

Colin Nystrom Mast

Curriculum Vitae

Department of Geography
University of Oregon
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Research Interests:

I am a biophysical geographer interested in understanding how forested ecosystems change under interacting disturbance regimes, land management, and climate change. My research combines field-based methods with computer simulations to predict long-term changes in forested landscapes. My current research focuses on forest sustainability in the Oregon Coast Range under an experimental management system and on comparing the performance and utility of different forest ecosystem models in predicting carbon storage in the Pacific Northwest. I plan to continue my research during my PhD and onwards, either within academia or a federal research agency.

Education:

University of Oregon

Master of Science in Geography (in progress)
GPA: 4.0, Advisor: Melissa Lucash

Eugene, OR
September 2022 – present

University of Wisconsin-Madison

Bachelor of Science in Geography
Bachelor of Science in Environmental Studies
Minor in Mathematics

Madison, WI
September 2018 – May 2022

Senior Thesis: California Wildfire: A Risk Assessment of the Sierra Nevada
Awarded Phi Beta Kappa Honors
GPA: 3.9

Relevant Work Experience:

Graduate Research Assistant

University of Oregon, Eugene OR

April 2023 – present

- Modeling forest sustainability under interacting disturbances and climate change in the Elliott State Research Forest, Oregon.
- Predicting carbon storage trajectories in the Oregon Coast Range.
- Comparing the ability of forest ecosystem models to predict carbon storage trends under differing management and climate change scenarios in Oregon.

Graduate Teaching Fellow

University of Oregon, Eugene OR

September 2022 – present

- Instructing biogeography, drone mapping, physical geography, and GI Science II labs
- Facilitating and planning Fall 2023 graduate workshops

- Designing lab exercises
- Holding office hours
- Grading coursework.

Forestry Field Technician

May 2022 – September 2022

Oregon State University, Corvallis OR

- Stem mapping
- Tree coring
- Wildlife monitoring (arthropod traps, trail camera installation, audio device installation)

GIS Analyst

2021-2022

University of Wisconsin-Madison, Madison WI

- SILVIS Spatial Analysis Lab (Dr. V. Radeloff)
- Analyzing WUI in US National Forests (Dr. A. Carlson)
- Promoting Sustainable Forestry in Argentina (Dr. S. Martinuzzi)

Land Steward

2020

Schlitz Audubon Nature Center, Bayside, WI

- Ravine restoration for stormwater runoff prevention into Lake Michigan
- Invasive species control

Teaching:

Fall 2022	Lab Instructor – Geography 323: Biogeography
Winter 2023	Lab Instructor – Geography 141: Natural Environment
Spring 2023	Lab Instructor – Geography 410L/510L: Mapping with Drones
Fall 2023	Lab Instructor – Geography 482/582: GI Science II
	Course Facilitator – Geography 608: Graduate Research Workshop
	Guest Lecturer – Geography 482/582: GI Science II
	Forest Ecosystem Modeling with LANDIS-II

Awards and Honors:

UW-Madison Dean’s List 4 Semesters	2019-2021
Phi Beta Kappa	2022
Erdman Family Math and Science Scholarship	2018
National math honorary society’s service award	2018
Academic Excellence Award - Top ten graduate – Westosha Central High School	2018
First Place in the Wisconsin Economics’ ten-week stock market competition	2017

Conference Presentations:

Mast C, Williams N, and Lucash M. 2023. Integrated effects of a Triad harvesting regime with wind and fire disturbances on key ecosystem services in the Elliott State Research Forest, Oregon. International Association for Landscape Ecology-North America. Riverside California.

Lucash MS, Williams N, and **Mast C**. 2023. Using landscape modeling to inform forest management planning of the Elliott State Research Forest, the largest research forest in North America. International Association for Landscape Ecology-North America. Riverside, California.

Mast C, Williams N, and Lucash MS. 2023. Exploring a novel approach to forest management that aims to promote wildlife habitat and store carbon while producing timber in the Elliott State Research Forest, Oregon. Joint Campus Conference. Eugene, Oregon.

Mast C, Williams N, Lucash MS. 2023. Modeling future shifts in species habitat, carbon storage, and timber production in the Elliott State Research Forest under a Triad management system, windstorms, wildfire, and climate change. Ecological Society of America. Portland, Oregon.

Accepted Future Conference Presentations:

Mast C, Lucash MS. 2023. Comparing carbon and fire consequences of alternative management scenarios in the coastal forests of Oregon. American Geophysical Union. San Francisco, California

Mast C, Williams N, and Lucash MS. 2024. Using LANDIS-II to model potential outcomes of an experimental management system in coastal forests under climate change, windstorms, and wildfire. International Union of Forest Research Organizations. Stockholm, Sweden

Professional Associations:

Faculty Liaison and Chair , Associated Graduate Students in Geography, UO	2023-present
Representative and Secretary , Associated Graduate Students in Geography, UO	2023-present
Member , American Geophysical Union	2023-present
Member , Ecological Society of America	2023-present
Member , International Association of Landscape Ecology	2023-present
Department Steward , Graduate Teaching Fellows Federation, Univ. of Oregon	2022-present
Member , Associated Graduate Students in Geography, University of Oregon	2022-present
Member , Phi Beta Kappa Honors Society	2022-present
Member , Delta Epsilon Phi Honors Society	2017-present
Member , Mu Alpha Theta Honors Society	2017-present

Conference Attendance:

International Union of Forest Research Organizations. Stockholm, Sweden (Confirmed)	2024
American Geophysical Union. San Francisco, California (Confirmed)	2023
Ecological Society of America. Portland, Oregon	2023
Joint Campus Conference. Eugene, Oregon	2023
International Association of Landscape Ecology North America. Riverside, California	2022

Peer Reviewer:

European Geoscience Union

Relevant Coursework:

Graduate Level:

- Cryogeography
- Remote Sensing I
- Geographic data analysis
- Long-term environmental change
- Humid tropics – ecology, subsistence, and development
- Soils – environmental impact assessment
- Colloquium – wildfire research
- Theory and practice of geography II
- Research design
- Thesis writing workshop.

Undergraduate Level:

- Forest biometry
- Ecology I-II
- Dendrology
- Ecological data analysis
- Environmental conservation
- Geographic information systems
- Physics I-II
- Statistics and probability
- Calculus I-VI
- Advanced linear algebra
- Introduction & theory of probability
- Mathematical statistics II