Melissa Chapman

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EDUCATION

University of California Berkeley **Berkeley, CA**
PhD Candidate | Dept. of Environmental Science, Policy, and Management *Aug 2018-present*
Disseration Committee (*co-advisor): Carl Boettiger*, Justin Brashares*, Holly Doremus

Yale University **New Haven, CT**
Bachelor of Science | Dept. of Ecology and Evolutionary Biology *Sept 2010-May 2014*
Thesis advisor: Sunil Parikh

SELECT PROFESSIONAL EXPERIENCE

Resources Legacy Fund *April 2021 - present*
Technical Writer and Research Consultant | California 30x30 Pathways Team

Helmholtz Centre for Environmental Research (UFZ) *May 2019 - Aug 2019*
Visiting Scientist | Policy Instruments and Social-Ecological Systems Group

Woodwell Climate Research Center (Woods Hole Research Center) *Sept 2015 - Apr 2018*
Research Assistant II | Focused on quantifying socioeconomic drivers of deforestation

REDD+ Projet Équateur *Jan 2016 - Sept 2016*
Measurement, Reporting and Verification Carbon Analyst

PEER-REVIEWED PUBLICATIONS

(*For the most up-to-date list of publications, please visit my* ***Google Scholar*** *or* ***ORCID***)

14. **Chapman, MS**, Scoville, C., Lapeyrolerie, M., Boettiger, C. (2021). Power and Accountability in RL-driven Environmental Policy. (*Accepted*) *35th Conference on Neural Information Processing Systems* (*NeurIPS 2021*)
13. Roe, S. et al [including **Chapman, MS**].(2021). Land-based measures to mitigate climate change: potential and feasibility by country. *Global Change Biology*. **[PDF]**
12. Nagy, et al [including **Chapman, MS**]. (2021). Harnessing the NEON Data Revolution to Advance Open Environmental Science with a Diverse and Data-Capable Community. *Ecosphere.* (*In press*)
11. Kitzes, J et al.[including **Chapman, MS**]. (2021). Expanding the National Ecological Observatory Network (NEON) biodiversity surveys with new instrumentation and machine learning models. *Ecosphere.* (*In press*)
10. Calhoun, K. et al [including **Chapman, MS**]. (2021). Spatial overlap of wildfires and biodiversity in California highlights gap in non-conifer fire research and management.*Diversity and Distributions*. **[PDF]**
9. **Chapman, MS*** and Oestreich, WK* , et al. (2021) Promoting equity in the use of algorithms for high seas conservation. *One Earth.* *co-first authors. **[code]** **[PDF]**
8. Ordway, E. et al., [including **Chapman, MS**]. (2021) Leveraging the NEON Airborne Observation Platform for socio-environmental systems research. *Ecosphere.* **[PDF]**
7. Scoville, C., et al. [including **Chapman, MS**]. (2021). Algorithmic Conservation Governance in a Changing Climate. *Current Opinion in Environmental Sustainability* **[PDF]**
6. **Chapman, M.**, et al. (2020). Large climate mitigation potential from adding trees to agricultural lands.

Global Change Biology. **[code] [PDF]**

5. Oestreich, W., **Chapman, M.**, and Crowder, L.B. (2020). A comparative analysis of dynamic management in marine and terrestrial systems. *Frontiers in Ecology and the Environment.* **[code] [PDF]**
4. Griscom, Bronson W., et al. [including **Chapman, M**]. (2020). National mitigation potential from natural climate solutions in the tropics. *Philosophical Transactions of the Royal Society B.* **[PDF]**
3. Samndong, R. A., Bush, G., Vatn, A., **Chapman, M.** (2018). Institutional analysis of causes of deforestation in REDD+ pilot sites in the Equateur province: Implication for REDD+ in the Democratic Republic of Congo. *Land use policy.* **[PDF]**
2. Galvin, B.D., et al. [including **Chapman, M**] (2014). A Target Repurposing Approach Identifies N-myristoyltransferase as a New Candidate Drug Target in Filarial Nematodes. *PLoS Neglected Tropical Diseases.* **[PDF]**
1. Cunningham, Courtney, et al. [including **Chapman, M**] (2014). Impaired consciousness in partial seizures is bimodally distributed. *Neurology.* **[PDF]**

PUBLICATIONS IN REVIEW

8. **Chapman, MS**, Boettiger, C., Brashares, J.. The promise of U.S. private lands for reaching 21st century conservation targets. **[code] [Preprint]**(*In review*)
7. **Chapman, MS**, et al. Tipping points in diversified farming systems. **[code] [PDF]**(*In review*)
6. Lapeyrolerie, M., **Chapman, MS**, Norman, K., Boettiger, C.. Deep Reinforcement Learning for Conservation Decisions. **[Preprint]** (*In review*)
5. Moravek, J., et al. [including **Chapman, MS**]. Centering 30x30 conservation initiatives on freshwater ecosystems. (*In review*)
4. Kurz, D. et al [including **Chapman, MS**]. Building bridges in the post-Trump era: can conservation scientists help recover bipartisan support for U.S. environmental protection? **[preprint]** (*In review*)
3. *Dowd, S. et al [including **Chapman, MS**]. The economic tradeoffs and ecological impacts associated with a potential mesopelagic fishery in the California Current. (*In review*)
2. Ellis Soto, D., **Chapman, MS**, Locke, D. Systemic racism across and within 157 US cities reveals uneven sampling of biodiversity across residential housing segregation (*In prep*)
1. Hastings, Z.,et al. [including **Chapman, MS**]. Toward socially just transitions to agroforestry for climate mitigation and adaptation. (*In prep*)

*undergraduate thesis mentee

TECHNICAL REPORTS, POLICY BRIEFS, AND THESES

6. Lead technical writer for "Advancing 30x30 and Protecting Biodiversity". (2021) California Natural Resources Agency.**[PDF]**
5. Galbiati, L.A., and Botero, M., et al [including **Chapman, M.**]. (2017) "Prioritizing Areas for Reforestation of Private Lands in the Brazilian Amazon". Policy Brief. **[PDF]**
4. Cuthbert, R.J., Bush, G., **Chapman, M.**, Ken, B., G, Neale, E. and Whitmore, N. (2016) Analysis of National Circumstances in the Context of REDD+ and Identification of REDD+ Abatement Levers on Papua New Guinea. Wildlife Conservation Society, Goroka, Papua New Guinea. ISBN: 978-0-9943203-3-9
3. Bush, G., Nassikas, Z., and **Chapman, M.** (2017). Forest Landscape Restoration in Costa Rica: A spatially explicit multi-criteria tool for policy management prioritization and cost-benefit analysis. Presented to Costa Rica Forest Financing Ministry. Available upon request.

2. **Chapman, M.** Myhre, L. (2014) "A Geographic Correlation of Spina Bifida and Malaria in Kenya". Yale Department of African Studies Senior Thesis. Advisor: Sunil Parikh

1. **Chapman, M.** (2014) "Assessing patterns of malaria risk: Environmental determinants of differential malaria susceptibility between Mossi and Fulani people in Burkina Faso". Yale Department of Ecology and Evolutionary Biology Senior Thesis. Advisor: Sunil Parikh

PRESENTATIONS AND SEMINARS

- **Chapman, M.**, Boettiger, C. From data to decisions: Algorithms, power, and effective ocean management. UN FAO global forum on AI for a digital blue Planet.
- Dowd, S., **Chapman, M.**, Koehn, L., and Hoagland, P. The ecological and economic implications of a potential mesopelagic fishery in the California Current. ASLO 2021 Meeting.
- Ellis-Soto, D., **Chapman, M.**, and Locke, D. Systemic racism across and within 157 US cities reveals uneven sampling of biodiversity across residential housing segregation. New Horizon in Conservation Conference 2021 Meeting.
- **Chapman, M.**, et al. Tipping points in diversified farming systems. Ecological Society of America 2020 Meeting. Contributed Talk.
- Ashander, J. et al. [**Chapman, M.**]. Using integrated models to avoid tipping points in a multi-objective water allocation problem. AGU Fall Meeting 2020.
- Dietz, M. et al. [including **Chapman, M.**]. Ecological Forecasting Initiative: NEON Forecasting Challenge. AGU Fall Meeting 2020.
- Crowder, L. et al. [including **Chapman, M.**] The emergence of dynamic management approaches in ocean ecosystems with a comparison to management of terrestrial ecosystems. Ocean Sciences Meeting 2020.
- **Chapman, M.**. Large climate mitigation from adding trees to agricultural lands and how that potential might be realized. The Nature Conservancy Seminar Series (Invited Talk). July 9, 2020.
- **Chapman, M.**. Large climate mitigation from adding trees to agricultural lands. Woodwell Climate Research Center Friday Seminar Series (Invited Talk). June 10, 2020.
- Oestreich, W. et al. [including **Chapman, M.**]. Scales of Forecasting for Dynamic Management: Gaps in Marine and Terrestrial Systems. American Fisheries Society The Wildlife Society 2019 Joint Annual Conference.
- **Chapman, M.**, Walker, W. (2018). A Global Analysis of Woody Aboveground Carbon Storage in Crop and Pasture lands. AGU Fall Meeting 2018. (Presentation)
- **Chapman, M.**, Nassikas, A., Bush, G. (2017). Spatial prioritization of reforestation in Costa Rica. Costa Rica Forest Finance (FONAFIFO). (Presentation)
- **Chapman, M.** (2014) Assessing a geographic correlation between spina bifida and malaria in Kenya. Yale Mellon Forum.
- **Chapman, M.** Myhre, L. (2014) Pursuing Independent Research as Undergraduates. Yale Global Health Panel.
- **Chapman, M.**, Galvin, B., and Carlow, T. (2011) Cloning, Expression, and Biochemical Char- acterization of Myristoyltransferase and Farnesyltransferase from Brugia Malay, Two New Antifi- larial Drug Targets. New England Biolabs Symposium. (Poster)

FELLOWSHIPS AND GRANTS

- SESYNC Graduate Student Pursuit: Co- PI **(project link)** ($35000) 2020-2021
- Berkeley Center For Technology, Society, and Policy Fellowship **(project link)** ($4000) 2020
- NEON Science Summit Travel Grant ($900) 2019
- Safari Club Wildlife Ecology Field Grant ($2200) 2019
- NSF National Research Trainee ($32,000) 2018-2020
- POLISES 3-month Visiting Scientist Travel and Research Funding ($6,000) 2019
- NSF GRFP: Honorable Mention 2017, 2018
- Foreign Language Area Studies (FLAS) Fellowship: Kiswahili ($35,000) 2012- 2014
- Kingsley Trust Association Senior Fellowship ($5,000) 2014
- Yale Collaborative Action Project Grant ($5,000) 2013-2014

TEACHING EXPERIENCE

- University of California Berkeley *Graduate Student Instructor, Data Science for Global Change Ecology* 2020
- Amazon Environmental Research Institute: *Technical Mentor for Public Policy Course* 2017
- Yale University: *Undergraduate Teaching Assistant, Physics I* 2013-2014
- Yale University: *Undergraduate Teaching Assistant, Organic Chemistry II* 2012-2013

PROFESSIONAL SERVICE, OUTREACH, AND LEADERSHIP

- Graduate programs committee student representative (ESPM, UC Berkeley) 2021-2022
- Graduate admission committee student representative (ESPM, UC Berkeley) 2021-2022
- UC Berkeley Data and Environment Working Group *Co-founder* 2020-2021
- UC Berkeley Graduate Student Association (GSA) 2018, 2019, 2021
- Ecological Forecasting Initiative *Student Working Group Co-chair Co-founder* 2019-2021
- Letters to a Pre-scientist: *Volunteer* 2019-Present
- Bay Area Scientists in Schools (BASIS): *Instructor* 2018-Present
- Society for Conservation Biology, Berkeley Chapter: *Planning Committee Officer* 2018-2019
- 500 Women Scientists - Woods Hole Chapter: *Media Outreach* 2017-2018
- Yale Public Health Coalition: *President (2012-2013), Secretary (2011)* 2011-2013

WORKSHOPS AND WORKING GROUPS

- Bioinformatics and Community Science Round Table steering committee, California Biodiversity Network 2021
- Culturally Relevant Education in Environmental Data Science (CREEDS) Workshop 2021
- SESYNC Cyberinfrastructure Summer Institute July 2020
- NIMBioS Adaptive Management Tutorial Apr 2020
- People, Land, Ecosystems: Leveraging NEON for Socio-Environmental Synthesis Feb 2020
- National Ecological Observation Network (NEON) Science Summit 2019
- Advancing Integrated Process-Based Modeling of Socio-Environmental Systems (SESYNC) 2019-2020
- Graduate Student Workshop on Socio-Environmental Synthesis (SESYNC) Aug 2019
- Ecological Forecasting Initiative Summer Course 2019
- Mathematical Ecology Working Group: Woods Hole, MA 2017-2018

SCIENTIFIC REVIEWS

(**Link to publons account**) Methods in Ecology and Evolution, International Forestry Review