

David Klinges

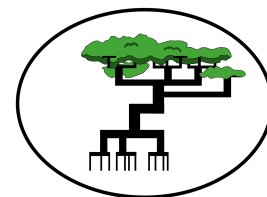
Full-stack Ecologist

Environmental Journalist

Multimedia Consultant

Database Manager

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- <http://natureinparadise.github.io/>
- <https://github.com/dklinges9>



EDUCATION

University of Florida, Gainesville, FL
PhD in Interdisciplinary Ecology

Expected May 2024

Dartmouth College, Hanover, NH
A.B. in Biology (High Honors); Gamma Sigma Alpha National Honor Society

June 2017

GRANT AND AWARDS (*total awarded to date: \$238,162*)

Tropical Conservation and Development Practitioner Grant: \$1,000	2022
Robin E. Nadeau Graduate Research Award: \$4,000	2022
Wildlife Ecology and Conservation Travel Grant: \$400	2022
SE Climate Adaptation Science Center Research Mini-Grant: \$1,000	2022
University of Florida International Center Research Abroad for Doctoral Students: \$4,182	2021
School of Natural Resources and Environment Travel Grant: \$250	2021
Explorers Club Fjällräven Field Grant: \$5,000	2020
Tropical Conservation and Development Field Research Grant: \$2,000	2020
GoFundMe Crowdfunding Campaign "Support Forest Climate Research in Madagascar": \$5,230	2020
Thad Owens Memorial Fund: \$3,000	2019
National Science Foundation Graduate Research Fellowship: \$141,000	2019
University of Florida Research Assistantship: \$64,000	2019
University of Miami Dean's Fellowship (<i>declined</i>)	2019
University of British Columbia Four-Year Fellowship (<i>declined</i>)	2019
Northwestern Medill School of Journalism Merit Scholarship (<i>declined</i>)	2019
Dartmouth Biological Sciences Thesis: High Honors	2017
NSF REU Award: \$5,500	2016
Junior Research Scholarship, Dartmouth College: \$800	2015
Sophomore Science Scholar, Dartmouth College: \$800	2015
Gold Key Award for service to the school (<i>awarded to 10% of class</i>)	2013
Nicholas J. Arcaro Scholar-Athlete Award (<i>awarded to one male and female per graduating class</i>)	2013

RESEARCH

University of Florida, Gainesville, FL

Aug 2019- Present

PhD Candidate, Interdisciplinary Ecology

- Exploring how microclimate drives biogeography for amphibian communities of Madagascar
- Building regional to global-scale, fine-resolution models of near-surface and soil temperatures as well as forecasting microclimate into the future with uncertainty propagation

Smithsonian Institution, Edgewater, MD & Front Royal, VA

Database Manager

May 2018- July 2019

- Curator of a database of soil carbon stocks, doubled size of database in first eight months
- Led R-coding and GitHub tutorials for ecologists, built mapping interfaces (<https://goo.gl/jLSBd6>)

GIS Technician

Feb 2018- May 2018

- Geospatial analysis to identify drivers of Myanmar forest loss; piloted UAVs (drone) for forest mapping

- Led herpetofaunal diversity monitoring; interns on field skills; provided guidance for research projects

PUBLICATIONS

H-index: 7; Total Citations: 375

Klinges, D.H.Scheffers, B. Proximal microclimate: moving beyond spatiotemporal scale improves biological predictions. *In prep for Global Change Biology*

Basham, E.W., Baecher, J.A., **Klinges, D.H.**, Scheffers, B.R. Vertical stratification patterns of tropical forest vertebrates: a meta-analysis. *Biological Reviews* 98:99-114.

Klinges, D.H.*, Duffy, J.*, Kearney, M.R., Maclean, I.M.D. mcera5: driving microclimate models with ERA5 global gridded climate data. *Methods in Ecology and Evolution* 13:1402–1411

*co-first authors

Rixen, C... **Klinges, D. H...** et al., *68 total co-authors*. Winters are changing: snow effects on Arctic and alpine tundra. *Arctic Science*, **8**:572–608.

Lembrechts, J. J., van den Hoogen, J., Aalto, J., Ashcroft, M. B., De Frenne, P., Kemppinen, J., Kopecký, M., Luoto, M., Maclean, I. M. D., Crowther, T. W., Bailey, J. J., Haesen, S., **Klinges, D. H...** et al., *272 total co-authors* (2022) Global maps of soil temperature. *Global Change Biology* 00:1-35.

Todd-Brown, K.E.O., Abromoff, R.Z., Beem-Miller, J., Blair, H.K., Earl, S., Frederick, K.J., Fuka, D.R., Santamaria, M.G., Harden, J.W., Heckman, K., Heran, L.J., Holmquist, J.R., Hoyt, A.M., **Klinges, D.H.**, LeBauer, D.S., Malhotra, A., McClelland, S.C., Nave, L.E., Rocci, K.S., Schaeffer, S.M., Stoner, S., Nvan Gestel, N., von Fromm, S.F., and Younger, M.L. (2022). Reviews and syntheses: The promise of big diverse soil data, moving current practices towards future potential. *Biogeosciences* 19:3505–3522.

De Lombaerde, E., Vangansbeke, P., Lenoir, J., Van Meerbeek, K., Lembrechts, J., Rodríguez-Sánchez, F., Luoto, M., Scheffers, B., Haesen, S., Aalto, J., Christiansen, D.M., De Pauw, K., Depauw, L., Govaert, S., Greiser, C., Hampe, A., Hylander, K., **Klinges, D. H.**, Koelemeijer, I., Meeussen, C., Ogée, J., Sanczuk, P., Vanneste, T., Zellweger, F., Baeten, L. & De Frenne, P. (2022) Maintaining forest cover to enhance temperature buffering under future climate change. *Science of The Total Environment* 151338.

Maclean, I, **Klinges, D. H.** (2021) Microclimc: an R package for estimating above, below and within-canopy microclimate. *Ecological Modelling* 451:109567

Woelmer, W.M., Bradley, L.M., Haber, L.T., **Klinges, D.H.**, Lewis, A.S.L., Mohr, E.J., Torrens, C.L., Wheeler, K.I. & Willson, A.M. (2021) Ten simple rules for training yourself in an emerging field. *PLOS Computational Biology*, **17**:e1009440.

Frenne, P.D., Lenoir, J., Luoto, M., Scheffers, B.R., Zellweger, F., Aalto, J., Ashcroft, M.B., Christiansen, D.M., Decocq, G., Pauw, K.D., Govaert, S., Greiser, C., Gril, E., Hampe, A., Jucker, T., **Klinges, D.H.**, Koelemeijer, I.A., Lembrechts, J.J., Marrec, R., Meeussen, C., Ogée, J., Tyystjärvi, V., Vangansbeke, P. & Hylander, K. (2021) Forest microclimates and climate change: Importance, drivers and future research agenda. *Global Change Biology*, 00:1–19.

Klinges, D.H. & Scheffers, B.R. (2021) Microgeography, Not Just Latitude, Drives Climate Overlap on Mountains from Tropical to Polar Ecosystems. *The American Naturalist*, 197:75–92. *Top 4 Most Read Articles of Autumn 2020

Lembrechts, J.J., ... **Klinges, D. H...***et al.*, 179 total co-authors (2020) SoilTemp: a global database of near-surface temperature. *Global Change Biology*, 00:1–14.

Reinke, B. A., **Klinges, D. H.** 2017. *Chelydra serpentina* (Snapping Turtle) behavior. *Herpetological Review* Natural History Notes 48(2):423.

SCIENTIFIC SERVICE

SoilTemp Consortium

Steering Committee Member

Aug 2021- Present

Ecological Forecasting Initiative

Steering Committee Member

Mar 2021- April 2022

Student Association Co-Chair

Dec 2019- Present

- One of three inaugural chairs of student group, organizes networking and training opportunities

Natural Environment Research Council, London, UK

Nov 2019- May 2021

Expert Network Member

- Selected to advise a NERC initiative on best practices in 'digital environment' and influence UK policy

Data Carpentries Instructor, Washington DC & Gainesville, FL

April 2019- Present

- Leads workshops to deliver introductory data management and coding skills

Alliance for a Sustainable Amazon, Madre de Dios, Peru

April 2019- Present

Board Member

- Advises ASA on biological surveillance, research priorities, and fundraising

Peer Reviewer: *Ecosphere, Forest Ecology and Management, Global Ecology and Biogeography, Herpetology Notes*

TEACHING

Coding4Conservation, *Instructor and Mentor*

May 2022- April 2023

- Provides lectures to Malagasy students on statistical methods relevant to ecology and epidemiology
- Mentoring a Malagasy Masters student on her research exploring climate change impacts on wildlife

Wildlands Studies Peru Project: *Peru Project Teaching Assistant*

Sept 2017-Nov 2017

- Administered data collection exercises in rainforests; created exams of naturalist knowledge; surpassed job expectations by designing a lecture series on the practices and philosophy of tropical conservation.
- Guided students on experiment design & scientific writing; led hands-on conservation science activities.

Data Management, Analysis, and Visualization for Protected Area Conservation

August 2022

- Funded, designed, and led a week-long workshop for staff of Madagascar National Parks

Dartmouth College: *Ecology Tutor*

April- May 2016

INVITED TALKS

Klinges, D., Holmquist, J., Magonigal, P. Modeling and mapping wetlands carbon as a community resource. Chesapeake Sentinel Site Cooperative Marsh Resilience Summit 5-6 Feb 2019, Williamsburg VA

Klinges, D., Holmquist, J., Magonigal, P. A network for coastal carbon: soil data archival as a community resource and to reduce uncertainties in modeling and mapping. ESIP 15-17 Jan 2019, Washington DC

SELECT PRESENTATIONS

Klinges, D., co-authors. Spatial and temporal resolution versus incorporating microclimate: how to improve climate data for ecological models *Microclimate Ecology and Biogeography* 2022 (oral)

Klinges, D. Scheffers, B. Are mountain passes higher in the tropics? Revisiting the climate variability hypothesis suggests microgeography more important than latitude. Ecological Society of America 2021 (oral)

Klinges, D., Holmquist, J., Megonigal, P., Ramos, J, Brown, L., Todd-Brown, K. Town hall panelist: updates from the CCRCN, data clearinghouse overview. AGU Fall Meeting, 10-14 Dec 2018, Washington DC. (oral)

Klinges, D. The Coastal Carbon Research Coordination Network. Restore America's Estuaries 2018 Blue Carbon Working Group, 16-17 October 2018. (oral)

Klinges, D. Incorporation over Deforestation: Cacao Agroforestry as an Alternative to Papaya Monocrop in Madre de Dios, Peru. International Society of Tropical Foresters Annual Meeting 1-3 Feb 2018, Yale School of Forestry, New Haven, CT (poster).

Klinges, D., Haser, P. The abundance and size distribution of queen conch in protected and open harvest zones surrounding Little Cayman Island. CTEC 12th Annual Symposium, 15 April 2017, Antioch University, Keene, NH. (oral).

SCIENCE COMMUNICATION, MULTIMEDIA AND OUTREACH

Mongabay Environmental News, Washington, DC

Freelancer-in-Residence

April 2019- August 2019

Wildtech Journalism Intern

July 2018- Feb 2019

- Reports on global trends in conservation technology to weave technical content into publicly digestible stories; one piece chosen in top ten forest articles of the year. Published work: <https://goo.gl/KfHEK2>

RESET (Raising Excitement for Science, Engineering and Technology)

Volunteer Science Presenter

Sept 2018- Present

- Educated hundreds of children with interactive exhibits on soil horizons, ecosystems, & adaptations.

Wildlands Studies, remote & Madre de Dios, Peru

Video Coordinator and Producer

Dec 2017- Dec 2018

- Produced films on ecological field studies to be used in campus presentations (<https://goo.gl/ebsJXq>).

Smithsonian Institution, Washington, DC

Museum Sleepover Series Volunteer and Video Producer

June- Sept 2018

- Engaged K-8 students with exhibits at Smithsonian museums; produced video promotional.

Amazon Conservation Association, Washington, DC

Communications and Social Media Intern

Jan 2018- May 2018

- Managed photo archive, produced video content for newsletters, social media posts, and annual report.

Dartmouth College, Hanover, NH

Digital Arts Lab Manager

January- March 2015

- Administered daily open hours; designed and taught workshops on Adobe Photoshop & Premier Pro.

The Fund for the Public Interest, New Brunswick, NJ

Field Manager/Canvasser

June- August 2013, June- August 2014

- Fundraised ~\$20,000 for environmental campaigns (\$300/day, \$120 above office daily average).

Scientific Computing Skills

R: experienced R coder for all stages of the data life cycle: curation, QA/QC, synthesis, assimilation, statistical analysis, visualization, documentation. Emphasis on reproducible workflows via directory management, file version control (e.g. Git), and report generation (e.g. RMarkdown). Experienced with the following R packages:

Data curation & visualization: tidyverse (e.g. tidyr, dplyr)

Spatiotemporal statistics: raster, terra, IDE, FRK, gstat, gDistance, RJAGS

Visualization & Web dev: ggplot2, RShiny,

Thermal Ecology: microclima, NicheMapR, rnoaa, mcera5, microclimc (developer)

Provide examples of types of analyses/products you have conducted with these packages for context

Other Software Programs: ArcGIS, Google Earth Engine, JAGS, Python, JavaScript, VBA, JMP, GitHub

Film: Canon DSLR cameras, Adobe Premiere Pro and Photoshop, Final Cut Pro, DJI Mavic Pro, ImageJ

Certifications: PADI scuba certified, FAA sUAS Remote Pilot License, Data Carpentries instructor

Wilderness: Navigation (compass and GPS), 4WD, manual transmission, CPR and First Aid certification

Memberships: AAAS, AGU, International Society of Tropical Foresters, Society for Conservation Biology, International Biogeography Society (2021)