

Stephanie Pau

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Education

- 2005-2009 University of California, Los Angeles, Ph.D. Geography
2003-2005 University of California, Los Angeles, M.A. Geography
1997-2001 University of California, Santa Barbara, B.A. Environmental Studies

Academic Appointments

- 2019-present Associate Professor, Florida State University, Department of Geography
2013-2019 Assistant Professor, Florida State University, Department of Geography
2010-2012 Postdoctoral Fellow, National Center for Ecological Analysis & Synthesis

Grants and Awards

Current

- 2021-2022 National Science Foundation, lead PI, “Using geospatial data to understand the relationship between tropical forest phenology and productivity” (\$328,931) with Co-PI Susan Cordell and Co-PI Eben Broadbent.
- 2020-2023 National Science Foundation, PI, “Collaborative Research: MRA: A lineage-based framework to advance grassland macroecology and Earth System Modeling” (\$312,545 to FSU) with lead PI Christopher Still, PI Jesse Nippert, and PI Brent Helliker (\$1,177,286 total).
- 2019-2021 Social Sciences and Humanities Research Council – New Frontiers in Research Fund (Canada), co-applicant, “Predicting climate change effects on vegetation: Scaling plant-environment interactions from leaves to ecosystems” (\$250,000 to University of British Columbia) with lead PI Sean Michaletz and co-applicant Brian Enquist.

Completed

- 2017-2020 National Geographic Society Committee for Research and Exploration (\$23,895)
- 2015-2016 FSU Planning Grant (\$13,000)
- 2015-2016 FSU Robert B. Bradley Library Research Grant (\$8,000)
- 2014-2015 FSU Committee on Faculty Research Support Award (\$14,000)
- 2013-2014 FSU First Year Assistant Professor Award (\$20,000)
- 2005-2006 UCLA Quality for Graduate Education Award (\$5,000)

Fellowships, Honors, and Awards

- 2010-2012 National Center for Ecological Analysis & Synthesis Fellowship (\$111,000)
- 2005-2008 NASA Earth System Science Fellowship (\$72,000)
- 2008-2009 UCLA Dissertation Year Fellowship (\$20,000)

2007-2008 UCLA Institute of the Environment Teaching Fellowship (\$18,000)
2004-2005 Stephen A. Varva Fellowship for Organismal Plant Biology (\$18,000)
2000-2001 UCSB Dean of Mathematics, Life and Physical Sciences Award (\$1,000)

Publications

*student authors

Griffith, D.M., C. Osborne, E.J. Edwards, S. Bachle, D.J. Beerling, W.J. Bond, T. Gallaher, B.R. Helliker, C.E.R. Lehmann, L. Leatherman, J.B. Nippert, S. **Pau**, F. Qiu, W.J. Riley, M.D. Smith, C. Stromberg, L. Taylor, M. Ungerer, C.J. Still (2020) Lineage Functional Types (LFTs): Characterizing functional diversity to enhance the representation of ecological behavior in Earth System Models. *New Phytologist* 228:15-23.

Chen, L., H. Hänninen, S. Rossi, N.G. Smith, S. **Pau**, Z. Liu, G. Feng, J. Liu, J. Gao, J. Liu (2020) Leaf senescence exhibits stronger climatic responses during warm than during cold autumns. *Nature Climate Change* 10:777-780.

Pau, S., S. Cordell, R. Ostertag, L. Sack, F. Inman-Narahari (2020) Climatic sensitivity of species' vegetative and reproductive phenology in a Hawaiian montane wet forest. *Biotropica* 52:825-835.

Merrick, T., M.L.S.P. Jorge, T.S.F. Silva, S. **Pau**, J. Rausch, G. Gualda, S. Bohlman, E.N. Broadbent, R. Bennartz. Field spectroradiometer characterization for chlorophyll fluorescence, absorbed photosynthetically active radiation, and reflectance-based vegetation index measurements (2020). *International Journal of Remote Sensing* 41:1-28.

Zampieri*, N.E., S. **Pau**, D.K. Okamoto (2020) The impact of Hurricane Michael on longleaf pine habitats in Florida. *Scientific Reports* 10:8483.

Record, S., K. Dahlin, P. Zarnetske, Q. Read, S.L. Malone, K. Gaddis, J.M. Grady, J. Costanza, M. Hobi, A. Latimer, S. **Pau**, A.M. Wilson, S. Ollinger, A. Finley, E. Hestir. Remote sensing of geodiversity and biodiversity. In J. Cavender-Bares, J. Gamon, P. Townsend (Eds.) 2020, *Remote Sensing of Plant Biodiversity: Using spectral signals of to understand the biology and biodiversity of plants, communities, ecosystems and the tree of life*. Springer Remote Sensing/Photogrammetry Series.

Read, Q. D., P. L. Zarnetske, S. Record, J. M. Grady, A. M. Wilson, A. O. Finley, A. Latimer, J. K. Costanza, K. Gaddis, K. M. Dahlin, M. Hobi, S. Ollinger, S. Malone, and S. **Pau** (2020) Beyond counts and averages: Relating geodiversity to dimensions of biodiversity. *Global Ecology and Biogeography* 29:696-710.

Merrick, T., S. **Pau**, M.L.S.P. Jorge, T.S. Silva, R. Bennartz (2019) Spatiotemporal patterns of tropical vegetation solar-induced chlorophyll fluorescence across Brazilian biomes using satellite observations. *Remote Sensing* 11: 1746.

Dee, L., J. Cowles, F. Isbell, S. **Pau**, S. D. Gaines, P. B. Reich (2019) When do ecosystems services depend on rare species? *Trends in Ecology and Evolution* 34:746-758.

Zarnetske, P., Q. Read, S. Record, K. Gaddis, S. **Pau**, M. Hobi, S.L. Malone, J. Costanza, K. Dahlin, A. Latimer, A.M. Wilson, J.M. Grady, S. Ollinger, A. Finley (2019) Connecting biodiversity and geodiversity across scales with remote sensing. *Global Ecology and Biogeography* 28:548-556.

Fox, D., S. **Pau**, L. Taylor, C. Stromberg, C. Osborne, C. Bradshaw, S. Conn, D. Beerling, C.J. Still (2018) Climatic controls on C4 grassland distribution during the Neogene: a model-data comparison. *Special Issue: Revisiting the Biome Concept with a Functional Lens. Frontiers in Ecology and Evolution* 6: Article 147.

Pau, S., M. Detto, Y. Kim, C.J. Still (2018) Tropical forest temperature thresholds for gross primary productivity. *Ecosphere* 9:e02311.

Pau, S., D.K. Okamoto, O. Calderón and S.J. Wright (2018) Long-term increases in tropical flower production across growth forms in response to Anthropogenic climate change. *Global Change Biology* 24:2105-2116.

Humphreys*, J.M., J.B. Elsner, T.H. Jagger, S. **Pau** (2017) A Bayesian geostatistical approach to modeling global distributions of *Lygodium microphyllum* under projected climate warming. *Ecological Modelling* 363:192-206.

Angelo, C.L. and S. **Pau**. (2017) Root functional diversity of native and non-native C₃ and C₄ grasslands in Hawaii. *Pacific Science* 71:117-133.

Nelson*, M., K. Zak*, T. Davine*, and S. **Pau** (2016) Climate change and food systems research: Current trends and future directions. *Geography Compass* 10:414-428.

Pau, S. and L.E. Dee (2016) Remote sensing of species dominance and the value for quantifying ecosystem services. *Remote Sensing for Biodiversity and Conservation* 2:141-151.

Widen*, H.M., J.B. Elsner, S. **Pau**, C. Uejio (2016) Examples of graphical inference in Geography. *Geographical Analysis* 48:115-131.

Angelo, C.L. and S. **Pau** (2015) Root biomass and soil $\delta^{13}\text{C}$ in C₃ and C₄ grasslands along a precipitation gradient. *Plant Ecology* 216:615-627.

Pau, S.P. and C.J. Still (2014) The phenology and productivity of C₃ and C₄ grasslands in Hawaii. *PlosOne* 9:e107396.

Gillespie, T.W., K. O'Neill, G. Keppel, S. **Pau**, J.Y Meyer, J.P. Price, J. Tanguy (2014) Prioritizing conservation of tropical dry forests in the Pacific. *Oryx* 48:337-344.

Still, C.J., S. **Pau**, E.J. Edwards (2014) Land surface skin temperature captures thermal environments of C₃ and C₄ grasses. *Global Ecology and Biogeography* 23:286-296.

Pau, S., E.M. Wolkovich, B. I. Cook, C. Nytch, J. Regetz, J. Zimmerman, S.J. Wright (2013) Clouds and temperature drive dynamic changes in tropical flower production. *Nature Climate Change* 3:838-842.

Davies, T.J., E.M. Wolkovich, N.J.B. Kraft, N. Salamin, J.M. Allen, T.R. Ault, J.L. Betancourt, K. Bolmgren, E.E. Cleland, B.I. Cook, T.M. Crimmins, S.J. Mazer, G.J. McCabe, B.J. McGill, C. Parmesan, S. **Pau**, J. Regetz, M.D. Schwartz, S. Travers (2013) Phylogenetic conservatism in plant phenology. *Journal of Ecology* 101:1520-1530.

Rovzar, C., T.W. Gillespie, K. Kawelo, M. Hirshen, E.C. Riordan, S. **Pau** (2013) Modelling the potential distribution of endangered, endemic *Hibiscus brackenridgei* on Oahu to assess the impacts of climate change and prioritize conservation efforts. *Pacific Conservation Biology* 19:156-168.

Gillespie, T.W., G. Keppel, S. **Pau**, J.P. Price, Jaffré Tanguy (2013) Scaling species richness and endemism of tropical dry forests on oceanic islands. *Diversity and Distribution* 19:896-906.

Cook, B.I., and S. **Pau** (2013) Long-term greening and browning trends in global pasture lands using the GIMMS LAI3g dataset. *Remote Sensing* 5:2492-2512.

Gillespie, T.W., B. Lipkin, L. Sullivan, D.R. Benowitz, S. **Pau**, G. Keppel (2013) The rarest and least protected forests in Biodiversity Hotspots. *Biodiversity and Conservation* 21:3597-3611.

Pau, S., E.J. Edwards, C.J. Still (2013) Improving our understanding of environmental controls on the distribution of C₃ and C₄ grasses. *Global Change Biology* 19:184-196.

Cook, B.I., E.M. Wolkovich, T.J. Davies, T.R. Ault, J.L. Betancourt, J.M. Allen, K. Bolmgren, E.E. Cleland, T.M. Crimmins, N.J.B. Kraft, L.T. Lancaster, S.J. Mazer, G.J. McCabe, B.J. McGill, C. Parmesan, S. **Pau**, J. Regetz, N. Salamin, M.D. Schwartz, S.E. Travers (2012) Sensitivity of spring phenology to warming across temporal and spatial climate gradients in two independent databases. *Ecosystems* 15:1283-1294.

Wolkovich, E.M., B.I. Cook, J.M. Allen, T.M. Crimmins, J.L. Betancourt, S. Travers, S. **Pau**, J. Regetz, T.J. Davies, N.J.B. Kraft, T.R. Ault, K. Bolmgren, S.J. Mazer, G.J. McCabe, B.J. McGill, C. Parmesan, N. Salamin, M.D. Schwartz, E.E. Cleland (2012) Warming experiments underpredict plant phenological responses to climate change. *Nature* 485:494-497.

Pau, S., T.W. Gillespie, E.M. Wolkovich (2012) Dissecting NDVI-species richness relationships in Hawaiian dry forests. *Journal of Biogeography* 39:1678-1686

Cleland, E.E., J. M. Allen, T.M. Crimmins, J.A. Dunne, S. **Pau**, S. Travers, E.S. Zavaleta, and E.M. Wolkovich (2012) Phenological tracking enables positive species responses to climate change. *Ecology* 93:1765-1771.

Pau, S., G.M. MacDonald, T.W. Gillespie (2012) A dynamic history of climate change and human impact from Kealia Pond, Maui, Hawaiian Islands. *Annals of the Association of American Geographers* 102:748-762.

Pau, S.[†], E.M. Wolkovich[†], B.I. Cook, T.J. Davies, N.J.B. Kraft, K. Bolmgren, J. L. Betancourt and E.E. Cleland (2011) Predicting phenology by integrating ecology, evolution, and climate science. *Global Change Biology* 17:3633-3643.

[†] authors contributed equally to the work

Gillespie, T.W., G. Keppel, S. **Pau**, J.P. Price, Jaffré Tanguy, J.Y. Meyer (2011) Floristic composition of dry forests in the Pacific. *Journal of Pacific Science* 65:127-141.

Pau, S., G.S. Okin, T.W. Gillespie (2010) Asynchronous response of tropical forest leaf phenology to seasonal and El Niño-driven drought. *PLoS ONE* 5:e11325.

Pau, S., T.W. Gillespie, J.P. Price (2009) Natural history, biogeography, and endangerment of Hawaiian dry forest trees. *Biodiversity and Conservation* 18:3167-3182.

Gillespie, T.W., S. Saatchi, S. **Pau**, S. Bohlman, M. Shin, A.P. Giorgi (2009) Towards quantifying species richness of tropical forests in biodiversity hotspots. *International Journal of Remote Sensing* 30:1629-1634.

Gillespie, T.W., J. Chu, S. **Pau** (2008) Plant invasions on the Hawaiian Islands. *Geography Compass* 3:1241-1265.

In Review/Revision

Pau, S., Nippert, J., Griffith, D., Bachle, S., Helliker, B., O'Connor, R., Riley, W., Still, C., Zaricor, M. Poor relationships between NEON AOP data and field-based measurements at a mesic grassland site. *Ecology*. In Review.

Ocón, J.P., Ibanez, T., Franklin, J., **Pau**, S., Keppel, G., Rovas-Torres, G., Shin, M., Gillespie, T.W. Bioclimatic definitions of tropical dry forest improve our ability to map this critically endangered biome at a global scale. *Journal of Biogeography*. In Review.

Ordway, E.M., Elmore, A.J., Kolstoe, S., Quinn, J.E., Swanwick, R., Cattau, M., Dylan, T., Guinn, S.M., Chadwick, K.D., Atkins, J.W., Blake, R.E., Chapman, M., Cobourn, K., Goulden, T., Helmus, M.R., Hondula, K., Hritz, C., Jensen, J., Julian, J.P., Kuwayama, Y., Lulla, V., O'Leary, D., Nelson, D.R., Ocón, J.P., **Pau**, S., Ponce-Campos, G.E., Portillo-Quintero, C., Pricope, N.G., Rivero, R.G., Schneider, L., Steele, M., Tulbure, M.G., Williamson, M.A., Wilson, C.. Leveraging the NEON Airborne Observation Platform for socio-environmental systems research. *Ecosphere*. In Review.

Lehmann, C.E.R., D.M. Griffith, K.J. Simpson, T.M. Anderson, S. Archibald, D.J. Beerling, W. J. Bond, E. Denton, E.J. Edwards, E.J. Forrestel, D.L. Fox, D. Georges, W.A. Hoffmann, T. Kluyver, L. Mucina, S. **Pau**, J. Ratnam, N. Salamin, B. Santini, M.D. Smith, E.L. Spriggs, R. Westley, C.J. Still, C.A.E. Strömberg, C.P. Osborne. Functional diversification enabled grassy biomes to fill global climate space. *Nature Plants*. In Press. Preprint available: <https://www.biorxiv.org/content/10.1101/583625v1.abstract>

Invited Seminars and Colloquia

- 2020 University of Florida, Department of Geography Colloquium
- 2019 University of British Columbia, Biodiversity Research Centre Seminar
- 2018 University of Zurich, Global Change and Biodiversity Seminar
- 2018 University of Florida, Department of Wildlife Ecology and Conservation
- 2017 San Francisco State University, Department of Geography
- 2016 University of British Columbia, Faculty of Forestry

- 2016 University of Alabama, Tuscaloosa, Geography Colloquium
- 2015 Florida State University, Earth, Ocean, and Atmospheric Sciences
- 2015 University of California, Los Angeles, Tod Spieker Geography Colloquium
- 2015 Florida State University, Environmental Services Program
- 2014 Smithsonian Tropical Research Institute, Panama, Tupper Seminar
- 2013 University of Georgia, Athens, Department of Geography Colloquium,
- 2013 Florida State University, Ecology and Evolution Seminar, 2013
- 2011 University of California, Santa Barbara, Ecology, Evolution, and Marine Biology
Department Seminar
- 2010 National Center for Ecological Analysis & Synthesis, EcoLunch

Conference Presentations (Presenting Author)

- 2019 Ecological Society of America (ESA)
- 2018 Association of American Geographers (AAG)
- 2017 Ecological Society of America (ESA)
- 2016 American Geophysical Union (AGU)
- 2015 International Congress for Conservation Biology (ICCB)
- 2014 American Geophysical Union (AGU)
- 2014 Association of American Geographers (AAG)
- 2012 Ecological Society of America (ESA)
- 2011 American Geophysical Union (AGU)
- 2010 American Geophysical Union (AGU)
- 2010 Phenology 2010 Trinity College,
- 2009 Association of American Geographers (AAG)
- 2008 NASA Biodiversity and Ecological Forecasting Team Meeting
- 2007 Association of Pacific Coast Geographers (APCG)
- 2005 Association of American Geographers (AAG)

Professional Organizations

- American Geophysical Union
- Association of American Geographers
- Ecological Society of America
- National Asian Pacific American Women's Forum
- Society for Conservation Biology

Teaching (2/2)

- Biogeography: GEOG 4300/5305, FSU
- Putting Science into Action: Field Methods in Plant Ecology: IFS2040, FSU
- Professional Development for Geographers: GEO 6093, FSU
- Climate Change Impacts on Ecosystems: GEO5934, FSU
- Environmental Science: GEO1330, FSU
- Food and Our Environment: GEO4390, FSU
- Biodiversity in a Changing World: GEOG 2, UCLA
- Global Env. Special Top: Human Impact on Tropical Forests: ENV M1CW, UCLA

Students

Current

John Cothrun, Geography, Ph.D., Main advisor
Ryan Slapikas, Geography, Ph.D., Main advisor
Nicole Zampieri, Geography, Ph.D., Main advisor
Carly Voight, Geography, Ph.D., Main advisor (co-chair)
Gregory Burris, Geography, Ph.D., Comm. member
Jason Ducker, Earth, Ocean, and Atmospheric Sciences, Ph.D., Comm. member
Jennifer McHenry, Geography, Ph.D., Comm. member
Natali Ramirez-Bullon, Biological Sciences, Ph.D., Comm. member
Zoe Schroder, Geography, Ph.D., Comm. member

Completed

John Humphries, Geography, Ph.D., Comm. member, 2017
Shoumik Rahman, Geography, Ph.D., Comm. member, 2017
Mike Nelson, Geography, M.S., Main advisor, 2016
Jason Ducker, Earth, Ocean, and Atmospheric Sciences, M.S., Comm. member, 2016
Holly Widen, Geography, Ph.D., Comm. member, 2016
Kyle Spell, Biological Sciences, Undergraduate Honor's Thesis, Comm. member, 2016
Tyler Fricker, Geography, M.S. Comm. member, 2015
Loury Migliorelli, Geography, M.S. Main advisor, 2014
Jacqueline Allegra, Sociology, Undergraduate Honor's Thesis, Comm. member, 2014

Postdoctoral Supervision

Trina L. Merrick, Provost's Postdoctoral Fellow, August 2018-current
Courtney L. Angelo, August 2013-May 2015

Academic Service

Departmental/ College Service

2019-present FSU Department of Geography Executive Committee
2019-present FSU College of Social Sciences and Public Policy (COSSPP) Diversity and Inclusion Action Plan Committee
2019-present FSU Department of Geography Diversity, Equity, and Inclusion Committee
2019-2020 FSU First Year Assistant Professor (FYAP) Award Mentor (to Mabel Gergan and Sage Ponder)
2019 FSU Department of Geography Search Committee Chair (Asst. Prof. Environmental GIS)
2018-2019 FSU College of Social Sciences and Public Policy (COSSPP) Strategic Directions Committee
2018 FSU COSSPP panelist for women faculty and graduate student luncheon
2015-2017 FSU Department of Geography Graduate Committee
2014-2015 FSU Department of Geography Colloquia organizer
2007-2008 UCLA Geography Graduate Committee, Graduate Student Representative
2005-2006 UCLA Geography Colloquium Committee, Graduate Student Representative

Service to the Research Community

Associate Editor, *Global Ecology and Biogeography*, 2020 to present

Co-Editor Special Issue of *Remote Sensing: Remote Sensing of Tropical Phenology*, 2019
(https://www.mdpi.com/journal/remotesensing/special_issues/Tropical_Phenology)

Developed and led Ecological Society of America (ESA) Early Career Webinar, “Authorship and Collaboration”, 2018 (<https://esa.org/earlycareer/ecology-professional-development-webinar-series/>)

Session Organizer, AAG Biogeography Specialty Group, 2018

NSF Long Term Ecological Research (LTER) Synthesis Working Group Panel Review, 2016

NSF Division of Environmental Biology (DEB) Ad-Hoc Review, 2014

Primary Session Convener, AGU Biogeosciences section, 2014

NSF GSRP Ad-Hoc Review, 2012

NCEAS Open House organizer, 2010-2011

Session Organizer, AAG Paleoenvironmental Change Specialty Group, 2009

Refereed Journals: *Annals of the Association of American Geographers*, *Biotropica*, *Conservation Physiology*, *Diversity and Distributions*, *Ecology*, *Ecology Letters*, *Global Change Biology*, *Geophysical Research Letters*, *Global Ecology and Biogeography*, *International Journal of Biometeorology*, *Journal of Plant Ecology*, *Journal of Tropical Ecology*, *Nature Communications*, *New Phytologist*, *PlosOne*, *Philosophical Transactions of the Royal Society Biological Sciences*, *Proceedings of the Royal Society B*, *Progress in Physical Geography*, *Remote Sensing in Ecology and Conservation*

Invited Participant in Working Groups and Workshops

People, Land, & Ecosystems: Leveraging NEON for Socio-Environmental Synthesis, (NSF-SESYNC), 2020

Connecting biodiversity, geodiversity, and remote sensing across scales, (NASA Biodiversity Working Group), 2017-2018

Effectively Communicating Science – Expert Witness Training Academy (Mitchell Hamline School of Law, University of Minnesota), August 2017

Origins of C4 grasslands: a new synthesis of phylogeny, ecology and paleobiology (NSF-NESCENT), 2011-2013

Forecasting phenology: integrating ecology, climatology, and phylogeny to understand plant responses to climate change (NSF-NCEAS), 2010-2012

Holocene paleoclimate in the Hawaiian Islands and its large-scale context (NOAA/ESRL/CIRES), 2012

Professional Positions

Geographic Information System (GIS) Analyst, Integrated Training Area Management (ITAM), Colorado State University at Schofield Barracks, Oahu, Hawaii, 2001-2002

Science Outreach

No Planet B podcast (interviewed by former students),

<https://podcasts.apple.com/us/podcast/no-planet-b/id1458243509?mt=2>, “Biodiversity and the disappearing bananas”, 2019

“Ask a Scientist” booth (organized by FSU faculty), recurring

FSU COSSPP “Wicked Problems, Wicked Solutions” blog post, 2018

WFSU News Radio, 2018

Featured in *Nature Careers*: Hoag, H. (2015) A numbers game. *Nature* 524:127-128.

“Revise & Resubmit: A Community of Early Career Scholars” blog post, 2014

One of FSU’s “Newsmakers of the Year”, 2013

The Academic Minute, WAMC Northeast Public Radio, 2013

Florida State University’s Headlines Radio, 2013

Kids Do Ecology (mentor for 5th grade classroom science experiment), 2010-2012

SMARTS Program Mentor (STEM prep for URM students), UCLA School of Engineering, 2007