

National Science Foundation Growing Convergence Research: MANAGING FUTURE RISK OF INCREASING SIMULTANEOUS WILDFIRES

PROJECT OVERVIEW

The purpose of this research project is to model future patterns of simultaneous large wildfires (>100,000 acres), termed megafires, to inform risk management. The project addresses both the root causes such as forest and fuels management, and proactive wildland fire management, including budgeting, allocating, and sharing of personnel and equipment resources.

Based on projected climate over the next decades, the unusual wildfire season that we have just experienced in 2020 is expected to become increasingly common over time. Wildfire co-occurrence further stresses resource sharing due to simultaneous need. Traditional fire potential forecasts rely on short term conditions, whereas our goal is to use future projections of simultaneity decades into the future as case examples to explore and simulate decision making about risk management in this intensifying fire context.

We are using downscaled climate modeling to predict increasing regional fire years and the implications for simultaneous megafires and how wildfire risk management can better anticipate and plan for these wildfire events.

CENTRAL RESEARCH QUESTIONS

- How will climate change alter future patterns of wildfire, particularly the co-occurrence of megafires, and what implications does this hold for wildland fire management decisions?
- In what ways do policy and risk management decisions, including those surrounding fire suppression and fuel treatment (e.g., prescribed burning), influence future wildfire potential at short and long time scales?

DECISION MAKER/STAKEHOLDERS

We are seeking decision makers involved in wildfire forecasting, resource management and fuel management to collaborate and share real-world experience with us. Stakeholders will participate in 1-2 virtual interviews (January-February 2020) and a virtual workshop with other team members (February 2020). Stakeholders will also be part of quarterly project updates to ensure that research outputs will be co-created, applicable, and improve future fire risk management. Honoraria will be provided in acknowledgement of the time commitment involved.

RESEARCH TEAM

Alison Cullen - PI, Susan Prichard, Alexandra Dolk, Sunniva Bloem (University of Washington)

John Abatzoglou (University of California Merced)

Melissa Bukovsky co-PI, Linda Mearns, Seth McGinnis, Lee Kessenich (National Center for Atmospheric Research)

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