UNIVERSIDAD DE GRANADA

Departamento de Ecología

Conferencia Wildfire-driven forest conversion in western North America

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Divulgación



Wildfire-driven forest conversion in western North America: ecological outcomes and conservation implications of changing fire regimes and climate

- **Jonathan Coop, Ph.D.**
- Associate Professor of Environment & Sustainability and Biology, Western Colorado University
- **Jueves 24 de octubre de 2019, 12:00 horas**
- **Salón de Grados, Facultad de Ciencias**

Forests are keystone ecosystems globally, yet are increasingly vulnerable to a range of anthropogenic stressors. In western North America, the combination of altered fire regimes and climate change can overwhelm processes that normally confer ecological resistance and resilience to forests. Consequently, fire may trigger enduring forest conversion toward alternate or non-forest states. In this presentation I will synthesize a growing body of evidence of fire-driven forest conversion, and our understanding of its causes, across western North American landscapes. I will also describe some of our recent work aimed at reducing the vulnerability of southwestern ponderosa pine (Pinus ponderosa) forests. These include assessing 1) whether the restoration of historic, low-severity fire regimes might increase resistance to subsequent wildfire, and 2) how well fire refugia—areas within burn perimeters which remain relatively unaffected by fire—might contribute to post-fire forest recovery. These strategies hold promise for increasing forest resistance and resilience to fire in the near term. However, given a future of certain change, but of uncertain magnitude, it may be necessary to accept or even facilitate reorganization of forest systems in some settings. Such choices impel new ecological research; improved education and

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science communication; partnerships between scientists, managers, and affected communities; and commitment to intergenerational ethics.



Jonathan Coop is a plant community ecologist whose interests revolve around forest dynamics in response to disturbance and climate. He is an Associate Professor in the School of Environment and Sustainability at Western Colorado University in Gunnison, Colorado. He received a BS in Biology from the University of California Santa Cruz in 1995 and a PhD in Botany from the University of Wisconsin Madison in 2005. Jonathan also worked as a postdoctoral research ecologist with the US Forest Service Rocky Mountain Research Station in Fort Collins, CO. At Western he teaches courses a range of undergraduate and graduate courses in environmental science and ecology. Overarching research themes include understanding of the conditions under which wildfire may trigger enduring vegetation conversions to alternate states, and how land management may promote (or impede) ecological resistance and resilience. As examples, Jonathan works with students, external collaborators to characterize the impacts of bark beetles and fire on ecological communities, assess the ecological function of wildfire refugia, and understand fuel treatment effects and effectiveness. His lab also works directly with local and regional natural resource managers to inform, develop, and assess management strategies and tactics for times of certain change, but of uncertain rate and magnitude.

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