Funded PhD position studying post-fire transformations of dry forest and shrubland ecosystems

Fall 2024, College of Forestry, Oregon State University

The context: We're reaching out to recruit a new PhD student for research focused on "*Post-fire transformations in Inland Northwest forests and shrublands: Understanding drivers and patterns of change to inform climate adaptation.*" The PhD student will be co-supervised by Drs. Meg Krawchuk (OSU) and Becky Kerns (USFS), and collaborate directly with Drs. Claire Tortorelli (USFS), Jamon Van Den Hoek (OSU), and Laura Peters (OSU). The successful candidate will enroll in the Department of Forest Ecosystems and Society (FES) in the College of Forestry at Oregon State University in Corvallis, Oregon. The PhD would begin Fall 2024. The PhD student will collaborate with an incoming MS student also working on the project, to develop skills in co-producing science with managers and communities to improve our understanding of the drivers and patterns of post-fire vegetation transformations and inform climate adaptive management. To learn more about the FES Graduate program, please see: https://fes.forestry.oregonstate.edu/graduate-programs/forest-ecosystems-society

The project: Vegetation transformations following wildfires are a growing issue for management of forests and shrublands in the Inland Pacific Northwest. Severe fires combined with persistent drought and invasive species can slow or prevent recovery of burned forests and shrublands to pre-fire states or other desired conditions. Instead, forests may be converted to shrub fields or grasslands, and shrublands may be replaced by invasive annual grasses resulting in ecological, economic, and cultural losses. While shrublands and grasslands can be important components of these ecosystems, concern about uncharacteristic duration and extent of these vegetation types is growing. Despite the severe consequences of post-fire transformations, there is general lack of understanding regarding where and when these transformations occur, and what specific mechanisms might contribute to these shifts. Throughout this project, the PhD student will communicate with Tribal, federal, state, and community partners to help build understanding that is grounded and data-driven of how climate, invasive species, and wildfire contribute to forest and shrubland transformations in eastern Oregon and Washington. Working with partners, the student will identify and map areas that have experienced post-fire transformations, use statistical models to explore how drought, invasive species, and fire effects contribute to transformations, and communicate findings with diverse audiences.

Application: Please submit your CV (including contact information for two professional references) and a one-page statement of interest describing your interests and experiences in the topic area, including research, outreach, and collaboration experiences. Please outline how you meet the required and desirable qualifications described below.

We encourage applicants from all backgrounds to apply, particularly students who are underrepresented in the field of natural resources management. Experience and perspective as a Tribal citizen, working collaboratively with Tribal communities, Indigenous groups, or InterTribal organizations would bring value to this position, as would familiarity with Tribal governance structures and/or Tribal approaches to resource management.

We will be contacting applicants and scheduling interviews, and successful applicants will be invited to apply to the FES graduate program in the College of Forestry at Oregon State University. Please do not apply to the FES program without this invitation.

For full consideration, please submit your application materials by Monday January 15th, 2024. Applications should be emailed to Dr. Meg Krawchuk, with Drs. Becky Kerns and Claire Tortorelli cc'd (emails below)

For more information, please contact: Dr. Meg Krawchuk: meg.krawchuk [at] oregonstate.edu, Dr. Becky Kerns: becky.kerns [at] usda.gov, and/or Dr. Claire Tortorelli: claire.tortorelli [at] oregonstate.edu

Required qualifications:

- Demonstration of excellent writing and oral communication skills
- Research experience or work/life experience related to natural resources and/or wildland fire
- Experience working with spatial datasets
- Strong interest in meaningfully engaging with community-based stakeholders throughout the research period
- Ability to work effectively in teams in the office and in the field
- Desire to develop and integrate remote sensing and fire ecology research

Desired qualifications

- Master's degree in related field
- Experience working collaboratively on projects
- Experience utilizing qualitative and/or quantitative geospatial, ecological, and or social science research methods
- Basic knowledge of GIS, statistical and/or qualitative analysis software (e.g. R, python, google earth engine, ArcGIS)

Funding for the position covers tuition, stipend, and benefits for four years, including four quarters of teaching responsibilities (1 TAship/year). Funding includes support for travel, collaborative activities, and participation in scholarly activities such as conferences and workshops. This project is funded by the USGS NW Climate Adaptation Science Center (NW CASC).