

Curriculum Vitae

Elsa M. Ordway, Ph.D.

CONTACT

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EDUCATION

2018	Ph.D. Earth System Science, Stanford University
2013	M.A. Ecology, Evolution & Conservation Biology, Columbia University
2009	B.A. Environmental Studies & African Studies, New York University

EMPLOYMENT

2021 - present	Assistant Professor , Department of Ecology and Evolutionary Biology, University of California, Los Angeles, CA
2020 - 2021	Postdoctoral Researcher , Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA
2018 - 2020	Postdoctoral Fellow , Harvard University Center for the Environment, Department of Organismic and Evolutionary Biology, Harvard University, Cambridge, MA
2018 - 2019	Postdoctoral Researcher , Department of Global Ecology, Carnegie Institution for Science, Palo Alto, CA

OTHER AFFILIATIONS

2022 - present	Affiliated Faculty , Institute of the Environment and Sustainability (IoES), University of California, Los Angeles, CA
2022 – present	Adjunct Faculty , Global Center for Discovery and Conservation Science, Arizona State University
2021 - present	Senior Research Fellow , Congo Basin Institute (CBI)
2021 - present	Senior Research Fellow , Center for Tropical Research, UCLA Institute of the Environment and Sustainability

RESEARCH INTERESTS

Global environmental change, forest ecology, tropical ecology, social-ecological systems, land system science, remote sensing

PUBLICATIONS (*Postdoc/Graduate student; **Undergraduate student; †shared first authorship)

14. ***Vinod N.**, Slot M.J., McGregor I., **Ordway E.M.**, Smith M.N., Taylor T., Sack L., Buckley, T., Anderson-Teixeira K.J. 2022. Thermal sensitivity across forest vertical profiles: patterns, mechanisms, and ecological implications. *New Phytologist Tansley Review*. DOI 10.1111/nph.18539
13. **Ordway E.M.**, Asner G.P., Burslem D., Lewis S., Martin R., Nilus R., O'Brien M.J., Phillips O., Qie L., Vaughn N.R., Moorcroft P.R. 2022. Toward spaceborne mapping of functional variation in diverse tropical forests: a Malaysian Borneo case study. *Communications Earth & Environment*. DOI 10.1038/s43247-022-00564-w
12. Fagan M.E., Do-Hyung K., Settle W., Ferry L., Drew J., Carlson H., Slaughter J., Schaferbien J., Tyukavina A., Harris N., Goldman E., **Ordway, E.M.** 2022. The expansion of tree plantations across tropical biomes. *Nature Sustainability*. DOI 10.1038/s41893-022-00904-w
11. Tabe-Ojong M.P., **Ordway E.M.**, Nkongho R.N., Molua E.L. 2022. Oil palm expansion among non-industrial producers in Cameroon: Potentials for synergy between agro-economic gains and ecological safeguards. *Forest Policy and Economics*. DOI 10.1016/j.forpol.2021.102645
10. **Ordway E.M.**, Elmore A.J., Kolstoe S., Quinn J.E., Swanwick R., Cattau M., Taillie D., 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., 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. 2021. Leveraging the NEON Airborne Observation Platform for interdisciplinary socio-environmental research. *Ecosphere*. DOI 10.1002/ecs2.3640
9. **Ordway E.M.**, Asner G.P. 2020 Carbon declines along tropical forest edges correspond to heterogeneous effects on canopy structure and function. *PNAS*. DOI 10.1073/pnas.1914420117
8. **Ordway E.M.**, Naylor R.L., Nkongho R.N., Lambin E.F. 2019. Oil palm expansion at the expense of forests in Southwest Cameroon associated with proliferation of informal mills. *Nature Communications*. DOI 10.1038/s41467-018-07915-2
7. Bradford M.A., Carey C., Atwood L., Bossio D., Fenichel E., Gennet S., Fargione J., Fisher J.R.B., Fuller E., Kane D.A., Lehmann J., Oldfield E.E., **Ordway E.M.**, Rudek J., Sanderman J., Wood S.A. 2019. Soil carbon science for policy and practice. *Nature Sustainability*. DOI 10.1038/s41893-019-0431-y
6. Brando P.M., Paolucci L., Ummenhofer C.C., **Ordway E.M.**, Hartmann H., Cattau M.E., Rattis L., Medjibe V., Coe M.T., Balch J. 2019. Droughts, wildfires, and forest carbon stocks: a pantropical synthesis. *Annual Reviews*. DOI 10.1146/annurev-earth-082517-010235
5. **Ordway E.M.**, Naylor R.L., Nkongho R.N., Lambin E.F. 2017. Emerging oil palm expansion in Africa: insights into sustainability opportunities and challenges from Cameroon. *Global Environmental Change*. DOI 10.1016/j.gloenvcha.2017.10.009
4. **Ordway E.M.**, Asner G.P., Lambin E.F. 2017. Deforestation risk due to commodity crop expansion in sub-Saharan Africa. *Environmental Research Letters*. DOI 10.1088/1748-9326/aa6509
 - Highlighted in *Nature* research highlights section
3. **Ordway E.M.** 2015. Political Shifts and Changing Forests: The Implications of Warfare for Forest Conservation in Rwanda. *Global Ecology and Conservation*. DOI 10.1016/j.gecco.2015.01.013
2. Marlier M.E., DeFries R., Pennington D. Nelson E., **Ordway E.M.**, Lewis J., Koplitz S.N., Mickley L.J. 2014. Future fire emissions associated with projected land use change in Sumatra. *Global Change Biology*. DOI 10.1111/gcb.12691
1. Fitzgerald D.B., **Ordway E.**, Honarvar S., Hearn G.W. 2011. Challenges confronting sea turtle conservation on Bioko Island, Equatorial Guinea. *Conservation and Biology*. DOI 10.2744/CCAB-0889.1

SUBMITTED & FORTHCOMING

Russo N., Blakey R.V., **Ordway E.M.**, Davies A.B., Smith T.B. (*under revision*) Feedback loops between 3D vegetation structure and ecological functions of animals. *Ecology Letters*.

Biswas S.*‡, **Dutko K.**‡**, **Ordway E.M. (in prep)** Detectability of forest cover changes in the Cameroonian Congo Basin. *Nature Geoscience*.

Larson, E.J.L., Moorcroft, P.M., Dadap, N., Longo, M., Konings, A., Xu, X., **Ordway, E.M.**, Saatchi, S., (*submitted*) Southeast Asian peatland drainage emits 220 Mt of carbon, equivalent to 2.2% of global fossil fuel emissions.

ADDITIONAL NON-PEER-REVIEWED PUBLICATIONS

Ordway E.M., Sonwa, D.J., Levang, P., Mboringong, F., Miaro III, L., Naylor, R.L., Nkongho, R.N. 2019. Sustainable development of the palm oil sector in the Congo Basin: The need for a regional strategy involving smallholders and informal markets. Info Brief, No. 255. Center for International Forestry Research (CIFOR), Bogor, Indonesia. DOI 10.17528/cifor/006xxx

Ordway E.M. 2017. Africa's tropical forests could be next in line as global food demand grows. *The Conversation*. (<https://theconversation.com/africas-tropical-forests-could-be-next-in-line-as-global-food-demand-grows-80401>)

GRANTS & FELLOWSHIPS

GRANTS

- | | |
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| 2024 | NASA ROSES A.4 Scoping Studies for the Next Terrestrial Ecology Field Campaign, Lead PI (<i>Submitted; requested \$250,043</i>) |
| 2024-27 | NASA ROSES A.28 Interdisciplinary Research in Earth Science (IDS), Co-I (<i>Submitted</i>) |
| 2023-26 | NASA ROSES A.55 Land-Cover Land-Use Change (80NSSC23K0533), Lead PI (\$791,497) |
| 2022-25 | NASA JPL Strategic University Research Partnerships (SURP) Program (1686278 / 20223902), Co-I, Lead PI: Fabian Schneider (\$180,000; \$149,353 to Ordway lab) |
| 2022-23 | UCLA Academic Senate Council on Research Faculty Research Grants (FRG), Lead PI (\$9,750) |
| 2021-26 | NSF Research Coordination Networks (2054939), Co-PI, Lead PI: Andrew Elmore (\$500,000) |
| 2021-24 | NASA ROSES Biodiversity (80NSSC21K1144), Co-I, Lead PIs: Thomas Smith & Sassan Saatchi (\$619,840; \$146,645 to Ordway Lab) |
| 2015 | Stanford Global Development & Poverty Initiative, Research Grant, Lead PI: Roz Naylor (\$400,000) |
| 2015 | Morrison Institute for Population & Resource Studies, Research Grant (\$7,000) |
| 2014-15 | McGee-Levorsen Research Grant Program, Research Grant (\$6,000) |

FELLOWSHIPS

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| 2019-22 | Young Scholars Program Fellow, Beijer Institute of Ecological Economics, Royal Swedish Academy of Science (\$7,500) |
| 2018-20 | Postdoctoral Environmental Fellows Program, Harvard University Center for the Environment (\$141,500) |
| 2014-15 | Graduate Student Research Fellowship, Stanford Center for African Studies (\$10,000) |
| 2012-15 | Graduate Student Research Fellowship Program, National Science Foundation (\$122,000) |

AWARDS & HONORS

- 2022-23 UCLA Faculty Career Development Award (\$11,500)
 2022 Dept. of Ecology and Evolutionary Biology Equity, Diversity, and Inclusion Award

TEACHING

INSTRUCTOR

- 2023 **EEB 151B** – LA Field Biology Quarter, EEB, UCLA
 2023 **EEB 297** – Tropical Forests & Climate Change, EEB, UCLA
 2022 **EEB 168** – Global Change Ecology, EEB, UCLA
 2022 **EEB 297** – Ecological Remote Sensing, EEB, UCLA
 2021 **EEB 198A** – Honors Research in Ecology and Evolutionary Biology, EEB, UCLA
 2017 In the Age of the Anthropocene: Coupled Human-Natural Systems of Southeast Alaska, School of Earth Science - Sophomore College Program, Stanford University
 2015 In the Age of the Anthropocene: Coupled Human-Natural Systems of Southeast Alaska, School of Earth Science - Sophomore College Program, Stanford University

TEACHING ASSISTANT

- 2014 Remote Sensing of the Land, Department of Earth System Science, Stanford University
 2012 Forest Ecology, Dept. of Ecology, Evolution & Environmental Biology, Columbia Univ.

GUEST LECTURER

- 2016 NSF InTeGrate, Department of Environmental Studies & Sciences, Santa Clara University

PRESENTATIONS

INVITED TALKS

- 2023: Canadian Society for Ecology and Evolution Annual Meeting (declined-unavailable); Association for Tropical Biology and Conservation Annual Meeting (declined-unavailable)
 2022: Yale Center for Natural Carbon Capture, Yale University; Congo Basin Forest Partnership Meeting of Parties; Department of Evolution, Ecology, and Organismal Biology, UC Riverside; Sawyer Climate Seminar - Forest Life, Scientific Practice, and Climate Politics Roundtable, Johns Hopkins University; Association for Tropical Biology and Conservation Annual Meeting
 2021: Department of Geography, University of Utah; Ecology and Global Change Group, School of Geography, University of Leeds
 2020: Smithsonian ForestGEO Seminar Series; University of Maryland Center for Environmental Science Appalachian Laboratory; Department of Forest Ecosystems and Society, Oregon State University; Department of Geography, University of Colorado; Department of Ecology and Evolutionary Biology, UCLA
 2019: NASA Jet Propulsion Laboratory; School of Geographical Sciences and Urban Planning, Arizona State University; Ecological Society of America Annual Meeting
 2018: World Wide Fund for Nature (WWF) Central Africa Office.
 2017: Civil and Environmental Engineering Seminar (179S/279S), Stanford University
 2015: Center for International Forestry Research (CIFOR) Central Africa Regional Office.

CONFERENCE PARTICIPATION

AGU 2022, 2021, 2020, 2019, 2018, 2017, 2015; ATBC 2022, 2020 (cancelled); ESA 2017; US-IALE 2017; International Conference on Global Food Security 2015; CAFI 2013; SCCS 2012.

SESSION ORGANIZATION

2022: **Session Co-organizer**, American Geophysical Union Fall Meeting, *Remote sensing of tropical forest and savanna responses to land use and climate change*, Chicago, IL

2022: **Session Co-organizer**, Congo Basin Forest Partnership (CBFP) Annual Meeting, *Reducing deforestation from commodities supply chains in the Congo basin: Recent initiatives, constraints, and the way forward*, Libreville, Gabon

FIELD EXPERIENCE

Southern California. Validation of Global Ecosystem Dynamics Investigation (GEDI) spaceborne lidar shot locations. Established 22 m circular plots across two National Ecological Observatory Network (NEON) sites in California that corresponded to 37 GEDI shots to record species information and collect diameter at breast height (DBH), vegetation height, and LICOR LAI-2000 measurements. 2021.

Sabah, Malaysia. Led a team of four in establishing modified gentry plots to systematically subsample 1 ha areas of lowland tropical forest. Collected data on diameter at breast height (DBH), genus, and mortality for all trees > 10 cm in diameter. Used hemispherical lens to record Leaf Area Index and a high-precision Leica GS50 GPS to georeference plots for collocation of field data with high-resolution airborne remote sensing data, 2017.

Southwest Region, Cameroon. Led a team of four Cameroonian women to collect survey data on farmer decision-making and household characteristics. Interviewed agricultural companies and key stakeholders engaged in palm oil supply chain: processors, manufacturers, traders, port operatives, and retailers. Mapped palm oil processing mills and validated remote sensing classification. 2014-17.

Rwanda. Validated forest change maps and locations of refugee settlements present during Great Lakes Wars across western Rwanda. Compiled historical records to create georeferenced maps of refugee and rebel group movement and forest-related resource use. 2012.

Trinidad. Conducted monthly mark-recapture of guppies examining the eco-evolutionary interactions in *Poecilia reticulata* and stream systems. Processed individual fish in lab. Identified, marked and recorded subcutaneous visible fluorescent implant elastomer, and entered morphology data. 2010.

Bioko, Equatorial Guinea. Established nesting ecology experiment examining the impact of tidal pumping on gas exchange in leatherback nests, pit-tagged individuals, and collected nesting ecology data for the duration of the six-month nesting season. 2009-10.

Comoros & Madagascar. Conducted coral reef transects and timed snorkel surveys to determine reef health. Collected and analyzed socioeconomic and fishing bycatch data from surveys conducted in coastal communities. Led conservation education events in French in local communities. 2009.

Yellowstone National Park. Used ground and radio telemetry to track wolf packs and elk herds. Conducted field necropsy of elk carcasses to determine cause of death and wolf prey selection. Collected behavioral data on elk individuals to investigate post wolf re-introduction behavioral changes. 2009.

Catalina Island. Identified native and non-native plant species. Conducted mechanical and chemical removal of invasive species using spray-rig, backpack sprayers, and spray bottles, employing cut-stump, basal bark, drill and squirt, and foliar treatment methods. Orienteered in backcountry. 2008.

UNIVERSITY & DEPARTMENT SERVICE

- 2022-23 **Graduate Advisor**, Graduate Admissions and Support Committee, Department of Ecology and Evolutionary Biology
- 2022-23 **Member**, Graduate Research Awards Committee, Department of Ecology and Evolutionary Biology
- 2022-23 **Member**, Faculty Search Committee, Department of Ecology and Evolutionary Biology
- 2021-22 **Graduate Advisor**, Graduate Admissions and Support Committee, Department of Ecology and Evolutionary Biology
- 2021 **Early Career Member**, Executive Director Search Committee, UC Natural Reserve System

OTHER SERVICE

EDITORIAL ACTIVITIES

- 2022-present Review Editor, *Frontiers in Forests and Global Change*

REVIEWER

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| <i>Biogeosciences</i> | <i>Regional Environmental Change</i> |
| <i>Forest Policy and Economics</i> | <i>Remote Sensing</i> |
| <i>Global Environmental Change</i> | <i>Remote Sensing Applications: Society & Environment</i> |
| <i>Journal of Applied Ecology Ecosphere</i> | <i>Science Advances</i> |
| <i>Nature Communications</i> | <i>Sustainability Science</i> |
| <i>Nature Ecology & Evolution</i> | <i>World Development</i> |
| <i>PNAS</i> | |

AFFILIATIONS

- American Geophysical Union (AGU)
 Association for Tropical Biology and Conservation (ATBC)
 Ecological Society of America (ESA)
 Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)

BROADER ACTIVITIES

- 2023 **Participant**, Congo Basin Climate Science Initiative, Sustainable Development Solutions Network (SDSN)
- 2022- **Collaborator**, Anahuacalmecac, International University Preparatory of North America Native Tree Restoration Project
- 2022- **Member**, NEON Foliar Sampling Technical Working Group
- 2021- **Member**, UCLA Congo Basin Institute Cabinet
- 2021- **General Partner**, Kongsberg Satellite Services (KSAT) and Norway International Climate and Forests Initiative (NICFI) Data Program, awarded Level-2 data access
- 2021- **Steering Committee**, Landscape Exchange Network for Socio-environmental systems (LENS)
- 2022 **Science PI**, NASA JPL led Surface Biology and Geology High-Frequency Time Series (SHIFT) Campaign
- 2021 **Participant**, Global Council for Science and the Environment Learning Series on Indigenous Knowledge & Western Science: Collaboration, Relationship, and Climate Solutions
- 2020 **Participant**, National Academy of Sciences Workshop on Progress, Challenges, and Opportunities for Sustainability Science

2020	Participant , People, Land, & Ecosystems Workshop: Leveraging NEON for Socio-Environmental Synthesis, National Socio-Environmental Synthesis Center (SESYNC)
2017-19	Member , Working Group – Managing Soil Carbon, National Center for Ecological Analysis and Synthesis (NCEAS) Science for Nature and People Partnership (SNAPP)
2019	Participant , Smithsonian ForestGEO Analytical Workshop, Singapore
2019	Participant , Ecological Society of America Diversity Forum
2019	Participant , Harvard FAS Office of Postdoctoral Affairs Diversity Workshop
2017-18	Participant , Stanford University Clayman Institute, Graduate Voice and Influence Program (gVIP)
2014-18	Member , Bay Area Tropical Forest Network Board San Francisco, CA
2016	Intern , Center for International Tropical Forestry Internship, Yaoundé, Cameroon
2015	Participant , Stanford Woods Institute Rising Environmental Leaders Program
2012	Member , Columbia Earth Institute Student Advisory Council
2008-09	Student Delegate , New York University’s Climate Action Plan

STUDENT & POSTDOC MENTORING

Post-doctoral advisees (*Name, years in lab, current employer*)

Sumalika Biswas, 2021-Present, UCLA
 Robert Fofrich, 2023-Present, UC President’s Postdoctoral Fellowship Program, UCLA

Graduate student advisees (*Name (degree, year), current employer*)

Carissa DeRanek (PhD, current student), Ecology & Evolutionary Biology, UCLA
 Morgan Dean (PhD, current student), Ecology & Evolutionary Biology, UCLA
 Jonathan Ocón, (PhD, current student), Geography Department, UCLA
 Ary Sanchez-Amaya (MSc, current student), Ecology & Evolutionary Biology, UCLA
 Nidhi Vinod (PhD, current student), Ecology & Evolutionary Biology, UCLA

Graduate Committees

UCLA PhD Committee member for:

Marvin Browne, 2021-Present (Ecology & Evolutionary Biology)
 Marissa Ochoa, 2021-Present (Ecology & Evolutionary Biology)
 Xochitl Ortiz Ross, 2022-Present (Ecology & Evolutionary Biology)

UCLA PhD Guidance Committee member for:

Lauren Glevanik, 2022 (Ecology & Evolutionary Biology)
 Sara Pedraza Narvaez, 2022 (Ecology & Evolutionary Biology)
 Anna Ongjoco, 2021 (Ecology & Evolutionary Biology)
 Chris Sayers, 2022 (Ecology & Evolutionary Biology)
 Diego Zapata, 2022 (Ecology & Evolutionary Biology)

Harvard University graduate student advisees

Evan Hockridge, 2022-Present (Organismic and Evolutionary Biology)

University of Yaoundé I, Cameroon graduate student advisees

Antoine Tékam, 2022-Present (École Normale Supérieure)

Undergraduate mentoring

UCLA Ecology and Evolutionary Biology:

Karen Dutko (*Undergraduate Research Fellows Program (URFP) and Undergraduate Research Scholars Program (URSP) recipient*)

Geremar Gonzalez (undergraduate capstone project)

Elona Khoshaba (undergraduate researcher)

Justine Pendergraft (undergraduate researcher)

UCLA Environmental Science:

Aminah Mahadi (undergraduate researcher; *NASA JPL - UCLA JIFRESSE Summer Internship Program*)

Ofelia Garcia Prado (*Glickfeld Excellence in Environmental Research Award recipient*)

Sophia Roberts (*URFP recipient*)

UCLA Computational and Systems Biology:

Miles Dailey (undergraduate researcher)

Kristi Le (undergraduate researcher)

Harvard University

Valentina Doerre Torres (undergraduate senior thesis advising)

Lucie Gallegos (research internship; joint with École Nationale Supérieure Agronomique de Toulouse)

Naomi Hegwood (undergraduate senior thesis advising)

Stanford University

Kira Minehart (independent research project)

Michael Burnett (independent research project)

Northwestern University

Adam Greenstein (undergraduate researcher)

Mentorship and Diversity, Equity & Inclusion Training

2022	Advancing Faculty Mentoring Practices – UCLA Graduate Programs in Bioscience
2021	Foundations of Equitable Course Design and Inclusive Teaching – Center for Education, Innovation and Learning in the Sciences (CEILS)
2021	AAAS SEA Change/ASCN Learning Series on Transforming Institutions: Systemic Change for Diversity, Equity, and Inclusion (DEI) in STEM