzer, S. J. Wright, R. Condit, and S. P. Hubbell. 2018. Functional traits of tropical trees and lianas explain spatial structure across multiple scales. *Journal of Ecology* 106:795-806. https://doi.org/10.1111/1365-2745.12804

Meakem, V., A. J. Tepley, E. B. Gonzalez-Akre, V. Herrmann, **H. C. Muller-Landau**, S. J. Wright, S. P. Hubbell, R. Condit, and K. J. Anderson-Teixeira. 2018. Role of tree size in Panamanian tropical forest carbon cycling and water deficit responses. *New Phytologist* 219:947-958. https://doi.org/10.1111/nph.14633

Francis E. J., **H. C. Muller-Landau**, S. J. Wright, M. D. Visser, Y. Iida, C. Fletcher, S. P. Hubbell, and A. R. Kassim. 2017. Quantifying the role of wood density in explaining interspecific variation in growth of tropical trees. *Global Ecology and Biogeography* 26:1078-1087. https://doi.org/10.1111/geb.12604

Zuleta, D., A. Duque, D. Cardenas, **H. C. Muller-Landau**, and S. Davies. 2017. Drought-induced mortality patterns and rapid biomass recovery in a terra firme forest in the Colombian Amazon. *Ecology* 98:2538-2546. https://doi.org/10.1002/ecy.1950

Alfaro-Sanchez, R., **H. C. Muller-Landau**, S. J. Wright, and J. J. Camarero. 2017. Growth and reproduction respond differently to climate in three Neotropical tree species. *Oecologia* 184(2):531-541. https://doi.org/10.1007/s00442-017-3879-3

Bruijning, M., M. D. Visser, **H. C. Muller-Landau**, S. J. Wright, L. S. Comita, S. P. Hubbell, H. de Kroon, and E. Jongejans. 2017. Surviving in a cosexual world: a cost-benefit analysis of dioecy in tropical trees. *American Naturalist* 189:297-314. https://doi.org/10.1086/690137

Marks, C. O., **H. C. Muller-Landau**, and D. Tilman. 2017. Tree diversity in relation to maximum tree height: evidence for the harshness hypothesis of species diversity gradients. *Ecology Letters* 20: 398–399. https://doi.org/10.1111/ele.12737

Duque, A., **H. C. Muller-Landau**, R. Valencia, D. Cardenas, S. Davies, A. de Oliveira, A. J. Pérez, H. Romero-Saltos, and A. Vicentini. 2017. Insights into regional patterns of Amazonian forest structure, diversity, and dominance from three large terra-firme forest dynamics plots. *Biodiversity and Conservation* 26:669-686. https://doi.org/10.1007/s10531-016-1265-9

Peguero, G., **H. C. Muller-Landau**, P. A. Jansen, and S. J. Wright. 2017. Cascading effects of defaunation on the coexistence of two specialized insect seed predators. *Journal of Animal Ecology* 86:136-146. https://doi.org/10.1111/1365-2656.12590

Detto, M., and **H. C. Muller-Landau**. 2016. Stabilization of species coexistence in spatial models through the aggregation-segregation effect generated by local dispersal and nonspecific local interactions. *Theoretical Population Biology* 112:97-108. https://doi.org/10.1016/j.tpb.2016.08.008

Chiang, J.-M., M. J. Spasojevic, **H. C. Muller-Landau**, I-F., Sun, Y. Lin, S.-H. Su, Z.-S. Chen, C.-T. Chen, N. G. Swenson, and R. W. McEwan. 2016. Functional composition drives ecosystem function through multiple mechanisms in a broadleaved subtropical forest. *Oecologia* 182:829-840. https://doi.org/10.1007/s00442-016-3717-z

Marks, C. O., **H. C. Muller-Landau**, and D. Tilman. 2016. Tree diversity, tree height and environmental harshness in eastern and western North America. *Ecology Letters* 19:743-751. https://doi.org/10.1111/ele.12608

Lima, R. A. F., **H. C. Muller-Landau**, P. I. Prado, and R. Condit. 2016. How do size distributions relate to concurrently measured demographic rates? Evidence from over 150 tree species in Panama. *Journal of Tropical Ecology* 32:179-192. https://doi.org/10.1017/S0266467416000146

Detto, M. and **H. C. Muller-Landau**. 2016. Rates of formation and dissipation of clumping reveal lagged responses in tropical tree populations. *Ecology* 97:1170-1181. https://doi.org/10.1890/15-1505.1

Chen, Yuxin, S. J. Wright, **H. C. Muller-Landau**, S. P. Hubbell, Y. Wang, and S. Yu. 2016. Positive effects of neighborhood complementarity on tree growth in a Neotropical forest. *Ecology* 97:776-785. https://doi.org//10.1890/15-0625.1

Augspurger, C. K., S. E. Franson, K. C. Cushman, and **H. C. Muller-Landau**. 2016. Intraspecific variation in seed dispersal of a Neotropical tree and its relationship to fruit and tree traits. *Ecology and Evolution* 6:1128-42. https://doi.org/10.1002/ece3.1905

Visser, M. D., M. Bruijning, S. J. Wright, **H. C. Muller-Landau**, E. Jongejans, L. S. Comita, and H. de Kroon. 2016. Functional traits as predictors of vital rates across the life-cycle of tropical trees. *Functional Ecology* **30**:168-180. https://doi.org/10.1111/1365-2435.12621

Anderson-Teixeira, K., J. C. McGarvey, **H. C. Muller-Landau**, J. Y. Park, E. Gonzalez-Akre, V. Herrmann, A. C. Bennett, C. V. So, N. A. Bourg, J. R. Thompson, S. M. McMahon, and W. J. McShea. 2015. Size-related scaling of tree form and function in a mixed-age forest. *Functional Ecology* **29**:1587-1602. https://doi.org/10.1111/1365-2435.12470

Detto, M., G. P. Asner, **H. C. Muller-Landau**, and O. Sonnentag. 2015. Spatial variability in tropical forest leaf area density from multireturn LiDAR and modeling. *Journal of Geophysical Research* 120. https://doi.org/10.10002/2014JG002774

Cushman, K. C., **H. C. Muller-Landau**, R. Condit, and S. P. Hubbell. 2014. Improving estimates of biomass change in buttressed trees using tree taper models. *Methods in Ecology and Evolution* 5(6):573-582. https://doi.org/10.1111/2041-210X.12187

Muller-Landau, H. C., M. Detto, R. A. Chisholm, S. P. Hubbell, and R. Condit. 2014. Detecting and projecting changes in forest biomass from plot data. Pages 359-380 in *Forests and Global Change*. D. Coomes and D. Burslem, editors. Cambridge University Press. https://doi.org/10.1017/CBO9781107323506.018

Chave, J., M. Réjou-Méchain, A. Burquez, E. Chidumayo, M. S. Colgan, W. B. C. Delitti, A. Duque, T. Eid, P. M. Feranside, R. C. Goodman, M. Henry, A. Martinez-Yrizar, W. A. Mugasha, **H. C. Muller-Landau**, M. Mecuccini, B. W. Nelson, A. Ngomanda, E. M. Nogueira, E. Ortiz-Malavassi, R. Pélissier, P. Ploton, C. M. Ryan, J. G. Saldarriaga, G. Vieilledent. 2014. Improved allometric models to estimate the aboveground biomass of tropical trees. *Global Change Biology* 20(10):3177-3190. https://doi.org/10.1111/gcb.12629

Réjou-Méchain, M., **H. C. Muller-Landau**, M. Detto, S. C. Thomas, T. Le Toan, S. S. Saatchi, J. S. Barreto-Silva, N. A. Bourg, S. Bunyavejchewin, N. Butt, W. Y. Brockelman, M. Cao, D. Cárdenas, J.-M. Chiang, G. B. Chuyong, K. Clay, R. Condit, H. S. Dattaaja, S. J. Davies, A. Duque, S. Esufali, C. Ewango, R. H. S. Fernando, C. D. Fletcher, I. A. U. N. Gunatilleke, Z. Hao, K. E. Harms, T. B. Hart, B. Hérault, R. W. Howe, S. P. Hubbell, D. J. Johnson, D. Kenfack, A. J. Larson, L. Lin, Y. Lin, J. A. Lutz, J.-R. Makana, Y. Malhi, T. R. Marthews, R. W. McEwan, S. M. McMahon, W. J. McShea, R. Muscarella, A. Nathalang, N. S. M. Noor, C. J. Nytch, A. A. Oliveira, R. P. Phillips, N. Pongpattananurak, R. Punchi-Manage, R. Salim, J. Schurman, R. Sukumar, H. S. Suresh, U. Suwanvecho, D. W. Thomas, J. Thompson, M. Uríarte, R. Valencia, A. Vicentini, A. T. Wolf, S. Yap, Z. Yuan, C. E. Zartman, J. K. Zimmerman, and J. Chave. 2014. Local spatial structure of forest biomass and its consequences for remote sensing of carbon stocks. *Biogeosciences* 11: 6827-6840. https://doi.org/10.5194/bg-11-6827-2014

Anderson-Teixeira K. J., S. Davies, A. Bennett, E. Gonzalez-Akre, **H. C. Muller-Landau**, S. Wright, K. Abu Salim, A. Almeyda Zambrano, A. Alonso, J. Baltzer, Y. Basset, N. Bourg, E. Broadbent, W. Brockelman, S. Bunyavejchewin, D. Burslem, N. Butt, M. Cao, D. Cardenas, G. Chuyong, K. Clay, S. Cordell, H. Dattaraja, X. Deng, M. Detto, X. Du, A. Duque, D. Erikson, C. Ewango, G. Fischer, C. Fletcher, R. Foster, C. Giardina, G. Gilbert, N. Gunatilleke, S. Gunatilleke, Z. Hao, W. Hargrove, T. Hart, B. Hau, F. He, F. Hoffman, R. Howe, S. Hubbell, F. Inman-Narahari, P. Jansen, M. Jiang, D. Johnson, M. Kanzaki, A. Kassim, D. Kenfack, S. Kibet, M. Kinnaird, L. Korte, K. Kral, J. Kumar, A. Larson, Y. Li, X. Li, S. Liu, S. Lum, J. Lutz, K. Ma, D. Maddalena, J. Makana, Y. Malhi, T. Marthews, R. Mat Serudin, S. McMahon, W. McShea, H. Memiaghe, X. Mi, T. Mizuno, M. Morecroft, J.

Myers, V. Novotny, A. d. Oliveira, P. Ong, D. Orwig, R. Ostertag, J. D. Ouden, G. Parker, R. Phillips, L. Sack, M. Sainge, W. Sang, K. Sri-ngernyuang, R. Sukumar, I. Sun, W. Sungpalee, H. Suresh, S. Tan, S. Thomas, D. Thomas, J. Thompson, B. Turner, M. Uriarte, R. Valencia, M. Vallejo, V. Vicentini, T. Vrška, X. Wang, X. Wang, G. Weiblen, A. Wolf, H. Xu, S. Yap, and J. Zimmerman. 2014. CTFS-ForestGEO: a worldwide network monitoring forests in an era of global change. *Global Change Biology* 21:528-549. https://doi.org/10.1111/gcb.12712

Jansen, P. A., M. D. Visser, S. J. Wright, G. Rutten, and **H. C. Muller-Landau**. 2014. Negative density-dependence of seed dispersal and seedling recruitment in a Neotropical palm. *Ecology Letters* 17:1111-1120. https://doi.org/10.1111/ele.12317

Robledo-Arnuncio, J. J., E. K. Klein, **H. C. Muller-Landau**, and L. Santamaria. 2014. Space, time and complexity in plant dispersal ecology. *Movement Ecology* 2:16. https://doi.org/10.1186/s40462-014-0016-3

Detto, M., **H. C. Muller-Landau**, J. Mascaro, and G. P. Asner. 2013. Hydrological networks and associated topographic variation as templates for the spatial organization of tropical forest vegetation. *PLOS ONE* 8(10):e76296. https://doi.org/10.1371/journal.pone.0076296

Chisholm, R. A., **H. C. Muller-Landau**, K. A. Rahman, D. P. Bebber, Y. Bin, S. A. Bohlman, N. A. Bourg, J. Brinks, S. Bunyavejchewin, N. Butt, H. Cao, M. Cao, D. Cárdenas, L.-W. Chang, J.-M. Chiang, G. Chuyong, R. Condit, H. S. Dattaraja, S. Davies, A. Duque, C. Fletcher, C. V. S. Gunatilleke, I. A. U. N. Gunatilleke, Z. Hao, R. D. Harrison, R. Howe, C.-F. Hsieh, S. P. Hubbell, A. Itoh, D. Kenfack, S. Kiratiprayoon, A. J. Larson, J. Lian, D. Lin, H. Liu, J. A. Lutz, K. Ma, Y. Malhi, S. McMahon, W. McShea, M. Meegaskumbura, S. M. Razman, M. D. Morecroft, C. J. Nytch, A. Oliveira, G. G. Parker, S. Pulla, R. Punchi-Manage, H. Romero-Saltos, W. Sang, J. Schurman, S.-H. Su, R. Sukumar, I-F. Sun, H. S. Suresh, S. Tan, D. Thomas, S. Thomas, J. Thompson, R. Valencia, A. Wolf, S. Yap, W. Ye, Z. Yuan and J. K. Zimmerman. 2013. Scale-dependent relationships between tree species richness and ecosystem function in forests. *Journal of Ecology* 101(5):1214-1224. https://doi.org/10.1111/1365-2745.12132

Asner, G. P., J. Mascaro, C. Anderson, D. E. Knapp, R. E. Martin, T. Kennedy-Bowdoin, M. van Breugel, S. Davies, J. S. Hall, **H. C. Muller-Landau**, C. Potvin, W. Sousa, J. Wright and E. Bermingham. 2013. High-fidelity national carbon mapping for resource management and REDD+. *Carbon Balance and Management* 8:7. https://doi.org/10.1186/1750-0680-8-7

Puerta-Piñero C., **H. C. Muller-Landau**, O. Calderón, and S. J. Wright. 2013. Seed arrival in tropical forest tree fall gaps. *Ecology* 94:1552-1562. https://doi.org/10.1890/12-1012.1

Larjavaara, M. and **H. C. Muller-Landau**. 2013. Measuring tree height: a quantitative comparison of two common field methods in a moist tropical forest. *Methods in Ecology and Evolution* 4:793-801. https://doi.org/10.1111/2041-210X.12071

Detto, M., and **H. C. Muller-Landau**. 2013. Fitting ecological process models to spatial patterns using scale-wise variances and moment equations. *American Naturalist* 181:E68-E82. https://doi.org/10.1086/669678

Ngo, K. M., B. L. Turner, **H. C. Muller-Landau**, S. J. Davies, M. Larjavaara, N. F. b. N. Hassan, and S. Lum. 2013. Carbon stocks in primary and secondary tropical forests in Singapore. *Forest Ecology and Management* 296:81-89. https://doi.org/10.1016/j.foreco.2013.02.004

Bin, Y., W. Ye, **H. C. Muller-Landau**, L. Wu, J. Lian, and H. Cao. 2012. Unimodal tree size distributions possibly result from relatively strong conservatism in intermediate size classes. *PLOS ONE* 7:e52596. https://doi.org/10.1371/journal.pone.0052596

Lin, D., J. Lai, **H. C. Muller-Landau**, X. Mi, and K. Ma. 2012. Topographic variation in aboveground biomass in a subtropical evergreen broad-leaved forest in China. *PLOS ONE* **7**:e48244. https://doi.org/10.1371/journal.pone.0048244

Schnitzer, S. A., S. A. Mangan, J. W. Dalling, C. A. Baldeck, S. P. Hubbell, A. Ledo, **H. Muller-Landau**, M. F. Tobin, S. Aguilar, D. Brassfield, A. Hernandez, S. Lao, R. Perez, O. Valdes, and S. Rutishauer Yorke. 2012. Liana abundance, diversity, and distribution on Barro Colorado Island, Panama. *PLOS ONE*, 7(12): e52114. https://doi.org/10.1371/journal.pone.0052114

van Putten, B., M. D. Visser, **H. C. Muller-Landau**, and P. A. Jansen. 2012. Distorted-distance models for directional dispersal: a general framework with application to a wind-dispersed tree. *Methods in Ecology and Evolution* 3:642-652. https://doi.org/10.1111/j.2041-210X.2012.00208.x

Larjavaara, M. and **H. C. Muller-Landau**. 2012. Temperature explains global variation in biomass among humid old-growth forests. *Global Ecology and Biogeography* 21:998-1006. https://doi.org/10.1111/j.1466-8238.2011.00740.x

Beckman, N. G., C. Neuhauser, and **H. C. Muller-Landau**. 2012. The interacting effects of clumped seed dispersal and distance- and density-dependent mortality on seedling recruitment patterns. *Journal of Ecology* 100:862-873. https://doi.org/10.1111/j.1365-2745.2012.01978.x

Asner, G. P., J. Mascaro, **H. C. Muller-Landau**, G. Vieilledent, R. Vaudry, M. Rasamoelina, J. S. Hall, and M. van Breugel. 2012. A universal airborne LiDAR approach for tropical forest carbon mapping. *Oecologia* 168: 1147-1160. https://doi.org/10.1007/s00442-011-2165-z

Larjavaara, M. and **H. C. Muller-Landau**. 2012. Still rethinking the value of high wood density. *American Journal of Botany* 99:165-168. https://doi.org/10.3732/ajb.1100324

Muller-Landau, H. C. 2012. Plant dispersal. *Encyclopedia of Theoretical Ecology* (edited by A. Hastings and L. Gross) pp. 198-202.

Beckman, N. G. and **H. C. Muller-Landau**. 2011. Linking fruit traits to variation in vertebrate seed predation, insect seed predation, and pathogen attack during the predispersal stage among seven Neotropical tree and vine species. *Ecology* 92:2131-2140. https://doi.org/10.1890/10-2378.1

Mascaro, J., M. Detto, G. P. Asner, and **H. C. Muller-Landau**. 2011. Evaluating uncertainty in mapping carbon with airborne LiDAR. *Remote Sensing of Environment* 115:3770-3774. https://doi.org/10.1016/j.rse.2011.07.019

Visser, M. D., **H. C. Muller-Landau**, S. J. Wright, G. Rutten, and P. A. Jansen. 2011. Tri-trophic interactions affect density dependence of seed fate in a tropical forest palm. *Ecology Letters* 14:1093-1100. https://doi.org/10.1111/j.1461-0248.2011.01677.x

Jones, F. A., D. L. Erickson, M. A. Bernal, E. Bermingham, W. J. Kress, E. A. Herre, **H. C. Muller-Landau**, B. L. Turner. 2011. The roots of diversity: below ground species richness and rooting distributions in a tropical forest revealed by DNA barcodes and inverse modeling. *PLoS One* 6:e24506. https://doi.org/10.1371/journal.pone.0024506

Mascaro, J., G. P. Asner, **H. C. Muller-Landau**, M. van Breugel, J. Hall, and K. Dahlin. 2011. Controls over aboveground forest carbon density on Barro Colorado Island, Panama. *Biogeosciences* 8:1615-1629. https://doi.org/10.5194/bg-8-1615-2011

Larjavaara, M., and **H. C. Muller-Landau**. 2011. Cross-section mass: An improved basis for woody debris necromass inventory. *Silva Fennica* 45:291-298. https://doi.org/10.14214/sf.119

Chisholm, R. A. and **H. C. Muller-Landau**. 2011. A theoretical model linking interspecific variation in density dependence to species abundances. *Theoretical Ecology* 4:241-253. https://doi.org/10.1007/s12080-011-0119-z

Comita, L. S., **H. C. Muller-Landau**, Salomón Aguilar, and Stephen P. Hubbell. 2010. Asymmetric density dependence shapes species abundances in a tropical tree community. *Science* 329:330-332. https://doi.org/10.1126/science.1190772

Muller-Landau, H. C. 2010. The tolerance-fecundity tradeoff and the maintenance of diversity in seed size. *Proceedings of the National Academy of Sciences* 107:4242-4247. https://doi.org/10.1073/pnas.0911637107

Larjavaara, M. and **H. C. Muller-Landau**. 2010. Rethinking the value of high wood density. *Functional Ecology* 24:701-705. https://doi.org/10.1111/j.1365-2435.2010.01698.x

Jansen, P. A., **H. C. Muller-Landau**, and S. J. Wright. 2010. Bushmeat hunting and climate: an indirect link. *Science* 327:30.

Dewalt, S. J., S. A. Schnitzer, J. Chave, F. Bongers, R. J. Burnham, Z. Cai, G. Chuyong, D. B. Clark, C. E. N. Ewango, J. J. Gerwing, E. Gortaire, T. Hart, G. Ibarra-Manríquez, K. Ickes, D. Kenfack, M. J. Macía, J.-R. Makana, M. Martínez-Ramos, J. Mascaro, S. Moses, **H. C. Muller-Landau**, M. P. E. Parren, N. Parthasarathy, D. R. Pérez-Salicrup, F. E. Putz, H. Romero-Saltos, and D. Thomas. 2010. Annual rainfall and seasonality predict pan-tropical patterns of liana density and basal area. *Biotropica* 42:309-317. https://doi.org/10.1111/j.1744-7429.2009.00589.x

Larjavaara, M. and **H. C. Muller-Landau.** 2010. Comparison of decay classification, knife test and two penetrometers for estimating wood density of coarse woody debris. *Canadian Journal of Forest Research* 40: 2313-232. https://doi.org/10.1139/x10-170

Valencia, R., R. Condit, **H. C. Muller-Landau**, C. Hernandez, and H. Navarrete. 2009. Dissecting biomass dynamics in a large Amazonian forest plot and hypotheses about causes. *Journal of Tropical Ecology* 25:473-482. https://doi.org/10.1017/S0266467409990095

Wright, S. J., **H. C. Muller-Landau**, and J. Schipper. 2009. The future of tropical species on a warmer planet. *Conservation Biology* 23(6):1418-1426. https://doi.org/10.1111/j.1523-1739.2009.01337.x

Wright, S. J., **H. C. Muller-Landau**, A. Sanchez-Azofeifa, C. Portillo-Quintero, and D. Davies. 2009. The future of Southeast Asian forests and their species. Pages 91-104 in *Prepare for Impact! When people and the environment collide in the Tropics. Papers from the May 2005 Charles Darwin Symposium*, *Charles Darwin University*. N. Stacey, B. Campbell, G. Boggs, B. Campbell, and W. Steffen, editors. CDU Press, Darwin.

Muller-Landau, Helene C. 2008. Colonization-related tradeoffs in tropical forests and their role in the maintenance of plant species diversity. Pages 182-195 in *Tropical Forest Community Ecology.* W. P. Carson and S. A. Schnitzer, editors. Blackwell Scientific.

Chave, J., R. Condit, **H. C. Muller-Landau**, S. C. Thomas, P. S. Ashton, S. Bunyavejchewin, L. L. Co, H. S. Dattaraja, S. J. Davies, S. Esufali, C. E. N. Ewango, K. J. Feeley, R. B. Foster, N. Gunatilleke, S. Gunatilleke, P. Hall, T. B. Hart, C. Hernández, S. P. Hubbell, A. Itoh, S. Kiratiprayoon, J. V. LaFrankie, S. Loo de Lao, J.-R. Makana, M. N. S. Noor, A. R. Kassim, C. Samper, R. Sukumar, H. S. Suresh, S. Tan, J. Thompson, M. D. C. Tongco, R. Valencia, M. Vallejo, G. Villa, T. Yamakura, J. K. Zimmerman, and E. C. Losos. 2008. Assessing

evidence for a pervasive alteration in tropical tree communities. *PLoS Biology* 6:e45. https://doi.org/e4510.1371/journal.pbio.0060045

Wright, S. J. A. Trakhtenbrot, G. Bohrer, M. Detto, G. G. Katul, N. Horvitz, **H. C. Muller-Landau**, F. A. Jones, and R. Nathan. 2008. Understanding strategies for seed dispersal by wind under contrasting atmospheric conditions. *Proceedings of the National Academy of Sciences* 105:19084-19089. https://doi.org/10.1073/pnas.0802697105

Muller-Landau, H. C., S. J. Wright, O. Calderon, R. Condit, and S. P. Hubbell. 2008. Interspecific variation in primary seed dispersal in a tropical forest. *Journal of Ecology* 96:653-667. https://doi.org/10.1111/j.1365-2745.2008.01399.x

Jones, F. A. and **H. C. Muller-Landau**. 2008. Measuring long-distance seed dispersal in complex natural environments: an evaluation and integration of classical and genetic methods. *Journal of Ecology* 96:642-652. https://doi.org/10.1111/j.1365-2745.2008.01400.x

Venable, D. L., A. Flores-Martinez, **H. C. Muller-Landau**, G. Barron-Gafford, and J. X. Becerra. 2008. Dispersal in desert annuals. *Ecology* 89:2218-2227. https://doi.org/10.1890/07-0386.1

Jansen, P. A., S. A. Bohlman, C. X. Garzon-Lopez, H. Olff, **H. C. Muller-Landau**, and S. J. Wright. 2008. Large-scale spatial variation in palm fruit abundance across a tropical moist forest estimated from high-resolution aerial photographs. *Ecography* 31:33-42. https://doi.org/10.1111/j.2007.0906-7590.05151.x

Poorter, L., S. J. Wright, H. Paz, D. D. Ackerly, R. Condit, G. Ibarra-Manríquez, K. E. Harms, J. C. Licona, M. Martínez-Ramos, S. J. Mazer, **H. C. Muller-Landau**, M. Peña-Claros, C. O. Webb, and I. J. Wright. 2008. Are functional traits good predictors of demographic rates? Evidence from five Neotropical forests. *Ecology* 89:1908-1920. https://doi.org/10.1890/07-0207.1

Muller-Landau, H. C. 2007. Predicting the long-term effects of hunting on plant species composition and diversity in tropical forests. *Biotropica* 39 (3):372-384. https://doi.org/10.1111/j.1744-7429.2007.00290.x

Wright, S. J., K. E. Stoner, N. Beckman, R. T. Corlett, R. Dirzo, **H. C. Muller-Landau**, G. Nuñez-Iturri, C. A. Peres, and B. C. Wang. 2007. The plight of large animals in tropical forests and the consequences for plant regeneration. *Biotropica* 39:289-291. https://doi.org/10.1111/j.1744-7429.2007.00293.x

Marks, C. O. and **H. C. Muller-Landau**. 2007. Technical comment on "From Plant Traits to Plant Communities: A Statistical Mechanistic Approach to Biodiversity". *Science* 316:1425c. https://doi.org/10.1126/science.1140190

Beckman, N. and **H. C. Muller-Landau**. 2007. Differential effects of hunting on pre-dispersal seed predation, primary dispersal and secondary seed removal of two tropical tree species. *Biotropica* 39 (3):328-339. https://doi.org/10.1111/j.1744-7429.2007.00273.x

Muller-Landau, H. C. and F. R. Adler. 2007. How seed dispersal affects interactions with specialized natural enemies and their contribution to diversity maintenance. Pages 407-426 in *Seed Dispersal: Theory and its Application in a Changing World.* A. J. Dennis, E. W. Schupp, R. J. Green, and D. W. Westcott, editors. Wallingford, UK: CAB International. https://doi.org/10.1079/9781845931650.0407

Wright, Ian J., D. D. Ackerly, F. Bongers, K. E. Harms, G. Ibarra-Manriquez, M. Martinez-Ramos, S. J. Mazer, **H. C. Muller-Landau**, H. Paz, N. C. A. Pitman, L. Poorter, M. R. Silman, C. F. Vriesendorp, C. O. Webb, M. Westoby, S. J. Wright. 2007. Relationships

among key dimensions of plant trait variation in seven Neotropical forests. *Annals of Botany* **99**:1003-1015. https://doi.org/10.1093/aob/mcl066

Muller-Landau, H. C., R. S. Condit, K. E. Harms, C. O. Marks, S. C. Thomas, S. Bunyavejchewin, G. Chuyong, L. Co, S. Davies, R. Foster, S. Gunatilleke, N. Gunatilleke, T. Hart, S. P. Hubbell, A. Itoh, A. R. Kassim, D. Kenfack, J. V. LaFrankie, D. Lagunzad, H. S. Lee, E. Losos, J.-R. Makana, T. Ohkubo, C. Samper, R. Sukumar, I.-F. Sun, N. Supardi M. N., S. Tan, D. Thomas, J. Thompson, R. Valencia, M. I. Vallejo, G. Villa Muñoz, T. Yamakura, J. K. Zimmerman, H. S. Dattaraja, S. Esufali, P. Hall, F. He, C. Hernandez, S. Kiratiprayoon, H. S. Suresh, C. Wills, and P. Ashton. 2006. Comparing tropical forest tree size distributions with the predictions of metabolic ecology and equilibrium models. *Ecology Letters* 9:589-602. https://doi.org/10.1111/j.1461-0248.2006.00915.x

Muller-Landau, H. C., R. S. Condit, J. Chave, S. C. Thomas, S. A. Bohlman, S. Bunyavejchewin, S. Davies, R. Foster, S. Gunatilleke, N. Gunatilleke, K. E. Harms, T. Hart, S. P. Hubbell, A. Itoh, A. R. Kassim, J. V. LaFrankie, H. S. Lee, E. Losos, J.-R. Makana, T. Ohkubo, R. Sukumar, I.-F. Sun, N. Supardi M. N., S. Tan, J. Thompson, R. Valencia, G. Villa Muñoz, C. Wills, T. Yamakura, G. Chuyong, H. S. Dattaraja, S. Esufali, P. Hall, C. Hernandez, D. Kenfack, S. Kiratiprayoon, H. S. Suresh, D. Thomas, M. I. Vallejo, and P. Ashton. 2006. Testing metabolic ecology theory for allometric scaling of tree size, growth, and mortality in tropical forests. *Ecology Letters* 9:575-588. https://doi.org/10.1111/j.1461-0248.2006.00904.x

Gilbert, B. G., S. J. Wright, **H. C. Muller-Landau**, K. Kitajima, A. Hernandez. 2006. Life history trade-offs in tropical trees and lianas. *Ecology* 87:1281-1288. https://doi.org/10.1890/0012-9658(2006)87[1281:LHTITT]2.0.CO;2

Wright, S. J., and **H. C. Muller-Landau**. 2006. The uncertain future of tropical forest species (response to Brook et al.). *Biotropica* 38(4):443-445. https://doi.org/10.1111/j.1744-7429.2006.00177.x

Wright, S. J. and **H. C. Muller-Landau**. 2006. The future of tropical forest species. *Biotropica* 38(3):287-301. https://doi.org/10.1111/j.1744-7429.2006.00154.x

Wills, C., K. E. Harms, R. Condit, D. King, J. Thompson, F. He, **H. Muller-Landau**, P. Ashton, E. Losos, L. Comita, S. Hubbell, J. LaFrankie, S. Bunyavejchewin, H.S. Dattaraja, S. Davies, S. Esufali, R. Foster, I.A.U.N. Gunatilleke, C.V.S. Gunatilleke, P. Hall, A. Itoh, R. John, S. Kiratiprayoon, S. Loo de Lao, M. Massa, C. Nath, Md. N. S. Noor, A. Rahman Kassim, R. Sukumar, H. S. Suresh, I-F. Sun, S. Tan, T. Yamakura, J. Zimmerman. 2006. Non-random processes contribute to the maintenance of diversity in tropical forests. *Science* 311(5760):527-531. https://doi.org/10.1126/science.1117715

Chave, J., **H. C. Muller-Landau**, T. R. Baker, T. A. Easdale, H. Ter Steege, and C. O. Webb. 2006. Regional and phylogenetic variation in wood density among 2,456 neotropical tree species. *Ecological Applications* 16(6):2356-2367. https://doi.org/10.1890/1051-0761(2006)016[2356:RAPVOW]2.0.CO;2

Muller-Landau, H. C. and B. D. Hardesty. 2005. Seed dispersal of woody plants in tropical forests: concepts, examples, and future directions. Pages 267-309 in *Biotic Interactions in the Tropics*. D. Burslem, M. Pinard, and S. Hartley, editors. Cambridge: Cambridge University Press. https://doi.org/10.1017/cbo9780511541971.012

Adler, F. R. and **H. C. Muller-Landau**. 2005. When do localized natural enemies increase species richness? *Ecology Letters* 8 (4):438-447. https://doi.org/10.1111/j.1461-0248.2005.00741.x

Wright, S. J., **H. C. Muller-Landau**, O. Calderón, and A. Hernández. 2005. Annual and spatial variation in seedfall and seedling recruitment in a Neotropical forest. Putative mast seeding, seed fate, and El Niño climate fluctuation in a Neotropical forest. *Ecology* 86(4):848-860. https://doi.org/10.1890/03-0750

Muller-Landau, H. C., J. W. Dalling, K. E. Harms, S. J. Wright, R. Condit, S. P. Hubbell and R. B. Foster. 2004. Seed dispersal and density-dependent seed and seedling mortality in *Trichilia tuberculata and Miconia argentea*. Pages 340-362 in *Forest Diversity and Dynamism: Findings from a Network of Large-Scale Tropical Forest Plots*. E. C. Losos and E. G. Leigh, editors. Chicago: University of Chicago Press.

Muller-Landau, H. C. 2004. Interspecific and intersite variation in wood specific gravity of tropical trees. *Biotropica* 36:20-32. https://doi.org/10.1111/j.1744-7429.2004.tb00292.x

Wright, S. J., **H. C. Muller-Landau**, R. Condit, and S. P. Hubbell. 2003. Gap-dependent recruitment, realized vital rates, and size distributions of tropical trees. *Ecology* 84:3174-3185. https://doi.org/10.1890/02-0038

Muller-Landau, H. C., S. A. Levin, and J. E. Keymer. 2003. Theoretical perspectives on the evolution of long-distance dispersal and the example of specialized pests. *Ecology* 84(8):1957-1967. https://doi.org/10.1890/01-0617

Levin, S., **H. C. Muller-Landau**, J. Chave, and R. Nathan. 2003. The ecology and evolution of dispersal: a theoretical perspective. *Annual Review of Ecology and Systematics* 34:575-604. https://doi.org/10.1146/annurev.ecolsys.34.011802.132428

Plotkin, J. B., and **H. C. Muller-Landau**. 2002. Sampling the species composition of a landscape. *Ecology* 83(12):3344-3356. https://doi.org/10.1890/0012-9658(2002)083[3344:stscoa]2.0.co;2

Stoll, P., J. Weiner, **H. Muller-Landau**, E. Müller and T. Hara. 2002. Size symmetry of competition alters biomass-density relationships. *Proceedings of the Royal Society Biological Sciences Series B* 269:2191-2195. https://doi.org/10.1098/rspb.2002.2137

Dalling, J., **H. C. Muller-Landau**, S. J. Wright, and S. P. Hubbell. 2002. Role of dispersal in the recruitment limitation of Neotropical pioneer species. *Journal of Ecology* 90:714-727. https://doi.org/10.1046/j.1365-2745.2002.00706.x

Muller-Landau, H. C., S. J. Wright, O. Calderón, S. P. Hubbell, and R. B. Foster. 2002. Assessing recruitment limitation: concepts, methods and examples for tropical forest trees. Pages 35-53 in *Seed Dispersal and Frugivory: Ecology, Evolution and Conservation*. J. Levey, W. R. Silva and M. Galetti, editors. Oxfordshire, UK: CAB International. https://doi.org/10.1079/9780851995250.0035

Chave, J., **H. C. Muller-Landau**, R. Condit, N. Pitman, J. Terborgh, S. P. Hubbell, and E. G. Leigh. 2002. Beta-diversity in tropical forests - Response. *Science* 297: 1439a.

Condit, R., N. Pitman, E.G. Leigh, J. Chave, J. Terborgh, R. B. Foster, P. Núñez, S. Aguilar, R. Valencia, G. Villa, **H. C. Muller-Landau**, E. Losos, S. P. Hubbell. 2002. Beta-diversity in tropical forest trees. *Science* 295: 666-669. https://doi.org/10.1126/science.1066854

Chave, J., **H. C. Muller-Landau**, and S. A. Levin. 2002. Comparing classical community models: Theoretical consequences for patterns of diversity. *American Naturalist* 159:1-23. https://doi.org/10.1086/324112

Weiner, J., P. Stoll, **H. C. Muller-Landau**, and A. Jasentuliyana. 2001. The effects of density, spatial pattern and competitive symmetry on size variation in simulated plant populations. *American Naturalist* 158:438-450. https://doi.org/10.1086/321988

Nathan, R. and **H. C. Muller-Landau**. 2000. Spatial patterns of seed dispersal, their determinants and consequences for recruitment. *Trends in Ecology and Evolution* 15:278-285. https://doi.org/10.1016/s0169-5347(00)01874-7

Levin, S. A. and **H. C. Muller-Landau**. 2000. The evolution of dispersal and seed size in plant communities. *Evolutionary Ecology Research* 2:409-435.

Levin, S. A. and **H. C. Muller-Landau**. 2000. The emergence of diversity in plant communities. *Comptes Rendus de l'Académie des Sciencias, Sciencias de la Vie* 323:129-139. https://doi.org/10.1016/s0764-4469(00)00113-x

Achleh, A. S., T. G. Hallam, and **H. C. Muller-Landau**. 1995. Estimation of sticking and contact efficiencies in aggregation of phytoplankton: the 1993 SIGMA tank experiment. *Deep Sea Research II* 42:185-201. https://doi.org/10.1016/0967-0645(95)00011-e

DATA AND CODE PUBLICATIONS (PARTIAL LIST)

Arauz, F., M. Hernandez, P. Villarreal, P. Ramos, A. Agrazal, M. Perez, M. Demarsan, and **H. C. Muller-Landau**. 2026. AVUELO: Tropical Forest Crown Maps with Tree Species Names, Panama (Version 1). ORNL Distributed Active Archive Center. https://doi.org/10.3334/ORNLDAAC/2517

Wright, S. Joseph and **Helene C. Muller-Landau**. 2026. Wood densities for 750 species from central Panama [Dataset]. Dryad. https://doi.org/10.5061/dryad.5qfttdzn3

Osorio-Ospina, Juan Camilo, Daria Lipsky, Lily Pitcher, Melvin Hernández, Antonio Ferraz, and **Helene C. Muller-Landau**. 2026. Hyperspectral Reflectance Data for Flowers, Fruits, Bark, and Leaves of Plants on Barro Colorado Island, Panama. Smithsonian Research Data Repository. https://doi.org/10.60635/C3ZG9V (update of Lipsky et al. 2024).

Vasquez, Vicente, Fernando Araúz, Jorge Valdes, Paulino Villarreal, Pablo Ramos, Andres Hernandez, and **Helene Muller-Landau**. 2026. Parque Natural Metropolitano metrop 1-ha Plot: Tree Crown Maps (2024–2025). Smithsonian Research Data Repository. https://doi.org/10.60635/C34K82

Ramos, P., P. Villareal, L. F. Pitcher, and **H. C. Muller-Landau**. 2025. Annual woody debris dynamics census data for the 50-ha plot on Barro Colorado Island, Panama. Smithsonian Research Data Repository. https://doi.org/10.60635/C3C884

Ramos, P., P. Villareal, E. M. Gora, and **H. C. Muller-Landau**. 2025. Woody debris long transect census data for the 50-ha plot, Barro Colorado Island, Panama. Smithsonian Research Data Repository. https://doi.org/10.60635/C37G66

Lily F. Pitcher and Helene C. Muller-Landau. 2025. Data processing methods and code for deadwood dynamics census data, Barro Colorado Island, Panama- DataPipeline-WoodyDebrisBCI50ha (v1.0). Zenodo https://doi.org/10.5281/zenodo.16410468

Lipsky, D., L. Pitcher, J. C. Osorio-Ospina, and **H. C. Muller-Landau**. 2024. Hyperspectral Reflectance Data for Flowers, Fruits, Bark, and Leaves of Plants on Barro Colorado Island, Panama. Smithsonian Research Data Repository. https://doi.org10.60635/C37W2T

Duque, Á., L. F. Gómez-Correa, A. Barona, N. Castaño, S. Davies, D. Zuleta, and **H. C. Muller-Landau**. 2024. Total carbon stocks, soils data up to 3m depth and tree height and DBH allometry for the Amacayacu Forest Dynamics Plot. Smithsonian Research Data Repository. https://doi.org/10.60635/C31609

Ramos, P., P. Villareal, and **H. Muller-Landau**. 2024. Tree height allometry data for 5109 trees in twenty-four small ForestGEO plots in Panama, 2011-2020. Smithsonian Research Data Repository. https://doi.org/10.60635/C3H59Q

Ramos, P., P. Villareal, and **H. Muller-Landau**. 2024. 2019 Height-Diameter Allometry Data for Palm Species on the Barro Colorado Island 50-ha Plot. Smithsonian Tropical Research Institute. Dataset. https://doi.org/10.25573/data.25021787.v1

Vasquez, V., P. Villarreal, P. Ramos, A. Hernandez, and **H. Muller-Landau**. 2024. Parque Natural Metropolitano metrop plot tree crown map and liana map 2024. Smithsonian Research Data Repository. https://doi.org/10.60635/C3TG6G

Vásquez, V., M. García, M. Hernández, and **H. Muller-Landau**. 2024. Smithsonian ForestGEO San Lorenzo and Panama Small Plots Aerial Photogrammetry Orthomosaics, Digital Surface Models, Point Clouds and Raw Images for 2015-2024. Smithsonian Research Data Repository. https://doi.org/10.25573/data.24955356

Vásquez, V., M. García, M. Hernández, and **H. Muller-Landau**. 2024. Barro Colorado Island AVA Plot Aerial Photogrammetry (2018-2024): Orthomosaics, Digital Surface Models, Point Clouds, and Raw Images. Smithsonian Research Data Repository. https://doi.org/10.60635/C3G59D

Vásquez, V., M. García, M. Hernández, and **H. Muller-Landau**. 2024. Barro Colorado Island 50-ha Plot Aerial Photogrammetry (2018-2024): Orthomosaics, Digital Surface Models, Point Clouds, Raw Images, and Globally/Locally Aligned Timeseries. Smithsonian Research Data Repository. https://doi.org/10.60635/C3KW2X . (Updated version of 2023 publication available at https://doi.org/10.25573/data.24784053)

Garcia, M., V. Vásquez, and **H. C. Muller-Landau**. 2023. Barro Colorado whole-island aerial photogrammetry products for 2018-2023. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.24757284

Vásquez, V., K. C. Cushman, P. Ramos, C. Williamson, P. Villareal, L. F. Gomez Correa, and **H. C. Muller-Landau**. 2023. Barro Colorado Island 50-ha plot crown maps: manually segmented and instance segmented. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.24784053

Ramos, P., P. Villareal, R. Condit, K. C. Cushman, and **H. C. Muller-Landau**. 2022. Annual dendrometer data from the Barro Colorado Island 50-ha forest dynamics plot for 2015-2020. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.19985066.v1

Cushman, K. C., **H. C. Muller-Landau**, M. Detto, and M. Garcia. 2022. Datasets for "Soils and topography control natural disturbance rates and thereby forest structure in a lowland tropical landscape". Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.17102600.v1

Garcia, M., J. P. Dandois, R. F. Araujo, S. Grubinger, and **H. C. Muller-Landau**. 2021. Color orthomosaics of the 50-ha plot on Barro Colorado Island, Panama, for 2014-2019. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.16869259.v2

Garcia, M., J. P. Dandois, R. F. Araujo, S. Grubinger, and **H. C. Muller-Landau**. 2021. Surface elevation models and associated canopy height change models for the 50-ha plot on Barro Colorado Island, Panama, for 2014-2019. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.14417933

Araujo, R. F., S. Grubinger, M. Garcia, J. P. Dandois, and **H. C. Muller-Landau**. 2021. Shapefiles of canopy disturbances for the 50-ha plot on Barro Colorado Island, Panama, for 2014-2019. Smithsonian Tropical Research Institute. https://doi.org/10.25573/data.14417915

Martínez Cano, I., **H. C. Muller-Landau**, S.J. Wright, S.A. Bohlman, and S.W. Pacala. 2019. Data from: Tropical tree height and crown allometries for the Barro Colorado Nature Monument, Panama: a comparison of alternative hierarchical models incorporating interspecific variation in relation to life history traits. Dryad. https://datadryad.org/dataset/doi:10.5061/dryad.85k53v8

PREPRINTS AND DISCUSSION PAPERS (IF NOT YET PUBLISHED)

Vásquez Velásquez, Vicente Alexander, and **Helene C. Muller-Landau**. 2026. Evaluation of high-resolution gridded climate products in reproducing spatial and temporal variation in precipitation in central Panama. 2026. *EarthArXiv*. https://doi.org/10.31223/X5TV0G Posted 2026-02-28.

Mosig, Clemens, Teja Kattenborn, David Montero Loaiza, Janusch Vanja-Jehle, John Brandt, Nathan Jacobs, Subash Khanal, Eric Xing, Martin Schwartz, **Helene C. Muller-Landau**, Mirela Beloiu, Aurora Bozzini, Yan Cheng, Keenan Ganz , Björn Grüning, Henrik Hartmann, Jan Hempel, Stéphanie Horion, Samuli Junttila, Kirill Korznikov, Guido Kraemer, Milena Mönks, Davide Nardi, Paul Neumeier, Jonathan Schmid, Salim Soltani, Marie Therese-Schmehl, Josh Veitch-Michaelis, Miguel Mahecha. 2026. Sub-pixel mapping of disturbance and tree mortality dynamics from Sentinel-2 time series around the globe. *EarthArXiv*. https://doi.org/10.31223/X5B18W Posted 2026-02-24.

Duguay, Simon-Olivier, Hugo Baudchon, Etienne Laliberté, **Helene Muller-Landau**, Gonzalo Rivas-Torres, Arthur Ouaknine. 2026. SelvaMask: Segmenting Trees in Tropical Forests and Beyond. *arXiv* https://doi.org/10.48550/arXiv.2602.02426 Posted 2026-02-02.

Laliberté, Etienne, Antoine Caron-Guay, Vincent Le Falher, Guillaume Tougas, **Helene C Muller-Landau**, Gonzalo Rivas-Torres, Thomas R Walla, Hugo Baudchon, Mélvin Hernandez, Adrian Buenaño, Anna Weber, Jeffrey Q Chambers, Jomber Chota Inuma, Fernando Araúz, Jorge Valdes, Andrés Hernández, David Brassfield, Paulo Araujo Filho, Vicente Vasquez, Adriana Simonetti, Daniel Magnabosco Marra, Caroline de Moura Vasconcelos, Jarol Fernando Vaca, Geovanny Rivadeneyra, José Illanes, Luis A Salagaje-Muela, Jefferson Gualinga. 2025. Seeing the forest and the trees: a workflow for automatic acquisition of ultra-high resolution drone photos of tropical forest canopies to support botanical and ecological studies. *bioRxiv* https://doi.org/10.1101/2025.09.02.673753 Posted 2025-09-07.

Fischer, Fabian Jörg, Becky Morgan, Toby Jackson, Jérôme Chave, David Coomes, KC Cushman, Ricardo Dalagnol, Michele Dalponte, Laura Duncanson, Sassan Saatchi, Rupert Seidl, Krzysztof Stereńczak, Gaia Vaglio Laurin, Stephen Adu-Bredu, Jesús Aguirre-Gutiérrez, Benedetta Antonielli, John David Armston, Mauro LR de Assis, Nicolas Barbier, Andrew Burt, Ricardo Gomes César, Jaroslav Cervenka, Nicholas Coops, Laury Cullen, James W Dalling, Andrew Davies, Miro Demol, Jakob Ebenbeck, Fabian Fassnacht, Lola Fatoyinbo, Mariano García, N Ignacio Gasparri, Terje Gobakken, Tristan RH Goodbody, Eric Bastos Görgens, Tolga Gorum, Carl Gosper, Hongcan Guan, Janne Heiskanen, Marco Heurich, Martina Hobi, Bernhard Höfle, Al Hooijer, Andreas Huth, Alexander Kedrov, James R Kellner, Simon Koenig, Kamil Král, Misha Krassovski, Helga Kuechly, Martin Krůček, Kyaw Kyaw Htoo, Nicolas Labrière, Daphne Lai, Johannes Larson, Hjalmar Laudon, Dawn Lemke, Jonathan Lenoir, Yadvinder Malhi, Owais Ahmed Malik, Maxence

Martin, Iain McNicol, Milutin Milenkovic, David Minor, Ed Mitchard, Vítězslav Moudrý, **Helene C Muller-Landau**, Erik Næsset, Anuttara Nathalang, Jean Pierre Ometto, Masanori Onishi, Yusuke Onoda, Petri Pellikka, Henrik Persson, Matheus Pinheiro Ferreira, Pierre Ploton, Suzanne M Prober, Farhadur Rahman, Parvez Rana, Maxime Réjou-Méchain, Jannika Schäfer, Cornelius Senf, Aurélie Shapiro, Dmitry Schepaschenko, Guochun Shen, Miles Silman, Thiago Silva, Jenia Singh, Ferry Slik, Jonas Stillhard, Anto Subash, Ryuichi Takeshige, Shengli Tao, Evan Tenorio, Timo Tokola, Piotr Tompalski, Nithin Tripathi, Ruben Valbuena, Riccardo Valentini, Ronald Vernimmen, Greg Vincent, Jörgen Wallerman, Wan Shafrina Wan Mohd Jaafar, Yongcai Wang, Hannah Weiser, Joanne White, Lukas Winiwarter, Michael Wulder, Zuoqiang Yuan, Katherine Zdunic, Yelu Zeng, Houxi Zhang, Jian Zhang, Zhiming Zhang, Tommaso Jucker. 2025. The Global Canopy Atlas: analysis-ready maps of 3D structure for the world's woody ecosystems. *bioRxiv* https://doi.org/10.1101/2025.08.31.673375 Posted 2025-09-05.

OTHER PUBLICATIONS

Muller-Landau, Helene C. Remarks for the 2024 Induction Ceremony of the American Academy of Arts and Sciences on Behalf of Class B, Biological Sciences. *American Academy of Arts and Sciences Bulletin.* https://www.amacad.org/bulletin/winter-2025/2024-induction-ceremony

Ordway, E.M., M.M. Keller, M. Longo, R. Negron-Juarez, Y. Feng, H. Stouter, I.N. Rivera, A. Alencar, A. Bey, R.K. Braghiere, A. Cardoso, K.D. Chadwick, J.D Fuentes, R. Eckert, L. Fatoyinbo, A. Ferraz, L. Guild, M.S. Johnson, E. Kane, L.S. Koutika, Y. Li, J. Liu, I.B. Mccubbin, F. Meunier, C.E. Miller, **H.C. Muller-Landau**, T. Nkuintchua, M. Nunes, L.B.S. Takougoum, M.J. Santos, F.D. Schneider, M. Simard, B. Sonke, C. Terrer, M. von Essen, M.Y. Wong, S.R. Worden, X. Xiao, V. Zaunbrecher, M. Bauters, P. Boeckx, J. Bowen, I. Chiari, O. Csillik, G. Diez, M. Doroso, D.D. Pugley, W. Hubau, A.E. Ochoa, E. Gora, A. Hoyt, J.C. Jintiach, V. Maqque, C. Perryman, Z. Pierrat, L. Saraiva, D. Singh, I. Tanshi, J. Thompson, and H. Verbeeck. 2025. The PANGEA Scoping Study Final Report. ORNL DAAC, Oak Ridge, Tennessee, USA. https://doi.org/10.3334/ORNLDAAC/2405

Thrall, P. H., J. Chase, J. Drake, N. Espuno, S. Hello, V. Ezenwa, B. Han, A. Mori, and **H. Muller-Landau**. 2023. From raw data to publication: Introducing data editing at Ecology Letters. *Ecology Letters* 26: 829-830. https://doi.org/https://doi.org/10.1111/ele.14210

Muller-Landau, H. C. 2014. Plant diversity rooted in pathogens. *Nature* 506:44-45. https://doi.org/10.1038/nature12851

Larjavaara, M. and **H. C. Muller-Landau**. 2011. Intra-annual temperature variation and forest biomass. *Proceedings of the Pasoh International Symposium, 10-11 November 2010, Forest Research Institute Malaysia (FRIM), Selangor.*

Muller-Landau, H. C. 2009. Sink in the African jungle. *Nature* 457:969-970. https://doi.org/10.1038/457969a

Muller-Landau, H. C. 2004. Book review: *Integrating Ecology and Evolution in a Spatial Context* (edited by Jonathan Silvertown and Janis Antonovics, 2001, 438 pp.). *Quarterly Review of Biology* 79(3):331.

S. Joseph Wright and **H. C. Muller-Landau**. 2004. The future of tropical forests. *Tropinet* 15(4):1-2.

Muller-Landau, H. C. 2003. Seeds of understanding of plant diversity. *Proceedings of the National Academy of Sciences, USA* 100(4):1469-1471. https://doi.org/10.1073/pnas.0438004100

Muller-Landau, H. C., Yu Yun Chen, I Fang Sun, S. J. Wright, S. P. Hubbell, N. Supardi Noor. 2003. Seed dispersal in a lowland dipterocarp forest during two masting events. Proceedings of the Seminar on Ecological Research in Tropical Forests, (CFFPR series 2003), 19-21 August 2003, FRIM Kuala Lumpur, Malaysia

Muller-Landau, H. C. 2001. Seed dispersal in a tropical forest – empirical patterns, their origins and their consequences for forest dynamics. PhD Dissertation. Princeton University.

Muller-Landau, H. C. 1998. Book review: *Tropical Forest Remnants: Ecology, Management, and Conservation of Fragmented Communities* (edited bv Laurance, William F., and Richard O. Bierregaard, Jr., 1997, 616 pp.). *Ecoscience* 5(2):281-282.

STUDENTS AND SCHOLARS ADVISED

Postdoctoral scholars advised

Qi Yang, September 2026 – present.
Nathan Gonçalves, March 2026 – present.
Krishna Anujan, January 2026 – present.
Patrick Cannon, April – December, 2025 – present.
Evan Gora, 2020 – 2023.
KC Cushman, January 2020 – January 2022.
Carlos Celes, 2020-2021.
Raquel Araujo, 2019-2021.
Camille Piponiot, October 2019 – September 2020.
Ervan Rutishauser, June 2016 – July 2019.
Isabel Martinez Cano, January 2016 - 2018 (coadvised, at Princeton University).
Jonathan Dandois, August 2014 – December 2015.
Edwin Lebrija-Trejos, January 2014 – August 2015.
Raquel Alfaro Sanchez, January - April, 2015.
Guille Peguero, May-August, 2013.
Carolina Puerta-Piñero, January 2010 – December 2012 (co-advised with S. J. Wright).
Matteo Detto, October 2010 – October 2012; October 2015 – present.
Joe Mascaro, July 2010 – September 2012. (co-advised with G. P. Asner)
Ryan Chisholm, August 2010 – August 2012.
Markku Larjavaara, November 2007 – June 2011.
Omar Lopez, September 2010 – January 2011
F. Andy Jones, February – August 2008.
Liza Comita, January 2007 – January 2008.
David King, October –Dec 2007.
Christian Marks, November 2005 – September 2007.

Graduate students advised or co-advised.

Dorra Zribi. PhD student. Ile-de-France Environmental Sciences. Dissertation committee member. 2026 – present.
Patrick O'Brien. PhD student. University of Alberta. Dissertation committee member. 2025 – present.
Mayra Nacimba-Chicaiza, PhD student at Universitat de València. STRI fellow March-July, 2026.
David Lealaimatafao, STRI fellow and masters student at the University of Montreal. 2025-present.
Vicente Vasquez, STRI fellow and PhD student at the University of Florida. 2024-present.
Hilario Espinosa, STRI predoctoral fellow and PhD student at Haifa University. 2018-2024.
Mathieu Guillemette, MS, McGill University. Supervisory committee member. 2021-2023.
Marco Visser. STRI predoctoral fellow as a PhD student at Radboud University Nijmegen, and previously STRI short-term fellow while a masters student at Wageningen University. PhD 2016. (co-promoter, with promoter Hans de Kroon and co-promoter Eelke Jongejans)
Marta Vargas, masters student in Ecology, Evolution and Behavior, University of Minnesota, MS 2012.
Noelle Beckman, PhD student in Ecology, Evolution and Behavior, University of Minnesota. PhD 2010. (co-advised with Claudia Neuhauser)

Interns and undergraduate students advised
Sofia Quijada Sanabria, STRI intern, September 2026 – present.
Daniel Jovane, STRI intern, July 2026 – present.
Hanna Haeder, STRI intern, June 2026 – present.
Laura Aranda-Cervantes, STRI intern, April 2026 – present.
Emilie Revill-Hivet, STRI intern, April -August, 2026.
Paula Uzcátegui León, STRI intern, February-July, 2026.
Adrian Agrazal, STRI intern, September 2025 – August 2026.
Genesis Villarreal, STRI intern, May 2025 – April 2026.
Mara Demarsan, STRI intern, February – August 2025.
Fernando Arauz, STRI intern, January – February, 2025.
Jessica McLean, STRI intern, January- December 2025.
Daria Lipsky, STRI intern, June 2024 – November 2024.
Caroline Troy, STRI intern and fellow, June 2024 – August 2025.
Juan Camilo Osorio, STRI intern and fellow, March 2023 – August 2025.
Lily Pitcher, STRI intern, March-May and September-December, 2023.
Luisa Gomez, STRI intern, January 2023 – January 2024, June 2024-March 2025.
Vicente Vasquez, STRI intern, July 2022 – June 2023.
Ceci Williamson, STRI intern, July 2022 – April 2023.
Mia Mitchell, STRI intern, February – August, 2022.
Cristhian Ramirez, STRI intern, November 2021 – October 2022.
Ben Kopania, STRI intern, November 2019 – July 2021.
Pete Kerby-Miller, STRI intern, September 2018 – March 2020.
Bogumila Backiel, STRI intern, September 2018 – August 2019.
Eva Arroyo, STRI intern, June 2018 – June 2019.
Jeremy Starn, STRI intern, March 2019 – June 2019.

Sam Grubinger, STRI intern, November 2017 – June 2018.
Victoria (Tori) Meakem, STRI intern, October 2017 – April 2018.
Fabrizzio Protti, STRI intern, May 2016 – August 2017.
Areli Benito, STRI intern, August 2015 – June 2016.
Ryan Nolin, STRI intern, June-August 2015.
Marino Ramirez, STRI intern, October 2014 – May 2015.
Carrie Tribble, STRI intern, October 2014 – August 2015.
Emily Francis, STRI intern, January – August 2014.
KC Cushman, STRI intern, September 2012 – August 2014.
Jeff Matzke, University of Minnesota, fall 2007.
Milcah Scott, University of Minnesota, fall 2007.
Caroline Farrior, University of Pennsylvania, summer 2006.
Sonja Riddle-Ford, SEPGM program, University of Minnesota, summer 2006.
John Best, REU student from Clarkson University, spring 2006.
Josh Dumas, SEPGM program, University of Minnesota, summer 2005.
Sarah Kaplan, Princeton University, summer 1999.

SCIENTIFIC SERVICE

Senior editor, *Ecology Letters*, 2020-present.

Co-lead of Technical Implementation Group for Terrestrial Laser Scanning and member of the Scientific Advisory Board for GEO-TREES.

Biosphere 2 Science Advisory Board, 2020 – present.

International Tree Mortality Network, advisory board member, 2019 – present.

Co-lead of working group on Ecosystem Structure, Function and Biodiversity for PANGEA, the NASA-funded scoping study for a decadal terrestrial ecology campaign in tropical forests. 2024.

Editorial board member: *Functional Ecology* 2016 – 2020. *Methods in Ecology and Evolution* 2012-2015; *Theoretical Ecology* 2007-2011; *Ecological Research* 2004-2007.

National Science Foundation BIO review panels: 2021, 2020, 2009, 2006.

Reviewer for the journals *Science*, *Nature, PNAS*, *Ecology Letters*, *American Naturalist, Ecology, Journal of Ecology, Oecologia, Oikos*, *Theoretical Population Biology*, *Biotropica*, *Plant Ecology*, *Molecular Ecology, Methods in Ecology and Evolution, Nature Communications, PLoS One*, *Plant Biology, Forest Ecology and Management, Journal of Environmental Monitoring, Ecosystems, Theoretical Ecology, Acta Oecologia, New Phytologist, Ecological Research, PLOS Biology*, *Proceedings of the Royal Society*, *Trends in Ecology and Evolution, Ecological Monographs, Journal of Theoretical Biology*, *Bulletin of Mathematical Biology*, *Functional Ecology, Journal of Applied*

Ecology, *Ecological Applications*, *Journal of Tropical Ecology*, *Plant Ecology*, *Journal of Vegetation Science*, *Canadian Journal of Forest Research*, *Ecoscience, Annales Botanici Fenici*, *Diversity and Distribution*, *Dispersal and Distributions*, as well as for Springer and Princeton University Press.

Reviewer for national and international funding agencies: the National Science Foundation (NSF, USA), DOE National Institute for Climatic Change Research (NICCR, USA), MacArthur Foundation, Netherlands Organisation for Scientific Research (NWO, the Netherlands), National Environmental Research Council (NERC, UK), Deutsche Forschungsgemeinschaft (DFG, Germany), Swiss National Science Foundation (Switzerland), Fund for Scientific Research (FNRS, France), Binational Science Foundation (BSF, Israel).

European Space Agency Climate Change Initiative Biomass Change Workshop, Co-chair of the session on "Change on the ground". October 19 – November 6, 2020.

Chairperson, NEON (National Ecological Observatory Network) Plant Productivity and Biomass Technical Working Group, 2012-2017.

Silvacarbon technical team member, 2012.

SMITHSONIAN SERVICE

Member of the Gamboa and canopy cranes facility committees. 2025-present.

Ad hoc reviewer of internal Smithsonian fellowship proposals, 2008-present.

Chair of the Scientific Organizing Committee for the Barro Colorado Island Centennial Symposium. 2023-2024.

Member of the BCI facility committee. 2023-2024.

Head of the Covid-19 task force for Barro Colorado Island, 2020.

Chair of the working group on revising the STRI Expectations of Conduct, 2020.

Co-chair of STRI's seminar program. 2020-2022.

Member of the STRI short-term fellowship proposal review committee. 2016 –2021.

Member of STRI's Scientific Council. 2013 – 2015

Chair of STRI's seminar program. 2011 – 2015.

Chair of the Center for Tropical Forest Science working group on carbon dynamics, and lead author of the resulting 25-year plan for carbon dynamics research on CTFS plots. 2006.

Gave talks for the Fundacion Smithsonian and STRI advisory board as requested. January 8, 2013: "Carbon budgets of tropical forests." September 18, 2013: "A high resolution carbon map of Panama."

Review committee for STRI's Senior Latin American fellowships, February 2016.

INVITED TALKS

University of Oxford. October 20, 2026.
New York University. September 24, 2026.
UFZ Helmholtz Centre for Environmental Research, Leipzig. June 4, 2026.
American Academy of Arts and Sciences. September 21, 2024.
University of Montpellier. April 5, 2024.
International Tree Mortality Network. December 6, 2022.
Cornell University. August 30, 2021.
NASA Jet Propulsion Laboratory. May 6, 2021.
University of Queensland. September 24, 2020.
Smithsonian Environmental Research Center. April 30, 2018.
Radboud University Nijmegen. November 15, 2016.
University of Florida. October 14, 2016.
Princeton University. April 21, 2016.
University of Miami, Gifford Arboretum speaker. April 7, 2016.
Fairchild Botanical Garden. February 22, 2015. Keynote speaker, Tropical Biology Symposium.
Oxford University. June 21, 2014.
Oak Ridge National Labs. January 31, 2013.
National Institute for Mathematical and Biological Synthesis. January 29, 2013.
University of Florida. December 11, 2012.
University of Arizona. November 26, 2012.
Princeton University. December 1, 2011.
University of Utah. September 22, 2010.
Laboratoire Evolution et Diversité Biologique, Centre National de la Recherche Scientifique, Toulouse, France. June 9, 2010.
Utrecht University, Utrecht, the Netherlands. May 25, 2010.
Wageningen University and Research Centre, Wageningen, the Netherlands. May 20, 2010.
Nijmegen University, Nijmegen, the Netherlands. May 19, 2010.
Gröningen University, Gröningen, the Netherlands. May 17, 2010.
University of Toronto, Toronto, Canada. April 10, 2010.
Forest Research Institute of Malaysia, Kuala Lumpur, Malaysia. May 26, 2008.
Kunming Institute of Botany, Chinese Academy of Sciences, Kunming., China April 29, 2008.
Institute of Botany, Chinese Academy of Sciences, Beijing, China. April 18,19, 2008.
Fushan Research Station, Fushan, Taiwan. April 12,13, 2008.

University of Georgia, Athens, Institute of Ecology. January 26, 2006.
Carleton College, Minnesota. October 31, 2005.
Kellogg Biological Station, Michigan State University. October 21, 2005.
University of Puerto Rico, Rio Piedras. June 1, 2005.
Ohio University. April 21, 2005.
University of Michigan, Ann Arbor. March 25, 2003.
University of Colorado, Boulder. March 6, 2003.
University of Minnesota. February 19, 2003.
University of Tennessee, Knoxville. January 27, 2003.
University of Ulm, Germany. December 18, 2001.

INVITED CONFERENCE AND SYMPOSIUM PRESENTATIONS

Muller-Landau, H. C. Niche complementarity among tropical tree species. New Phytologist symposium on forest interactions. Leysin, Switzerland. October 13, 2026.

Muller-Landau, H. C. Peter Chesson, Ryan Chisholm, Damla Cinoglu, Liza Comita, Sean Connolly, Rafael D'Andrea, Satavisha De, Daisy Dent, Matteo Detto, Steve Ellner, Caroline Farrior, Greg Gilbert, Ryan Hernandez, Michael Kalyuzhny, Marcos Longo, Daniel Maes, Valeri Milici, James O'Dwyer, Lauren Shoemaker, Daniel J. B. Smith, Jon Staggs, Marco Visser, S. Joseph Wright, and Annette Ostling. Looking beyond the lamppost: future directions in understanding tropical tree communities. ERC workshop on the dynamics of species-riche forests. Leipzig, Germany. June 1, 2026.

Muller-Landau, H. C., E. E Arroyo, I. Martinez Cano, B. Backiel, and K. J. Anderson-Teixeira. Patterns and mechanisms of local, regional, and global variation in tropical forest woody productivity, turnover rates, and biomass carbon stocks. In the session "Tropical forests under Changing Environments." American Geophysical Union annual meeting. San Francisco, CA. December 10, 2019.

Muller-Landau, H. C. The Smithsonian ForestGEO Network. Keck Institute of Space Science. Workshop on Unlocking a New Era in Biodiversity Science: Linking Integrated Space Based and In-Situ Observations – Part II. Pasadena, California. March 19, 2019.

Muller-Landau, H. C. Tropical forests: representation in models, and the ForestGEO plots. Keck Institute of Space Science. Workshop on Unlocking a New Era in Biodiversity Science: Linking Integrated Space Based and In-Situ Observations – Part I. Pasadena, California. October 2, 2018.

Muller-Landau, H. C., S. A. Levin, S. W. Pacala, S. A. Schnitzer, M. D. Visser, and S. J. Wright. Interspecific trait variation in lianas (woody climbers) and its importance for understanding the abundance and impact of lianas. Organized oral session on "Integrating trait-based ecology across plants and microbes to predict ecosystem functioning." Ecological Society of America annual meeting. Portland, Oregon. August 7, 2017.

Muller-Landau, H. C. What determines the abundance and impact of lianas? *Invited keynote.* European Conference of Tropical Ecology and the Annual meeting of the Society for Tropical Ecology. Brussels, Belgium. February 10, 2017.

Muller-Landau, H. C. What determines the abundance and ecosystem impact of lianas and vines? Invited keynote. NGEE-Tropics annual meeting. Washington, DC. September 21, 2016.

Muller-Landau, H. C. Tree and forest allometries: Critical links between field and remote sensing data. Smithsonian-NASA workshop on Calibration and Validation of Upcoming NASA and ESA Satellite Missions on Forest Structure and Biomass. Washington, DC. June 2, 2016.

Muller-Landau, H. C., S. J. Wright, M. Detto, E. Lebrija-Trejos, R. Alfaro Sánchez, K. C. Cushman, C. Tribble, O. Calderón, P. Ramos, and P. Villareal. Interspecific variation in responses of tropical trees to interannual climate variation. Organized oral session on Functional, Phylogenetic and Genetic Dimensions of Forest Diversity and Change. Ecological Society of America annual meeting in Baltimore, Maryland. August, 2015.

Muller-Landau, H. C. Tropical forest carbon stocks and fluxes. Threats to tropical rainforests in an era of rapid environmental change – a global synthesis. London, UK. October 6, 2014.

Muller-Landau, H. C. Conceptual frameworks for understanding anthropogenic disruption of ecological communities. Tansley meeting: Bridging the gap between community ecology and conservation. Silwood Park, Imperial College of London. June 23, 2014.

Muller-Landau, H. C. A theoretical framework for effects of defaunation on plant communities. Workshop on Trophic downgrading and its biodiversity consequences in Neo- versus Afrotropical rainforests. La Selva Biological Station, Costa Rica. June 30, 2013.

Muller-Landau, H. C., M. Detto, and F. Adler. How seed dispersal distances and natural enemy interaction scales influence population spatial structure, population regulation, and diversity maintenance. Association for Tropical Biology and Conservation annual meeting. San Jose, Costa Rica. June 26, 2013.

Muller-Landau, H. C. and M. Detto. Investigating seed dispersal and natural enemy attack with wavelet variances and moment methods. Everything Disperses to Miami: The role of Movement and Dispersal in Ecology, Epidemiology and Environmental Sciences. Miami, FL. December 14, 2012.

Muller-Landau, H. C., M. Visser, M. Detto, E. Jongejans, R. Chisholm, H. de Kroon, and S. J. Wright. Quantifying contributions to diversity maintenance: using population biology to address community-level questions. European Population Biology annual meeting. Zurich, Switzerland. May 19, 2012.

Muller-Landau, H. C., M. Detto, and R. Chisholm. Random and systematic errors in estimates of aboveground biomass stocks and fluxes in tropical forests. Silvacarbon Uncertainty workshop. Washington, DC. October 26, 2011.

Muller-Landau, H. C., M. Detto, and S. J. Wright. Interannual variation in leaf, fruit and flower production in Panamanian tropical forests and the implications for understanding global change. Launching Meeting and Open Symposium of NSF-NSFC Joint Project (Dimensions IRCN: Diversity and Forest Change: Characterizing functional, phylogenetic and genetic contributions to diversity gradients and dynamics in tree communities). Beijing, China. July 28, 2011.

Muller-Landau, H. C. Tropical forest dynamics and carbon budgets in a changing world. Environmental Leadership and Training Initiative conference on REDD+: Technical, Socioeconomic and Political Dimensions. Panama City, Panama. April 7, 2011.

Muller-Landau, H. C., S. J. Wright, M. Detto, R. A. Chisholm, R. Condit, and S. P. Hubbell. Interannual variation in carbon stocks and fluxes in Panamanian tropical forests and their implications for understanding global change. British Ecological Society symposium on Forests and Global Change. Cambridge, England. March 30, 2011.

Muller-Landau, H. C., M. Visser, E. Jongejans, H. de Kroon, S. J. Wright, P. Zuidema, S. Tuljapurkar. Quantifying the importance of niches to tree species coexistence using tree plot data and a life cycle approach. Symposium on Forest Dynamics Research at SIGeo-CTFS. Panama City, Panama. February 22, 2011.

Muller-Landau, H. C., S. J. Wright, O. Calderon, A. Hernandez. The tolerance-fecundity tradeoff and the maintenance of seed size diversity: theory and tests in a tropical forest. Frugivores and Seed Dispersal: Mechanisms and Consequences of a Key Interaction for Biodiversity. Montpellier, France. June 15, 2010.

Muller-Landau, H. C. The tolerance-fecundity tradeoff and the maintenance of diversity in seed size. Plant Population Biology: Crossing Borders. Nijmegen, the Netherlands. May 14, 2010.

Muller-Landau, H. C. The tolerance-fecundity tradeoff and the maintenance of seed size diversity in variable and changing environments. 6th Annual Harvard Plant Biology Symposium: Trees and the Global Environment. Harvard University, Cambridge, MA, USA. April 30, 2010.

Muller-Landau, H. C. , R. Valencia, M. Firdaus, S. Kiratiprayoon, R. Sukumar, S. Tan, S. Noor, S. Bunyavejchewin, S. Hubbell, and M. Larjavaara. Forest plots, climate change, and the global carbon cycle: Linking forest carbon dynamics to their drivers via forest structure and composition. Taking Stock: HSBC Climate Partnership Research Meeting. Smithsonian Tropical Research Institute, Panama. March 1, 2010.

Muller-Landau, H. C. , S. Bunyavejchewin, M. Firdaus, S.P. Hubbell, S. Kiratiprayoon, M. Larjavaara, S. Schnitzer, Nur Supardi M. N., S. Tan, R. Valencia. Large forest plots, climate change, and the global carbon cycle: Linking forest carbon dynamics to their drivers via forest structure and composition. Organized Oral Session on Ecological Insights from Long-Term Research Plots in Tropical and Temperate Forests. Ecological Society of America Annual Meeting. Albuquerque, New Mexico, USA. August 6, 2009.

Muller-Landau, H. C. What can metabolic ecology contribute to plant ecology? Gordon Research Conference on the Metabolic Basis of Ecology. Biddeford, Maine. July 10, 2008.

Muller-Landau, H. C., S. Joseph Wright, O. Calderón, and A. Hernández. Colonization-related tradeoffs and the maintenance of seed size diversity in tropical forests. Symposium on Regeneration ecology across the tropics: Cross-site comparisons of seed and seedling dynamics. Association for Tropical Biology and Conservation annual meeting. Paramaribo, Suriname. June 12, 2008.

Liza Comita, Maria Uriarte, **Helene Muller-Landau**, Jill Thompson, Jess Zimmerman, and Stephen Hubbell. Seeing the forest for the species: Cross-site comparisons of tropical forest dynamics using hierarchical Bayesian models. Association for Tropical Biology and Conservation annual meeting. Symposium on Regeneration ecology across the tropics: Cross-site comparisons of seed and seedling dynamics. Paramaribo, Suriname. June 12, 2008.

Andy Jones and **Helene Muller-Landau**. Measuring long distance seed dispersal in complex tropical forests: integrating and evaluating genetic and classical techniques. Symposium on Advances in dispersal ecology: Applying molecular approaches to understanding movement pathways at local and landscape scales. Association for Tropical Biology and Conservation annual meeting. Paramaribo, Suriname. June 9, 2008.

Muller-Landau, H. C. and F. R. Adler. Diversity-enhancing Janzen-Connell effects: What do our studies really tell us about their role in plant communities? Association for Tropical

Biology and Conservation annual meeting. Symposium on Ecological Theory and Tropical Ecology. Morelia, Mexico. July 17, 2007.

Comita, L. S., **H. C. Muller-Landau**, R. Condit, S. J. Wright, and S. P. Hubbell. To what degree do stabilizing (frequency-dependent) forces at different life stages contribute to tree species coexistence in tropical forests? Association for Tropical Biology and Conservation annual meeting. Symposium on Ecological Theory and Tropical Ecology. Morelia, Mexico. July 17, 2007.

Vargas-Timchencko, M., **H. Muller-Landau**, and S. J. Wright. Are lianas better than trees at colonizing treefall gaps as seeds or seedlings? Association for Tropical Biology and Conservation annual meeting. Symposium on Ecology and Management of Climbing Plants. Morelia, Mexico. July 18, 2007.

Wright, S. J. and **H. C. Muller-Landau**. Land use change, climate change and the extinction of tropical forest species. Association for Tropical Biology and Conservation annual meeting. Symposium on Debating the Tropical Extinction Crisis. Morelia, Mexico. July 18, 2007.

Jansen, P. A., P. Van Eijk, S. J. Wright, and **H. Muller-Landau**. Hunting relieves recruitment limitation in a Neotropical palm. Association for Tropical Biology and Conservation annual meeting. Symposium on Seed Dispersal and Seed Predation in Neotropical Palms. Morelia, Mexico. July 19, 2007.

Muller-Landau, H. C. Integrating theory and data to predict long-term effects of hunting on plant species composition and diversity. Association for Tropical Biology and Conservation annual meeting. Symposium on Hunting and Implications for Plants. Überlandia, Brazil. July 28, 2005.

Muller-Landau, H. C. and S. Joseph Wright. Competition-colonization trade-offs and seed limitation in tropical forests. International Botanical Congress. Symposium on Integrating the Dispersal-assembly and Niche-assembly Paradigms in Plant Communtiy Ecology. Vienna, Austria. July 19, 2005.

Muller-Landau, H. C. and S. Joseph Wright. Seed dispersal and species distributions in tropical forests today and in the future. International Botanical Congress. Symposium on The impact of plant dispersal on biogeography: Current understanding and prospect. Vienna, Austria. July 19, 2005.

Muller-Landau, H. C. and F. R. Adler. How dispersal affects interactions with natural enemies and their contribution to diversity maintenance. Plenary speaker. International Symposium/Workshop on Frugivores and Seed Dispersal. Brisbane, Australia. July 11, 2005.

Muller-Landau, H. C. Relating functional traits, demography, and size distributions of tropical tree species and communities. Association for Tropical Biology and Conservation annual meeting. Symposium on Morphology and Life History Relationships Among Neotropical Forest Trees. Miami, Florida. July 15, 2004.

Muller-Landau, H. C. Interspecific and intersite variation in wood density of tropical trees. Association for Tropical Biology annual meeting, Symposium on Four Neotropical Forests. Panama City, Panama. August 2, 2002.

Muller-Landau, H. C., J. K. Zimmerman, S. J. Wright, and J. Giacalone. Intersite and interannual variation in seed production and seed dispersal. Association for Tropical Biology annual meeting, Symposium on Tropical Forest Dynamics. Panama City, Panama. August 2, 2002.

Muller-Landau, H. C., S. J. Wright, S. P. Hubbell, R. Condit, R. B. Foster. What life history trade-offs do tropical trees face, and how do they contribute to tree diversity? Association for Tropical Biology annual meeting, Symposium on Tropical Tree Diversity. Panama City, Panama. July 31, 2002.

Muller-Landau, H. C., S. A. Levin, J. E. Keymer, and S. W. Pacala. Theoretical explorations of the evolution of long-distance dispersal: the example of specialized pests. Ecological Society of American annual meeting. Symposium on Long-Distance Dispersal. Madison, Wisconsin. August 6, 2001.

Muller-Landau, H. C., S. J. Wright, O. Calderón, A. Hernández, S. P. Hubbell, R. Condit, and R. B. Foster. Recruitment limitation in a seasonally wet tropical forest on Barro Colorado Island, Panama. Plenary speaker. Symposium-workshop on Frugivores and Seed Dispersal. Rio Quente, Brazil. August, 2000.

CONTRIBUTED CONFERENCE AND SYMPOSIUM PRESENTATIONS

Muller-Landau, H. C. and 24 coauthors. Looking beyond the lamppost: future directions in understanding tropical tree communities. Association for Tropical Biology and Conservation annual meeting. Oaxaca, Mexico. July 3, 2025. Talk.

Muller-Landau, H. C. and 30 coauthors. Next-Generation Technology for Tropical Plant Species ID and Landscape-Scale, Taxon-Specific Monitoring of Tropical Forests – and Why We Need It. American Geophysical Union annual meeting. Washington, DC, USA. December 11, 2024. Talk.

Muller-Landau, H. C. The Smithsonian Tropical Data Portal – helping people preserve, share, and discover tropical data and knowledge. Barro Colorado Island Centennial Science Symposium, Gamboa, Panama. June 18, 2024. Lightning talk.

Muller-Landau, H. C., Camille Piponiot, Rolando Perez, Salomon Aguilar, Suzanne Lao, David Mitre, and Richard Condit. Insights and opportunities associated with the Smithsonian ForestGEO small plots in Central Panama. Barro Colorado Island Centennial Science Symposium, Gamboa, Panama. June 18, 2024. Poster.

Muller-Landau, H. C., K. C. Cushman, Vicente Vasquez, Raquel F. Araujo, Mia Mitchell, Milton Garcia, Pablo Ramos, Paulino Villareal, and Melvin Hernandez. Quantifying landscape-level tropical forest dynamics on Barro Colorado Island, Panama at fine temporal, spatial, and potentially taxonomic resolution using repeat drone photogrammetry. Barro Colorado Island Centennial Science Symposium, Gamboa, Panama. June 20, 2024. Regular talk.

Muller-Landau, H. C. Species-specific monitoring of all woody plants on all BCI using drones, hyperspectral imaging, laser scanning, and AI. Barro Colorado Island Centennial Science Symposium, Gamboa, Panama. June 20, 2024. Invited lightning talk for session on The Next "Big Plot": what new massive data collection campaign can transform tropical forest science?

Muller-Landau, H. C., V. Vasquez, K. C. Cushman, R. F. Araujo, L. Gomez, M. Mitchell, D. Zuleta, R. I. Negrón-Juárez, G. Arellano, M. Detto, M. Garcia, P. Ramos, and P. Villareal. Quantifying Landscape-Level Tropical Forest Dynamics at Fine Temporal, Spatial, and Taxonomic Resolution using Repeat Drone Photogrammetry on Barro Colorado Island,

Panama. American Geophysical Union annual meeting. San Francisco, CA, USA. December 11, 2023.

K.C. Cushman, Raquel F. Araujo, Mia Mitchell, Milton Garcia, Matteo Detto, Samuel Grubinger, Carlos H. S. Celes, Robinson I. Negrón-Juárez, Jonathan P. Dandois, and **Helene C. Muller-Landau** (presenting author). Quantifying spatial and temporal variation in canopy tree mortality and branchfalls on Barro Colorado Island, Panama, using drone photogrammetry. Association for Tropical Biology and Conservation annual meeting. Cartagena, Colombia. July 11, 2022.

Rutishauser, E., S. J. Wright, R. Condit, S. P. Hubbell, S. J. Davies, and **H. C. Muller-Landau** (presenting author). Testing for changes in biomass dynamics in large-scale forest datasets. Poster. Department of Energy Earth System Science PI meeting. Potomac, MD. May 1, 2019.

S. Yanoviak, E. Gora, J. Burchfield, P. Blitzer, **H. C. Muller-Landau**, M. Detto, S. Paton, and S. P. Hubbell. Lightning is a major cause of large tree mortality in a tropical forest: a case study of Barro Colorado Island, Panama. Lightning talk. Department of Energy Earth System Science PI meeting. Potomac, MD. April 30, 2019.

Muller-Landau, H. C., A. Arroyo, I. Martinez-Cano, and K. Anderson-Teixeira. Patterns and mechanisms of local, regional, and global variation in tropical forest biomass carbon stocks. Annual meeting of DOE NGEE-Tropics. Washington, DC. December 8, 2018.

Muller-Landau, H. C. and M. D. Visser. The roles of lianas and vines in structuring tree communities: a general framework and a case study in a tropical forest. Ecological Society of America annual meeting in New Orleans, Louisiana. August 9, 2018.

Muller-Landau, H. C. What determines the abundance and impact of lianas? Association for Tropical Biology and Conservation annual meeting in Merida, Mexico. July 13, 2017.

Muller-Landau, H. C., S. J. Wright, M. Detto, E. Lebrija-Trejos, R. Alfaro Sánchez, K. C. Cushman, C. Tribble, O. Calderón, P. Ramos, and P. Villareal. Interspecific variation in responses of tropical trees to interannual climate variation. Association for Tropical Biology and Conservation annual meeting in Honolulu, Hawaii. July, 2015.

Muller-Landau, H., B. L. Turner, K. C. Cushman, J. Mascaro, G. P. Asner, M. Larjavaara, P. Ramos, P. Villareal, R. Condit, and S. P. Hubbell. Reservas de carbono en la isla Barro Colorado. Congreso nacional de ciencia y tecnología de la Asociación Panameña para el Avance de la Ciencia. October 16, 2014.

Muller-Landau, H. C., M. Detto, and F. R. Adler. How the spatial scales of interactions with natural enemies influence both their contributions to diversity maintenance and our ability to measure these contributions – and implications for the interpretation of Janzen-Connell studies. Ecological Society of America meeting in Portland, Oregon. August 2012.

Muller-Landau, H. C., S. Joseph Wright, O. Calderón, and A. Hernández. Colonization-related tradeoffs and the maintenance of seed size diversity in tropical forests. Ecological Society of America Annual Meeting. Milwaukee, Wisconsin. August 5, 2008.

Muller-Landau, H. C., B. L. Turner, M. Larjavaara, D. King, S. X. Dong, S. Bunyavejchewin, N. Supardi, S. P. Hubbell. Smithsonian Global Forest Carbon Research Initiative: Quantifying and explaining variation in carbon pools and fluxes in tropical and temperate forests. Association for Tropical Biology and Conservation annual meeting. Paramaribo, Suriname. June 12, 2008. (poster)

Muller-Landau, H. C. Forest carbon budgets and global change. Center for Tropical Forest Science workshop: Investigating responses of tropical forest carbon budgets and functional composition to global change. Singapore. April 7-9, 2008.

Muller-Landau, H. C. A new Smithsonian initiative on carbon budgets and impacts of global change in tropical and temperate forests. International Science Symposium on Climate Change and Biodiversity. Panama City, Panama. February 26, 2008.

Muller-Landau, H. C. Forest carbon budgets and global change: An HSBC-funded research program at CTFS. HSBC Climate Partnership meeting. Oxford, UK. January 24, 2008.

Muller-Landau, H. C. Investigating carbon dynamics and global change at CTFS. Center for Tropical Forest Science Principal Investigator's Meeting. Santa Barbara, California. September 14, 2007.

Muller-Landau, H. C. What keeps everyone in the game? Investigating the maintenance of species diversity. Packard Fellows Meeting. Monterey, California. September 6, 2007.

Muller-Landau, H.C., R.S. Condit, K.E. Harms, J.W. Ahmad, P. Ashton, S.A. Bohlman, S. Buyavejchewin, G. Chuyong, L. Co, S. Davies, S. Esufali, R. Foster, C.V.S. Gunatilleke, I.A.U.N. Gunatilike, P. Hall, T. Hart, F. He, S. Hebbalalu, C. Hernandez, S.P. Hubbell, A. Itol, R. John, D. Kenfack, S. Kiratiprayoon, J. V. LaFrankie, D. Lagunzad, E. Losos, J-R. Makana, S. Noor, T. Ohkubo, N. Pongpattananurak, C. Samper, L.H. Seng, D. Shivaramaiah, R. Sukumar, I-F. Sun, S. Tan, S. Thomas, D. Thomas, J. Thompson, M. Uriarte, R. Valencia, M.I. Vallejo, G. Villa, C. Wills, T. Yamakura. Scaling of demographic rates and tree size distributions in tropical forests. Center for Tropical Forest Science annual meeting. Panama City, Panama. June 5, 2005.

Muller-Landau, H. C., S. W. Pacala, S. P. Hubbell, R. Condit, R. B. Foster. Characterizing species regeneration strategies with respect to light availability in a wet tropical forest. Ecological Society of American annual meeting. Portland, Oregon. August 4, 2004.

Muller-Landau, H. C., Yu Yun Chen, I Fang Sun, S. J. Wright, S. P. Hubbell, N. Supardi Noor. Seed dispersal in a lowland dipterocarp forest. Seminar on Ecological Research in Tropical Forests. Forest Research Institute of Malaysia, Kuala Lumpur, Malaysia. August 19, 2003.

Muller-Landau, H. C. and S. J. Wright. Seed mass and the tradeoff between seed arrival and seed survival in central Panama. Association for Tropical Biology and Conservation annual meeting. Aberdeen, Scotland. July 9, 2003.

Muller-Landau, H. and J. Zimmerman. Seed dispersal and production in Luquillo. Luquillo LTER meeting. University of Puerto Rico. San Juan, Puerto Rico. January 18, 2003.

Muller-Landau, H. C., R. Condit, S. J. Wright, S. P. Hubbell, R. B. Foster. Life history diversity of tropical tree species and its consequences for forest-wide patterns of growth, mortality and size distributions. Ecological Society of America annual meeting, Tucson, Arizona. August 8, 2002.

Muller-Landau, H. C., S. P. Hubbell, S. W. Pacala, S. J. Wright, R. Condit, R. B. Foster. Interspecific differences in life history strategies of trees in a Panamanian forest: empirical patterns, physiological causes, and implications for forest dynamics. Center for Tropical Forest Science meeting. Singapore. June, 2000.

Muller-Landau, H. C., S. J. Wright, O. Calderon, A. Hernandez. Recruitment limitation of tree species on Barro Colorado Island, Panama. Workshop on biodiversity and ecosystem function. Centre for Population Biology at Silwood Park, Imperial College of London, UK. May 25, 2000.

Muller-Landau, H. C., S. J. Wright, S. P. Hubbell, R. B. Foster, R. Condit. Interspecific variation in seed shadows and fecundity of trees in a Neotropical forest. Ecological Society of American annual meeting, Spokane, WA. August, 1999.

Muller-Landau, H. C., S. J. Wright, O. Calderón, R. Condit, S. P. Hubbell, R. B. Foster. Interspecific variation in seed shadows and fecundity of trees in a neotropical forest. Center for Tropical Forest Science first network meeting. Washington, DC. July 1998.

Muller-Landau, H. C., B. S. Wechsler, R. Peréz, W. E. Pugh, E. A. Carlisle, S. P. Hubbell, R. Condit, and R. B. Foster. Abundance, distribution, growth and mortality patterns of seedlings and small saplings in a neotropical forest. Association for Tropical Biology annual meeting. San Jose, Costa Rica. June 1997.

Muller-Landau, H. and R. L. Boyce. WINWAT meets MTCLIM: coupling an input-intensive winter water relations model with an output-sparse mountain climate model. Poster. Ecological Society of America annual meeting. Snowbird, UT. August 1995.

Muller-Landau, H. C., J. Weiner, and A. Jasentuliyana. Spatial pattern, competitive asymmetry and size variability in an individual-based plant population model. Southeastern Mathematical and Statistical Ecology Conference, Raleigh, NC. 1994.

OTHER SEMINARS

Patterns and mechanisms of spatial and temporal variation in tropical forest structure and dynamics. Smithsonian Tropical Research Institute. July 30, 2024.

Interspecific variation in tree-liana interactions and the implications for forest dynamics. ForestGEO seminar. February 16, 2022.

Plant strategies and tropical forest dynamics: insights from integrating modeling, long-term and large-scale field datasets, and drone remote sensing. Smithsonian Tropical Research Institute. October 5, 2021.

Patterns and mechanisms of spatial variation in tropical forest productivity, woody residence time, and biomass. Smithsonian Tropical Research Institute. Panama City, Panama. December 18, 2020.

What determines the abundance and impact of lianas? Smithsonian Tropical Research Institute. Panama City, Panama. November 1, 2016.

Why don't lianas take over forests everywhere? Pacala lab group meeting. Princeton University. January 11, 2016.

Investigating tropical forest structure, dynamics, and phenology using camera-carrying unmanned aerial vehicles. Theoretical ecology lab tea. Princeton University. October 14, 2015.

UAV forest ecology at STRI. David Coomes lab group. Cambridge University. March 9, 2015.

Patterns and causes of interspecific variation in seed arrival and seedling recruitment in a tropical tree community. Center for Tropical Forest Science talks. Smithsonian Tropical Research Institute. April 15, 2014.

Tropical forest carbon stocks: patterns and correlates at local and landscape scales. Smithsonian Tropical Research Institute. October 22, 2013.

Detecting and projecting forest biomass change from plot data. Smithsonian Tropical Research Institute. January 3, 2012.

Forest carbon and climate at CTFS/SIGEO plots. CTFS-SIGEO analytical workshop. Changbai station. Changbai, China. July 23, 2011.

Interannual variation in carbon stocks and fluxes in Panamanian tropical forests and their implications for understanding global change. CTFS-Science Talk. Smithsonian Tropical Research Institute. April 5, 2011.

The tolerance-fecundity tradeoff and the maintenance of diversity in seed size in plant communities. Smithsonian Tropical Research Institute. May 10, 2010.

Colonization-related tradeoffs and the maintenance of diversity in plant communities. Smithsonian Tropical Research Institute. June 30, 2009.

Towards a better understanding of tropical forest carbon dynamics and their responses to global change. Dept of Ecology and Evolutionary Biology, Princeton University. April 1, 2008

Towards a better understanding of tropical forest carbon dynamics and their responses to global change. Friday noon seminar series, Dept of Ecology, Evolution and Behavior, University of Minnesota. November 9, 2007.

Predicting the long-term effects of hunting on plant species composition and diversity in tropical forests. Program in Conservation Biology, University of Minnesota. November 13, 2006.

Tree allometry, growth, mortality and size distributions: Theoretical predictions and empirical patterns in 14 tropical forests. Smithsonian Tropical Research Institute. May 16, 2006.

Can the theory of metabolic ecology explain tropical forest dynamics and structure? Friday noon seminar series, Dept of Ecology, Evolution and Behavior, University of Minnesota. November 18, 2005.

Spatial dynamics of plant species and their specialized natural enemies. Friday noon seminar series, Dept of Ecology, Evolution and Behavior, University of Minnesota. April 29, 2005.

Spatial dynamics of plant species and their specialized natural enemies. Saint Anthony Falls Laboratory, University of Minnesota. April 13, 2005.

Tree size distributions in tropical forests. Princeton University, Princeton, NJ. Carbon Mitigation Initiative meeting. April 12, 2004.

Sapling growth and light availability in tropical forests: analyzing general patterns and sources of variation. Princeton University, Princeton, NJ. Theoretical ecology lab tea. March 23, 2004.

Understanding tree size distributions in tropical forests. Princeton University, Princeton, NJ. Ecology and Evolutionary Biology postdoc forum. February 19, 2004.

Scaling of demographic rates and tree size distributions in tropical forests. National Center for Ecological Analysis and Synthesis. Tropical Tree Life History Strategies working group. Santa Barbara, CA. December 7, 2003.

Comparing tropical forests: tree size distributions, seed dispersal, and related life history traits. National Center for Ecological Analysis and Synthesis. Advisory Council meeting. Santa Barbara, CA. September 11, 2003.

Understanding size distributions in tropical forests. National Center for Ecological Analysis and Synthesis. Santa Barbara, CA. May 12, 2003.

Understanding size distributions in tropical forests. Smithsonian Tropical Research Institute, Panama City, Panama. April 15, 2003.

Community ecology of trees on BCI: How can ARTS help? Workshop on plant-animal interactions. Smithsonian Tropical Research Institute, Panama. April 13, 2003.

Seed dispersal in two tropical forests: empirical patterns, their origins, and their consequences for forest dynamics. University of Utah, Salt Lake City. December 6, 2002.

Tropical tree life history strategies and community structure. Laboratoire ECOFOG, French Guiana. Ecologie Comparative en Foret Tropicale (Comparative Ecology in Tropical Forests). October 3, 2002.

Growth, mortality and the size distributions of tropical trees. Center for Tropical Forest Science workshop. Gamboa, Panama. July 25, 2002.

Seed production and dispersal in a tropical forest: empirical patterns, their origins, and their consequences for forest dynamics. National Center for Ecological Analysis and Synthesis. Santa Barbara, CA. February 7, 2002.

Interspecific and intersite variation in tree life history strategies: empirical patterns, their origins, and their consequences for forest dynamics. Cocha Cashu Biological Station, Peru. October 19, 2001.

Seed dispersal in a tropical forest: empirical patterns, their origins, and their consequences for forest dynamics. Princeton University, Princeton, NJ. Final public oral thesis defense. September 4, 2001.

Interspecific differences in life history strategies of trees in a Panamanian forest: empirical patterns, physiological causes, and implications for forest dynamics. Cambridge University, Cambridge, UK. May 22, 2000.

Recruitment limitation of tree species on Barro Colorado Island. Princeton University, Princeton, NJ. Theoretical ecology lab tea. May 12, 2000.

Interspecific variation in strategies of trees in a Panamanian tropical forest. Princeton University, Princeton, NJ. Ecology and Evolutionary Biology annual retreat. Fall 1999.

Interspecific variation in seed dispersal in a tropical forest. Theoretical Ecology lab tea. March 1999.

Interspecific variation in seed shadows and fecundity of trees in a neotropical forest. Smithsonian Tropical Research Institute. Bambi seminar. Smithsonian Tropical Research Institute. Barro Colorado Island, Panama. February 1999.

Disentangling the effects of dispersal patterns, density-dependent mortality, and habitat preferences. Princeton University, Princeton, NJ. Ecology and Evolutionary Biology annual retreat. Fall 1998.

Interspecific differences in seed dispersal curves of trees on Barro Colorado Island. Bambi seminar. Smithsonian Tropical Research Institute. Barro Colorado Island, Panama. May 1998.

Interspecific differences in mortality of tropical tree species on Barro Colorado Island. Princeton University, Princeton, NJ. Ecology and Evolutionary Biology annual retreat. Fall 1997.

Interspecific differences in sapling growth as a function of light availability: A comparative study of tropical trees using fisheye photos. Princeton University, Princeton, NJ. Ecology and Evolutionary Biology annual retreat. Fall 1996.

OUTREACH AND PUBLIC SERVICE

Gave a guest lecture in Spanish for the STRI Gigante field course for Latin American undergraduates. November 8, 2024.

Participated in a Smithsonian Sidedoor podcast episode “Dude, where’s my carbon?” that was released April 9, 2024

Gave a guest lecture in Spanish for the STRI Gigante field course for Latin American undergraduates. November 13, 2023.

Panama REDD+ (Reduced Emissions from Deforestation and Degradation) roundtable, MRV (Monitoring Reporting Verification) subgroup, a joint initiative of ANAM (Autoridad Nacional del Ambiente) and UN-REDD. 2012-present.

Contributed a 35-minute talk on "Investigaciones del dosel del bosque utilizando drones" for Autoridad Aeronáutica Civil de Panama to celebrate the commemoration of el Día Meteorológico Mundial 2015. March 24, 2015.

Contributed a 20-minute talk on "Reservorios y flujos de carbono en bosques tropicales" for the STRI-INDICASAT science symposium, Panama City, Panama. May 22, 2014.

Contributed a 1-hour talk on "Spatial variation in forest biomass and consequences for remote sensing" for the regional workshop on forest monitoring GEO GFOI: methods for biomass estimation and forest-cover mapping in the tropics. Bogotá, Colombia December 3, 2013.

Gave a talk for the Barro Colorado Island tour guides on "Aerial imagery for ecology research." October 29, 2013.

Gave a 15-minute talk in Spanish for the XXVIII Olimpiada Iberoamericana de Matematica on the subject of the usefulness of mathematics for data analysis and modeling in ecology and environmental science. September 26, 2012

Gave talk for a training workshop for Panamanian middle school teachers on "Las Dinámicas de los Bosques Tropicales y sus Reservorios de Carbono en un Mundo Cambiante" on February 17, 2012. Punta Culebra Exhibition Center, Panama City, Panama.

Gave public talk at the University of Panama geography symposium, on "Variación del Clima en la Isla de Barro Colorado y sus Effectos en el Bosque" on October 18, 2011. Panama City, Panama.

Gave public talk for the Smithsonian Tropical Research Institute Series "Conversaciones en el Smithsonian" on "Variación del Clima en la Isla de Barro Colorado y sus Effectos en el Bosque" on September 28, 2011. Panama City, Panama.

Gave public talk on **"**Forest carbon budgets and global change" at HSBC headquarters, London. March 31, 2011. Talk for HSBC employees including "Climate Champions".

Gave talk on "Tropical forest dynamics and carbon budgets in a changing world". Environmental Leadership and Training Initiative conference on REDD+: Technical, Socioeconomic and Political Dimensions. Panama City, Panama. April 7, 2011.

Gave public talk at Smithsonian Tropical Research Institute (Charla del Mes) on "Presupuestos de carbono en bosques tropicales y el cambio climático global" on May 6, 2009. The talk led to a long article in the Sunday edition of the major local newspaper, La Prensa, which appeared on May 16.

Gave talk for Barro Colorado Island tour guides on "Presupuestos de carbono en bosques tropicales y el cambio climático global" on April 29, 2009.

Outreach to Minnesota students through the Bell Museum of Natural History at the University of Minnesota as part of the 2003-04 JASON curriculum on "Rainforests at the Crossroads."

LANGUAGES

English – native tongue, fluent
Spanish - functional
German - conversational
French - reading