

GRADUATE EXIT SEMINAR

Monika Moreu-Vicente

Perceptions of Fuel-Vegetation Controls on Landscape-Scale Wildfire Risk in North-West European Heathlands



Traditional use of fire as a management tool can be beneficial for fire-prone ecosystems and semi-natural landscapes such as heathlands. Recent shifts in fire regimes have exposed critical gaps in our understanding of fire behavior and fuel dynamics under varying management practices. Changes in traditional land use may contribute to fuel accumulation and thereby increased wildfire risk. With heathland fires a growing concern, this project incorporates a mixed methods design to understand stakeholder preferences for land management and attitudes towards wildfire risk in the Scottish Highlands and Western Norway as well as evaluate the relationship between management interventions, fire behavior, and wildfire risk. Resulting land management preferences, represented as a rewilded and holistically managed landscape, were modeled in fire behavior prediction systems to quantify variations in fire behavior and burn probability. Modeling revealed that in comparison to a rewilded landscape, holistically managed landscapes such as those that serve diverse purposes and different management

approaches significantly decreased the intensity, spread, and ultimately risk of wildfires in the short to medium term. In addition, stakeholder perceptions revealed significant correlation between fire models highlighting the alignment between expert assessments and modeled predictions. Future research should aim to incorporate expert opinion to enhance strategies for restoring habitats, mitigating future wildfire risk, and informing policy decisions.

Friday, June 28, 2024
10:00 AM - 12:00 PM

Advisors: Dr. Matt Davies and
Dr. Matthew Hamilton

Location: Kottman Hall 333

Join the seminar via Zoom:

<https://osu.zoom.us/j/96710176445?pwd=M0EoGuVI3bFj6Qs4xlyggvckziBea6.1>

Meeting ID: 967 1017 6445

Password: 857293

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